

HYUNDAI HEAVY INDUSTRIES CO., LTD.  
AND SUBSIDIARIES

Consolidated Financial Statements

**December 31, 2016**

(With Independent Auditors' Report Thereon)

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# Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Stockholders  
Hyundai Heavy Industries Co., Ltd.:

We have audited the accompanying consolidated financial statements of Hyundai Heavy Industries Co., Ltd. and its subsidiaries (the "Group") which comprise the consolidated statements of financial position as of December 31, 2016 and 2015 and the consolidated statements of comprehensive income (loss), changes in equity and cash flows for the years then ended, and notes, comprising 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 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 audits. We conducted our audits in accordance with Korean Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the 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 consolidated financial position of the Group as of December 31, 2016 and 2015 and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.

## *Emphasis of Matters*

Without qualifying our opinion, users of this audit report need to pay attention to the following key audit matters related to industry with production-to-order transactions.

Auditing the financial statements on entities engaged in production-to-order transactions is a significant matter in our audit of the consolidated financial statements, which determination is based on auditor's professional judgment and communications with those who charged with governance, in accordance with "Practical Guide of Korean Standards on Auditing 2016-1". This matter is part of our audit of the consolidated financial statements as a whole, and we do not express an opinion or audit conclusion on this matter.

We have considered the results of the audit procedures for the following key audit matters in forming our audit opinion of the consolidated financial statements of the Group.

### (1) Overview

An overview of key audit matters related to the industry with production-to-order transactions described in this audit report is as follows:

As described in the *Note 4* to the consolidated financial statements, when the outcome of a construction contract can be estimated reliably, the Group recognizes contract revenues and contract costs associated with the construction contract as revenue and expenses, respectively, based on the percentage-of-completion method at the end of the reporting period. The percentage-of-completion is calculated based on the ratio of contract costs incurred for work performed to date to estimated total contract costs except contract costs that do not reflect the progress of completion. The gross amount due from customers for contract work is presented for all contracts in which costs incurred plus recognized profits (less recognized losses) exceeded progress billings. The gross amount due to customers for contract work is presented for all contracts in which progress billings exceed costs incurred plus recognized profits (less recognized losses).

### (2) The Group's accounting policies of revenue recognition by the input method

As described in the *Note 4* to the consolidated financial statements, although contract revenue is measured as the initial amount agreed in the contract, it is possible to be increased by claims and incentive payments, and be decreased by penalties due to delay of construction completion by reason attributable to the Group. Contract revenue measurement, therefore, may be affected by various uncertainty related to result of future event. And also, revenue of construction is influenced by the progress of completion measured by accumulated contract costs, total estimated contract costs are measured based on estimated costs of materials, labour costs and construction period.

As described in the *Note 34* to the consolidated financial statements, the variation of estimated amounts has significant impact on profit for the year ended December 31, 2016 and future profit because the uncertainty of estimated total contract revenues and costs is high. Therefore, we identified significant risks associated with revenues recognized by the input method.

We performed the following audit procedures on the Group's accounting policy of revenue recognition by the input method as of December 31, 2016:

- Perform test whether the internal control is designed and operated effectively in relation to determination of revenue recognition accounting policy
- Inquiries and analytical review of current progress and significant changes of major projects
- Inquiries whether it is possible to reliably estimate total contract cost of major projects in the early stages
- Assessing reliability of estimation on total contract cost by retrospective review on total contract costs of major project.

### (3) Uncertainty of estimated total contract costs

As described in the *Note 34* to the consolidated financial statements, estimated total contract costs are calculated based on estimated costs of materials, labour costs and construction period, and uncertainty risk related to exchange rate fluctuation, changes of steel prices and changes in production hours are existed. Accordingly, considering the impacts on profit or loss for the year ended December 31, 2016 and future period, we identified significant risks regarding uncertainty of estimated total contract costs.

We performed the following audit procedures regarding the impact of uncertainty of estimated total contract costs on the consolidated financial statements:

- Perform test whether the internal control is designed and operated so that total contract costs could be reliably estimated
- Inquiries and analytical review procedures on changes in major items of total contract costs in each reporting period
- Retrospective reviews of projects in which significant changes in the estimated total contract costs were made
- Identifying the cause of the significant changes in estimated total contract cost and if necessary, confirming documents
- Comparing estimated total contract costs among similar vessels
- Collecting and inspecting the data of estimated total contract costs managed by production department for major project
- Comparison of estimated material costs to purchase order history of materials purchased of each project
- Comparison of estimated total contract costs reflected in the management plan for the next year to estimated total contract costs reflected in the financial statements
- Verifying whether estimated total contract costs were approved by proper authorized person
- Test the appropriateness of aggregation and allocation of overhead costs to each project by IT audit team

#### (4) Assessment of the percentage-of-completion

As described in the *Note 34* to the consolidated financial statements, the Group should include only generated contract costs for work performed to estimated total contract costs in case the percentage-of-completion is calculated based on estimated total contract costs. We identified significant risks regarding assessment of the percentage-of-completion.

We performed the following audit procedures with respect to the estimated total contract costs and accumulated costs which have an effect on calculating the construction percentage-of-completion as of and for the year ended December 31, 2016:

- Inquiries and analytical review procedures on changes in the construction percentage-of-completion in each reporting period
- Inquiries and analytical review procedures on changes in items of the accumulated costs in each reporting period
- Comparison of the percentage-of-completion by progress of construction and the percentage-of-completion by cost of major projects
- Inspection of documentation on existence of cumulative input of material costs for selected samples
- Test the appropriateness of aggregation and allocation of indirect overhead costs to each project by IT audit team
- Risk scenarios test including verification on whether the costs are allocated appropriately to each projects by IT audit team
- Physical observation of ships in construction and site visits for major overseas construction

#### (5) Assessment of recoverability of due from customers for contract work

As described in the *Note 34* to the consolidated financial statements, Heavy-Tail payment plan is a major collection terms in the Shipbuilding segment. Since Heavy-Tail payment plan is able to result in significant losses if contract is cancelled, we identified significant risks regarding the recoverability of due from customers for contract work.

We performed the following audit procedures with respect to the assessment of recoverability of due from customers for contract work as of December 31, 2016:

- Test of operating effectiveness of internal control to identify and manage the impairment indication on due from customers for contract work
- Making inquiries and confirming payment terms, penalties for delay, delivery time, and other obligations of contracts which due from customer for contract work increased significantly
- Inspection of the terms on the contracts to ensure that explanation by management is consistent with the terms on the contracts
- Review of management's basis of estimation for recoverability of due from customers for contract work
- Inspection of documentation for completion of the construction work to confirm the existence of due from customers for contract work

- Sending the confirmation letters to major customers

(6) Accounting for the variation of construction work

As described in the *Note 34* to the consolidated financial statements, although contract revenue is measured as the initial amount agreed in the contract, it is possible to be increased by claims and incentive payments, and be decreased by penalties due to delay of construction completion by reason attributable to the Group. Changes in construction contract, such as specification or design change by clients, have been occurring frequently in Offshore, Industrial Plant and Engineering segment due to characteristics of the industry, and it causes possibility of variation in contract revenue. Accordingly, we identified significant risks regarding the accounting for the variation of construction contracts of Offshore, Industrial Plant and Engineering.

We performed the following audit procedures with respect to the accounting for the variation of construction work as of December 31, 2016:

- Review of internal control system for changes in terms of contract
- Inquiries and analytical review procedures of projects in which significant changes in contract revenue were made
- Inspection of documentation (change order budget and others) to confirm the appropriateness of the change in contract costs
- Comparison contractual delivery date to expected delivery date as of December 31, 2016
- Inquiries of accounting policies for estimated penalties for delay

*Other Matter*

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

KPMG Samjong Accounting Corp.

Seoul, Korea

March 16, 2017

This report is effective as of March 16, 2017, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
Consolidated Statements of Financial Position  
As of December 31, 2016 and 2015

(In thousands of won)

	<u>Note</u>	<u>2016</u>	<u>2015</u>
<b>Assets</b>			
Cash and cash equivalents	4,43,44	₩ 4,326,867,973	3,105,303,361
Short-term financial assets	6, 7, 15, 19, 27, 43, 44	4,693,132,422	4,627,226,992
Trade and other receivables	7, 8, 9, 19, 34, 43, 44, 47	5,189,256,175	5,340,950,322
Due from customers for contract work	8, 34, 43, 44	5,275,519,774	6,599,947,481
Inventories	10, 19, 37	3,907,314,032	4,492,239,892
Derivative assets	27, 43, 44	10,548,334	41,755,610
Firm commitment assets	27	235,647,323	361,396,671
Prepaid income taxes		13,719,006	59,476,191
Non-current assets held for sale	49	77,507,145	-
Other current assets	11	2,307,133,947	2,547,716,951
<b>Total current assets</b>		<u>26,036,646,131</u>	<u>27,176,013,471</u>
Investments in associates and joint ventures	12, 13, 47	299,528,979	270,052,006
Long-term financial assets	6, 7, 15, 19, 27, 43, 44	502,566,999	1,189,482,706
Long-term trade and other receivables	7, 8, 9, 34, 43, 44, 47	347,764,522	589,099,760
Investment property	16, 35	240,607,127	347,868,346
Property, plant and equipment	17, 19, 35	19,011,265,678	16,320,002,213
Intangible assets	18, 35	1,962,966,389	2,140,184,872
Derivative assets	27, 43, 44	75,361	9,374,626
Firm commitment assets	27	54,548,082	294,765,973
Deferred tax assets	40	741,748,426	1,350,103,038
Other non-current assets	11, 25, 45	51,457,528	45,888,977
<b>Total non-current assets</b>		<u>23,212,529,091</u>	<u>22,556,822,517</u>
<b>Total assets</b>		<u>₩ 49,249,175,222</u>	<u>49,732,835,988</u>

See accompanying notes to the consolidated financial statements.

(In thousands of won)

	<b>Note</b>	<b>2016</b>	<b>2015</b>
<b>Liabilities</b>			
Short-term financial liabilities	19,20,23,24,27,43,44,45 ₩	12,058,817,120	9,502,483,275
Trade and other payables	21,43,44,47	5,615,010,136	5,874,330,417
Advances from customers		421,450,014	532,641,433
Due to customers for contract work	34	4,413,659,665	6,394,046,502
Derivative liabilities	27,43,44	436,361,034	571,856,159
Firm commitment liabilities	27	4,339,753	9,147,694
Income tax payable		249,067,371	117,913,382
Short-term provisions	26	5,331,117	4,104,690
Other current liabilities	22	33,132,709	54,122,016
<b>Total current liabilities</b>		<u>23,237,168,919</u>	<u>23,060,645,568</u>
Long-term financial liabilities	19,20,23,24,27,43,44,45	6,475,729,857	9,205,874,590
Long-term trade and other payables	21,43,44,47	69,858,445	98,727,876
Liabilities for defined benefit plans	25	256,412,747	546,242,180
Long-term provisions	26	932,292,470	715,803,496
Derivative liabilities	27,43,44	59,009,461	303,487,526
Firm commitment liabilities	27	75,081	9,032,154
Deferred tax liabilities	40	296,238,223	260,665,827
Other non-current liabilities	22	32,638,509	33,395,242
<b>Total non-current liabilities</b>		<u>8,122,254,793</u>	<u>11,173,228,891</u>
<b>Total liabilities</b>		<u>31,359,423,712</u>	<u>34,233,874,459</u>
<b>Equity</b>			
Common stock	28	380,000,000	380,000,000
Capital surplus	28	1,124,895,931	1,124,895,931
Hybrid bonds	29	428,589,000	428,589,000
Capital adjustments	30	(1,367,899,180)	(1,341,552,282)
Accumulated other comprehensive income	17,27,31	1,937,430,922	325,410,971
Retained earnings	32	13,433,436,089	12,818,775,666
<b>Equity attributable to owners of the Company</b>		<u>15,936,452,762</u>	<u>13,736,119,286</u>
<b>Non-controlling interests</b>	1,33	<u>1,953,298,748</u>	<u>1,762,842,243</u>
<b>Total equity</b>		<u>17,889,751,510</u>	<u>15,498,961,529</u>
<b>Total liabilities and equity</b>		<u>₩ 49,249,175,222</u>	<u>49,732,835,988</u>

See accompanying notes to the consolidated financial statements.



HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
Consolidated Statements of Comprehensive Income (Loss)  
For the years ended December 31, 2016 and 2015

(In thousands of won, except share information)

	<u>Note</u>	<u>2016</u>	<u>2015</u>
Sales	27,34,35,47	₩ 39,317,290,030	46,231,713,943
Cost of sales	10,18,27,37,47	<u>34,752,611,481</u>	<u>44,681,972,337</u>
<b>Gross profit</b>		4,564,678,549	1,549,741,606
Selling, general and administrative expenses	18,36,37	<u>2,922,825,277</u>	<u>3,089,872,793</u>
<b>Operating profit (loss)</b>	35	1,641,853,272	(1,540,131,187)
Finance income	27,38,43	1,616,791,162	1,901,598,919
Finance costs	27,38,43	2,032,870,239	2,933,329,474
Other non-operating income	27,33,39,44	618,679,653	1,197,159,266
Other non-operating expenses	17,18,27,39,44	827,712,361	410,932,602
Share of profit (loss) of equity accounted investees	12,13	<u>69,167,016</u>	<u>(55,783,702)</u>
<b>Profit (loss) before income taxes</b>		1,085,908,503	(1,841,418,780)
Income tax expense (benefit)	40	<u>429,240,499</u>	<u>(478,195,977)</u>
<b>Profit (loss) for the year</b>	35	₩ <u>656,668,004</u>	<u>(1,363,222,803)</u>
<b>Other comprehensive income (loss)</b>	17,25,27,31,43		
<b>Items that are or may be reclassified subsequently to profit or loss:</b>			
Change in fair value of available-for-sale financial assets		₩ (178,311,716)	(433,381,779)
Effective portion of changes in fair value of cash flow hedges		1,819,210	44,423,068
Exchange differences on translating foreign operations		24,209,673	(6,810,172)
Change in equity of equity method investments		<u>4,675,029</u>	<u>(49,097,130)</u>
<b>Total items that are or may be reclassified subsequently to profit or loss</b>		<u>(147,607,804)</u>	<u>(444,866,013)</u>
<b>Items that will not be reclassified to profit or loss:</b>			
Actuarial gains and losses		67,708,932	(91,745,010)
Revaluation of property, plant and equipment		1,913,855,919	-
Changes in retained earnings of equity method investments		<u>96,559</u>	<u>(251,364)</u>
<b>Total items that will not be reclassified to profit or loss</b>		<u>1,981,661,410</u>	<u>(91,996,374)</u>
<b>Other comprehensive income (loss) for the year, net of income tax</b>		<u>1,834,053,606</u>	<u>(536,862,387)</u>
<b>Total comprehensive income (loss) for the year</b>		₩ <u><u>2,490,721,610</u></u>	<u><u>(1,900,085,190)</u></u>
<b>Profit (loss) attributable to:</b>			
Owners of the Company		545,121,490	(1,349,911,380)
Non-controlling interests		111,546,514	(13,311,423)
		₩ <u>656,668,004</u>	<u>(1,363,222,803)</u>
<b>Total comprehensive income (loss) attributable to:</b>			
Owners of the Company		2,247,680,373	(1,853,939,306)
Non-controlling interests		243,041,237	(46,145,884)
		₩ <u><u>2,490,721,610</u></u>	<u><u>(1,900,085,190)</u></u>
<b>Earnings (Loss) per share</b>	41		
Basic and diluted earnings (loss) per share (in won)		₩ <u>8,768</u>	<u>(24,349)</u>

See accompanying notes to the consolidated financial statements.

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
**Consolidated Statements of Changes in Equity**  
**For the years ended December 31, 2016 and 2015**

(In thousands of won)

		Common stock	Capital surplus	Hybrid bonds	Capital adjustments	Accumulated other comprehensive income	Retained earnings	Non-controlling interests	Total equity
<b>Balance at January 1, 2015</b>	₩	380,000,000	1,109,309,014	428,589,000	(1,762,535,173)	746,492,455	14,271,926,021	1,464,794,345	16,638,575,662
<b>Total comprehensive income (loss) for the year</b>									
Loss for the year		-	-	-	-	-	(1,349,911,380)	(13,311,423)	(1,363,222,803)
Change in fair value of available-for-sale financial assets		-	-	-	-	(407,381,598)	-	(26,000,181)	(433,381,779)
Effective portion of changes in fair value of cash flow hedges		-	-	-	-	43,763,462	-	659,606	44,423,068
Exchange differences on translating foreign operations		-	-	-	-	(8,706,720)	-	1,896,548	(6,810,172)
Change in equity of equity method investments		-	-	-	-	(48,756,628)	-	(340,502)	(49,097,130)
Actuarial gains and losses		-	-	-	-	-	(82,697,349)	(9,047,661)	(91,745,010)
Change in retained earnings of equity method investments		-	-	-	-	-	(249,093)	(2,271)	(251,364)
<b>Transactions with owners of the Company, recognized directly in equity</b>									
Dividends		-	-	-	-	-	-	(2,446,286)	(2,446,286)
Disposal of treasury stock		-	13,411,197	-	433,522,214	-	-	-	446,933,411
Interest for hybrid bonds		-	-	-	-	-	(20,292,533)	-	(20,292,533)
Issue of hybrid bonds		-	-	-	-	-	-	224,272,850	224,272,850
Others		-	2,175,720	-	(12,539,323)	-	-	122,367,218	112,003,615
<b>Balance at December 31, 2015</b>	₩	<u>380,000,000</u>	<u>1,124,895,931</u>	<u>428,589,000</u>	<u>(1,341,552,282)</u>	<u>325,410,971</u>	<u>12,818,775,666</u>	<u>1,762,842,243</u>	<u>15,498,961,529</u>
<b>Balance at January 1, 2016</b>	₩	380,000,000	1,124,895,931	428,589,000	(1,341,552,282)	325,410,971	12,818,775,666	1,762,842,243	15,498,961,529
<b>Total comprehensive income (loss) for the year</b>									
Profit for the year		-	-	-	-	-	545,121,490	111,546,514	656,668,004
Change in fair value of available-for-sale financial assets		-	-	-	-	(137,347,777)	-	(40,963,939)	(178,311,716)
Effective portion of changes in fair value of cash flow hedges		-	-	-	-	2,346,072	-	(526,862)	1,819,210
Exchange differences on translating foreign operations		-	-	-	-	25,146,973	-	(937,300)	24,209,673
Change in equity of equity method investments		-	-	-	-	4,257,892	-	417,137	4,675,029
Actuarial gains and losses		-	-	-	-	-	64,944,606	2,764,326	67,708,932
Change in retained earnings of equity method investments		-	-	-	-	-	95,485	1,074	96,559
Revaluation of property, plant and equipment		-	-	-	-	1,743,115,633	-	170,740,286	1,913,855,919
<b>Transactions with owners of the Company, recognized directly in equity</b>									
Dividends		-	-	-	-	-	-	(29,742,040)	(29,742,040)
Interest for hybrid bonds		-	-	-	-	-	(21,000,000)	-	(21,000,000)
Others		-	-	-	(26,346,898)	(25,498,842)	25,498,842	(22,842,691)	(49,189,589)
<b>Balance at December 31, 2016</b>	₩	<u>380,000,000</u>	<u>1,124,895,931</u>	<u>428,589,000</u>	<u>(1,367,899,180)</u>	<u>1,937,430,922</u>	<u>13,433,436,089</u>	<u>1,953,298,748</u>	<u>17,889,751,510</u>

See accompanying notes to the consolidated financial statements.

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
**Consolidated Statements of Cash Flows**  
**For the years ended December 31, 2016 and 2015**

(In thousands of won)

	<b>Note</b>	<b>2016</b>	<b>2015</b>
<b>Cash flows from operating activities</b>			
Profit (loss) for the year	₩	656,668,004	(1,363,222,803)
Adjustments		2,393,141,617	820,049,430
Cash generated from operations	42	3,049,809,621	(543,173,373)
Interest received		201,900,761	255,811,333
Interest paid		(421,610,685)	(407,661,689)
Dividends received		50,633,453	86,977,614
Income taxes received (paid)		(113,989,375)	33,695,055
<b>Net cash provided by (used in) operating activities</b>		<b>2,766,743,775</b>	<b>(574,351,060)</b>
<b>Cash flows from investing activities</b>			
Proceeds from sale of short-term financial assets		485,201,484	308,122,035
Proceeds from collection of short-term other receivables		1,811,403	4,967,260
Proceeds from sale of investments in associates and joint ventures		18,924,095	143,548,055
Proceeds from sale of long-term financial assets		1,233,268,495	1,599,798,825
Proceeds from collection of long-term other receivables		89,694,736	101,923,582
Proceeds from sale of property, plant and equipment		206,240,213	45,737,187
Proceeds from sale of intangible assets		16,789,280	24,683,479
Proceeds from sale of non-current assets held for sale		96,120,363	-
Proceeds from government grants		10,413,980	736,168
Return of government grants		(15,634)	-
Proceeds from collection of other non-current assets		-	7,059,480
Acquisition of short-term financial assets		(676,837,851)	(362,221,184)
Acquisition of short-term other receivables		(26,281,624)	(63,469)
Acquisition of investments in associates and joint ventures		(26,795,472)	(45,856,960)
Acquisition of long-term financial assets		(864,749,889)	(634,495,468)
Acquisition of long-term other receivables		(38,611,064)	(36,447,519)
Acquisition of investment property		(24,889)	(232,536)
Acquisition of property, plant and equipment		(1,144,385,917)	(1,280,691,731)
Acquisition of intangible assets		(57,614,191)	(52,947,165)
Acquisition of other non-current assets		(349,474)	-
Changes in scope of consolidation		(1,248,534)	29,517,071
<b>Net cash used in investing activities</b>		<b>(678,450,490)</b>	<b>(146,862,890)</b>
<b>Cash flows from financing activities</b>			
Proceeds from short-term financial liabilities		16,337,988,694	20,651,615,738
Proceeds from long-term financial liabilities		1,440,519,418	4,520,814,336
Disposal of treasury shares		-	127,520,897
Issue of hybrid bonds in subsidiary		-	224,272,850
Capital contribution from non-controlling interests		53,875,843	146,388,389
Repayment of short-term financial liabilities		(18,445,379,021)	(24,491,368,105)
Repayment of long-term financial liabilities		(190,347,788)	(556,399,241)
Interest of hybrid bonds paid		(21,000,000)	(21,000,000)
Dividends and distribution to non-controlling interests		(51,586,691)	(8,186,536)
<b>Net cash provided by (used in) financing activities</b>		<b>(875,929,545)</b>	<b>593,658,328</b>
Effects of exchange rate changes on cash and cash equivalents		9,200,872	3,543,495
<b>Net increase (decrease) in cash and cash equivalents</b>		<b>1,221,564,612</b>	<b>(124,012,127)</b>
Cash and cash equivalents at January 1		3,105,303,361	3,229,315,488
<b>Cash and cash equivalents at December 31</b>	₩	<b>4,326,867,973</b>	<b>3,105,303,361</b>

See accompanying notes to the consolidated financial statements.

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
Notes to the Consolidated Financial Statements  
For the years ended December 31, 2016 and 2015

**1. Reporting Entity**

**(1) Description of the controlling company**

Hyundai Heavy Industries Co., Ltd. (the "Company") was incorporated in 1973, under the Commercial Code of the Republic of Korea, and is engaged in the manufacture and sale of ships, offshore structures, plants, engines and other products. The consolidated financial statements comprise the Company and its subsidiaries (together referred to as the "Group" and individually as "Group entities") and the Group's interest in associates and joint ventures.

In August 1999, the Company was listed on the Korea Exchange. As of December 31, 2016, the Company's major stockholders consist of Mong-Joon Chung (10.15%) and Hyundai Mipo Dockyard Co., Ltd. (7.98%).

**(2) Consolidated subsidiaries**

Subsidiaries as of December 31, 2016 and 2015 are summarized as follows:

Company	Main business	Location	Fiscal year end	Ownership (%)	
				2016	2015
Hyundai Samho Heavy Industries Co., Ltd.	Shipbuilding	Korea	December	94.92	94.92
Hyundai Mipo Dockyard Co., Ltd.(*1,2)	Shipbuilding	Korea	December	42.34	43.51
Hyundai Oilbank Co., Ltd.	Manufacturing of petroleum products	Korea	December	91.13	91.13
Hyundai Hymys Co., Ltd. (formerly, Hyundai Heavy Material Service)	Sale and manufacture of machinery equipment for shipbuilding	Korea	December	100.00	100.00
KOMAS Corporation	Shipping	Korea	December	100.00	100.00
Hyundai E&T Co., Ltd.(*1)	Other engineering services	Korea	December	100.00	100.00
Ulsan Hyundai Football Club Co., Ltd.	Football club	Korea	December	100.00	100.00
Hotel Hyundai Co., Ltd.	Hotel operation	Korea	December	100.00	100.00
HI Investment & Securities Co., Ltd.(*1)	Securities brokerage	Korea	December	85.32	85.32
HI Asset Management Co., Ltd.(*1)	Asset management	Korea	December	99.99	99.99
HYUNDAI M Partners Co., Ltd. (formerly, Hyundai Finance Corporation)(*3)	Granting of credit	Korea	December	9.93	72.13
Hyundai Venture Investment Corporation(*1,3)	Granting of credit	Korea	December	-	70.05
Hyundai Futures Corporation(*1)	Entrust and brokerage of futures transactions	Korea	December	65.22	65.22
Hyundai Ship Private Fund 1(*1)	Other financial business	Korea	December	100.00	100.00
Hi Himsen Multi Strategy Private Funds Investment Trust 1 (*1)	Other financial business	Korea	December	50.00	30.25
Hi-Japan high dividend focus fund (*1)	Other financial business	Korea	December	57.26	-
Hyundai Oil Terminal Co., Ltd.(*1)	Oil storage business	Korea	December	100.00	70.00
Hyundai and Shell Base Oil Co., Ltd.(*1)	Manufacturing of base oil	Korea	December	60.00	60.00
Hyundai Chemical Co., Ltd.(*1)	Crude Oil refining business	Korea	December	60.00	60.00
Hyundai OCI Co., Ltd. (formerly, Hyundai OCI Carbon Co., Ltd)(*1)	Other based chemicals manufacture business.	Korea	December	51.00	-
Hyundai Heavy Industries Turbomachinery Co., Ltd.	Manufacturing of liquid pump	Korea	December	91.56	-
Hyundai Heavy Industries Mos Co., LTD	Business facilities management service	Korea	December	100.00	-
Hyundai Global Service	Engineering service	Korea	December	100.00	-
Hyundai Heavy Industries Green Energy Co., Ltd.	Renewable energy business	Korea	December	100.00	-

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**1. Reporting Entity, Continued**

**(2) Consolidated subsidiaries, continued**

Company	Main business	Location	Fiscal year end	Ownership (%)	
				2016	2015
Hyundai (Jiangsu) Construction Machinery Co., Ltd.(*1)	Sale and manufacture of machinery equipment for construction	China	December	60.00	60.00
Beijing Hyundai Jingcheng Construction Machinery Co., Ltd.(*1)	Sale and manufacture of machinery equipment for construction	China	December	60.00	60.00
HHI China Investment Co., Ltd.	Holding company	China	December	100.00	100.00
Hyundai Financial Leasing Co., Ltd.(*1)	Finance and operating leases	China	December	88.02	88.02
Hyundai Heavy Industries (China) Electric Co., Ltd.(*1)	Sale and manufacture of switchboards for electric distribution	China	December	100.00	100.00
Yantai Hyundai Moon Heavy Industries Co., Ltd.(*1)	Sale and manufacture of industrial boilers	China	December	55.00	55.00
Changzhou Hyundai Hydraulic Machinery Co., Ltd.(*1)	Sale and manufacture of hydraulic cylinders for construction equipment	China	December	100.00	100.00
Hyundai (Shandong) Heavy Industries Machinery. Co., Ltd.	Sale and manufacture of wheel Loaders	China	December	100.00	100.00
Weihai Hyundai Wind Power Technology Co., Ltd.(*1)	Sale and manufacture of facilities for wind power generation	China	December	80.00	80.00
Hyundai Heavy Industries (Shanghai) R&D Co., Ltd.(*1)	Research and development of technology for construction machinery, engine and electric equipment	China	December	100.00	100.00
Hyundai Oilbank (Shanghai) Co., Ltd.(*1)	Trading in petrochemical products	China	December	100.00	100.00
HDO Singapore Pte. Ltd.(*1)	Trading in crude oil and petrochemical products, chartering	Singapore	December	100.00	100.00
Hyundai-Vinashin Shipyard Co., Ltd.(*1)	Shipbuilding	Vietnam	December	65.00	65.00
Hyundai Construction Equipment India PVT., Ltd.	Sale and manufacture of machinery Equipment for construction	India	March	100.00	100.00
Hyundai Transformers and Engineering India Pvt. Ltd.	Sale and manufacture of transformers	India	March	100.00	100.00
Hyundai Construction Equipment Americas, Inc.	Sale of machinery equipment for construction	America	December	100.00	100.00
Hyundai Power Transformers USA, INC	Sale and manufacture of industrial Electric equipment	America	December	100.00	100.00
Hyundai Ideal Electric Co.	Sale and manufacture of industrial Electric equipment	America	December	100.00	100.00
PHECO Inc.	Design services for offshore facilities	America	December	100.00	100.00
HHI Battery CO., Ltd.	Manufacturing	Canada	December	100.00	100.00
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	Manufacture, trade and repair of heavy equipment	Brazil	December	98.91	98.37
Hyundai Heavy Industries Miraflores Power Plant Inc.	Manufacturing	Panama	December	100.00	100.00
Vladivostok Business Center	Hotel operation	Russia	December	100.00	100.00
Hyundai Khorol Agro Ltd.	Agriculture	Russia	December	100.00	100.00

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1. Reporting Entity, Continued

(2) Consolidated subsidiaries, continued

Company	Main business	Location	Fiscal year end	Ownership (%)	
				2016	2015
Hyundai Mikhailovka Agro Ltd.	Agriculture	Russia	December	100.00	100.00
Hyundai Electrosystems Co., Ltd.	Manufacture of high-voltage circuit breakers	Russia	December	100.00	100.00
Hyundai Heavy Industries Europe N.V.	Sale of machinery equipment for construction	Belgium	December	100.00	100.00
Hyundai Heavy Industries Co. Bulgaria	Sale and manufacture of transformers	Bulgaria	December	99.09	99.09
Hyundai Technologies Center Hungary Kft.	Research and development of technology	Hungary	December	100.00	100.00
Hyundai Heavy Industries France SAS	Manufacturing	France	December	100.00	100.00
Jahnel-Kestermann Getriebewerke GmbH	Designing and manufacture of gearboxes	Germany	December	100.00	100.00
JaKe Service GmbH(*1)	Gearbox repair	Germany	December	100.00	100.00
HHI Mauritius Limited	Manufacturing	Mauritius	December	100.00	100.00
MS Dandy Ltd.(*1)	Ship rental service	Marshall Islands	December	100.00	100.00
Hyundai West Africa Limited	Manufacture of other transport equipment	Nigeria	December	100.00	100.00
Hyundai Arabia Company LLC.	Industrial plant construction	Saudi Arabia	December	100.00	70.00
Grande Ltd.(*1)	Ship rental service	Marshall island	December	100.00	100.00
Hyundai Hi-Power Service Europe B.V	Engine warranty repairs	Netherland	December	100.00	100.00

(\*1) The percentage of ownership includes indirect ownership.

(\*2) Even though the Group does not have a majority ownership of Hyundai Mipo Dockyard Co., Ltd., the Group is considered to have control of Hyundai Mipo Dockyard Co., Ltd., considering that the rest of shareholders are minority shareholders and widely dispersed, and the Group exerted majority voting rights in the past stockholders' meetings.

(\*3) The Company's board of directors decided to sell 11,382,600 stocks of Hyundai M Partners Co., Ltd. (Formerly, Hyundai Finance Corporation) to Hyundai Miraero Co., Ltd. and others for ₩66,702 million for the purpose of improving the financial structure. As a result, the Company lost control of Hyundai M Partners Co., Ltd. (formerly, Hyundai Finance Corporation) and Hyundai Venture Investment Corporation, and Residual equity of Hyundai M Partners Co., Ltd. (formerly, Hyundai Finance Corporation) was classified 'available-for-sale'.

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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**1. Reporting Entity, Continued**

**(3) Changes in scope of consolidation**

(i) Subsidiaries newly subject to consolidation in 2016 are as follows:

<b>Company</b>	<b>Reason</b>
Hyundai OCI Co., Ltd. (formerly, Hyundai OCI Carbon Co., Ltd)	Commencing control resulting from newly establishment
Hi-Japan high dividend focus fund	Commencing control resulting from newly establishment
Hyundai Heavy Industries Turbomachinery Co., Ltd.	Commencing control resulting from newly establishment
Hyundai Heavy Industries Mos Co., Ltd.	Commencing control resulting from newly establishment
Hyundai Global Service	Commencing control resulting from newly establishment
Hyundai Heavy Industries Green Energy Co., Ltd.	Commencing control resulting from newly establishment

(ii) Subsidiaries no longer subjected to consolidation in 2016 are as follows:

<b>Company</b>	<b>Reason</b>
Hyundai M Partners Co., Ltd. (formerly, Hyundai Finance Corporation)	Disposal
Hyundai Venture Investment Corporation	Disposal

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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**1. Reporting Entity, Continued**

**(4) Condensed financial information of consolidated subsidiaries**

- (i) Condensed financial information of significant consolidated subsidiaries as of and for the year ended December 31, 2016 is summarized as follows:

(In millions of won)

Company	Assets	Liabilities	Equity	Sales	Profit (loss)	Total comprehensive income (loss)
Hyundai Samho Heavy Industries Co., Ltd.	₩ 5,733,730	2,814,776	2,918,954	3,868,567	50,360	252,236
Hyundai Mipo Dockyard Co., Ltd.	4,708,980	2,547,873	2,161,107	3,442,179	40,224	471,823
Hyundai Oilbank Co., Ltd.	8,131,785	3,937,820	4,193,965	11,242,125	563,688	799,691
Hyundai Hyms Co., Ltd. (formerly, Hyundai Heavy Material Service)	208,965	27,798	181,167	234,302	16,018	15,812
Hotel Hyundai Co., Ltd.	275,458	14,837	260,621	84,756	2,311	2,689
KOMAS Corporation	72,722	1,418	71,304	374	6,306	6,306
HI Investment & Securities Co., Ltd.	5,021,808	4,325,641	696,167	717,740	1,347	1,511
Hyundai Futures Corporation	154,976	110,506	44,470	39,164	79	90
Hyundai Oil Terminal Co., Ltd.	126,944	19,105	107,839	34,944	7,393	22,569
Hyundai and Shell Base Oil Co., Ltd.	509,926	250,457	259,469	498,861	74,246	75,882
Hyundai Chemical Co., Ltd.	1,629,456	1,114,371	515,085	570,906	41,914	39,604
Hyundai (Jiangsu) Construction Machinery Co., Ltd.	194,193	143,123	51,070	134,396	(27,906)	(30,095)
Beijing Hyundai Jingcheng Construction Machinery Co., Ltd.	44,380	57,724	(13,344)	39,381	(61,931)	(62,979)
HHI China Investment Co., Ltd.	370,373	79,154	291,219	35,320	(36,510)	(46,200)
Hyundai Financial Leasing Co., Ltd.	348,288	100,068	248,220	23,033	5,637	(1,778)
Hyundai Heavy Industries (China) Electric Co., Ltd.	152,885	108,235	44,650	120,487	(4,296)	(5,742)
Hyundai (Shandong) Heavy Industries Machinery Co., Ltd.	33,102	3,500	29,602	3,381	(22,540)	(23,960)
HDO Singapore Pte. Ltd.	259,690	231,808	27,882	3,433,967	5,781	4,572
Hyundai-Vinashin Shipyard Co., Ltd.	464,003	437,230	26,773	450,954	18,992	19,989
Hyundai Construction Equipment India PVT., Ltd.	157,296	122,283	35,013	209,605	9,149	9,654
Hyundai Construction Equipment Americas, Inc.	202,751	149,185	53,566	304,303	735	2,361
Hyundai Power Transformers USA, Inc.	183,382	138,388	44,994	128,923	604	1,911
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	249,092	47,032	202,060	59,933	(4,107)	22,878
Hyundai Heavy Industries Europe N.V.	177,745	111,252	66,493	346,696	5,236	4,546



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**1. Reporting Entity, Continued**

**(4) Condensed financial information of consolidated subsidiaries, continued**

(ii) Condensed financial information of significant consolidated subsidiaries as of and for the year ended December 31, 2015 is summarized as follows:

*(In millions of won)*

Company	Assets	Liabilities	Equity	Sales	Profit (loss)	Total comprehensive income (loss)
Hyundai Samho Heavy Industries Co., Ltd.	₩ 7,169,347	4,506,697	2,662,650	4,504,022	(276,018)	(413,611)
Hyundai Mipo Dockyard Co., Ltd.	4,621,284	2,932,058	1,689,226	3,701,784	25,923	(136,263)
Hyundai Oilbank Co., Ltd.	7,079,857	3,369,062	3,710,795	12,106,787	433,738	419,040
Hyundai Hyms Co., Ltd. (formerly, Hyundai Heavy Material Service)	231,072	25,727	205,345	285,411	11,629	11,267
Hotel Hyundai Co., Ltd.	276,984	19,052	257,932	63,515	4,559	3,391
KOMAS Corporation	101,545	2,095	99,450	440	11,111	11,111
HI Investment & Securities Co., Ltd.	5,280,416	4,581,746	698,670	914,769	26,392	17,829
Hyundai M Partners Co., Ltd. (formerly, Hyundai Finance Corporation)	134,124	1,068	133,056	13,239	(11,710)	(12,031)
Hyundai Futures Corporation	137,866	93,486	44,380	44,751	56	230
Hyundai Oil Terminal Co., Ltd.	109,551	24,281	85,270	28,026	5,547	5,400
Hyundai and Shell Base Oil Co., Ltd.	392,589	209,002	183,587	568,792	31,153	31,093
Hyundai Chemical Co., Ltd.	569,206	93,725	475,481	-	(1,532)	(2,485)
Hyundai (Jiangsu) Construction Machinery Co., Ltd.	242,664	161,499	81,165	114,426	(111,516)	(109,099)
Beijing Hyundai Jingcheng Construction Machinery Co., Ltd.	136,529	86,894	49,635	78,854	(37,085)	(36,068)
HHI China Investment Co., Ltd.	502,054	113,142	388,912	19,214	11,466	14,934
Hyundai Financial Leasing Co., Ltd.	445,205	179,489	265,716	35,859	8,743	11,160
Hyundai Heavy Industries (China) Electric Co., Ltd.	164,764	114,372	50,392	161,692	2,452	2,887
Hyundai (Shandong) Heavy Industries Machinery Co., Ltd.	75,370	21,808	53,562	9,653	(41,547)	(41,216)
HDO Singapore Pte. Ltd.	161,621	138,311	23,310	3,672,249	2,268	3,503
Hyundai-Vinashin Shipyard Co., Ltd.	430,549	423,767	6,782	452,489	2,846	3,183
Hyundai Construction Equipment India PVT., Ltd.	142,572	117,213	25,359	170,862	533	941
Hyundai Construction Equipment Americas, Inc.	218,807	167,602	51,205	264,881	713	3,873
Hyundai Power Transformers USA, Inc.	156,069	148,203	7,866	93,459	(25,585)	(24,366)
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	195,941	121,787	74,154	88,776	(45,924)	(65,022)
Hyundai Heavy Industries Europe N.V.	178,743	116,796	61,947	321,070	5,038	2,656

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Notes to the Consolidated Financial Statements  
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1. Reporting Entity, Continued

(5) Non-controlling interests

The information about non-controlling interests of significant consolidated subsidiaries as of and for the years ended December 31, 2016 and 2015 is summarized as follows:

(In millions of won)

	Hyundai Mipo Dockyard Co., Ltd.(*1)		Hyundai Oilbank Co., Ltd.(*2)	
	2016	2015	2016	2015
Ownership for non-controlling interests	57.66%	56.49%	8.87%	8.87%
Net assets	₩ 2,161,107	1,689,226	4,193,965	3,710,795
Book value of non-controlling interests	1,290,055	989,549	576,580	533,528
Net income (loss)	40,224	25,923	563,688	433,738
The profit (loss) attributable non-controlling interests	24,011	15,186	50,027	38,473
Cash flows from operating activities	(208,726)	(289,047)	657,034	1,429,984
Cash flows from investing activities	137,667	(109,139)	(377,784)	(500,609)
Cash flows from financing activities	214,359	340,653	(328,013)	(1,158,854)
Net increase (decrease) of cash and cash equivalents	143,300	(57,533)	(48,763)	(229,479)
Dividends paid to non-controlling interests	-	-	27,189	-

(\*1) Ownership for non-controlling interests considering the treasury shares of Hyundai Mipo Dockyard Co., Ltd are 57.54% and 56.36% as of December 31, 2016 and 2015, respectively, and effective ownership for non-controlling interests considering stake of intermediate parent company are 59.69% and 58.58% as of December 31, 2016 and 2015, respectively.

(\*2) Non-controlling interest in Hyundai Oilbank Co., Ltd. includes hybrid bonds amounted to ₩224,273 million issued by Hyundai Oilbank Co., Ltd. as of December 31, 2016 and 2015, respectively.

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
Notes to the Consolidated Financial Statements  
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**2. Basis of Preparation**

**(1) Statement of compliance**

The consolidated financial statements have been prepared in accordance with Korean International Financial Reporting Standards ("K-IFRS"), as prescribed in *the Act on External Audits of Corporations in the Republic of Korea*.

The consolidated financial statements were authorized for issue by the Board of Directors on February 17, 2017 and will be submitted for approval to the stockholders' meeting to be held on March 24, 2017.

**(2) Basis of measurement**

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

- Derivative financial instruments are measured at fair value
- Financial instruments at fair value through profit or loss are measured at fair value
- Available-for-sale financial assets are measured at fair value
- Land are measured at fair value
- Liabilities for cash-settled share-based payment arrangements are measured at fair value
- Liabilities for defined benefit plans are recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets and unrecognized past service costs

**(3) Functional and presentation currency**

These consolidated financial statements are presented in Korean won, which is the Group's functional currency and the currency of the primary economic environment in which the Group operates.

**(4) Use of estimates and judgments**

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

(i) Judgments

Information about critical judgments in applying accounting policies that have the most significant effect on the amounts recognized in the consolidated financial statements is included in the following notes:

- Note 1 – Scope of Consolidation: Whether the Group has de facto control over an investee;
- Note 9 – Classification of leases;
- Notes 13, 14 – Classification of joint arrangement; and
- Note 16 – Classification of investment property

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
Notes to the Consolidated Financial Statements  
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**2. Basis of Preparation, Continued**

**(4) Use of estimates and judgments, continued**

(ii) Assumptions and estimation uncertainties

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next financial year are included in the following notes:

- Notes 11, 15, 17 and 18 – Impairment test: key assumptions underlying recoverable amounts, including the recoverability of property, plant and equipment, intangible assets, available-for-sale financial assets, and other assets;
- Note 25 – Measurement of defined benefit obligations: key actual assumptions;
- Notes 26, 45 and 46 – Recognition and measurement of provisions and contingencies: key assumptions about the likelihood and magnitude of an outflow of resources;
- Note 34 – Revenue recognition in proportion to stage of completion, the estimates of total contract costs; and
- Note 40 – Measurement of deferred tax

(iii) Measurement of fair value

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Group has an established control framework with respect to the measurement of fair values. This includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and reports directly to the CFO.

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of K-IFRS, including the level in the fair value hierarchy in which such valuations should be classified.

Significant valuation issues are reported to the Group's Audit Committee.

When measuring the fair value of an asset or a liability, the Group uses market observable data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

If the inputs used to measure the fair value of an asset or a liability might be categorized in different levels of the fair value hierarchy, then the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. The Group recognizes transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

Further information about the assumptions made in measuring fair values is included in the following notes:

- Note 15 – Available-for-sale financial assets
- Note 27 – Derivative financial instruments
- Note 44 – Financial instruments

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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**3. Changes in Accounting Policies**

Except for the changes below, the Group has consistently applied the accounting policies set out in *Note 4* to all periods presented in these consolidated financial statements.

**(1) Changes in accounting policies**

The Group has adopted the following amendments to standards with a date of initial application of January 1, 2016.

(i) Amendments to K-IFRS 1011 'Construction Contract'

The Group has adopted amendments to K-IFRS 1011, 'Construction Contract', since January 1, 2016. The Standard requires to disclose specific information broken down by the contract or operating segment including the contract when the percentage-of-completion is assessed by reference to surveys of work performed.

Information for each contract of which contract revenue is more than 5% of the previous fiscal year's sales includes the name of the contract, date of the contract, percentage-of-completion and due from customers for contract work. Information for each operating segment includes provisions for construction loss, the impacts on construction profit or loss due to changes in accounting estimates and estimated total contract costs.

If information is regulated as confidential information by relevant legislation, or the contracting parties do not agree to disclose it, information for each contract shall not be disclosed. In such cases, the reason for omitting the disclosure is required to disclose.

The nature and effects of the changes are included in *Note 34*.

(ii) Amendments to K-IFRS 1111 'Joint Arrangements'

Amendments to K-IFRS 1111 requires to apply method in accordance with K-IFRS 1103 on accounting when acquiring interest in joint operations that constitutes a business, and if joint operator acquires an additional interest in the joint operations or retains joint control, previously held interests in the joint operations are not remeasured even if newly acquired interests are measured at fair value. In addition, the amendments requires judgment whether acquired interests constitute a business which is defined in K-IFRS 1103.

The change in accounting policy had no impact on the consolidated financial statements.

(iii) Amendments to K-IFRS 1016 'Property, Plant and Equipment' and K-IFRS 1038 'Intangible Assets'

Amendments to K-IFRS 1016 'Property, Plant and Equipment' and K-IFRS 1038 'Intangible Assets' state that generally, a depreciation method based on revenue on property, plant, equipment and intangible asset is not appropriate, and in case of intangible assets, amortization method based on revenue can be applied when intangible asset is expressed as a measure of revenue or when it can be demonstrated that revenue and the consumption of the economic benefit of the intangible asset are highly correlated.

Because the Group does not apply depreciation (amortization) method based on revenue in consolidated financial statements, amendments to K-IFRS 1016 and K-IFRS 1038 had no impact on the consolidated financial statements.

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**3. Changes in Accounting Policies, Continued**

**(1) Changes in accounting policies, continued**

(iv) Amendments to K-IFRS 1001 'Presentation of Financial Statements'

Amendments to K-IFRS 1001 'Presentation of Financial Statements' clarified standard for aggregating or classifying similar items in financial statements and notes by its materiality class and materialized what the Group has to regard when the Group present additional subtotal. In addition, the amendments regulated the Group autonomously determine presenting method and ordering of notes according to systematic manner that consider the effect on the understandability and comparability of its financial statements.

Amendments to K-IFRS 1001 had no impact so the consolidated financial statements.

(v) Changes in subsequent measurement method for the land

The Group changed its subsequent measurement method for the land classified as property, plant and equipment from cost model to revaluation model. The nature and effects of the changes are included in *Note 17*.

**(2) Changes in accounting estimates**

In accordance with Korean International Financial Reporting Standards ("K-IFRS"), the Group has reviewed the useful lives at each financial year-end, and the useful lives to be applied in 2016 reflecting the economic substance of property, plant and equipment and investment property are as follows:

	Useful lives (years) to be applied
Buildings	25~50
Structures	20~45
Machinery	5~20
Ships	15, 25
Vehicles	5~14
Tools, furniture and fixtures	3~20

The effects of changes in accounting estimates are included in *Note 17*.

**4. Significant Accounting Policies**

The significant accounting policies applied by the Group in the preparation of its consolidated financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements except for the changes in accounting policies as explained in *Note 3*.

**(1) Operating segments**

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components. All operating segment operating results are reviewed regularly by the Group's chief executive officer (CEO) to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available. As discussed in *Note 35* the Group has 10 reportable segments which are the Group's strategic business units. The strategic business units offer different products and services, and are managed separately because they require different technology and marketing strategies.

Segment results that are reported to the CEO include items directly attributable to a segment as well as those that can be allocated on a reasonable basis.

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**4. Significant Accounting Policies, Continued**

**(2) Basis of consolidation**

(i) Business combinations

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

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed as incurred, except if related to the issue of debt or equity securities. The costs to issue debt or equity securities are recognized in accordance with K-IFRS No. 1032, 'Financial Instruments: Presentation' and K-IFRS No. 1039, 'Financial Instruments: Recognition and Measurement'.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration payable is measured at fair value at the acquisition date. If the contingent consideration is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. This determination is based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

(ii) Non-controlling interests

NCI are measured at their proportionate share of the acquiree's identifiable net assets at the acquisition date.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

(iii) Subsidiaries

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

(iv) Loss of control

When the Group loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related NCI and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

(v) Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates and joint ventures.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

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**4. Significant Accounting Policies, Continued**

**(2) Basis of consolidation, continued**

- (v) Interests in equity-accounted investees, continued  
Interests in associates and the joint venture are accounted for using the equity method. They are recognized initially at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and OCI of equity-accounted investees, until the date on which significant influence or joint control ceases.
- (vi) Transactions eliminated on consolidation  
Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.
- (vii) Acquisitions from entities under common control  
The assets and liabilities acquired under business combinations under common control are recognized at the carrying amounts recognized previously in the consolidated financial statements of the ultimate parent. The difference between consideration transferred and carrying amounts of net assets acquired is recognized as part of share premium.

**(3) Cash and cash equivalents**

Cash and cash equivalents comprise cash balances and call deposits with maturities of three months or less from the acquisition date that are subject to an insignificant risk of changes in their fair value, and are used by the Group in the management of its short-term commitments. Equity investments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares when it has a short maturity with a specified redemption date.

Cash and cash equivalents as of December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<b>2016</b>	<b>2015</b>
Cash	₩ 1,930	1,351
Current deposit	138,023	129,349
Ordinary deposit	2,163,454	1,151,020
MMF	54,544	-
MMDA	1,049,555	520,911
Others	919,362	1,302,672
	₩ 4,326,868	3,105,303

**(4) Inventories**

The cost of inventories is based on the moving-average method with the exception of cost of materials-in-transit, which is determined on the specific identification method. Cost of inventories includes expenditures incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition.

Inventories are measured at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses. The amount of any write-down of inventories to net realizable value and all losses of inventories are 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, are recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.



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**4. Significant Accounting Policies, Continued**

**(5) Non-derivative financial assets**

The Group recognizes and measures non-derivative financial assets by the following four categories: financial assets at fair value through profit or loss, held-to-maturity investments, loans and receivables and available-for-sale financial assets. The Group recognizes financial assets in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the instrument.

Upon initial recognition, non-derivative financial assets are measured at their fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the asset's acquisition or issuance.

- (i) **Financial assets at fair value through profit or loss**  
Financial assets are classified at fair value through profit or loss if they are held for trading or is designated as such upon initial recognition. Upon initial recognition, transaction costs are recognized in profit or loss when incurred. Financial assets at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss.
- (ii) **Held-to-maturity investments**  
Non-derivative financial assets with a fixed or determinable payment and fixed maturity, for which the Group has the positive intention and ability to hold to maturity, are classified as held-to-maturity investments. Subsequent to initial recognition, held-to-maturity investments are measured at amortized cost using the effective interest method.
- (iii) **Loans and receivables**  
Loans and receivables are financial assets with fixed or determinable payments that are not quoted in an active market. Subsequent to initial recognition, loans and receivables are measured at amortized cost using the effective interest method except for loans and receivables of which the effect of discounting is immaterial.
- (iv) **Available-for-sale financial assets**  
Available-for-sale financial assets are those non-derivative financial assets that are designated as available-for-sale or are not classified as financial assets at fair value through profit or loss, held-to-maturity investments or loans and receivables. Subsequent to initial recognition, they are measured at fair value, which changes in fair value, net of any tax effect, are recorded in other comprehensive income in equity. Investments in equity instruments 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 instruments are measured at cost.
- (v) **De-recognition of financial assets**  
The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in transferred financial assets that is created or retained by the Group is recognized as a separate asset or liability.  
  
If the Group retains substantially all the risks and rewards of ownership of the transferred financial assets, the Group continues to recognize the transferred financial assets and recognizes financial liabilities for the consideration received.
- (vi) **Offsetting between financial assets and financial liabilities**  
Financial assets and financial liabilities are offset and the net amount is presented in the consolidated statement of financial position only when the Group currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.

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**4. Significant Accounting Policies, Continued**

**(6) Derivative financial instruments, including hedge accounting**

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are accounted for as described below.

(i) Hedge accounting

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

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

*Fair value hedge*

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

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

*Cash flow hedge*

When a derivative is designated to hedge the variability in cash flows attributable to a particular risk associated with a recognized asset or liability or a highly probable forecasted transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income, net of tax, and presented in the hedging reserve in equity. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss.

If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss on the hedging instrument that has been recognized in other comprehensive income is reclassified to profit or loss in the periods during which the forecasted transaction occurs. If the forecasted transaction is no longer expected to occur, then the balance in other comprehensive income is recognized immediately in profit or loss.

(ii) Separable embedded derivatives

Embedded derivatives are separated from the host contract and accounted for separately only if the following criteria have been met:

- (a) The economic characteristics and risks of the embedded derivative are not closely related to those of the host contract;
- (b) A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and
- (c) The hybrid instrument is not measured at fair value with changes in fair value recognized in profit or loss.

Changes in the fair value of separable embedded derivatives are recognized immediately in profit or loss.

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**4. Significant Accounting Policies, Continued**

**(6) Derivative financial instruments, including hedge accounting, continued**

(iii) Other derivative financial instruments

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

**(7) Impairment of financial assets**

A financial asset not carried at fair value through profit or loss is assessed at each reporting date to determine whether there is objective evidence that it is impaired. A financial asset is impaired if objective evidence indicates that a loss event has occurred after the initial recognition of the asset, and that the loss event had a negative effect on the estimated future cash flows of that asset that can be estimated reliably. However, losses expected as a result of future events, regardless of likelihood, are not recognized.

Objective evidence that financial assets are impaired includes:

- Default or delinquency by a debtor;
- Restructuring of an amount due to the Group on terms that the Group would not consider otherwise;
- Indications that a debtor or issuer will enter bankruptcy;
- Adverse changes in the payment status of borrowers or issuers;
- The disappearance of an active market for a security; or
- Observable data indicating that there is a measurable decrease in the expected cash flows from a group of financial assets

If there is objective evidence that financial instruments are impaired, impairment losses are measured and recognized. In addition, for an investment in an equity security, a significant or prolonged decline in its fair value below its cost is objective evidence of impairment.

(i) Financial assets measured at amortized cost

An impairment loss in respect of a financial asset measured at amortized cost is calculated as the difference between its carrying amount and the present value of its estimated future cash flows discounted at the asset's original effective interest rate. If it is not practicable to obtain the instrument's estimated future cash flows, impairment losses would be measured by using prices from any observable current market transactions. The Group can recognize impairment losses directly or establish a provision to cover impairment losses. 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 (such as an improvement in the debtor's credit rating), the previously recognized impairment loss shall be reversed either directly or by adjusting an allowance account.

(ii) Financial assets carried at cost

If there is objective evidence that an impairment loss has occurred on an unquoted equity instrument that is not carried at fair value because its fair value cannot be reliably measured, or on a derivative asset that is linked to and must be settled by delivery of such an unquoted equity instrument, the amount of the impairment loss is measured as the difference between the carrying amount of the financial asset and the present value of estimated future cash flows discounted at the current market rate of return for a similar financial asset. Such impairment losses shall not be reversed.

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**4. Significant Accounting Policies, Continued**

**(7) Impairment of financial assets, continued**

(iii) Available-for-sale financial assets

When a decline in the fair value of an available-for-sale financial asset has been recognized in other comprehensive income and there is objective evidence that the asset is impaired, the cumulative loss that had been recognized in other comprehensive income shall be reclassified from equity to profit or loss as a reclassification adjustment even though the financial asset has not been derecognized. Impairment losses recognized in profit or loss for an investment in an equity instrument classified as available-for-sale shall not be reversed through profit or loss. If, in a subsequent period, the fair value of a debt instrument classified as available-for-sale increases and the increase can be objectively related to an event occurring after the impairment loss was recognized in profit or loss, the impairment loss is reversed, with the amount of the reversal recognized in profit or loss.

**(8) Property, plant and equipment**

Property, plant and equipment are initially measured at cost and after initial recognition, are carried at cost less accumulated depreciation and accumulated impairment losses. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located. Subsequent to initial recognition, an item of property, plant and equipment shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses.

Property, plant and equipment, except for land, are depreciated on a straight-line basis over estimated useful lives that appropriately reflect the pattern in which the asset's future economic benefits are expected to be consumed. A component that is significant compared to the total cost of property, plant and equipment is depreciated over its separate useful life. Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment and are recognized in profit or loss.

The Group has reviewed the useful lives and the useful lives to be applied in 2016 reflecting the economic substance of property, plant and equipment are as follows:

	Useful lives (years)
Buildings	25~50
Structures	20~45
Machinery	5~20
Heavy machinery	12~15
Ships	15, 25
Vehicles	5~14
Tools, furniture and fixtures	3~20
Other property, plant and equipment ("Others")	3~5

The effects of changes in accounting estimates are included in *Note 17*.

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

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**4. Significant Accounting Policies, Continued**

**(9) Intangible assets**

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

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use. The residual value of intangible assets is zero. However, as there are no foreseeable limits to the periods over which club memberships are expected to be available for use, this intangible asset is determined as having indefinite useful lives and not amortized.

	Useful lives (years)
Capitalized development costs	5
Distribution networks	20
Customer relationships	9
Brands	Indefinite
Industrial property right	4~10
Know-how	16
Other intangible assets	3~50
Membership	Indefinite

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

(i) Research and development

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

(ii) Subsequent expenditures

Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which it relates. All other expenditures, including expenditures on internally generated goodwill and brands, are recognized in profit or loss as incurred.

**(10) Government grants**

Government grants are not recognized unless there is reasonable assurance that the Group will comply with the grant's conditions and that the grant will be received.

Government grants whose primary condition is that the Group purchase, construct or otherwise acquire long-term assets are deferred and recognized as deduction to depreciation expense over the useful life of the asset.

Government grants which are intended to compensate the Group for expenses incurred are recognized as other income (government grants) in profit or loss over the periods in which the Group recognizes the related costs as expenses.

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**4. Significant Accounting Policies, Continued**

**(11) Investment property**

Property held for the purpose of earning rentals or benefiting from capital appreciation is classified as investment property. Investment property is initially measured at its cost. Transaction costs are included in the initial measurement. Subsequently, investment property is carried at depreciated cost less any accumulated impairment losses.

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

The Group has reviewed the useful lives and changed the useful lives in 2016 by reflecting the economic substance of investment property. Investment property is depreciated on a straight-line basis over the following estimated useful lives:

	Useful lives (years)
Buildings	25~50

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

**(12) Impairment of non-financial assets**

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

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets ("CGUs"). The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a pre-tax discount rate that reflect current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

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

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

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**4. Significant Accounting Policies, Continued**

**(13) Leases**

The Group classifies and accounts for leases as either a finance or operating lease, depending on the terms. Leases where the Group assumes substantially all of the risks and rewards of ownership are classified as finance leases. All other leases are classified as operating leases.

(i) Finance leases

The Group recognizes assets held under a finance lease and presents them as a receivable at an amount equal to the net investment in the lease. The recognition of finance income is based on a pattern reflecting a constant periodic rate of return on the Group's net investment in the finance lease.

(ii) Operating leases

Lease income from operating leases is recognized in income on a straight-line basis over the lease term. Initial direct costs in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized as an expense over the lease term on the same basis as the lease income. The depreciation policy for depreciable leased assets is consistent with the Group's normal depreciation policy for similar assets.

**(14) Due from customers for contract work and due to customers for contract work**

Due from customers for contract work represents the gross unbilled amount expected to be collected from customers for contract work performed to date. It is measured at cost plus profit recognized to date less progress billings and recognized losses. Cost includes all expenditures related directly to specific projects and an allocation of fixed and variable overheads incurred in the Group's contract activities based on normal operating capacity.

The gross amount due from customers for contract work is presented as an asset in the statement of financial position for all contracts in which costs incurred plus recognized profits exceed progress billings. If progress billings exceed costs incurred plus recognized profits, then the gross amount due to customers for contract work is presented as a liability in the statement of financial position.

**(15) Non-current assets held for sale**

Non-current assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. In order to be classified as held for sale, the asset (or disposal group) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal group that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell. The Group recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal group) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized in accordance with IAS 36, 'Impairment of Assets'.

A non-current asset that is classified as held for sale or part of a disposal group classified as held for sale is not depreciated (or amortized).

**(16) Borrowing costs**

The Group capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognized in expense as incurred. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

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**4. Significant Accounting Policies, Continued**

**(16) Borrowing costs, continued**

To the extent that the Group borrows funds specifically for the purpose of obtaining a qualifying asset, the Group determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. The Group immediately recognizes other borrowing costs as an expense. To the extent that the Group borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Group shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Group that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Group capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period. In addition, the Group capitalized borrowing costs amounting to ₩157,443 million and ₩168,047 million, applying capitalization rate of 2.66%~3.68% and 2.48%~3.75% for the years ended December 31, 2016 and 2015, respectively.

**(17) Non-derivative financial liabilities**

The Group classifies non-derivative financial liabilities into financial liabilities at fair value through profit or loss or other financial liabilities in accordance with the substance of the contractual arrangement and the definitions of financial liabilities. The Group recognizes financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the financial liability.

(i) Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading or designated as such upon initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs that are directly attributable to the acquisition are recognized in profit or loss as incurred.

(ii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method.

The Group derecognizes a financial liability from the consolidated statement of financial position when it is extinguished (i.e. when the obligation specified in the contract is discharged, cancelled or expires).

**(18) Employee benefits**

(i) Short-term employee benefits

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

(ii) Other long-term employee benefits

Other 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. The Group's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognized in profit or loss in the period in which they arise.



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**4. Significant Accounting Policies, Continued**

**(18) Employee benefits, continued**

(iii) Retirement benefits: defined contribution plans

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

(iv) Retirement benefits: defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current period, discounting that amount and deducting the fair value of any plan assets.

The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any applicable minimum funding requirements.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in OCI. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognized immediately in profit or loss. The Group recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

(v) Termination benefits

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

**(19) Provisions**

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

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

Where some or all of the expenditures required to settle a provision are expected to be reimbursed by another party, the reimbursement is recognized when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement is treated as a separate asset.

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

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the obligation, the provision is reversed.

### 4. Significant Accounting Policies, Continued

#### (19) Provisions, continued

(i) Provision for construction warranty

The Group generally provides a warranty within the contract on rectification of defects after the contract's completion and accrues the rectification expense on defects based on actual claims history as provision for construction warranty.

(ii) Provision for product warranty

The Group generally provides a warranty relating to product defects for a specified period of time after sales and accrues estimated costs as provision for product warranty, which may occur due to product liability suits.

(iii) Other provision

In accordance with the Group's published environmental policy and applicable legal requirements, a provision for site restoration is recognized.

A provision is used only for expenditures for which the provision was originally recognized.

#### (20) Emissions rights

The Group accounts for greenhouse gases emission right and the relevant liability as below pursuant to the Act on Allocation and Trading of Greenhouse Gas Emission which became effective in 2015.

(i) Greenhouse Gases Emission Right

Greenhouse Gases Emission Right consists of emission allowances which are allocated from the government free of charge or purchased from the market. The cost includes any directly attributable costs incurred during the normal course of business.

Emission rights held for the purpose of performing the obligation are classified as an intangible asset and are initially measured at cost and after initial recognition, are carried at cost less accumulated impairment losses. Emission rights held for short-swing profits are classified as current asset and are measured at fair value with any changes in fair value recognized through profit or loss in the respective reporting period.

The Group derecognizes an emission right asset when the emission allowance is unusable, disposed or submitted to government in which the future economic benefits are no longer expected to be probable.

(ii) Emission liability

Emission liability is a present obligation of submitting emission rights to the government with regard to emission of greenhouse gas. Emission liability is recognized when there is a high possibility of outflows of resources in performing the obligation and the costs required to perform the obligation are reliably estimable. Emission liability is an amount of estimated obligations for emission rights to be submitted to the government for the performing period. The emission liability is measured based on the expected quantity of emission for the performing period in excess of emission allowance in possession and the unit price for such emission rights in the market at of the end of the reporting period.

The Group is involved in the allocation of emission and the trading scheme from 2015. From 2015 to 2017 is the one planning period, the quantities of emission rights which are allocated free of charge during the planning period are as follows:

<i>(In ton)</i>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>Total</u>
Allocated emission right free of charge ton	3,615,811	3,527,332	3,456,981	10,600,124

As of December 31, 2016, there is no emission rights provided as collateral and the Group recognized an emission liabilities amounting to ₩5,331 million because the estimated quantity of emission 4,142,709 ton exceeds allocated emission right free of charge (see Note 26).

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**4. Significant Accounting Policies, Continued**

**(21) Foreign currency**

(i) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are retranslated to the functional currency using the reporting date's exchange rate. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are retranslated to the functional currency at the exchange rate at the date that the fair value was determined.

Foreign currency differences arising on retranslation are recognized in profit or loss, except for differences arising on the retranslation of available-for-sale equity instruments, a financial liability designated as a hedge of the net investment in a foreign operation, or qualifying cash flow hedges, which are recognized in other comprehensive income. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction.

(ii) Foreign operations

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

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

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation are treated as assets and liabilities of the foreign operation. Thus they are expressed in the functional currency of the foreign operation and translated at the closing rate.

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

Foreign exchange gains or losses arising from a monetary item receivable from or payable to a foreign operation, the settlement of which is neither planned nor likely to occur in the foreseeable future and which in substance is considered to form part of the net investment in the foreign operation, are recognized in other comprehensive income in the translation reserve.

(iii) Translation of the net investment in foreign operations.

A monetary item that is receivable from or payable to a foreign operation, for which settlement is neither planned nor likely to occur in the foreseeable future, is a part of the entity's net investment in that foreign operation. Exchange differences arising on such monetary item are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal of the net investment.

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**4. Significant Accounting Policies, Continued**

**(22) Equity capital**

(i) Equity instruments

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares and share options are recognized as a deduction from equity, net of any tax effects.

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

(ii) Hybrid bonds

The Group classified capital securities in accordance with the substance of the contractual terms of capital securities as financial liabilities or equity instruments. Hybrid bonds that have an unconditional right to avoid delivering cash or financial assets to pay a contractual obligation are classified as equity instrument and are presented in equity.

**(23) Share-based payment transactions**

The Group has granted shares or share options to its employees and other parties. For equity-settled share-based payment transactions, the Group measures the goods or services received, and the corresponding increase in equity as a capital adjustment at the fair value of the goods or services received, unless that fair value cannot be estimated reliably. If the Group cannot reliably estimate the fair value of the goods or services received, the Group measures their value, and the corresponding increase in equity, indirectly, by reference to the fair value of the equity instruments granted. If the fair value of the equity instruments cannot be estimated reliably at the measurement date, the Group measures them at their intrinsic value and recognizes the goods or services received based on the number of equity instruments that ultimately vest.

For cash-settled share-based payment transactions, the Group measures the goods or services acquired and the liability incurred at the fair value of the liability. Until the liability is settled, the Group remeasures the fair value of the liability at each reporting date and at the date of settlement, with changes in fair value recognized in profit or loss for the period.

**(24) Revenue**

Revenue from the sale of goods, rendering of services or use of the Group assets is measured at the fair value of the consideration received or receivable, net of returns, trade discounts and volume rebates, which are recognized as a reduction of revenue.

(i) Goods sold

Revenue from the sale of goods in the course of ordinary activities is measured at the fair value of the consideration received or receivable, net of returns, trade discounts and volume rebates. Revenue is recognized when persuasive evidence exists, usually in the form of an executed sales agreement, that the significant risks and rewards of ownership have been transferred to the buyer, recovery of the consideration is probable, the associated costs and possible return of goods can be estimated reliably, there is no continuing management involvement with the goods, and the amount of revenue can be measured reliably.

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**4. Significant Accounting Policies, Continued**

**(24) Revenue, continued**

(ii) Customer loyalty programs

For customer loyalty programs, the fair value of the consideration received or receivable in respect of the initial sale is allocated between the award credits ("P-points") and the other components of the sale. The amount allocated to the P-points is estimated by reference to the fair value of the products for which they could be redeemed, since the fair value of the P-points themselves is not directly observable. The fair value of the products is estimated taking into account the expected redemption rate and the timing of such expected redemptions. Such amount is deferred and revenue is recognized only when the P-points are redeemed and the Group has fulfilled its obligations to supply the products. The amount of revenue recognized in those circumstances is based on the number of P-points that have been redeemed in exchange for products, relative to the total number of P-points that are expected to be redeemed.

(iii) Services

Revenue from services rendered is recognized in profit or loss in proportion to the stage of completion of the transaction at the reporting date. The stage of completion is assessed by reference to surveys of work performed.

(iv) Construction contracts

Contract revenue includes the initial amount agreed in the contract plus any variations in contract work, claims and incentive payments, to the extent that it is probable that they will result in revenue and can be measured reliably. As soon as the outcome of a construction contract can be estimated reliably, contract revenue is recognized in profit or loss in proportion to the stage of completion of the contract. Contract expenses are recognized as incurred unless they create an asset related to future contract activity.

The stage of completion is assessed by reference to surveys of work performed. When the outcome of a construction contract cannot be estimated reliably, contract revenue is recognized only to the extent of contract costs incurred that are likely to be recoverable. An expected loss on a contract is recognized immediately in profit or loss.

(v) Commissions

In an agency relationship, the gross inflows of economic benefits include amounts collected on behalf of the principal which do not result in increases in equity for the entity. The amounts collected on behalf of the principal are not revenue. Instead, revenue is the net amount of commission made by the Group.

(vi) Rental income

Rental income from investment property, net of lease incentives granted, is recognized in profit or loss on a straight-line basis over the term of the lease.

**(25) Incidental loan income and expenses**

The Group recognizes loan commissions as deferred incidental loan income, and incremental costs arising from the acquisition or disposal of loans are treated as deferred incidental loan expenses, which is adjusted in interest revenues on loans after being amortized using the effective interest method.

**(26) Accounting for disposal of loans**

The Group records the difference between carrying value and the selling price as reasonably derived and measured by independent trusted third party in profit or loss.

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**4. Significant Accounting Policies, Continued**

**(27) Finance income and finance costs**

Finance income comprises interest income on funds invested (including available-for-sale financial assets), dividend income, gains on the disposal of available-for-sale financial assets, changes in the fair value of financial assets at fair value through profit or loss, and gains on hedging instruments that are recognized in profit or loss. Interest income is recognized as it accrues in profit or loss, using the effective interest method. Dividend income is recognized in profit or loss on the date that the Group's right to receive payment is established, which in the case of quoted securities is the ex-dividend date.

Finance costs comprise interest expense on borrowings, changes in the fair value of financial assets at fair value through profit or loss, impairment losses recognized on financial assets, and losses on hedging instruments that are recognized in profit or loss. Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognized in profit or loss using the effective interest method.

**(28) Income taxes**

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

(i) Current tax

Current tax is the expected tax payable or receivable on the taxable profit or loss for the year, using tax rates enacted or substantively enacted at the end of the reporting period and any adjustment to tax payable in respect of previous years. The taxable profit is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit (tax loss) of future periods, and non-taxable or non-deductible items from the accounting profit.

(ii) Deferred tax

Deferred tax is recognized, using the asset-liability method, in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. A deferred tax liability is recognized for all taxable temporary differences. A deferred tax asset is recognized for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which they can be utilized. However, deferred tax is not recognized for taxable temporary differences arising on the initial recognition of goodwill, or the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting profit or loss nor taxable income.

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

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

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**4. Significant Accounting Policies, Continued**

**(28) Income taxes, continued**

(ii) Deferred tax, continued

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

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

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

**(29) Earnings per share**

The Group presents basic earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Group by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

**(30) New standards and interpretations not yet adopted**

The following new standards, interpretations and amendments to existing standards have been published and are not mandatory for the Group for annual periods beginning on January 1, 2016, and the Group has not early adopted them.

1) K-IFRS 1109 'Financial Instruments'

K-IFRS 1109, published on September 25, 2015, is effective for annual periods beginning on or after January 1, 2018, with earlier adoption permitted. It replaces existing guidance in K-IFRS 1039, *Financial Instruments: Recognition and Measurement*. The Group plans to adopt K-IFRS 1109 for the year beginning after January 1, 2018.

K-IFRS 1109 will generally be applied retrospectively; however the Group plans to take advantage of the exemption allowing it not to restate the comparative information for prior periods with respect to classification and measurement including impairment changes. New hedge accounting requirements will generally be applied prospectively except for certain exemptions including the accounting for the time value of options.

Key features of the new standard, K-IFRS 1109, are classification and measurement of financial assets that reflects the business model in which the assets are managed and their cash flow characteristics, impairment methodology that reflects 'expected credit loss' (ECL) model for financial assets, and expanded scope of hedged items and hedging instruments which qualify for hedge accounting and changes in assessment method for effect of hedging relationships.

K-IFRS 1109 will require the Group to assess the financial impact from application of K-IFRS 1109 and revise its accounting processes and internal controls related to financial instruments. Actual impact of adopting K-IFRS 1109 will be dependent on the financial instruments the Group holds and economic conditions at that time as well as accounting policy elections and judgment that it will make in the future.

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4. Significant Accounting Policies, Continued

(30) New standards and interpretations not yet adopted, continued

1) K-IFRS 1109 'Financial Instruments', continued

The Group has not initiated any changes in internal controls processes or accounting processing systems, and has not performed an assessment of the impact resulting from the application of K-IFRS 1109. The Group is currently performing a detailed assessment of the impact resulting from the application of K-IFRS 1109, and expects to disclose additional quantitative information in the notes to the financial statements for the year ended December 31, 2017 after completion of its assessment by December 31, 2017. Expected impacts on the consolidated financial statements are generally categorized as follows:

(i) Classification and measurement of financial assets

Under K-IFRS 1109, financial assets are classified into three principal categories; measured at amortized cost, fair value through other comprehensive income (FVOCI) and fair value through profit or loss (FVTPL). The classification is determined based on the business model in which assets are managed and their cash flow characteristics, as detailed in the below table. Under K-IFRS 1109, derivatives embedded in hybrid contracts where the host is a financial asset are not bifurcated. Instead, the hybrid financial instrument as a whole is assessed for classification.

Business model	Contractual cash flows are solely payments of principal and interests	All other cases
To collect contractual cash flows	At amortized cost(*1)	
Both to collect contractual cash flows and sell financial assets	At FVOCI	FVTPL(*2)
For trading, and others	At FVTPL	

(\*1) The Group may irrevocably designate as at FVTPL to eliminate or significantly reduce an accounting mismatch (irrevocable).

(\*2) The Group may irrevocably designate equity investments that is not held for trading as at FVOCI (irrevocable).

The requirements to measure the financial assets at amortized cost or other comprehensive income became stricter in K-IFRS 1109 than in K-IFRS 1039. Accordingly, the adoption of K-IFRS 1109 would potentially increase the proportion of financial assets that are measured at fair value through profit or loss, it may increase volatility in the Group's profit or loss.

Under K-IFRS 1109, a financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at FVTPL: 1) the asset is held within a business model whose objective is to hold assets to collect contractual cash flows; and 2) the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Under K-IFRS 1109, a financial asset is measured at FVOCI if it meets both of the following conditions and is not designated as at FVTPL: 1) the asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and 2) the contractual terms of the financial asset give rise on specified dates to cash flow that are solely payments of principal and interest on the principal amount outstanding.

Under K-IFRS 1109, on initial recognition of equity investment that is not held for trading, the Group may irrevocably elect to present subsequent changes in fair value in OCI, and will not reclassify(recycle) the those items in OCI to profit or loss subsequently.



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**4. Significant Accounting Policies, Continued**

**(30) New standards and interpretations not yet adopted, continued**

- 1) K-IFRS 1109 'Financial Instruments', continued  
(i) Classification and measurement of financial assets, continued

Under K-IFRS 1109, a financial asset is measured at FVTPL if the contractual terms of the financial asset give rise to specified dates to cash flows that are not solely payments of principal and interest on the principal amount outstanding, the debt instrument is held within a business model whose objective is to sell the asset, or the equity instruments that are not elected to be designated as measured at FVOCI.

- (ii) Classification and measurement of financial liabilities

Under K-IFRS 1109, the amount of change in the fair value attributable to the changes in the credit risk of the financial liabilities is presented in OCI, not recognized in profit or loss, and the OCI amount will not be reclassified (recycled) to profit or loss. However, if doing so creates or increase an accounting mismatch, the amount of change in the fair value is recognized in profit or loss.

As a portion of fair value change which was recognized in profit or loss under the existing standard, K-IFRS 1039, will be presented in OCI under K-IFRS 1109, profit or loss related to valuation of financial liabilities is likely to decrease.

- (iii) Impairment: Financial assets and contract assets

K-IFRS 1109 replaces the 'incurred loss' model in the existing standard with a forward-looking 'expected credit loss' (ECL) model for debt instruments, lease receivables, contractual assets, loan commitments, financial guarantee contracts.

Under K-IFRS 1109, impairment losses are likely to be recognized earlier than using the incurred loss model under the existing guidance in K-IFRS 1039 as loss allowances will be measured on either of the 12-month or lifetime ECL based on the extent of increase in credit risk since inception as shown in the below table.

	<b>Classification(*1)</b>	<b>Loss allowances</b>
Stage 1	Credit risk has not increased significantly since the initial recognition (*2)	12-month ECL: ECLs that resulted from possible default events within the 12 months after the reporting date
Stage 2	Credit risk has increase significantly since the initial recognition	Lifetime ECL: ECL that resulted from all possible default events over the expected life of a financial instrument
Stage 3	Credit-impaired	

(\*1) In the case of trade receivables or contract assets that are include in the scope of K-IFRS 1115, revenue from contracts with customers, if there is no significant financing component, a loss allowance should be measured at the amount equal to lifetime expected credit losses. If there is a significant financing component, the Group may choose lifetime expected credit losses as its accounting policy to measure a loss allowance. And also the Group can elect an accounting policy to measure a loss allowance at the amount equal to lifetime expected credit losses with respect to lease receivable.

(\*2) If the financial instrument has low credit risk at the reporting date, the Group may assume that the credit risk has not increased significantly since initial recognition.

Under K-IFRS 1109, financial assets of which the credit was impaired at the initial recognition, cumulative changes in lifetime ECL since the initial recognition are recognized as loss allowances.

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**4. Significant Accounting Policies, Continued**

**(30) New standards and interpretations not yet adopted, continued**

- 1) K-IFRS 1109 'Financial Instruments', continued  
(iv) Hedge accounting

K-IFRS 1109 retains the mechanics of hedge accounting (fair value hedge, cash flow hedge, hedging on net investment in a foreign operation) which was defined in the existing guidance in K-IFRS 1109, but provides principle-based and less complex guidance in hedging which focuses on the risk management activities. More hedged items and hedging instruments would qualify for hedge accounting, more qualitative and forward-looking approach will be taken to assessing hedge effectiveness, and qualitative threshold (80~125%) is removed under K-IFRS 1109.

Certain transactions which were not qualified for hedge accounting under the existing standard will be likely to qualify for hedge accounting under K-IFRS 1109, decreasing volatility in the Group's profits or loss. When initially applying K-IFRS 1109, the Group may choose as its accounting policy to continue to apply the hedge accounting requirements of K-IFRS 1039.

- 2) K-IFRS 1115 'Revenue from Contracts with Customers'

K-IFRS 1115 *Revenue from Contracts from Customers*, published on November 6, 2015, is effective for annual periods beginning on or after January 1, 2018, with earlier adoption permitted. It replaces existing revenue recognition guidance, including K-IFRS 1018 *Revenue*, K-IFRS 1011 *Construction Contracts*, K-IFRS 2031 *Revenue- Barter transactions involving advertising services*, K-IFRS 2113 *Customer Loyalty Programs*, K-IFRS 2115 *Agreements for the construction of real estate*, K-IFRS 2118 *Transfers of assets from customers*.

Existing K-IFRS standards and interpretations including K-IFRS 1018 provide revenue recognition guidance by transaction types such as sales of goods, rendering of services, interest income, royalty income, dividend income and construction revenue; however, under the new standard, K-IFRS 1115, the five-step approach (Step 1: Identify the contract(s) with a customer, Step 2: Identify the performance obligations in the contract, Step 3: Determine the transaction price, Step 4: Allocate the transaction price to the performance obligations in the contract, Step 5: Recognize revenue when the entity satisfied a performance obligation) is applied for all types of contracts or agreements.

K-IFRS 1115 may require the Group to revise its financial impact analysis, accounting policies, accounting processing systems, and system stabilization, and these changes are not yet initiated. The effect on the financial statements in the first period in which K-IFRS 1115 is adopted may be differed from not only the selection and judgment of the accounting policies, but also the type of vessels and type of contract entered into by the Group during period.

As of December 31, 2016, for the preparation of the adoption of K-IFRS 1115, the Group has composed task force team that comprise members of accounting department with support from other departments, and is in the process of analyzing financial impact arising from applying this standard including option of early adoption.

However, the Group has done a preliminary assessment of the impact arising from applying K-IFRS 1115 based on available information as of December 31, 2016 and the major anticipated differences from current accounting policies are as follows. The results of potential impacts assessment as of December 31, 2016 may be changed based on additional information available subsequently.

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**4. Significant Accounting Policies, Continued**

**(30) New standards and interpretations not yet adopted, continued**

- 2) K-IFRS 1115 'Revenue from Contracts with Customers', continued  
(i) Identifying the performance obligations

The Group is engaged in the engineering, procurement, construction, installation and commissioning of ship and offshore plant structure to provide the vessel and offshore plant structure ordered by customers.

Under K-IFRS 1115, the Group determines whether the goods and services per the contracts are distinct and identify separate performance obligations in the contracts. Timing of revenue recognition would change depending on whether the each of the performance obligations are satisfied at a point of time or over time.

- (ii) Performance obligations satisfied over time: custom vessels and off-shore plant structure

The Group's shipbuilding and offshore, industrial plant segment manufactures and sells specialized machinery which are built based on customer's orders, and the manufacturing process generally takes one to three years. The Group recognizes revenue allocated based on percentage-of-completion considering the actual costs incurred.

Under K-IFRS 1115, the Group recognizes revenue over time measuring the progress towards complete satisfaction of the performance obligation, only when the asset in its completed state has no alternative use to the Group and there is an enforceable right to payment for performance completed to date.

As a result of a preliminary assessment of potential impact arising from applying K-IFRS 1115, the Group determined that the assets created by the Group's performance have no alternative use to the Group and the Group has an enforceable right to payment for performance completed to date.

- (iii) Progress measurement using input method

Under K-IFRS 1115, the Group recognizes revenue at an amount equal to the costs used to satisfy a performance obligation if the Group expects at contract inception that 1) the good is not distinct, 2) the customer is expected to obtain control of the goods significantly before rendering the service related to the goods, 3) the costs to produce the goods are significant relative to the total expected costs to completely satisfy the performance obligation and 4) the Group is provided with the goods from third party and is not significantly involved in designing and manufacturing the goods.

Also, the Group excludes any goods or services for which the Group does not transfer control to a customer from the progress measurement and includes any goods or services for which the entity does transfer control to a customer in the progress measurement when satisfying that performance obligation.

As a result of a preliminary assessment of potential impact arising from applying K-IFRS 1115, the Group's timing of revenue recognition can be changed by the measurement of percentage of completion applied the input method with perspective of transferring control.

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**4. Significant Accounting Policies, Continued**

**(30) New standards and interpretations not yet adopted, continued**

- 2) K-IFRS 1115 'Revenue from Contracts with Customers', continued  
(iv) Variable consideration

Under K-IFRS 1115, the Group estimates an amount of variable consideration by using the method the Group expects to better predict the amount of consideration to which it will be entitled. The Group includes an amount of variable consideration in the transaction price only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the return period expires. The Group recognizes the amounts received or receivable for which the Group does not expect to be entitled as a refund liability.

As a result of a preliminary assessment of potential impact arising from applying K-IFRS 1115, the Group's timing revenue recognition can be changed by the measurement of percentage of completion applied the input method with perspective of transferring control.

- (v) Allocating the transaction price to performance obligations

In applying the K-IFRS 1115, the Group allocates the transaction price to each performance obligation on a relative stand-alone selling price basis. To estimate the stand-alone selling price, 'adjusted market assessment approach' will be used, however, for certain transactions, 'expected cost plus a margin approach' will be used exceptionally.

- (vi) Significant financing component in the contract

In applying the K-IFRS 1115, the Group recognizes revenue at an amount that reflects the price that a customer would had paid cash for those goods or services in the case that significant benefit of financing is provided to the customers or the Group through transferring goods or services to customers due to the timing of payment agreed among parties entered into the contracts upon determining the transaction price.

As a result of a preliminary assessment of potential impact arising from applying K-IFRS 1115, amount of revenue may be varied due to significant financing component existed in relation to advances from customer and others.

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**5. Risk Management**

The Group has exposure to the following risks from its use of financial instruments:

- Credit risk
- Liquidity risk
- Market risk

This note presents information about the Group's exposure to each of the above risks, the Group's objectives, policies and processes for measuring and managing risk, and the Group's management of capital. Further quantitative disclosures are included throughout these consolidated financial statements.

**(1) Financial risk management**

1) Risk management framework

The Group's risk management policies are established to identify and analyze the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

2) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's receivables from customers and investment securities.

(i) Trade and other receivables

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the demographics of the Group's customer base, including the default risk of the industry and country in which customers operate, as these factors may have an influence on credit risk, particularly in the currently deteriorating economic circumstances.

The Group establishes credit limits for each customer and each new customer is analysed quantitatively and qualitatively before determining whether to utilize third party guarantees, insurance or factoring as appropriate.

The Group does not establish allowances for receivables under insurance and receivables from customers with a high credit rating. For the rest of the receivables, the Group establishes an allowance for impairment of trade and other receivables that have been individually or collectively evaluated for impairment and estimated on the basis of historical loss experience for assets.

(ii) Investments

The Group limits its exposure to credit risk by investing only in liquid securities and only with counterparties that have high credit ratings. Management actively monitors credit ratings and given that the Group only has invested in securities with high credit ratings, does not expect a significant risk that any counterparty fails to meet its obligations.

(iii) Guarantees

The Group provides financial guarantees to subsidiaries, associates and third parties if necessary.

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**5. Risk Management, Continued**

**(1) Financial risk management, Continued**

3) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation.

The Group has historically been able to satisfy its cash requirements from cash flow from operations and debt and equity financing. To the extent that the Group does not generate sufficient cash flow from operations to meet its capital requirements, the Group may rely on other financing activities, such as external long-term borrowings and offerings of debt securities, equity-linked and other debt securities.

4) Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return.

The Group buys and sells derivatives, and also incurs financial liabilities, in order to manage market risks. All such transactions are carried out within the guidelines set by the Group. Generally the Group seeks to apply hedge accounting in order to manage volatility in profit or loss.

(i) Currency risk

The Group is exposed to currency risk on sales, purchases and borrowings that are denominated in a currency other than the functional currency of the Group, Korean won (KRW). The currencies in which these transactions primarily are denominated are USD, EUR, CNY and JPY.

The Group hedges trade receivables and trade payables denominated in a foreign currency in respect of forecasted sales and purchases. The Group uses forward exchange contracts to hedge its currency risk, most with a maturity of less than two years from the reporting date. When necessary, forward exchange contracts are rolled over at maturity. Trade receivables denominated in a foreign currency have been hedged using forward contracts that mature on the same dates that the receivables are due for collection. In respect of other monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances.

(ii) Interest rate risk

The Group hedges the interest rate risk arising from loans and bonds with floating interest rates through interest rate swaps.

(iii) Other market price risk

The Group is exposed to the price risk arising from available-for-sale equity securities. The effect of 1% changes in price of marketable available-for-sale securities on the total comprehensive income for the years ended December 31, 2016 and 2015 is ₩346 million and ₩6,349 million, respectively.

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**5. Risk Management, Continued**

**(2) Capital management**

The management's policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Group monitors the liability to equity ratio and net borrowing to equity ratio, which the Group defines as total liabilities divided by total equity and net borrowing divided by total equity.

The Group's liability to equity ratio and net borrowing to equity ratio as of December 31, 2016 and 2015 are as follows:

<i>(In millions of won, except equity ratio)</i>		<u>2016</u>	<u>2015</u>
Total liabilities	₩	31,359,424	34,233,874
Total equity		17,889,752	15,498,962
Cash and deposits(*1)		4,884,045	3,495,170
Borrowings(*2)		16,073,292	16,852,096
Liability to equity ratio		175.29%	220.88%
Net borrowing to equity ratio(*3)		62.55%	86.18%

(\*1) Cash and deposits consist of cash and cash equivalents and short-term and long-term financial instruments.

(\*2) Discount on debentures is deducted from the face value of debentures.

(\*3) Net borrowing represents borrowings net of cash and deposits.

The interest coverage ratio and basis of calculation for the years ended December 31, 2016 and 2015 are as follows.

<i>(In millions of won, except ratio)</i>		<u>2016</u>	<u>2015</u>
Operating profit (loss)	₩	1,641,853	(1,540,131)
Interest		233,913	225,663
Interest coverage ratio		7.02	(*)

(\*) Due to operating loss, the Group did not calculate the interest coverage ratio.

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**6. Short-term and Long-term Financial Assets**

Short-term and long-term financial assets as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Non-current	Current	Non-current
Financial instruments	₩ 554,941	2,236	387,175	2,692
Held-for-trading investments	3,549,487	9,490	3,726,853	31,749
Financial assets at fair value through profit or loss	232,091	269,039	288,053	268,974
Available-for-sale financial assets	340,559	221,802	217,832	886,068
Others	16,054	-	7,314	-
	₩ 4,693,132	502,567	4,627,227	1,189,483

**7. Restricted Financial Instruments and Others**

Financial instruments and others, which are restricted in use, as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015		Restrictions
Cash and cash equivalents	₩ 61,985	-	-	-	Other restrictions
Short-term financial assets	222,757	188,318	188,318	188,318	Investor deposits and others(*)
Trade and other receivables	369,694	309,774	309,774	309,774	Guarantee deposits for checking accounts
Long-term financial assets	98	356	356	356	
	₩ 654,534	498,448	498,448	498,448	

(\*) Short-term financial assets amounting to ₩180,000 million is provided as collateral for short-term borrowings amounting to ₩169,400 million from Industrial Bank of Korea and two other banks, and collateralized amount is ₩ 187,770 million as of December 31, 2016.



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**8. Trade and Other Receivables and Due from Customers for Contract Work**

(1) Trade and other receivables as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Non-current	Current	Non-current
<b>Trade receivables:</b>				
Trade receivables	₩ 5,558,463	437,940	5,514,427	491,271
Allowance for doubtful accounts	(1,263,768)	(362,981)	(1,233,956)	(189,554)
	<u>4,294,695</u>	<u>74,959</u>	<u>4,280,471</u>	<u>301,717</u>
<b>Loan receivables:</b>				
Loan receivables	246,135	22,889	302,458	14,050
Allowance for doubtful accounts	(396)	(1,683)	(396)	(2,536)
	<u>245,739</u>	<u>21,206</u>	<u>302,062</u>	<u>11,514</u>
<b>Other receivables:</b>				
Other accounts receivable	606,801	26	703,220	285
Allowance for doubtful accounts	(244,039)	(1)	(226,554)	(266)
Accrued income	32,883	-	34,267	-
Allowance for doubtful accounts	(102)	-	(102)	-
Loans	7,650	114,388	31,360	132,900
Allowance for doubtful accounts	-	(456)	-	(300)
Guarantee deposits	15,472	107,228	9,130	98,434
Deposits	163,822	-	130,526	-
Receivable for finance leases	67,294	30,912	77,736	45,498
Allowance for doubtful accounts	(959)	(497)	(1,166)	(682)
	<u>648,822</u>	<u>251,600</u>	<u>758,417</u>	<u>275,869</u>
	<u>₩ 5,189,256</u>	<u>347,765</u>	<u>5,340,950</u>	<u>589,100</u>

(2) Due from customers for contract work as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Current	Current	Current
Due from customers for contract work	₩	5,275,520		6,599,947
Allowance for doubtful accounts		-		-
	₩	<u>5,275,520</u>		<u>6,599,947</u>

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**9. Finance Leases**

- (1) Gross investment in leases and the present value of minimum lease payments receivable as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Minimum lease payments	Unguaranteed residual value	Minimum lease payments	Unguaranteed residual value
Less than one year	₩ 67,294	-	77,736	-
Later than one year between five years	30,912	-	45,498	-
	<u>98,206</u>	<u>-</u>	<u>123,234</u>	<u>-</u>
Unearned finance income	-	-	-	-
Net investment in the lease	₩ 98,206	-	123,234	-

- (2) There are no contingent rents incurred for the years ended December 31, 2016 and 2015.

**10. Inventories**

Inventories as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016			2015		
	Acquisition cost	Provision for inventory valuation	Carrying amount	Acquisition cost	Provision for inventory valuation	Carrying amount
Merchandise	₩ 366,372	(25,612)	340,760	324,853	(19,932)	304,921
Finished goods	501,896	(14,634)	487,262	576,512	(17,680)	558,832
Work-in-progress	1,023,478	(128,599)	894,879	1,140,946	(86,783)	1,054,163
Raw materials	1,208,981	(55,248)	1,153,733	1,366,153	(50,746)	1,315,407
Supplies	44,712	(49)	44,663	49,731	(1,680)	48,051
Materials-in-transit	986,017	-	986,017	1,210,866	-	1,210,866
	<u>₩ 4,131,456</u>	<u>(224,142)</u>	<u>3,907,314</u>	<u>4,669,061</u>	<u>(176,821)</u>	<u>4,492,240</u>

The write-down of inventories to net realizable value amounting to ₩47,321 million and ₩8,225 million are included in cost of sales for the years ended December 31, 2016 and 2015, respectively.

**11. Other Assets**

Other assets as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Non-current	Current	Non-current
Advance payments	₩ 806,702	-	1,188,305	-
Allowance for doubtful accounts	(61)	-	(63)	-
Prepaid expenses	212,058	31,883	338,825	44,231
Plan assets	-	17,004	-	161
Others(*)	1,288,435	2,571	1,020,650	1,497
	<u>₩ 2,307,134</u>	<u>51,458</u>	<u>2,547,717</u>	<u>45,889</u>

(\*) The Group has acquired a vessel under construction due to the cancellation of shipbuilding contract, and recognized it by fair value, for the years ended December 31, 2016 and 2015 (see Note 46).

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12. Investments in Associates

(1) Investments in associates as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won, except percentage of ownership)

Associates	Location	Fiscal year end	Business	2016		2015	
				Ownership (%)	Carrying amount	Ownership (%)	Carrying amount
New Korea Country Club	Korea	December	Country club	29.00	₩ 25,294	29.00	₩ 24,982
Taebaek Wind Power Co., Ltd.	Korea	December	Sale and manufacture of facilities for wind power generation	35.00	6,297	35.00	7,252
Taebaek Guinemi Wind Power Co., Ltd. (Formerly, Muju Wind Power Co., Ltd.)	Korea	December	Sale and manufacture of facilities for wind power generation	37.50	4,696	45.00	4,657
Pyeongchang Wind Power Co., Ltd.(*1)	Korea	December	Sale and manufacture of facilities for wind power generation	23.00	3,112	23.00	3,129
Jinan Jangsu Wind Power Co., Ltd.(*2)	Korea	December	Sale and manufacture of facilities for wind power generation	-	-	32.00	98
Changjuk Wind Power Co., Ltd.	Korea	December	Sale and manufacture of facilities for wind power generation	43.00	10,373	43.00	9,916
Tv-chosun Daesung Win-Win Fund	Korea	December	Investment service in culture contents field	23.81	10,336	23.81	10,914
KoFC-HVIC Pioneer Champ 2010-11 Venture Fund (*3)	Korea	December	Venture capital	-	-	40.00	2,468
KoFC-HVIC Pioneer Champ 2011-7 Venture Fund (*3)	Korea	December	Venture capital	-	-	37.50	7,984
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	Korea	December	Collective investment	21.21	3,640	21.21	4,751
Qinhuangdao Shouqin Metal Materials Co., Ltd. PT. Hyundai Machinery Indonesia	China Indonesia	December December	Thick plate-oriented comprehensive iron manufacturing Import and wholesale of machinery equipment for construction	20.00	-	20.00	-
Hyundai Primorye Ltd.	Russia	December	Farmland leasing service	20.83	-	20.83	-
Hyundai Green Industries Co., W.L.L.	Kuwait	December	Education	49.99	3,648	49.99	3,110
Tribridge Capital Management	Cayman	December	Asset management	49.00	967	49.00	946
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	Korea	December	Other financial	23.93	-	23.93	-
Hyundai Youth Fund 1 (*3)	Korea	December	Other financial	39.03	2,849	37.13	2,919
Hyundai Venture Investment corp. Hydrogen Fund(*3)	Korea	December	Other financial	-	-	23.00	875
HI Global Dynamic Asset Allocation Public Securities Investment Trust	Korea	December	Other financial	-	-	6.21	192
HI ROK11 Global Robo-advisor Securities Investment Trust	Korea	December	Other financial	47.06	4,956	49.16	4,821
KC LNG Tech Co., Ltd.(*4)	Korea	December	Other engineering service	39.79	1,041	-	-
				16.60	2,553	-	-
					₩ 79,762		₩ 89,014

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**12. Investments in Associates, Continued**

(1) Investments in associates as of December 31, 2016 and 2015 are summarized as follows, continued:

- (\*1) As of December 31, 2016, the Group provided banks its equity securities as collaterals for Pyeongchang Wind Power Co., Ltd., which is a related party (see *Note 47*).
- (\*2) This security has been removed from investment in associates because the entity has been liquidated for the year ended December 31, 2016.
- (\*3) Due to the result of the disposal of Hyundai M Partners Co., Ltd. (formerly, Hyundai Finance Corporation), all of its securities have been removed from investments in associates for the year ended December 31, 2016 (see Note 1).
- (\*4) Although ownership is less than 20%, the Group includes the entity securities as Investments in Associates since the Group has a significant influence on main operating and financial policy decisions.

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12. Investments in Associates, Continued

(2) Condensed financial information of associates as of and for the years ended December 31, 2016 and 2015 is summarized as follows:

(In millions of won)

Associates	2016										
	Condensed financial information of associates										Dividends received from investments in associates
	Current assets	Non-Current assets	Current liabilities	Non-Current liabilities	Equity	Sales	Operating income (loss)	Profit (loss)	Other comprehensive income (loss)	Total comprehensive income (loss)	
New Korea Country Club	₩ 15,206	20,897	1,349	4,208	30,546	13,267	1,823	1,578	-	1,578	145
Taebaek Wind Power Co., Ltd.	6,605	36,558	2,538	21,624	19,001	5,741	1,317	(2,796)	-	(2,796)	-
Taebaek Guinemi Wind Power Co., Ltd. (formerly, Muju Wind Power Co., Ltd.)	12,335	189	2	-	12,522	-	(115)	(107)	-	(107)	-
Pyeongchang Wind Power Co., Ltd.	2,819	72,621	409	61,500	13,531	3,997	860	(75)	-	(75)	-
Changjuk Wind Power Co., Ltd.	4,409	33,469	2,306	12,091	23,481	5,782	2,275	1,739	-	1,739	273
Tv-chosun Daesung Win-Win Fund	39,551	3,984	126	-	43,409	2,472	21	(2,429)	-	(2,429)	-
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	1,735	17,543	2,120	-	17,158	5,240	4,765	3,781	-	3,781	752
Qinhuangdao Shouqin Metal Materials Co., Ltd.	795,958	1,255,800	2,303,333	152,209	(403,784)	922,547	(136,778)	(136,683)	8,967	(127,716)	-
PT. Hyundai Machinery Indonesia	13,036	1,012	16,545	-	(2,497)	20,354	(423)	(17)	(133)	(150)	-
HYUNDAI Primorye Ltd.	965	4,895	7	-	5,853	25	(26)	(113)	1,189	1,076	-
Hyundai Green Industries Co., W.L.L.	-	1,974	-	-	1,974	-	-	-	43	43	-
Tribridge Capital Management	36	-	77	-	(41)	-	-	-	(1)	(1)	-
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	1,978	5,334	13	-	7,299	1,483	223	223	-	223	157
HI Global Dynamic Asset Allocation Public Securities Investment Trust	3,072	7,459	-	-	10,531	842	488	444	-	444	-
HI ROKI1 Global Robo-advisor Securities Investment Trust	369	2,355	108	-	2,616	119	103	103	-	103	-
KC LNG Tech Co., Ltd.	3,298	13,371	1,289	-	15,380	8,000	271	-	-	-	-
	₩ 901,372	1,477,461	2,330,222	251,632	(203,021)	989,869	(125,196)	(134,352)	10,065	(124,287)	1,327

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12. Investments in Associates, Continued

(2) Condensed financial information of associates as of and for the years ended December 31, 2016 and 2015 is summarized as follows, continued

(In millions of won)

Associates	2015										
	Condensed financial information of associates										Dividends received from investments in associates
	Current assets	Non-Current assets	Current liabilities	Non-Current liabilities	Equity	Sales	Operating income (loss)	Profit (loss)	Other comprehensive income	Total comprehensive income	
New Korea Country Club ₩	16,217	18,341	1,088	4,002	29,468	12,350	1,777	1,660	-	1,660	200
Taebaek Wind Power Co., Ltd.	5,734	42,275	2,562	23,650	21,797	6,626	2,525	(302)	-	(302)	-
Taebaek Guinemi Wind Power Co., Ltd. (formerly, Muju Wind Power Co., Ltd.)	10,349	-	-	-	10,349	-	(477)	(477)	-	(477)	-
Pyeongchang Wind Power Co., Ltd.	1,186	61,379	259	48,700	13,606	-	(523)	(1,164)	-	(1,164)	-
Jinan Jangsu Wind Power Co., Ltd.	306	-	-	-	306	-	(2)	(1)	-	(1)	-
Changjuk Wind Power Co., Ltd.	5,856	35,573	1,667	17,386	22,376	6,472	2,810	756	-	756	-
Tv-chosun Daesung Win-Win Fund	35,388	10,609	159	-	45,838	3,353	3,347	2,711	-	2,711	-
KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	2,927	4,656	1,413	-	6,170	1,674	(2,067)	(2,067)	(1,159)	(3,226)	-
KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	2,749	19,033	490	-	21,292	3,939	(757)	(757)	(898)	(1,655)	-
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	1,318	22,827	1,745	-	22,400	6,242	5,744	5,749	-	5,749	745
Qinhuangdao Shouqin Metal Materials Co., Ltd.	806,877	1,357,491	2,280,182	160,254	(276,068)	936,084	(209,638)	(210,015)	539	(209,476)	-
PT. Hyundai Machinery Indonesia	8,593	966	11,906	-	(2,347)	13,310	(241)	(1,372)	31	(1,341)	-
HYUNDAI Primorye Ltd.	940	3,908	71	-	4,777	355	307	389	(1,117)	(728)	-
Hyundai Green Industries Co., W.L.L.	-	1,931	-	-	1,931	-	-	-	53	53	-
Tribridge Capital Management	35	-	75	-	(40)	-	-	-	(1)	(1)	-
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	1,616	6,265	19	-	7,862	3,141	424	424	-	424	310
Hyundai Youth Fund 1	1,930	2,000	126	-	3,804	19	(196)	(196)	-	(196)	-
Hyundai Venture Investment corp. hydrogen fund	3,168	-	81	-	3,087	16	(133)	(133)	-	(133)	-
HI Global Dynamic Asset Allocation Public Securities Investment Trust	6,881	3,563	636	-	9,808	157	43	43	-	43	-
₩	912,070	1,590,817	2,302,479	253,992	(53,584)	993,738	(197,057)	(204,752)	(2,552)	(207,304)	1,255

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12. Investments in Associates, Continued

(3) Changes in equity-method accounted investees for the years ended December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

Associates	2016					
	Beginning balance	Acquisition (disposal)	Share of profit (loss) of equity accounted investees	Changes in equity of equity accounted investees	Dividends received	Ending balance
New Korea Country Club	₩ 24,982	-	457	-	(145)	25,294
Taebaek Wind Power Co., Ltd.	7,252	-	(955)	-	-	6,297
Taebaek Guinemi Wind Power Co., Ltd. (formerly, Muju Wind Power Co., Ltd.)	4,657	-	39	-	-	4,696
Pyeongchang Wind Power Co., Ltd.	3,129	-	(17)	-	-	3,112
Jinan Jangsu Wind Power Co., Ltd.	98	(82)	(16)	-	-	-
Changjuk Wind Power Co., Ltd.	9,916	-	730	-	(273)	10,373
Tv-chosun Daesung Win-Win Fund	10,914	-	(578)	-	-	10,336
KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	2,468	(2,449)	(19)	-	-	-
KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	7,984	(7,951)	(67)	34	-	-
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	4,751	(1,161)	802	-	(752)	3,640
Qinhuangdao Shouqin Metal Materials Co., Ltd. (*1)	-	-	-	-	-	-
PT. Hyundai Machinery Indonesia (*1)	-	-	-	-	-	-
Hyundai Primorye Ltd.	3,110	-	(57)	595	-	3,648
Hyundai Green Industries Co., W.L.L.	946	-	-	21	-	967
Tribridge Capital Management (*1)	-	-	-	-	-	-
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	2,919	-	87	-	(157)	2,849
Hyundai Youth Fund 1	875	(819)	(56)	-	-	-
Hyundai Venture Investment corp. hydrogen fund	192	(182)	(10)	-	-	-
HI Global Dynamic Asset Allocation Public Securities Investment Trust	4,821	-	135	-	-	4,956
HI Strength Multi-strategy Private Equity Investment Trust1(*2)	-	79	(79)	-	-	-
HI ROKI1 Global Robo-advisor Securities Investment Trust	-	1,000	41	-	-	1,041
KC LNG Tech Co., Ltd.	-	2,553	-	-	-	2,553
	₩ 89,014	(9,012)	437	650	(1,327)	79,762

(\*1) Application of equity method was discontinued as book value reduced to nil due to accumulated loss. The unrecognized changes in equity amounted to ₩81,287 million.

(\*2) As of December 31, 2016 and 2015, the entity is not classified as an investment in associates. However, for the year ended December 31, 2016, equity method gain or loss has been recognized as a result of a temporary decline in equity interest in the entity.

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12. Investments in Associates, Continued

(3) Changes in equity-method accounted investees for the years ended December 31, 2016 and 2015 are summarized as follows, continued

(In millions of won)

Associates	2015					
	Beginning balance	Acquisition (disposal)	Share of profit (loss) of equity accounted investees	Changes in equity of equity accounted investees	Dividends received	Ending balance
New Korea Country Club	₩ 33,993	(9,293)	481	1	(200)	24,982
Taebaek Wind Power Co., Ltd.	7,334	-	(82)	-	-	7,252
Taebaek Guinemi Wind Power Co., Ltd. (formerly, Muju Wind Power Co., Ltd.)	4,871	-	(214)	-	-	4,657
Pyeongchang Wind Power Co., Ltd.	3,397	-	(268)	-	-	3,129
Jinan Jangsu Wind Power Co., Ltd.	99	-	(1)	-	-	98
Changjuk Wind Power Co., Ltd.	9,609	-	307	-	-	9,916
Tv-chosun Daesung Win-Win Fund	211,305	(230,137)	6,112	15,216	(2,496)	-
Daesung Win-Win Fund	10,268	-	646	-	-	10,914
KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	4,586	(828)	(827)	(463)	-	2,468
KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	9,906	(1,301)	(284)	(337)	-	7,984
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	4,935	(658)	1,219	-	(745)	4,751
Qinhuangdao Shouqin Metal Materials Co., Ltd. (*)	-	-	-	-	-	-
PT. HYUNDAI MACHINERY INDONESIA (*)	-	-	-	-	-	-
Hyundai Primorye Ltd.	3,473	-	195	(558)	-	3,110
Hyundai Green Industries Co., W.L.L.	920	-	-	26	-	946
Tribridge Capital Management (*)	-	-	-	-	-	-
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	3,635	(439)	33	-	(310)	2,919
Hyundai Youth Fund 1	-	920	(45)	-	-	875
Hyundai Venture Investment corp. hydrogen fund	-	200	(8)	-	-	192
HI Global Dynamic Asset Allocation Public Securities Investment Trust	-	4,800	21	-	-	4,821
	₩ 308,331	(236,736)	7,285	13,885	(3,751)	89,014

(\*) Application of equity method was discontinued as book value reduced to nil due to accumulated loss. The unrecognized changes in equity amounted to ₩55,712 million.



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12. Investments in Associates, Continued

(4) Reconciliation from net assets of the associates to the carrying amount of investments in associates in the Group's consolidated financial statements as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

Associates	2016						
	Ending net assets	Percentage of the Group's ownership	Net value	Corporate adjustments (e.g. : goodwill etc)	Elimination of inter-segment transactions and unrealized profits and losses	Others	Ending carrying amount
New Korea Country Club	₩ 30,546	29.00%	8,858	16,436	-	-	25,294
Taebaek Wind Power Co., Ltd.	19,001	35.00%	6,650	-	(353)	-	6,297
Taebaek Guinemi Wind Power Co., Ltd. (formerly, Muju Wind Power Co., Ltd.)	12,522	37.50%	4,696	-	-	-	4,696
Pyeongchang Wind Power Co., Ltd.	13,531	23.00%	3,112	-	-	-	3,112
Changjuk Wind Power Co., Ltd.	23,481	43.00%	10,097	-	276	-	10,373
Tv-chosun Daesung Win-Win Fund	43,409	23.81%	10,336	-	-	-	10,336
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	17,158	21.21%	3,640	-	-	-	3,640
Qinhuangdao Shouqin Metal Materials Co., Ltd.	(403,784)	20.00%	(80,757)	-	-	80,757	-
PT. Hyundai Machinery Indonesia	(2,497)	20.83%	(520)	-	-	520	-
HYUNDAI Primorye Ltd.	5,853	49.99%	2,926	722	-	-	3,648
Hyundai Green Industries Co., W.L.L.	1,974	49.00%	967	-	-	-	967
Tribridge Capital Management	(41)	23.93%	(10)	-	-	10	-
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	7,299	39.03%	2,849	-	-	-	2,849
HI Global Dynamic Asset Allocation Public Securities Investment Trust	10,531	47.06%	4,956	-	-	-	4,956
HI ROK11 Global Robo-advisor Securities Investment Trust	2,616	39.79%	1,041	-	-	-	1,041
KC LNG Tech Co., Ltd.	15,380	16.60%	2,553	-	-	-	2,553
	₩ (203,021)		(18,606)	17,158	(77)	81,287	79,762

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12. Investments in Associates, Continued

- (4) Reconciliation from net assets of the associates to the carrying amount of investments in associates in the Group's consolidated financial statements as of December 31, 2016 and 2015 are summarized as follows, continued:

(In millions of won)

Associates	Ending net assets	Percentage of the Group's ownership	Net value	2015				Ending carrying amount
				Corporate adjustments (e.g. : goodwill etc)	Elimination of inter-segment transactions and unrealized profits and losses	Others		
New Korea Country Club	₩ 29,468	29.00%	8,546	16,436	-	-	24,982	
Taebaek Wind Power Co., Ltd.	21,797	35.00%	7,629	-	(377)	-	7,252	
Taebaek Guinemi Wind Power Co., Ltd. (formerly, Muju Wind Power Co., Ltd.)	10,349	45.00%	4,657	-	-	-	4,657	
Pyeongchang Wind Power Co., Ltd.	13,606	23.00%	3,129	-	-	-	3,129	
Jinan Jangsu Wind Power Co., Ltd.	306	32.00%	98	-	-	-	98	
Changjuk Wind Power Co., Ltd.	22,376	43.00%	9,622	-	294	-	9,916	
Tv-chosun Daesung Win-Win Fund	45,838	23.81%	10,914	-	-	-	10,914	
KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	6,170	40.00%	2,468	-	-	-	2,468	
KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	21,292	37.50%	7,984	-	-	-	7,984	
KoFC-Partners Pioneer Champ 2011-1 Investment Fund	22,400	21.21%	4,751	-	-	-	4,751	
Qinhuangdao Shouqin Metal Materials Co., Ltd.	(276,068)	20.00%	(55,214)	-	-	55,214	-	
PT. Hyundai Machinery Indonesia	(2,347)	20.83%	(489)	-	-	489	-	
HYUNDAI Primorye Ltd.	4,777	49.99%	2,388	722	-	-	3,110	
Hyundai Green Industries Co., W.L.L.	1,931	49.00%	946	-	-	-	946	
Tribridge Capital Management	(40)	23.93%	(9)	-	-	9	-	
HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	7,862	37.13%	2,919	-	-	-	2,919	
Hyundai Youth Fund 1	3,804	23.00%	875	-	-	-	875	
Hyundai Venture Investment corp. hydrogen fund	3,087	6.21%	192	-	-	-	192	
HI Global Dynamic Asset Allocation Public Securities Investment Trust	9,808	49.16%	4,821	-	-	-	4,821	
	₩ (53,584)		16,227	17,158	(83)	55,712	89,014	

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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**13. Investments in Joint Ventures**

(1) Investments in joint ventures as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won, except percentage of ownership)

Joint ventures	Location	Fiscal year end	Particulars	2016		2015	
				Ownership (%)	Carrying amount	Ownership (%)	Carrying amount
Wärtsilä-Hyundai Engine Company Ltd.	Korea	December	Manufacture, assemble and test of marine engines and parts	50.00%	₩ 70,137	50.00%	₩ 84,440
Hyundai Cummins Engine Company(*1)	Korea	December	Manufacture of engines	-	-	50.00%	6,482
Hyundai-Avancis Co., Ltd.(*2)	Korea	December	Sale and manufacture of solar module	-	-	50.00%	14,293
Hyundai Cosmo Petrochemical Co., Ltd.	Korea	December	Manufacturing of petrochemicals	50.00%	149,630	50.00%	73,406
BMC Hyundai S.A.	Brazil	December	Sale of machinery equipment for construction	30.00%	-	30.00%	-
Hyundai Agro-Bio fund I(*3)	Korea	December	Other financial business	-	-	50.00%	2,417
					₩ 219,767		₩ 181,038

(\*1) As of December 31, 2016, due to the liquidation of Hyundai Cummins Engine Company, it has been removed from investment in Joint Ventures.

(\*2) For the year ended December 31, 2016, relevant asset was classified into non-current assets held-for-sale as the Group had decided to sell the total ownership of Hyundai-Avancis Co., Ltd. (see Note 49).

(\*3) For the year ended December 31, 2016, due to the loss of control through the disposal of Hyundai M Partners Co., Ltd.(formerly, Hyundai Finance Corporation), It have been removed from investments in Joint Ventures (see Note 1).

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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13. Investments in Joint Ventures, Continued

(2) Condensed financial information of joint ventures as of and for the years ended December 31, 2016 and 2015 is summarized as follows:

1) Summary financial information

(In millions of won)

		2016										
		Condensed financial information of joint ventures									Dividends received from investments in joint ventures	
Joint ventures		Current assets	Non-Current assets	Current liabilities	Non-Current liabilities	Equity	Sales	Operating income (loss)	Profit (loss)	Other comprehensive income (loss)	Total comprehensive income (loss)	
Wärtsilä-Hyundai Engine Company Ltd.	₩	245,739	44,152	123,250	26,272	140,369	283,920	51,633	40,858	17	40,875	34,754
Hyundai Cosmo Petrochemical Co., Ltd.		416,550	892,423	342,487	421,384	545,102	2,011,827	82,885	93,490	7,953	101,443	-
BMC Hyundai S.A.		65,100	13,879	63,023	102,393	(86,437)	117,308	(29,537)	(49,114)	(11,869)	(60,983)	-
	₩	<u>727,389</u>	<u>950,454</u>	<u>528,760</u>	<u>550,049</u>	<u>599,034</u>	<u>2,413,055</u>	<u>104,981</u>	<u>85,234</u>	<u>(3,899)</u>	<u>81,335</u>	<u>34,754</u>

(In millions of won)

		2015										
		Condensed financial information of joint ventures									Dividends received from investments in joint ventures	
Joint ventures		Current assets	Non-Current assets	Current liabilities	Non-Current liabilities	Equity	Sales	Operating income (loss)	Profit (loss)	Other comprehensive income (loss)	Total comprehensive income (loss)	
Wärtsilä-Hyundai Engine Company Ltd.	₩	304,060	50,937	150,218	35,778	169,001	342,190	60,045	42,293	-	42,293	35,229
Hyundai Cummins Engine Company		14,683	280	530	1,467	12,966	30,857	(11,617)	(92,330)	-	(92,330)	-
Hyundai-Avancis Co., Ltd.		19,389	12,041	553	405	30,472	-	(2,287)	(36,131)	-	(36,131)	-
Hyundai Cosmo Petrochemical Co., Ltd.		275,654	883,760	321,263	444,241	393,910	2,155,732	(13,241)	(41,779)	1,179	(40,600)	-
BMC Hyundai S.A.		106,140	16,184	66,117	81,661	(25,454)	146,814	2,266	(6,447)	8,823	2,376	-
Hyundai Agro-Bio fund I		400	4,500	67	-	4,833	99	(156)	(157)	-	(157)	-
	₩	<u>720,326</u>	<u>967,702</u>	<u>538,748</u>	<u>563,552</u>	<u>585,728</u>	<u>2,675,692</u>	<u>35,010</u>	<u>(134,551)</u>	<u>10,002</u>	<u>(124,549)</u>	<u>35,229</u>

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For the years ended December 31, 2016 and 2015

13. Investments in Joint Ventures, Continued

(2) Condensed financial information of joint ventures as of and for the years ended December 31, 2016 and 2015 is summarized as follows, continued

2) Additional financial information

(In millions of won)

Joint ventures	2016						
	Cash and cash equivalents	Current financial liabilities	Non-current financial liabilities	Depreciation	Interest revenues	Interest expenses	Tax expense
Wärtsilä-Hyundai Engine Company Ltd.	₩ 51,892	-	-	4,380	955	-	12,446
Hyundai Cosmo Petrochemical Co., Ltd.	85,705	28,112	410,277	47,782	682	18,771	(28,109)
BMC Hyundai S.A.	1,102	63,023	102,393	(1,582)	1,314	(8,325)	-
	₩ 138,699	91,135	512,670	50,580	2,951	10,446	(15,663)

(In millions of won)

Joint ventures	2015						
	Cash and cash equivalents	Current financial liabilities	Non-current financial liabilities	Depreciation	Interest revenues	Interest expenses	Tax expense
Wärtsilä-Hyundai Engine Company Ltd.	₩ 64,918	-	-	4,413	1,088	-	14,994
Hyundai Cummins Engine Company	7,162	-	-	3,961	25	1,625	-
Hyundai-Avancis Co., Ltd.	18,746	-	-	615	353	-	-
Hyundai Cosmo Petrochemical Co., Ltd.	1,159	38,455	436,034	48,502	301	27,799	-
BMC Hyundai S.A.	693	26,058	-	1,989	657	8,107	-
Hyundai Agro-Bio fund I	365	-	-	-	-	-	-
	₩ 93,043	64,513	436,034	59,480	2,424	37,531	14,994

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**13. Investments in Joint Ventures, Continued**

(3) Changes in equity-method accounted joint ventures for the years ended December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

Joint ventures	2016						
	Beginning balance	Acquisition (Disposal)	Substitution	Share of profit (loss) of equity accounted investees	Changes in equity of equity accounted investees	Dividends received	Ending balance
Wärtsilä-Hyundai Engine Company Ltd.	₩ 84,440	-	-	20,443	8	(34,754)	70,137
Hyundai Cummins Engine Company	6,482	(6,482)	-	-	-	-	-
Hyundai-Avancis Co., Ltd.	14,293	-	(15,236)	943	-	-	-
Hyundai Cosmo Petrochemical Co., Ltd.	73,406	25,000	-	47,373	3,851	-	149,630
BMC Hyundai S.A. (*)	-	-	-	-	-	-	-
Hyundai Agro-Bio fund I	2,417	(2,388)	-	(29)	-	-	-
	₩ 181,038	16,130	(15,236)	68,730	3,859	(34,754)	219,767

(\*) Application of equity method was discontinued as book value reduced to nil due to accumulated loss. The unrecognized changes in equity amounted to ₩23,959 million.

(In millions of won)

Joint ventures	2015					
	Beginning balance	Acquisition (Disposal)	Share of profit (loss) of equity accounted investees	Changes in equity of equity accounted investees	Dividends received	Ending balance
Wärtsilä-Hyundai Engine Company Ltd.	₩ 98,556	-	21,113	-	(35,229)	84,440
Hyundai Cummins Engine Company	20,802	32,000	(46,167)	(153)	-	6,482
Hyundai-Avancis Co., Ltd.	32,333	-	(18,040)	-	-	14,293
Hyundai Cosmo Petrochemical Co., Ltd.	92,714	-	(19,897)	589	-	73,406
Grand China Hyundai Shipping Co., Ltd.	59	21	-	(80)	-	-
BMC Hyundai S.A. (*)	-	-	-	-	-	-
Hyundai Agro-Bio fund I	1,495	1,000	(78)	-	-	2,417
	₩ 245,959	33,021	(63,069)	356	(35,229)	181,038

(\*) Application of equity method was discontinued as book value reduced to nil due to accumulated loss. The unrecognized changes in equity amounted to ₩2,441 million.

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**13. Investments in Joint Ventures, Continued**

(4) Reconciliation from net assets of the joint ventures to the carrying amount of investments in joint ventures in the Group's consolidated financial statements as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

Joint ventures	2016					
	Ending net assets	Group's ownership	Net value	Elimination of inter-segment transactions and unrealized profits and losses	Others	Ending carrying amount
Wärtsilä-Hyundai Engine Company Ltd.	₩ 140,369	50.00%	70,184	(47)	-	70,137
Hyundai Cosmo Petrochemical Co., Ltd.	545,102	50.00%	272,551	(122,921)	-	149,630
BMC Hyundai S.A.	(86,437)	30.00%	(25,931)	1,972	23,959	-
	₩ 599,034		316,804	(120,996)	23,959	219,767

(In millions of won)

Joint ventures	2015					
	Ending net assets	Group's ownership	Net value	Elimination of inter-segment transactions and unrealized profits and losses	Others	Ending carrying amount
Wärtsilä-Hyundai Engine Company Ltd.	₩ 169,001	50.00%	84,500	(60)	-	84,440
Hyundai Cummins Engine Company	12,966	50.00%	6,482	-	-	6,482
Hyundai-Avancis Co., Ltd.	30,472	50.00%	15,236	(943)	-	14,293
Hyundai Cosmo Petrochemical Co., Ltd.	393,910	50.00%	196,955	(123,549)	-	73,406
BMC Hyundai S.A.	(25,454)	30.00%	(7,636)	5,195	2,441	-
Hyundai Agro-Bio fund I	4,833	50.00%	2,417	-	-	2,417
	₩ 585,728		297,954	(119,357)	2,441	181,038

**14. Joint Operation**

The joint operations as of December 31, 2016 and 2015 are summarized as follows:

Joint operation	Main Office	Main business	Ownership (%)	
			2016	2015
FDH JV(*1)	Kuwait	Chemical plant	33.33	33.33
FDH JV(*2)	Kuwait	Chemical plant	20.00	20.00

(\*1) The Group holds a significant joint operation 'FDH JV' as of December 31, 2016 and 2015. FDH JV is a joint operation of which the main purpose of is the construction of Clean Fuels Project MAB2 EPC PKG ordered by Kuwait National Petroleum Company. The Group recognizes the assets and liabilities relating to its interest in the joint operation and recognizes revenues and expenses relating to its interest in a joint operation.

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**14. Joint Operation, Continued**

(\*2) The Group holds a significant joint operation 'FDH JV' as of December 31, 2016 and 2015. FDH JV is a joint operation of which the main purpose of is the construction of Al Zour Refinery Project Package 2 & 3 EPC PKG ordered by Kuwait National Petroleum Company. The Group recognizes the assets and liabilities relating to its interest in the joint operation and recognizes revenues and expenses relating to its interest in a joint operation.

**15. Available-for-sale Financial Assets**

Available-for-sale financial assets as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016			2015		
	Ownership (%)	Acquisition Cost	Carrying amount	Ownership (%)	Acquisition Cost	Carrying amount
<b>Rented equity securities:</b>						
Hyundai Merchant Marine Co., Ltd (*2)	0.01%	₩ 97,142	10,120	4.82%	₩ 97,142	43,279
<b>Listed equity securities:</b>						
Hyundai Motors Corporation (*1)	-	-	-	0.75%	118,863	246,491
Hyundai Merchant Marine Co., Ltd. (*2)	1.86%	217,141	22,621	10.78%	217,141	96,741
KCC Corporation(*1)	-	-	-	3.77%	78,927	165,748
Korea Environment Technology Co., Ltd.	-	-	-	10.88%	2,733	14,144
Hyundai Corporation	-	-	-	2.99%	11,105	11,323
Hyundai C&F Inc.	-	-	-	10.11%	29,499	28,257
Sejin Heavy Industries Co., Ltd	-	-	-	14.53%	22,500	15,375
Others		84,575	1,841		8,490	13,575
		<u>301,716</u>	<u>24,462</u>		<u>489,258</u>	<u>591,654</u>
<b>Unlisted equity securities (*3):</b>						
Daehan Oil Pipeline Corporation (*4)	6.39%	14,512	32,216	6.39%	14,512	32,819
Korea Exchange	0.40%	3,000	11,483	0.40%	3,000	11,481
Hyundai M Partners Co., Ltd.(formerly, Hyundai Finance Corporation)(*5)	9.93%	13,145	10,650	-	-	-
OSX Construcao Naval S.A.	0.20%	57,498	-	0.20%	57,498	-
Hynix Semiconductor America Inc.	1.33%	34,525	-	1.33%	34,525	-
Others(*6)		40,590	36,763		65,657	53,845
		<u>163,270</u>	<u>91,112</u>		<u>175,192</u>	<u>98,145</u>
<b>Beneficiary certificates:</b>						
HI Global Top Picks China Securities Feeder Investment Trust		53,172	38,590		54,969	49,474
<b>Debt securities</b>						
Monetary stabilization bond and others		353,374	361,368		284,053	282,656
<b>Investments in capital and others</b>						
Joint compensation fund for loss incurred from contravention of contracts (*7)		37,114	36,709		39,386	38,692
	₩	<u>1,005,788</u>	<u>562,361</u>	₩	<u>1,140,000</u>	<u>1,103,900</u>



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**15. Available-for-sale Financial Assets, Continued**

- (\*1) The Group sold all of Hyundai Motor Group's equity securities which the Group had held (Acquisition cost ₩118,863 million) to ₩225,238 million for the purpose of enhancing the financial stability during the year. Also, the Group sold entire KCC Corporation's equity securities (Acquisition cost ₩78,927 million) to ₩141,344 million.
- (\*2) During the year ended December 31, 2015, the Group issued exchangeable bond that is exchangeable to common stocks of Hyundai Merchant Marine Co., Ltd. which are listed equity securities the Group holds. The total number of exchangeable stocks is 3,346,290 shares (23,424,037 shares before capital decrease). Should the exchangeable bond be exchanged to common stocks of Hyundai Merchant Marine Co., Ltd. entirely, the percentage of ownership in the Group's investment in Hyundai Merchant Marine Co., Ltd. would decrease from 1.86% to 0%. Upon issuance of the exchangeable bond, the Group deposited common stocks of Hyundai Merchant Marine Co., Ltd. in Korea Securities Depository, and disposal of the stocks is restricted. In conjunction with this transaction, the Group entered into an agreement with Merrill Lynch International and The Hong Kong and Shanghai Banking Corporation Limited to lend up to 1,497,024 shares of the common stocks of Hyundai Merchant Marine Co., Ltd. which was previously held by Hyundai Samho Heavy Industries Co., Ltd., one of the Company's subsidiaries. The number of common stocks Hyundai Samho Heavy Industries Co., Ltd. lent pursuant to this agreement is 1,497,023 shares as of December 31, 2016. According to this stock lending agreement, the stocks lent by Hyundai Samho Heavy Industries Co., Ltd. do not have voting rights and are restricted in disposal. In addition, the fair value of equity securities decreased significantly below the acquisition cost, and an impairment loss of ₩107,279 million was recognized for Hyundai Merchant Marine Co., Ltd. during the year ended December 31, 2016.
- (\*3) Unless otherwise noted, the carrying amounts of unlisted equity securities were recorded at their acquisition cost because the fair values cannot be reliably estimated.
- (\*4) The fair value of Daehan Oil Pipeline Corporation was calculated by using the discounted cash flow method and based on estimation of free cash flow.
- (\*5) During the year ended December 31, 2016, the Group sold some shares of its subsidiary, Hyundai M Partners Co., Ltd.(formerly, Hyundai Finance Corporation) for the purpose of enhancing the financial stability and lost its control. The remaining equity interest was classified as available-for-sale financial assets (see *Note 1*).
- (\*6) The fair value of BEXCO Co., Ltd. which is one of the unlisted equity securities of 'Others' was calculated both by using the discounted cash flow method and Market Comparable Approach.
- (\*7) As of December 31, 2016 and 2015, this includes a damage compensation joint fund, for which the use is restricted, in the amounts of ₩13,588 million and ₩8,125 million, respectively. The damage compensation joint fund is the amount the Group deposited with in Korea Exchange in order to compensate for the damages that occurs from the breach of selling agreements, pursuant to the Financial Investment Services and Capital Markets Act, Section 394 and others.

Changes in the year ended December 31, 2016 are mainly derived by acquisition, disposal, fair value evaluation and recognition of impairment loss.

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**16. Investment Property**

(1) Changes in investment property for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

		2016		
		Land	Buildings	Total
Beginning balance	₩	209,539	138,329	347,868
Acquisition and other		(94,296)	(7,476)	(101,772)
Depreciation		-	(5,489)	(5,489)
Ending balance	₩	115,243	125,364	240,607
Acquisition cost		115,243	155,267	270,510
Accumulated depreciation		-	(29,903)	(29,903)

(In millions of won)

		2015		
		Land	Buildings	Total
Beginning balance	₩	226,887	166,588	393,475
Acquisition and other		(17,348)	(19,874)	(37,222)
Depreciation		-	(8,404)	(8,404)
Effects of movements in exchange rates		-	19	19
Ending balance	₩	209,539	138,329	347,868
Acquisition cost		209,539	176,338	385,877
Accumulated depreciation		-	(38,009)	(38,009)

(2) Revenue (expense) from investment property for the years ended December 31, 2016 and 2015 is as follows:

(In millions of won)

		2016	2015
Rental income	₩	6,442	10,775
Operating and maintenance expense arising from investment property that generated rental income		4,822	7,004
Operating and maintenance expense arising from investment property that did not generate rental income		71	75

(3) Fair value of investment property as of December 31, 2016 and 2015 are as follows:

(In millions of won)

		2016		2015	
		Book value	Fair value	Book value	Fair value
Land	₩	115,243	247,966	209,539	333,634
Buildings		125,364	226,150	138,329	217,646
	₩	240,607	474,116	347,868	551,280

The fair value of investment property was determined by external, independent appraisers, having appropriate recognized professional qualifications and experience in relation to the assessment of real estate in the Republic of Korea as of January 1, 2010 when the K-IFRS was adopted. The valuation is measured by using comparison methods to obtain the economic value based on marketability of the property. The Group calculated fair value considering the standard market price after transition date to K-IFRS, in order to estimate the fair value of investment property as of December 31, 2016.

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**17. Property, Plant and Equipment**

(1) Changes in property, plant and equipment for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	2016						
	Machinery and Construction						Total
	Land	Buildings	Structures	equipment	in-progress	Others	
Beginning balance	₩ 4,433,838	3,290,811	2,726,170	3,903,455	935,079	1,030,649	16,320,002
Acquisitions and other	56,526	82,181	337,529	996,617	(560,765)	266,568	1,178,656
Disposals	(105,117)	(23,811)	(2,497)	(43,942)	-	(31,352)	(206,719)
Depreciation	-	(97,575)	(96,801)	(362,779)	-	(222,557)	(779,712)
Impairment	-	(2,525)	(2,703)	(10,805)	-	(1,223)	(17,256)
Revaluation	2,486,376	-	-	-	-	-	2,486,376
Effect of movements in exchange rates	1,174	15,104	4,577	6,491	307	2,344	29,997
Effects of changes in scope of consolidation	-	-	-	-	-	(78)	(78)
Ending balance	₩ 6,872,797	3,264,185	2,966,275	4,489,037	374,621	1,044,351	19,011,266
Acquisition cost	6,874,442	4,592,110	4,222,478	9,313,916	401,676	3,636,762	29,041,384
Government grants	(1,645)	(7,116)	(4,157)	(7,194)	-	(2,458)	(22,570)
Accumulated depreciation	-	(1,304,144)	(1,248,244)	(4,753,339)	-	(2,587,415)	(9,893,142)
Accumulated impairment	-	(16,665)	(3,802)	(64,346)	(27,055)	(2,538)	(114,406)

(In millions of won)

	2015						
	Machinery and Construction						Total
	Land	Buildings	Structures	equipment	in-progress	Others	
Beginning balance	₩ 4,413,775	3,172,324	2,779,593	4,142,572	693,083	858,875	16,060,222
Acquisitions and other	40,967	270,331	50,596	208,988	254,252	481,273	1,306,407
Disposals	(18,768)	(14,571)	(2,170)	(9,738)	(14)	(4,912)	(50,173)
Depreciation	-	(113,938)	(104,422)	(427,951)	-	(306,846)	(953,157)
Impairment	-	(13,200)	(1,042)	(5,784)	(12,475)	(102)	(32,603)
Effect of movements in exchange rates	(2,136)	(10,135)	3,615	(4,632)	233	2,393	(10,662)
Effects of changes in scope of consolidation	-	-	-	-	-	(32)	(32)
Ending balance	₩ 4,433,838	3,290,811	2,726,170	3,903,455	935,079	1,030,649	16,320,002
Acquisition cost	4,435,479	4,541,970	3,880,668	8,407,325	962,134	3,547,814	25,775,390
Government grants	(1,641)	(9,117)	(2,291)	(398)	-	(3,594)	(17,041)
Accumulated depreciation	-	(1,230,739)	(1,151,315)	(4,449,698)	-	(2,512,271)	(9,344,023)
Accumulated impairment	-	(11,303)	(892)	(53,774)	(27,055)	(1,300)	(94,324)

(2) During 2016, due to the deterioration of equipment performance, development of alternative technology and continuing deficits, the Group assessed the impairment of property, plant and equipment and recognized impairment loss of ₩17,256 million. The recoverable amount of property, plant and equipment was estimated based on its net fair value.

(3) Construction-in-progress is related to the construction of Ihwa Industrial Park and others as of December 31, 2016.

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**17. Property, Plant and Equipment, Continued**

(4) Leased assets

The Group uses machines through finance lease and accounts as finance lease according to terms of the contract. Leased assets are collateralized for lease liabilities and leased assets as of December 31, 2016 are summarized as follows:

<i>(In millions of won)</i>		<b>2016</b>
Machinery and equipment	₩	22,418
Accumulated depreciation		(2,058)
Book value	₩	20,360

- (5) During the year ended December 31, 2016 the Group reviewed actual experience useful lives of property, plant and equipment and investment property and changed estimates of expected usage of property, plant and equipment. Most useful lives have increased as a result of reviewing the estimated useful lives based on appraisal results and actual experience useful lives. The effects of actual and expected depreciation changes are as follows:

<i>(In millions of won)</i>		<b>2016</b>	<b>2017 and thereafter</b>
Increase (Decrease) in depreciation	₩	(170,617)	170,617

- (6) During the year ended December 31, 2016 the Group applied revaluation model on land and revalued land by using the value which independent and expertise appraisal institution appraised as of June 30, 2016. The appraisal institution valued land price based on the publicly assessed land price with adjustments and reviewed reasonableness of revaluation amount by comparing appraisal results with the estimated price based on recent market transactions among the independent third parties.

Book values of land assessed by revaluation model and cost model as of December 31, 2016 are as follows:

<i>(In millions of won)</i>		<b>2016</b>	
		<b>Revaluation model</b>	<b>Cost model</b>
Land	₩	6,664,469	4,212,032

As a result of revaluation on land, gain on revaluation amounted to ₩1,913,856 million (net of tax effects) was recognized as other comprehensive income and losses on revaluation amounted to ₩37,945 million was recognized as other non-operating expenses. Revaluation gain of ₩ 25,499 million was reclassified to retained earnings as a result of partial disposal of the revalued land.

(7) Fair value measurement

(i) Fair value hierarchy

The measured fair value of land is classified into level 3 fair value based on the input variables used in the valuation techniques.

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**17. Property, Plant and Equipment, Continued**

(7) Fair value measurement, continued

(ii) The valuation method and input variables which are used for measuring fair value of land are as follows:

Valuation method	Significant but unobservable input variables	Correlation between the main unobservable variable and fair value
Publicly assessed land price	Time adjustment (Rate of changes in land value)	If flexibility of land value increases (decreases), then fair value increases (decreases).
	Regional contribution	If regional contribution increases (decreases), then fair value increases (decreases).
	Individual contribution	If the adjusted value of terms of residential lot and others increases (decreases), then fair value increases (decreases).
	Other contributions	If the adjusted value of the level of land value and others increases (decreases), then fair value increases (decreases).

**18. Intangible Assets**

(1) Changes in goodwill for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	2016	2015
Beginning balance	₩ 1,360,149	1,360,149
Impairment loss	(110,625)	-
Ending balance	₩ 1,249,524	1,360,149
Acquisition cost	1,515,282	1,515,282
Accumulated impairment loss	(265,758)	(155,133)

Details of goodwill as of December 31, 2016 and 2015 are as follows:

(In millions of won)

	2016	2015
Hyundai Oilbank Co., Ltd	₩ 1,087,419	1,087,419
HI Investment & Securities Co., Ltd. and subsidiaries	148,964	251,899
Hyundai Samho Heavy Industry Co., Ltd	13,141	13,141
Hyundai (Shandong) Heavy Industries Co., Ltd.	-	7,690
	₩ 1,249,524	1,360,149

On annual basis, the Group conducts impairment test for goodwill, and assesses the recoverable amount of the cash generating unit to which goodwill was allocated.

The recoverable amount of the cash generating unit is determined based on value in use. The estimate of value in use was determined based on discounted the future cash flows to be generated from the continuing use of the asset.

During 2016, the Group recognized impairment losses amounted to ₩102,935 million and ₩7,690 million due to impairment of goodwill arising on the acquisition of shares of HI Investment & Securities Co., Ltd. and its subsidiaries and Hyundai (Shandong) Heavy Industries Machinery. Co., Ltd., respectively.

As of December 31, 2016, assumptions used in estimating value in use of major CGUs are as follows:

	Hyundai Oilbank Co., Ltd.	HI Investment & Securities Co., Ltd.	HI Asset Management Co., Ltd.
Pre-tax discount rate (%)	7.20	11.00	11.00
Permanent growth rate (%)	1.50	1.50	1.50

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18. Intangible Assets, Continued

(2) Changes in intangible assets other than goodwill for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	2016						
	Development costs	Networks	Customer relationships	Brands	Know-how	Other intangible assets	Total
Beginning balance	₩ 299,208	74,753	44,212	192,220	31,881	137,762	780,036
Acquisitions and other	56,620	-	-	-	-	6,579	63,199
Disposals	(19)	-	-	-	-	(18,835)	(18,854)
Amortization	(80,179)	(5,126)	(12,339)	-	(3,013)	(6,007)	(106,664)
Impairment loss	-	-	-	-	-	(2,427)	(2,427)
Effect of movements in exchange rates	(104)	-	-	-	-	(184)	(288)
Effects of changes in scope of consolidation	-	-	-	-	-	(1,560)	(1,560)
Ending balance(*)	₩ 275,526	69,627	31,873	192,220	28,868	115,328	713,442
Acquisition cost	1,017,291	102,519	111,048	192,220	48,201	177,952	1,649,231
Accumulated amortization	(721,028)	(32,892)	(79,175)	-	(19,333)	(57,408)	(909,836)
Accumulated impairment	(20,737)	-	-	-	-	(5,216)	(25,953)

(In millions of won)

	2015						
	Development costs	Networks	Customer relationships	Brands	Know-how	Other intangible assets	Total
Beginning balance	₩ 335,135	79,879	56,552	192,220	34,895	152,798	851,479
Acquisitions and other	43,353	-	-	-	-	15,359	58,712
Disposals	-	-	-	-	-	(19,761)	(19,761)
Amortization	(79,288)	(5,126)	(12,340)	-	(3,014)	(6,911)	(106,679)
Impairment loss	-	-	-	-	-	(3,006)	(3,006)
Effect of movements in exchange rates	8	-	-	-	-	(60)	(52)
Effects of changes in scope of consolidation	-	-	-	-	-	(657)	(657)
Ending balance(*)	₩ 299,208	74,753	44,212	192,220	31,881	137,762	780,036
Acquisition cost	965,201	102,519	111,048	192,220	48,201	196,574	1,615,763
Accumulated amortization	(645,256)	(27,766)	(66,836)	-	(16,320)	(50,683)	(806,861)
Accumulated impairment	(20,737)	-	-	-	-	(8,129)	(28,866)

(\*) The carrying amount of intangible assets with indefinite useful lives is ₩250,761 million and ₩266,550 million as of December 31, 2016 and 2015, respectively.

- (3) There is no impairment loss on discontinued development projects for the years ended December 31, 2016 and 2015. The Group recognized impairment losses of memberships amounted to ₩510 million and ₩2,970 million, and also recognized impairment losses of usable and profitable donation assets amounted to ₩1,917 million and ₩2,422 million for the years ended December 31, 2016 and 2015, respectively.
- (4) Research costs amounted to ₩9,549 million and ₩19,716 million, and ordinary development costs amounted to ₩139,453 million and ₩169,699 million are included in selling, general and administrative expenses for the years ended December 31, 2016 and 2015, respectively. Amortization of capitalized development costs of ₩80,179 million and ₩79,288 million are included in the manufacturing cost and selling, general and administrative expenses for the years ended December 31, 2016 and 2015, respectively.

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19. Pledged Assets

(1) Assets pledged as collateral for the Group's borrowings as of December 31, 2016 are summarized as follows:

(In millions of won and in thousands of foreign currency)

Asset	Carrying amount	Collateralized amount	Type of borrowings	Borrowings amount	Lender
Land and buildings	KRW 96,097	KRW 76,919	Long-term borrowings	KRW 28,761	Kookmin Bank
Land and buildings	KRW 86,596				
Machinery and structures	KRW 867,604		Long-term borrowings		The Korea Development Bank and Others
Construction in progress and Tools, furniture and fixtures	KRW 64,414	KRW 858,000		KRW 660,000	
Land	KRW 10,739		Long-term borrowings		KEB Hana Bank and Others
Buildings	KRW 3,422				
Machinery and structures	KRW 222,434	KRW 234,000		KRW 195,000	
Land	KRW 31,336		Long-term borrowings		Shinhan Bank
Buildings	KRW 2,391				
Structure	KRW 19,384	KRW 36,000		KRW 10,000	
The Korea Exchange stock	KRW 11,483	KRW 10,000	Secured loans	-	The Korea Securities Finance Corporation
	KRW 130,000	137,170	Short-term borrowings	KRW 123,400	Industrial Bank of Korea and others
Short-term financial assets	KRW 23,000	23,100	Short-term borrowings	KRW 21,000	Industrial Bank of Korea
	KRW 27,000	27,500	Short-term borrowings	KRW 25,000	Industrial Bank of Korea
Inventories and trade receivables	EUR 5,500	EUR 5,500	General purpose loans	EUR 4,500	BNP Paribas Fortis Bank, Belgium
Construction in progress	EUR 6,851	EUR 6,851	Long-term borrowings	EUR 19,000	BNP Paribas Fortis Bank, Belgium
Stocks of MS Dandy Ltd.	USD -		Long-term borrowings	USD 4,267	National Federation of Fisheries Cooperatives
Ships	USD 13,761	USD 4,267			
Stocks of Grande Ltd.	USD -		Long-term borrowings	USD 17,670	High Investment Hyundai Oilbank
Ships	USD 22,888	USD 18,000			
	KRW 1,595,900	KRW 1,402,689		KRW 1,063,161	
	USD 36,649	USD 22,267		USD 21,937	
	EUR 12,351	EUR 12,351		EUR 23,500	

(2) The Group received payment guarantees from financial institutions covering advance payments on ships as of December 31, 2016. Regarding this, the Group collateralized its ships under construction and construction materials (see Note 45).

(3) As of December 31, 2016, the Group has provided as collaterals ₩2,941,974 million of short-term trading financial assets(including accrued interest), ₩328,839 million of borrowed securities, ₩176,585 million of available-for-sale financial assets and ₩29,538 million of cash and cash equivalents for loan transactions, warranty for derivative instruments and fund for stock clearing to Korea Exchange and others.

(4) As of December 31, 2016, the Group has provided as collaterals 200,000 shares of the Company's treasury stock for ₩20,643 million of accrued income tax to The National Tax Service (Dong Ulsan tax office).

(5) As of December 31, 2016, the Group has provided as collaterals 2,020,000 shares of Hyundai Mipo Dockyard Co., Ltd. common stock for USD 213,426 million of guarantees for advance received and ₩2,842 million of accrued income tax to Shinhan Bank and The National Tax Service (Mokpo tax office).

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**20. Short-term and Long-term Financial Liabilities**

Short-term and long-term financial liabilities as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Non-current	Current	Non-current
Borrowings	₩ 9,315,337	2,382,806	8,347,874	4,055,893
Short-term trading financial liabilities	1,088,045	112,507	305,463	210,203
Financial liability at fair value through profit or loss	59,525	824,948	91,339	942,507
Debentures	1,230,000	2,917,550	451,600	3,785,000
Discount on debentures	(678)	(8,633)	(543)	(9,490)
Exchangeable bond	-	267,804	-	259,715
Discount on exchangeable bond	-	(2,024)	-	(2,522)
Conversion right adjustment	-	(28,870)	-	(35,431)
Deposit liabilities	344,688	-	296,592	-
Finance lease liabilities	7,401	9,642	-	-
Others	14,499	-	10,158	-
	₩ <u>12,058,817</u>	<u>6,475,730</u>	<u>9,502,483</u>	<u>9,205,875</u>

**21. Trade and Other Payables**

Trade and other payables as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Non-current	Current	Non-current
Trade payables	₩ 2,697,826	-	2,983,550	-
Other accounts payable	1,621,604	-	1,432,247	16
Accrued expense	1,295,580	-	1,458,533	1
Deposits received	-	69,858	-	98,711
	₩ <u>5,615,010</u>	<u>69,858</u>	<u>5,874,330</u>	<u>98,728</u>

**22. Other Liabilities**

Other liabilities as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	2016		2015	
	Current	Non-current	Current	Non-current
Unearned revenues	₩ 31,383	-	50,940	-
Deferred revenues	-	28,152	-	28,381
Others	1,750	4,487	3,182	5,014
	₩ <u>33,133</u>	<u>32,639</u>	<u>54,122</u>	<u>33,395</u>



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**23. Borrowings and Debentures**

(1) Short-term borrowings as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

<b>Type of borrowing</b>	<b>Lender</b>	<b>Annual interest rate (%)</b>		<b>2016</b>	<b>2015</b>
General loan	The Korea Development Bank and others	1.37~3.64	₩	928,563	445,700
Call money	Kookmin Bank and others	1.30~1.42		50,000	60,000
Commercial paper	BNK Investment & Securities Co., Ltd	3.55~3.62		260,000	100,000
Repurchase agreements sales	Woori Bank and others	0.65~4.20		1,650,256	2,391,204
Invoice Loan	China Construction Bank Corporation and others	0.78~2.98		629,250	142,054
Import loan	Bank of China and others	1.48~2.80		67,579	155,244
Usance L/C	Shinhan Bank and others	0.09~3.15		1,355,111	1,345,204
Other borrowings from Korea Exim Bank	Export-Import Bank of Korea	3.35~3.50		194,955	347,701
Pre-shipment credit	Export-Import Bank of Korea	3.00~3.58		1,353,638	1,014,000
Other borrowings from KSFC	Korea Securities Finance Corporation	-		-	90,000
Borrowings from margin loans	Korea Securities Finance Corporation	1.45		29,669	32,831
Asset backed short-term bond	Dongbu Securities Co., Ltd. and others	1.74~3.55		180,000	10,000
Loan in foreign currency	Standard Chartered Bank and others	LIB(1M)+0.85~TJLP+2.8		298,790	397,207
				6,997,811	6,531,145
Current portion of long-term borrowings				2,317,526	1,816,729
			₩	<u>9,315,337</u>	<u>8,347,874</u>

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**23. Borrowings and Debentures, Continued**

(2) Long-term borrowings as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

<u>Type of borrowing</u>	<u>Lender</u>	<u>Annual interest rate (%)</u>		<u>2016</u>	<u>2015</u>
General loan	The Korea Development Bank and others	1.46~5.19	₩	1,510,474	1,386,227
Commercial paper	IBK Securities Co., Ltd.	3.01		70,000	300,000
General loan in foreign currency	Export-Import Bank of Korea and others	2.00~3.15		1,458,212	1,793,160
National Housing Fund	Kookmin Bank	2.30~2.60		28,761	36,463
Energy rationalization	The Korea Development Bank	1.75		1,727	2,302
Environment improvement fund	The Korea Development Bank	1.29		112	727
General fund for equipment	The Korea Development Bank and others	3.38~3.67		852,760	594,788
Business loans (*)	Korea National Oil Corporation and others	0.75~3.75		12,755	12,370
Pre-shipment credit	Export-Import Bank of Korea	3.00~3.05		476,234	1,470,000
Loan in foreign currency	Mizuho Bank and others	LIB(1M)+0.95~TJLP+2.8		289,297	276,585
				4,700,332	5,872,622
Current portion of long-term borrowings				(2,317,526)	(1,816,729)
			₩	<u>2,382,806</u>	<u>4,055,893</u>

(\*) During 2013, the consortium that included the Group decided to withdraw from its oil development business in the 4 mining areas in Yemen and Kazakhstan mining development business through sale of shares. The maturities of business loans (₩12,755 million and ₩12,370 million as of December 31, 2016 and 2015, respectively) from Korea National Oil Corporation are not readily determinable since the decision on redemptions of business loans are still being deliberated by the supervisory institution.

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**23. Borrowings and Debentures, Continued**

(3) Debentures as of December 31, 2016 and 2015 are summarized as follows:

*(In millions of won)*

Description	Maturity	Annual interest rate (%)	2016	2015
114 <sup>th</sup> -2 debenture	2017-07-24	3.35	400,000	400,000
116 <sup>th</sup> -1 debenture	2017-02-26	3.14	200,000	200,000
116 <sup>th</sup> -2 debenture	2019-02-26	3.45	300,000	300,000
117 <sup>th</sup> -1 debenture	2018-03-03	2.45	180,000	180,000
117 <sup>th</sup> -2 debenture	2020-03-03	2.65	50,000	50,000
117 <sup>th</sup> -3 debenture	2022-03-03	3.05	70,000	70,000
118 <sup>th</sup> -1 debenture	2017-07-23	2.33	80,000	80,000
118 <sup>th</sup> -2 debenture	2018-07-23	2.66	235,000	235,000
118 <sup>th</sup> -3 debenture	2020-07-23	3.26	90,000	90,000
Foreign currency bond	2019-06-07	1.90	362,550	351,600
110 <sup>th</sup> debenture	2017-07-20	3.52	300,000	300,000
111 <sup>th</sup> -1 debenture	2016-10-23	3.24	-	100,000
111 <sup>th</sup> -2 debenture	2019-10-23	3.52	100,000	100,000
112 <sup>th</sup> -1 debenture	2018-01-27	3.35	150,000	150,000
112 <sup>th</sup> -2 debenture	2019-01-27	3.59	50,000	50,000
113 <sup>th</sup> debenture	2018-06-25	3.01	100,000	100,000
114 <sup>th</sup> -1 debenture	2017-11-21	2.36	80,000	80,000
114 <sup>th</sup> -2 debenture	2019-11-21	2.59	160,000	160,000
114 <sup>th</sup> -3 debenture	2021-11-21	2.94	60,000	60,000
115 <sup>th</sup> -1 debenture	2018-03-27	1.98	70,000	70,000
115 <sup>th</sup> -2 debenture	2020-03-27	2.20	190,000	190,000
115 <sup>th</sup> -3 debenture	2022-03-27	2.53	140,000	140,000
2 <sup>nd</sup> -1 debenture	2017-04-22	2.50	70,000	70,000
2 <sup>nd</sup> -2 debenture	2018-04-22	2.75	230,000	230,000
8 <sup>th</sup> debenture	2019-06-15	3.16	150,000	150,000
9 <sup>th</sup> -1 debenture	2017-06-25	2.61	100,000	100,000
9 <sup>th</sup> -2 debenture	2018-06-25	2.92	100,000	100,000
1 <sup>st</sup> -1 subordinated bonds	2018-03-11	4.88	60,000	60,000
1 <sup>st</sup> -2 subordinated bonds	2019-09-11	5.18	40,000	40,000
2 <sup>nd</sup> subordinated bonds	2019-10-31	5.30	30,000	30,000
			4,147,550	4,236,600
Discount on debentures			(9,311)	(10,033)
Current portion			(1,230,000)	(451,600)
Discount on current portion			678	543
			₩ 2,908,917	3,775,510

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**23. Borrowings and Debentures, Continued**

(4) Exchangeable bond

(i) Details of the exchangeable bond As of December 31, 2016 and 2015 are as follows:

(In millions of won)

Description	Maturity	Annual interest rate (%)		2016	2015	Guarantee
1 <sup>st</sup> Exchangeable bond	2020.06.29	-	₩	267,804	259,715	Secured debenture
Discount on exchangeable bond				(2,024)	(2,522)	
Exchange rights adjustment				(28,870)	(35,431)	
			₩	<u>236,910</u>	<u>221,762</u>	

(ii) Conditions of issuance of the exchangeable bond above is as follows:

	Description
Type of debenture.....	1st secured foreign currency denominated exchangeable bond in foreign public offering
Total face value of debenture (USD).....	221,600,000
The name of overseas listing market.....	Singapore Stock Exchange
Interest rate of debenture	
Par interest rate (%).....	0.00
Interest rate of maturity (%).....	0.00
Maturity of debenture.....	2020.06.29
Interest payment method.....	No interest payments
Principal redemption method.....	Redemption at maturity: Lump sum redemption of principal and interest at maturity only if reasons for early redemption don't occur and exchange rights aren't exercised until maturity Early redemption: There are Company's early redemption right (Call option) and investors' early redemption right (Put option)
Issue method of debenture.....	Private Placement
Details of exchange	
Exchange rate (%).....	100.00
Exchange price (in USD per share).....	66.2669 (9.4667 before capital decrease)
Determination method of exchange price...	The amount is determined by complying with 'Regulations on securities issuance and disclosure article 5-22 (decision of conversion price of conversion bonds)' and adding the exchange premium of 37.50% to the closing price of the Korea Exchange listed stocks at the time of exchange price is fixed
Exchange object.....	Common stocks of Hyundai Merchant Marine Co., Ltd.
Exercise period	
Start date.....	2015.08.10
End date.....	2020.06.18
Adjustments to exchange price.....	The amount is adjusted according to the terms and conditions of the debentures, in the event of a dilution reason such as stock split, share consolidation, change of par value, paid-in capital increase, issuance of additional stocks, company reorganization procedure, stock dividends and others
Guarantee institutions.....	The Korea Development Bank
Investors' early redemption right (Put Option).....	The early redemption rights can be exercised when following events occur - After three years from the date of payment (2018.6.29) - If change in control of the company has occurred - If stocks which the company issued are delisted or the trading is halted for more than 30 consecutive trading days

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**23. Borrowings and Debentures, Continued**

(4) Exchangeable bond, continued

(ii) Conditions of issuance of the exchangeable bond above as follows, continued:

	<b>Description</b>
Company's early redemption right (Call Option).....	The early redemption is possible when following events occur - From 3 years after the date of payment (2018.6.29) to 30 business days prior to maturity, 20 trading days closing price of 30 trading days exceeds 130% of the exchange price - If the balance of outstanding debentures is less than 10% of the total issued amount (Clean Up Call) - If the additional tax burden by amendments of the relevant laws and others has occurred
Share lending agreement.....	Hyundai Samho Heavy Industries Co., Ltd. has procured a lender under a share lending agreement to transfer to the initial purchase a certain number of the shares, subject to the terms of such share lending agreement. - Purpose: Derivative transactions - The number of stocks: 1,497,024 (it can lend up to 50% of the number of lending stocks per borrowers) - Lender: Hyundai Samho Heavy Industries Co., Ltd. - Borrowers: Merrill Lynch International, The Hong Kong and Shanghai Banking Corporation Limited - Loan conditions: Until 5 years after issuance of exchangeable bond or the date of all redemption or all exchange of exchangeable bond, borrowers can borrow the number of stocks that they want within the limit of lending stocks (designated transaction method through Daewoo Securities) - Redemption method: The same type of stocks - Connectivity of exchangeable bond issuance: Loan stocks are common stocks of Hyundai Merchant Marine Co., Ltd. - Loan charges: Annual 1.0%

(iii) Characteristics of the exchange rights, investors and the Group's early redemption rights given to the above exchangeable bonds are not closely related to economic specifics and risks of the host contract, therefore they are classified as embedded derivative instruments separately from the host contract. Thus, the Group recorded a financial liability at fair value through profit or loss of ₩12,635 million, which is the value of the exchange rights and others as of December 31, 2016. The Group measures the fair value at each period ending and records the gain/loss in profit or loss.

(5) Aggregate maturities of the Group's borrowings and debentures as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

Periods	<b>2016</b>			
	<b>Borrowings</b>	<b>Debentures</b>	<b>Exchangeable bond</b>	<b>Total</b>
2017.01.01~2017.12.31	₩ 9,315,337	1,230,000	-	10,545,337
2018.01.01~2021.12.31	1,953,302	2,707,550	267,804	4,928,656
2022.01.01 and thereafter	429,504	210,000	-	639,504
	<u>₩ 11,698,143</u>	<u>4,147,550</u>	<u>267,804</u>	<u>16,113,497</u>

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**23. Borrowings and Debentures, Continued**

(5) Aggregate maturities of the Group's borrowings and debentures as of December 31, 2016 and 2015 are summarized as follows, continued:

(In millions of won)

Periods	2015			
	Borrowings	Debentures	Exchangeable bond	Total
2016.01.01~2016.12.31	₩ 8,347,874	451,600	-	8,799,474
2017.01.01~2020.12.31	3,843,154	3,515,000	259,715	7,617,869
2021.01.01 and thereafter	212,739	270,000	-	482,739
	₩ 12,403,767	4,236,600	259,715	16,900,082

(6) Issues and repayments for the year ended December 31, 2016 are as follows:

(In millions of won)

	2016			
	Borrowings	Debentures	Exchangeable bond	Total
Beginning balance	₩ 12,403,767	4,226,567	221,762	16,852,096
Borrowing	17,426,609	351,679	-	17,778,288
Repayment	(18,267,099)	(451,600)	-	(18,718,699)
Effect of movements in exchange rates	134,866	6,534	7,485	148,885
Amortization of discounts on debentures	-	5,059	534	5,593
Amortization of conversion rights adjustment	-	-	7,129	7,129
Ending balance	₩ 11,698,143	4,138,239	236,910	16,073,292

**24. Finance lease liabilities**

(1) Total minimum lease payments and present value about capital lease liabilities as of December 31, 2016 are as follows:

(In millions of won)

Periods	2016		
	Minimum lease payment	Interest	Present value
2017.01.01~2017.12.31	₩ 7,569	(168)	7,401
2018.01.01~2021.12.31	10,266	(624)	9,642
	₩ 17,835	(792)	17,043

(2) There are no contingent rents incurred for the year ended December 31, 2016.

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**25. Employee Benefits**

- (1) Recognized liabilities for defined benefit obligations as of December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Present value of defined benefit obligations	₩ 1,477,371	1,979,320
Fair value of plan assets(*)	(1,220,958)	(1,433,078)
	<u>₩ 256,413</u>	<u>546,242</u>

(\*) Certain subsidiaries' (including HI Investment Securities, Co., Ltd. and others) plan assets exceed the present value of defined benefit obligations in the amount of ₩17,004 and ₩161 million as of December 31, 2016 and 2015. Such amounts were recognized as plan assets (in other non-current assets). The fair value of plan assets included such amounts of ₩1,237,962 and ₩1,433,239 million as of December 31, 2016 and 2015.

- (2) Plan assets as of December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Retirement pension	₩ 1,232,705	1,423,584
Transfer to National Pension Fund	5,257	9,655
	<u>₩ 1,237,962</u>	<u>1,433,239</u>

- (3) Expenses recognized in profit or loss for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Current service costs	₩ 214,759	237,640
Past service costs	(85,609)	(721)
Interest on obligations	42,190	52,806
Expected return on plan assets	(30,945)	(37,680)
Contribution	617	525
	<u>₩ 141,012</u>	<u>252,570</u>

The Group introduced a voluntary retirement for the year ended December 31, 2016 and 2015. ₩396,713 million and ₩208,131 million was recorded as additional retirement benefits in selling and administrative expenses.

- (4) Changes in the defined benefit obligations for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Beginning balance	₩ 1,979,320	1,915,147
Current service costs	214,759	237,640
Past service costs	(85,609)	(721)
Interest on obligations	42,190	52,806
Benefits paid	(580,898)	(350,084)
Transfers from related parties	10,379	13,111
Effect of movements in exchange rates	200	(120)
Actuarial loss (gain) in other comprehensive income:		
Demographic assumption	13,158	(23)
Financial assumption	(98,656)	56,938
Experience adjustment	(14,602)	56,675
Effects of changes in scope of consolidation	(2,870)	(2,049)
Ending balance	<u>₩ 1,477,371</u>	<u>1,979,320</u>

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**25. Employee Benefits, Continued**

(5) Changes in the fair value of plan assets for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>		<u>2016</u>	<u>2015</u>
Beginning balance	₩	1,433,239	1,365,565
Benefits paid		(484,940)	(295,032)
Contributions paid into the plan		268,363	338,816
Expected return on plan assets		30,945	37,680
Actuarial gains in other comprehensive income		(7,612)	(11,824)
Effects of changes in scope of consolidation		(2,033)	(1,966)
Ending balance	₩	<u>1,237,962</u>	<u>1,433,239</u>

The Group are reviewing the level of the fund each year, and taking the policy to preserve fund in the event of a loss to the fund. The Group expects to pay ₩173,266 million in contributions to its defined benefit plans in next year.

(6) Expected payment date of the defined benefit obligations as of December 31, 2016 is as follows:

<i>(In millions of won)</i>		<u>Within 1 year</u>	<u>1 ~ 5years</u>	<u>5 ~ 10years</u>	<u>More than 10 years</u>	<u>Total</u>
Expected payment	₩	55,265	548,299	663,375	3,733,146	5,000,085

(7) Principal actuarial assumptions as of December 31, 2016 and 2015 are as follows:

		<u>2016</u>	<u>2015</u>
Discount rate		1.84%~3.09%	2.08%~2.92%
Future salary growth		1.20%~3.94%	2.00%~4.74%
Future mortality (Males, at age 45)		0.22%	0.25%~0.26%

(8) Weighted average durations of defined benefit obligations as of December 31, 2016 and 2015 are as follows:

<i>(In years)</i>		<u>2016</u>	<u>2015</u>
Weighted average durations		9.96	10.47

(9) Reasonably possible changes as of December 31, 2016 and 2015 to the each relevant actuarial assumption would have affected the defined benefit obligation by the amounts shown below.

<i>(In millions of won)</i>		<u>2016</u>		<u>2015</u>	
		<u>Increase</u>	<u>Decrease</u>	<u>Increase</u>	<u>Decrease</u>
Discount rate (1% movement)	₩	(122,035)	143,866	(169,432)	201,567
Future salary growth (1% movement)		121,702	(99,509)	170,908	(147,208)



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**26. Provisions**

(1) Short-term Provisions

Changes in short-term provisions related to greenhouse gas emission debt for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	<b>2016</b>	<b>2015</b>
Beginning balance	₩ 4,105	-
Additions	5,331	4,105
Reversals	(4,105)	-
Ending balance	<u>₩ 5,331</u>	<u>4,105</u>

(2) Long-term Provisions

Changes in long-term provisions for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	<b>2016</b>				<b>2015</b>			
	<b>Provision for construction warranty</b>	<b>Provision for product warranty</b>	<b>Other provision</b>	<b>Total</b>	<b>Provision for construction warranty</b>	<b>Provision for product warranty</b>	<b>Other provision</b>	<b>Total</b>
Beginning balance	₩ 420,660	245,182	49,961	715,803	296,950	175,630	29,792	502,372
Additions	221,813	168,646	20,720	411,179	211,882	187,249	32,959	432,090
Reversals	(13,203)	(33,838)	(18,752)	(65,793)	(33,291)	(35,439)	(2,125)	(70,855)
Utilization	(25,047)	(80,680)	(23,724)	(129,451)	(55,037)	(82,927)	(10,627)	(148,591)
Effect of movements								
in exchange rates	260	(151)	445	554	156	669	(38)	787
Ending balance	<u>₩ 604,483</u>	<u>299,159</u>	<u>28,650</u>	<u>932,292</u>	<u>420,660</u>	<u>245,182</u>	<u>49,961</u>	<u>715,803</u>

**27. Derivative Financial Instruments**

The Group has entered into derivative instrument contracts with various banks, including KEB Hana Bank, to hedge the risk related to changes in foreign exchange rates, crude oil prices and others. Derivatives are measured at fair value by using the forward exchange rate presented by contract counterparty and others. Also, the Group measured the exchange right and others given to the exchangeable bond at fair value as it meets the definition of embedded derivatives instruments which needs to be separated from the host contract.

(1) The description of derivative instrument and hedge accounting is as follows:

<b>Hedge accounting</b>	<b>Type</b>	<b>Description</b>
Fair value hedge	Foreign currency forward	(i) Hedges the risk of changes in the fair value of firm commitments (ii) Hedges the risk of changes in foreign currency exchange rates for payables in foreign currency
	Foreign currency futures	Hedges the risk of changes in foreign currency exchange rates for offshore funds
Cash flow hedge	Foreign currency forward	Hedges the variability in cash flows attributable to foreign currency exposure in respect of forecasted sales and purchases
	Interest rate swap	Hedges cash flow risk on interest rate fluctuation
	Product forward	Hedges cash flow risk on refinery margin fluctuation

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**27. Derivative Financial Instruments, Continued**

(2) As of December 31, 2016, details of the derivatives entered into by the Group are as follows:

*(In millions of won and in thousands of foreign currency)*

Description	Type	Currency		Contract amount	Number of contracts	Weighted average exchange rate	Average maturities	
		Sell	Buy					
Fair value hedge	Foreign currency forward	USD	KRW	₩ 6,592,154	1,559	1,134.17	2017-07-20	
		USD	CNY	13,592	6	6.52	2017-04-14	
		EUR	KRW	10,706	1	1,277.05	2019-04-30	
Cash flow hedge	Foreign currency futures	USD	KRW	5,000	500	1,208.70	2017-01-13	
		EUR	KRW	22,343	4	1,246.21	2017-02-27	
	Foreign currency forward	KRW	EUR	868	4	1,485.46	2017-12-03	
		KRW	USD	2,777	7	1,058.81	2017-02-01	
		USD	EUR	5,655	8	0.80	2017-03-08	
	For trading	Foreign currency forward	USD	JPY	516	1	120.80	2017-01-03
			USD	KRW	379,222	481	1,164.54	2017-06-18
		Product forward	USD	USD	73,430	16	-	2017-03-06
		Foreign currency forward	USD	KRW	546,274	75	1,106.66	2017-07-30
			KRW	USD	28,963	2,383	1,208.70	2017-01-16
Foreign currency futures		USD	KRW	12,180	1,218	1,208.70	2017-01-16	
		Foreign currency swap	KRW	USD	30,260	1	1,164.00	2021-03-08
USD			KRW	43,246	3	1,147.13	2017-03-26	
Interest rate swap		KRW	KRW	540,000	1	-	2018-05-28	
Interest rate futures		KRW	KRW	2,175,714	18,710	-	2017-03-21	
Index futures	KRW	KRW	75,284	579	-	2017-03-09		
	USD	USD	130	13	-	2017-01-25		
Index option	Foreign currency forward	HKD	HKD	40,430	86	-	2017-03-14	
		EUR	EUR	2,458	75	-	2017-03-17	
	KRW	KRW	95	116	-	2018-12-13		
	HKD	HKD	14,542	1,191	-	2017-12-28		
	EUR	EUR	899	1,594	-	2017-12-15		
Commodity futures	USD	USD	6,555	114	-	2017-01-30		
Conversion rights to exchangeable bond	KRW	KRW	267,804	1	-	2020-06-18		
Others	KRW	KRW	909,721	94	-	2018-03-13		

(\*) Terms of settlement: Netting the settlement or collecting total

(\*\*) The contract amount is denominated in the selling currency

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27. Derivative Financial Instruments, Continued

(3) Book value related to derivatives as of December 31, 2016 is as follows:

(In millions of won)

Description	Category	Financial assets or liabilities at fair value												
		Derivatives				through profit or loss				Firm commitment				
		Assets		Liabilities		Assets		Liabilities		Assets		Liabilities		
		Current	Non-current	Current	Non-current	Current	Non-current	Current	Non-current	Current	Non-current	Current	Non-current	
Fair value hedge	Foreign currency forward	₩	551	75	409,321	56,917	-	-	-	-	235,647	54,548	4,340	75
Cash flow hedge	Foreign currency forward		414	-	15,735	2,092	-	-	-	-	-	-	-	-
	Product forward		9,583	-	11,305	-	-	-	-	-	-	-	-	-
For trading	Foreign currency forward		-	-	-	-	5	-	52,605	745	-	-	-	-
	Foreign currency swap		-	-	-	-	-	-	2,646	1,709	-	-	-	-
	Interest rate swap		-	-	-	-	-	38	76	223	-	-	-	-
	Index futures		-	-	-	-	35	-	3,617	-	-	-	-	-
	Index option		-	-	-	-	-	-	69	-	-	-	-	-
	Commodity futures		-	-	-	-	116	-	70	-	-	-	-	-
	Conversion rights to exchangeable bond		-	-	-	-	-	-	-	12,635	-	-	-	-
	Others		-	-	-	-	74	9,452	22,429	97,195	-	-	-	-
		₩	10,548	75	436,361	59,009	230	9,490	81,512	112,507	235,647	54,548	4,340	75

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**27. Derivative Financial Instruments, Continued**

(4) Gain and loss on valuation and transaction of derivatives for the year ended December 31, 2016 are as follows:

(In millions of won)

Description	Category	Increase to sales	Increase to cost of sales	Increase to finance income	Increase to finance costs	Increase to other non-operating income	Increase to other non-operating expenses	Accumulated other comprehensive income (loss)
Fair value	Foreign currency forward	₩ (447,577)	-	201,474	359,467	277,039	169,031	-
hedge	Foreign currency futures	-	154	-	-	-	-	-
Cash flow	Foreign currency forward	(18,671)	750	-	-	-	-	3,467
hedge	Product forward	-	-	-	-	-	-	57
For trading	Foreign currency forward	-	-	33,693	120,537	-	-	-
	Foreign currency futures	4,993	3,672	-	-	-	-	-
	Foreign currency swap	3,136	7,454	-	-	-	-	-
	Interest rate swap	876	1,230	-	1,222	-	-	-
	Interest rate futures	43,692	75,451	-	-	-	-	-
	Index futures	33,438	23,597	-	-	-	-	-
	Index option	15,217	12,309	-	-	-	-	-
	Stock warrants	553	-	-	-	-	-	-
	Commodity futures	116	70	-	-	-	-	-
	Product forward	-	-	4,827	8,338	-	-	-
	Conversion rights to exchangeable bond	-	-	23,489	-	-	-	-
	Others	82,987	46,399	-	-	-	-	-
		₩ (281,240)	171,086	263,483	489,564	277,039	169,031	3,524

As of December 31, 2016, the Group applies cash flow hedge accounting, for which the Group accounted for the effective portion of the hedge amounting to ₩1,819 million, after netting off deferred tax effect of ₩1,705 million as gain (loss) on valuation of derivatives in accumulated other comprehensive income (loss). It composed of non-controlling interest portion of ₩(-)527 million and controlling interest portion of ₩2,346 million.

The expected period of exposure to cash flow risk, where cash flow hedge accounting is applied, is approximately 48 months.

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**28. Capital and Capital Surplus**

(1) Capital

The Group is authorized to issue 160,000,000 shares of capital stock (par value ₩5,000), and as of December 31, 2016 and 2015, the number of issued common shares is 76,000,000.

There have been no changes in the capital stock for the years ended December 31, 2016 and 2015.

(2) Capital surplus

Capital surplus is comprised of paid-in capital in excess of par value, capital surplus related to acquisition or disposal of interests in subsidiaries and investments in associates, and other capital surplus of the Group. Other capital surplus of the Group is derived from various sources including gains arising from previous business combination, and gains on disposal of treasury stocks and others. Capital surplus is only available for the reduction of accumulated deficit or transfer to capital stock.

(i) Capital surplus as of December 31, 2016 and 2015 is summarized as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Paid-in-capital in excess of par value	₩ 843,324	843,324
Gains on disposal of treasury stocks	217,750	217,750
Gains from merger	21,830	21,830
Other capital surplus	41,992	41,992
	<u>₩ 1,124,896</u>	<u>1,124,896</u>

(ii) The changes in capital surplus for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Beginning balance	₩ 1,124,896	1,109,309
Gain on disposal of treasury shares	-	13,411
Others	-	2,176
Ending balance	<u>₩ 1,124,896</u>	<u>1,124,896</u>

(3) Dividend

The Group paid no dividends for the years ended December 31, 2016 and 2015.

**29. Hybrid Bonds**

(1) Hybrid bond issued by the Group

(i) Hybrid bonds classified as capital as of December 31, 2016 and 2015 are as follows:

<u>Description</u>	<u>Issue</u>	<u>Maturity</u>	<u>Annual interest rate (%)</u>		<u>2016</u>	<u>2015</u>
1 <sup>st</sup> -1 Hybrid bond	2014-12-15	2044-12-15	4.90	₩	360,000	360,000
1 <sup>st</sup> -2 Hybrid bond	2014-12-15	2044-12-15	4.80		70,000	70,000
					430,000	430,000
Issuance costs					(1,411)	(1,411)
				₩	<u>428,589</u>	<u>428,589</u>

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**29. Hybrid Bonds, Continued**

(ii) Terms and conditions of the hybrid bonds issued as of December 31, 2016 are as follows:

(In millions of won)

	<b>1 st -1 Hybrid bond</b>	<b>1 st -2 Hybrid bond</b>
Amount Issued	KRW 360,000	KRW 70,000
Maturity	30years(At maturity, it can be extended in accordance with the Group's decision)	
Interest Rate	Issue date ~ 2019-12-15 : Fixed rate 4.90% Re-calculated and applied every 5 years, 5-year treasury bond yield + annual 2.55% + annual 2.00% (Step-up clauses)	Issue date ~ 2019-12-15 : Fixed rate 4.80% Re-calculated and applied every 5 years, 5-year treasury bond yield + annual 2.45% + annual 2.00% (Step-up clauses)
Interest payment condition	3 months deferred payment, selective payment postpone is possible	
Other	Depending on the Group's choice, the Group can redeem at the date of 5 <sup>th</sup> anniversary after issuance and every interest payment thereafter.	

The Group has an unconditional option to extend the maturity of hybrid bonds at maturity. Also, payment of interest on the bonds can be postponed at the discretion of the Group. If the payment of interest is postponed, the Group cannot pay any dividend on common stock until the deferred interest is paid in full. The Group classifies hybrid bonds as equity because the Group holds unconditional rights to avoid the contractual obligation to deliver cash or other financial assets to the holder. In case of liquidation, the hybrid bonds are subordinated bonds which have priority over common stocks.

(2) Hybrid bond issued by subsidiary

(i) Hybrid bonds classified as non-controlling interests as of December 31, 2016 and 2015 by subsidiary, Hyundai oil bank are as follows:

<b>Description</b>	<b>Issue</b>	<b>Maturity</b>	<b>Annual interest rate (%)</b>		<b>2016</b>	<b>2015</b>
1 <sup>st</sup> -1 Hybrid bond	2015-12-11	2045-12-11	4.80	₩	160,000	160,000
1 <sup>st</sup> -2 Hybrid bond	2015-12-11	2045-12-11	4.75		65,000	65,000
					<u>225,000</u>	<u>225,000</u>
Issuance costs					(727)	(727)
				₩	<u>224,273</u>	<u>224,273</u>

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**29. Hybrid Bonds, Continued**

- (ii) Terms and conditions of the hybrid bonds by subsidiary, Hyundai oil bank issued as of December 31, 2016 are as follows:

(In millions of won)

	1 st -1 Hybrid bond	1 st -2 Hybrid bond
Amount Issued	KRW 160,000	KRW 65,000
Maturity	30years(At maturity, it can be extended in accordance with the Group's decision)	
Interest Rate	Issue date ~ 2020-12-11 : Fixed rate 4.80% Re-calculated and applied every 5 years, 5-year treasury bond yield + annual 2.87% + annual 2.00% (Step-up clauses)	Issue date ~ 2020-12-11 : Fixed rate 4.75% Re-calculated and applied every 5 years, 5-year treasury bond yield + annual 2.82% + annual 2.00% (Step-up clauses)
Interest payment condition	3 months deferred payment, selective payment postpone is possible	
Other	Depending on the Group's choice, the Group can redeem at the date of 5 <sup>th</sup> anniversary after issuance and every interest payment thereafter.	

The Group has an unconditional option to extend the maturity of hybrid bonds at maturity. Also, payment of interest on the bonds can be postponed at the discretion of the Group. If the payment of interest is postponed, the Group cannot pay any dividend on common stock until the deferred interest is paid in full. The Group classifies hybrid bonds as equity because the Group holds unconditional rights to avoid the contractual obligation to deliver cash or other financial assets to the holder. In case of liquidation, the hybrid bonds are subordinated bonds which have priority over common stocks.

**30. Treasury Stock**

- (1) Treasury stock of the Group as of December 31, 2016 and 2015 is summarized as follows:

(In millions of won, except share data)

	2016			2015		
	Number of shares	Acquisition cost	Fair value	Number of shares	Acquisition cost	Fair value
Treasury stock	10,157,477 ₩	966,933	1,477,913	10,157,477 ₩	966,933	891,826

As of December 31, 2016, the Group has provided 200,000 shares of treasury stock as collaterals for ₩20,643 million of accrued corporation tax to The National Tax Service (Dong Ulsan tax office).

- (2) As of December 31, 2016, 6,063,000 of the Group's treasury stocks valued at ₩236,721 million at acquisition cost and ₩882,167 million at fair value are owned by Hyundai Mipo Dockyard Co., Ltd., a subsidiary of the Group. The Group recorded its portion as treasury stock in capital adjustments, in the amount of ₩95,412 million.

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**31. Accumulated Other Comprehensive Income**

(1) Accumulated other comprehensive income as of December 31, 2016 and 2015 is summarized as follows:

(In millions of won)

		<u>2016</u>	<u>2015</u>
Gain on valuation of available-for-sale financial assets	₩	235,620	372,968
Loss on valuation of derivatives		(15,591)	(17,937)
Exchange differences on translating foreign operations		(29,539)	(54,686)
Change in equity of equity method investments		29,324	25,066
Gains on revaluation of property, plant and equipment		1,717,617	-
	₩	<u>1,937,431</u>	<u>325,411</u>

(2) Other comprehensive income (loss) for the years ended December 31, 2016 and 2015 is as follows:

(In millions of won)

		<u>2016</u>			<u>2015</u>		
		<b>Other comprehensive income</b>	<b>Owners of the Company</b>	<b>Non- controlling interests</b>	<b>Other comprehensive income</b>	<b>Owners of the Company</b>	<b>Non- controlling interests</b>
Loss on valuation of available for-sale financial assets, net of tax	₩	(178,312)	(137,348)	(40,964)	(433,382)	(407,382)	(26,000)
Gain (loss) on valuation of derivatives, net of tax		1,819	2,346	(527)	44,423	43,763	660
Exchange differences on translating foreign operations, net of tax		24,210	25,147	(937)	(6,810)	(8,706)	1,896
Change in equity of equity method investments, net of tax		4,675	4,258	417	(49,097)	(48,756)	(341)
Retained earnings of equity method investments, net of tax		97	96	1	(251)	(249)	(2)
Defined benefit plan actuarial losses, net of tax		67,709	64,945	2,764	(91,745)	(82,697)	(9,048)
Gains on revaluation of property, plant and equipment		1,913,856	1,743,116	170,740	-	-	-
	₩	<u>1,834,054</u>	<u>1,702,560</u>	<u>131,494</u>	<u>(536,862)</u>	<u>(504,027)</u>	<u>(32,835)</u>



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**32. Retained Earnings**

(1) Retained earnings as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>
<b>Legal reserves:</b>		
Legal appropriated retained earnings(*1)	₩ 190,000	190,000
Reserve for corporate development(*2)	30,000	30,000
Asset revaluation surplus	1,800,414	1,800,414
	<u>2,020,414</u>	<u>2,020,414</u>
<b>Voluntary reserves(*3):</b>		
Reserve for business rationalization	87,277	87,277
Reserve for facilities	78,270	78,270
Reserve for research and human development	333,333	456,667
Others	8,867,655	10,371,831
	<u>9,366,535</u>	<u>10,994,045</u>
<b>Unappropriated retained earnings</b>	<u>2,046,487</u>	<u>(195,683)</u>
	<u>₩ 13,433,436</u>	<u>12,818,776</u>

(\*1) The Korean Commercial Code requires the Group to appropriate as a legal reserve an amount equal to at least 10% of annual cash dividends for each accounting period until the reserve equals 50% of capital. This reserve is not available for the payment of cash dividends but may be transferred to capital stock or used to offset accumulated deficit, if any, through a resolution of shareholders.

(\*2) Only available for the reduction of accumulated deficit or transfer to capital stock in accordance with related laws.

(\*3) Pursuant to the Tax Exemption and Reduction Control Law, the Group is allowed to make reserves for research and human development, facilities and others, which are appropriated in accordance with related laws.

(2) Changes in retained earnings for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>
Beginning balance	₩ 12,818,776	14,271,926
Profit (loss) for the year	656,668	(1,363,223)
Less: non-controlling interests	(111,547)	13,312
Retained earnings of equity method	95	(249)
Actuarial losses	64,945	(82,697)
Hybrid bonds interest	(21,000)	(20,293)
Reclassification revaluation surplus	25,499	-
Ending balance	<u>₩ 13,433,436</u>	<u>12,818,776</u>

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**33. Acquisitions of Subsidiary and Non-controlling Interests**

- (1) There were no business combination transactions for the years ended December 31, 2016 and 2015.
- (2) Details of changes in the Group's interests in subsidiaries which did not result in a change in control during the year ended December 31, 2016 are as follows:

(In millions of won)

Company	Ownership before transaction (%)	Ownership After Transaction (%)	Changes in equity grounds	Original cost and others	Increase in non-controlling interests	Increase (decrease) in controlling interest
Hyundai Oil Terminal Co., Ltd.	70.00%	100.00%	Additional acquisition	33,000	(27,151)	(5,849)
Hyundai Mipo Dockyard Co., Ltd	43.51%	42.34%	Stock compensation	13,318	19,822	(6,504)
Hyundai Arabia Company L.L.C	70.00%	100.00%	Additional acquisition	1,604	16,025	(17,629)

- (3) Gain (loss) on loss of control of subsidiaries for the year ended December 31, 2016 are as follows:

(In millions of won)

	Gain (loss) on disposal upon loss of control(*)	Gain (loss) on measurement of remaining investments at fair value upon disposal
Hi Himsen multi strategy Private Funds Investment Trust 1	₩ 28	-
Hyundai M Partners Co., Ltd.		
Hyundai Venture Investment Corp.	(20,795)	(2,863)

(\*) Gain or loss on disposal upon loss of control is presented in other non-operating income or expenses.

**34. Outstanding Contracts**

- (1) Sales for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	2016	2015
Construction contracts	₩ 20,118,117	24,904,122
Goods sold	18,116,578	19,946,946
Services	286,372	341,258
Interest income	134,762	170,421
Dividend income	4,002	6,732
Commission income	185,927	208,988
Gain on valuation of financial instruments	155,275	256,313
Gain on disposal of financial instruments	304,861	378,366
Other operating income	11,396	18,568
	₩ 39,317,290	46,231,714

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**34. Outstanding Contracts, Continued**

(2) Changes in outstanding contracts and other sales for the year ended December 31, 2016 are as follows:

<i>(In millions of won)</i>		<b>Shipbuilding</b>	<b>Offshore and industrial plant engineering</b>	<b>Others</b>	<b>Total</b>
Beginning balance(*)	₩	24,704,981	12,034,727	3,662,466	40,402,174
Increase during the period		6,530,131	919,137	18,372,266	25,821,534
Recognized as revenue		<u>(14,679,409)</u>	<u>(5,870,840)</u>	<u>(18,767,041)</u>	<u>(39,317,290)</u>
Ending balance	₩	<u>16,555,703</u>	<u>7,083,024</u>	<u>3,267,691</u>	<u>26,906,418</u>

(\*) The beginning balance includes the impact from changes in the exchange rate.

As of December 31, 2016, the Group has provided certain amount of financial institution guarantee deposits or letters of guarantee from various financial institutions to the customers, in connection with construction contracts.

(3) Accumulated revenue and cost of construction and others connected with construction in progress as of December 31, 2016 are as follows:

<i>(In millions of won)</i>		<b>Accumulated revenue of construction</b>	<b>Accumulated cost of construction</b>	<b>Accumulated profit and loss of construction</b>	<b>Billed receivables on construction contracts(*)</b>	<b>Unbilled receivables on construction contracts(*)</b>	<b>Due to customers for contract work</b>	<b>Provision for construction losses</b>
Shipbuilding	₩	10,841,493	10,165,443	676,050	119,348	5,043,864	2,278,945	247,715
Offshore, Industrial Plant and Engineering		19,506,477	21,220,730	(1,714,253)	712,794	213,131	2,134,214	775,009
Others		189,676	218,014	(28,338)	345	18,525	501	4,159
	₩	<u>30,537,646</u>	<u>31,604,187</u>	<u>(1,066,541)</u>	<u>832,487</u>	<u>5,275,520</u>	<u>4,413,660</u>	<u>1,026,883</u>

(\*) As of December 31, 2016, There is no allowance and accumulated impairment losses.

Among the receivables on construction contracts, the amount of retentions according to the contract terms is ₩453,650 million.

Heavy-Tail payment method makes up a large portion of the collection terms in the Shipbuilding segment, and Offshore and industrial plant engineering mainly collect money by Progress and Milestone method. Therefore, Billed and Due from customers for contract work might be changed according to the progress of construction.

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**34. Outstanding Contracts, Continued**

- (4) As of December 31, 2016, information of the main construction contract whose contract revenue is more than 5% of the previous fiscal year's sales are as follow:

(In millions of won, except percentage of stage of completion)

Name	Date of contract	Construction deadline(*1)	Stage of completion (%)	Due from customers for contract work		Accounts receivable	
				Total amount	Accumulated impairment	Total amount	Allowance for doubtful accounts
JEDDAH	2012.10.15	2017.05.21	93.5	₩ -	-	311	-
SHUQAIQ	2013.08.04	2018.08.04	83.4	-	-	1,824	-
GORGON	2009.10.21	2016.01.11	100.0	-	-	-	-
GOLIAT FPSO	2010.02.05	2015.01.25			(*2)		
NASR 2(*3)	2014.07.08	2019.05.08			(*2)		

(\*1) For the project the construction deadline has elapsed, the objective is transferred and some remaining work are in progress or a consultation with the client to extent the construction period is still under negotiation.

(\*2) For the reason that there are contractual confidentiality obligations and the client do not agree to disclose these information, we omit the related disclosures after reporting it to audit committee. But if a date of contract and construction deadline are disclosed in securities registration statement, business report, investment prospectus, or important management matters, we have disclosed related information.

(\*3) The cost recovery method is applied the project. But the percentage of completion method with the contract costs incurred might be applied the project later.

- (5) The effect of changes in total estimated contract costs

- (i) Effect of changes in total contract costs

For the year ended December 31, 2016, due to the factors causing the change in contract costs. The estimated total contract costs for contracts in progress have changed. Details of change in profits or loss for the current period and the future period, the impact on due from customers for contract work and due to customers for contract work are as follows:

(In millions of won)

	Change of total contract revenue(*)	Change of total estimated contract costs	Effect on profit (loss) of contract			Changes in due from customers for contract work	Changes in due to customers for contract work
			Current period	Future period	Total		
Shipbuilding	₩ (187,305)	(467,220)	413,729	(133,814)	279,915	(62,957)	(3,467)
Offshore, Industrial Plant and Engineering	272,561	73,618	200,427	(1,484)	198,943	(39,026)	(418,602)
	₩ 85,256	(393,602)	614,156	(135,298)	478,858	(101,983)	(422,069)

(\* ) Changes in entire contract revenue (including foreign currency fluctuation) are reflected, because it is unable to distinguish total contract revenue changed directly by changes in total contract costs.

Effect on profit or loss for the current period and future period is calculated based on the total contract costs and total contract revenue estimated with considering situations incurred in current period, and these estimations could be changed by variation of situations in the future.

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**34. Outstanding Contracts, Continued**

(5) The effect of changes in estimated total contract costs, continued

(ii) Sensitivity analysis of changes in the estimated total contract costs

The amount of due from customers for contract work and due to customers for contract work is affected by the rate of progress which is determined by accumulated cost incurred divided by estimated total contract costs. Estimated total contract costs are calculated based on estimated cost of materials, labour costs and construction period, and has a variance risk related to exchange rate fluctuation, changes in steel prices and changes in production hours.

The Group has entered into foreign currency forward contracts to hedge the risk related to exchange rate fluctuation, and hedged the risk related to changes of steel price in short period of time by entering steel purchase agreement by period.

The risk and uncertainty related to production hours has been managed by department which is responsible for managing production hours. The impacts on profit or loss of current period and future periods, due from customers for contract work and due to customers for contract work in case production hour changes 10% are as follows:

(In millions of won)

	Effect on profit or loss in current period		Effect on profit or loss in the future		Changes in due from customers for contract work		Changes in due to customers for contract work	
	10% increase	10% decrease	10% increase	10% decrease	10% increase	10% decrease	10% increase	10% decrease
	Shipbuilding	₩ (292,052)	323,159	(266,183)	235,076	(9,167)	27,566	32,159
Offshore, Industrial Plant and Engineering	5,520	103,156	(127,477)	18,795	(20,162)	(17,419)	(143,544)	(2,716)
	₩ (286,532)	426,315	(393,660)	253,871	(29,329)	10,147	(111,385)	(35,083)

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**35. Operating Segments**

The Group has 10 reportable segments, as described below, which are its strategic business units. The policies of strategic business units are the same as those applied by the Group in its consolidated financial statements as of and for the year ended December 31, 2015 except for robot business units. The Group divided the robot business unit for the manufacture of industrial robots operating and selling in the engine division was established as a separate business unit.

- (i) Shipbuilding: Manufacturing and sale of VLCCs, containerships, P/C ships, LNG carriers, and warships.
- (ii) Offshore, Industrial Plant and Engineering: Manufacturing and installation of offshore facilities, floating units, co-generating power plants, and processing equipment.
- (iii) Engine and Machinery: Manufacturing and sale of engines for ships, diesel power plants, industrial and marine pumps and hydraulic machinery (\*) Robot: Manufacturing and sale of industrial robots.
- (iv) Electro Electric Systems: Manufacturing and sale of transformers, low and medium voltage circuit breakers, switchgears, power electronics and control systems and wind turbine systems.
- (v) Construction Equipment: Manufacturing and sale of construction equipment and wheel loaders.
- (vi) Green Energy: Services related to solar power systems and new and renewable energy systems.
- (vii) Financial Services: Financing services.
- (viii) Oil Refining: Oil refining business.
- (ix) Others: Hotel operation, football club and others.

Information about these reportable segments is as follows:

- (1) The financial performance of each segment for the years ended December 31, 2016 and 2015 is as follows:

(In millions of won)

	<b>2016</b>				
	<b>Sales</b>	<b>Inter-segment revenue</b>	<b>Operating profit (loss)</b>	<b>Profit (loss)</b>	<b>Depreciation</b>
Shipbuilding	₩ 15,394,352	(714,943)	564,008	322,431	232,951
Offshore and Industrial Plant Engineering	5,945,073	(74,233)	(61,770)	(78,764)	56,511
Engine and Machinery(*2)	2,115,327	(727,462)	276,543	279,740	54,870
Electro Electric Systems	2,333,575	(189,758)	163,889	164,598	38,853
Construction Equipment	2,971,577	(800,268)	109,047	113,558	35,262
Green Energy	325,455	(122)	5,260	2,715	20,027
Financial Services	789,496	(14,231)	24,315	10,276	5,283
Oil Refining	16,092,475	(4,419,655)	967,052	693,567	287,908
Others	564,674	(274,042)	(353,795)	(489,786)	61,916
Consolidation adjustments(*1)	(7,214,714)	7,214,714	(52,696)	(361,667)	(8,379)
	<b>₩ 39,317,290</b>	<b>-</b>	<b>1,641,853</b>	<b>656,668</b>	<b>785,202</b>

(\*1) Consolidation adjustments are made by eliminating intra-company transactions and unrealized profits and losses, and valuations of joint venture and investments in associates using the equity method.

(\*2) Robot business unit, which includes the engine business unit sales, intra-company sales, operating profit, profit and depreciation amounted to ₩254,782 million, ₩(-)2,982 million, ₩17,846 million, ₩18,130 million and ₩1,074 million, respectively, for the year ended December 31, 2016.

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**35. Operating Segments, Continued**

- (1) Financial performance of each segment for the years ended December 31, 2016 and 2015 is as follows, continued:

(In millions of won)

		2015				
		Sales	Inter-segment revenue	Operating profit (loss)	Profit (loss)	Depreciation
Shipbuilding	₩	17,491,517	(818,911)	(609,123)	(420,977)	337,134
Offshore and Industrial Plant						
Engineering		8,797,327	(144,985)	(1,370,807)	(1,422,540)	75,953
Engine and Machinery		2,441,400	(673,929)	81,956	92,235	80,761
Electro Electric Systems		2,743,130	(235,783)	143,572	113,142	53,835
Construction Equipment		2,864,983	(678,162)	(34,894)	(96,834)	38,581
Green Energy		334,563	(4,307)	16,343	10,167	22,690
Financial Services		1,013,215	(8,128)	41,473	7,769	5,695
Oil Refining		16,577,056	(3,745,260)	628,686	471,471	274,894
Others		611,573	(333,585)	(372,403)	(331,127)	78,626
Consolidation adjustments(*)		(6,643,050)	6,643,050	(64,934)	213,471	(6,608)
	₩	<u>46,231,714</u>	<u>-</u>	<u>(1,540,131)</u>	<u>(1,363,223)</u>	<u>961,561</u>

(\*) Consolidation adjustments are made by eliminating inter-segment transactions and unrealized profits and losses, and valuations of joint venture and investments in associates using the equity method.

- (2) The assets and liabilities of each segment as of December 31, 2016 and 2015 are as follows:

(In millions of won)

		2016		2015	
		Total assets	Total liabilities	Total assets	Total liabilities
Shipbuilding	₩	17,925,286	8,582,225	19,771,552	11,583,118
Offshore and Industrial					
Plant Engineering		3,080,454	3,808,793	4,439,869	4,334,884
Engine and Machinery(*2)		1,562,482	782,009	1,642,064	926,670
Electro Electric Systems		1,895,270	819,880	2,038,135	894,247
Construction Equipment		2,678,752	928,464	2,950,124	1,104,436
Green Energy		473,567	56,947	475,559	26,159
Financial Services		5,256,197	4,449,131	5,721,048	4,697,687
Oil Refining		10,853,970	5,641,519	8,340,973	3,858,220
Others		16,766,915	8,073,613	14,610,482	8,471,439
Consolidation adjustments(*1)		(11,243,718)	(1,783,157)	(10,256,970)	(1,662,986)
	₩	<u>49,249,175</u>	<u>31,359,424</u>	<u>49,732,836</u>	<u>34,233,874</u>

(\*1) Consolidation adjustments are made by eliminating intra-company transactions and unrealized profits and losses, and valuations of joint venture and investments in associates using the equity method.

(\*2) Assets and liabilities robot business unit, which includes the engine business unit, are ₩179,745 million and ₩69,981 million as of December 31, 2016.

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**35. Operating Segments, Continued**

(3) Geographical information by subsidiary location is as follows:

(i) Sales for the years ended December 31, 2016 and 2015.

*(In millions of won)*

	2016		2015	
	Total sales	Intra-company revenue	Total sales	Intra-company revenue
Korea	₩ 40,521,588	(5,864,960)	46,863,551	(5,142,810)
North America	483,353	(25,377)	435,995	(8,242)
Asia	5,028,892	(1,295,863)	5,081,820	(1,473,939)
Europe	435,712	(18,991)	403,082	(13,403)
Others	62,459	(9,523)	90,316	(4,656)
Consolidation adjustments(*)	(7,214,714)	7,214,714	(6,643,050)	6,643,050
	₩ <u>39,317,290</u>	<u>-</u>	<u>46,231,714</u>	<u>-</u>

(\*) Consolidation adjustments are made by eliminating intra-company transactions and unrealized profits and losses.

(ii) Non-current assets as of December 31, 2016 and 2015.

*(In millions of won)*

	2016	2015
Korea	₩ 19,230,186	16,696,187
North America	116,966	119,344
Asia	358,046	405,056
Europe	61,746	45,090
Others	120,545	93,310
	<u>19,887,489</u>	<u>17,358,987</u>
Consolidation adjustments(*1)	1,327,350	1,449,068
Total(*2)	₩ <u>21,214,839</u>	<u>18,808,055</u>

(\*1) Consolidation adjustments are made by eliminating intra-company transactions and unrealized profits and losses, and valuations of joint venture and investments in associates using the equity method.

(\*2) Represents the sum of investment property, property, plant and equipment and intangible assets.



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**36. Selling, General and Administrative Expenses**

Selling, general and administrative expenses for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Salaries	₩ 580,775	650,594
Post-employment benefit costs	423,657	242,219
Employee welfare	118,215	141,193
Depreciation	75,736	94,010
Bad debt expenses	360,921	587,708
Ordinary development costs	139,453	169,699
Advertising	47,148	49,113
Printing	3,629	3,283
Warranty expenses	304,304	354,901
Insurance	14,334	13,421
Supplies	12,144	11,957
Utilities	9,309	6,873
Repairs	13,524	8,898
Travel	21,769	25,041
Research	9,549	19,716
Training	7,062	12,730
Service contract expenses	107,528	81,497
Transportation	241,780	205,439
Rent	51,655	42,119
Data processing	26,700	24,216
Entertainment	14,491	14,795
Taxes and dues	39,198	41,680
Service charges	133,465	119,451
Automobile maintenance	9,861	10,183
Sales commissions	57,656	45,024
Others	98,962	114,113
	<u>₩ 2,922,825</u>	<u>3,089,873</u>

**37. Nature of Expenses**

The classification of expenses by nature for the years ended December 31, 2016 and 2015 is as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Changes in inventories	₩ 515,508	1,265,902
Purchase of inventories	19,624,329	29,578,877
Depreciation	785,201	961,561
Amortization	106,664	106,679
Labor cost	3,531,994	3,788,958
Other expenses	13,111,741	12,069,868
	<u>₩ 37,675,437</u>	<u>47,771,845</u>

Total expenses consist of cost of sales and selling, general and administrative expenses.

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**38. Finance Income and Finance Costs**

Finance income and finance costs for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>
<b>Finance income:</b>		
Interest income	₩ 70,824	78,393
Gain on valuation of financial instruments at fair value through profit or loss	23,501	2,682
Gain on disposal of financial instruments at fair value through profit or loss	38,508	75,407
Gain on disposal of available-for-sale financial assets	177,752	434,844
Dividend income	11,076	40,942
Gain on foreign currency translation	127,604	246,883
Gain on foreign currency transactions	965,812	905,940
Gain on valuation of derivatives	1,658	14,419
Gain on derivatives transactions	199,816	101,735
Others	240	354
	<u>₩ 1,616,791</u>	<u>1,901,599</u>
<b>Finance costs:</b>		
Interest expense	₩ 233,913	225,663
Loss on valuation of financial instruments at fair value through profit or loss	53,357	3,568
Loss on disposal of financial instruments at fair value through profit or loss	75,518	60,150
Loss on disposal of available-for-sale financial assets	2,397	76,774
Impairment loss on available-for-sale financial assets	107,279	247,441
Loss on foreign currency translation	237,287	299,816
Loss on foreign currency transactions	940,261	952,692
Loss on valuation of derivatives	215,892	681,181
Loss on derivatives transactions	144,797	364,438
Others	22,169	21,606
	<u>₩ 2,032,870</u>	<u>2,933,329</u>

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**39. Other Non-operating Income and Other Non-operating Expenses**

Other non-operating income and other non-operating expenses for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>
<b>Other non-operating income:</b>		
Gain on disposal of investments in associates and joint ventures	₩ 4,743	7,066
Gain on disposal of property, plant and equipment	33,975	12,409
Gain on disposal of intangible assets	3,452	7,100
Gain on disposal of other investments	9,056	-
Gain on valuation of firm commitments	277,039	933,207
Reversal of other allowance doubtful accounts	1,389	106
Others	289,026	237,271
	<u>₩ 618,680</u>	<u>1,197,159</u>
<b>Other non-operating expenses:</b>		
Service charges	₩ 11,989	14,420
Loss on disposal of property, plant and equipment	17,256	32,603
Impairment loss on intangible assets	113,052	3,006
Loss on disposal of investments in associates and joint ventures	1	6,666
Loss on disposal of property, plant and equipment	34,413	16,845
Loss on disposal of intangible assets	3,760	2,178
Loss on disposal of other investments	2,799	-
Loss on valuation of firm commitments	169,031	63,717
Other bad debt expenses	335	8,551
Donation	24,714	20,317
Others	450,362	242,630
	<u>₩ 827,712</u>	<u>410,933</u>

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**40. Income Tax Expense (Benefit)**

- (1) The components of income tax expense (benefit) for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Current tax expense	₩ 358,272	142,488
Adjustment for prior periods	7,373	(80,560)
Origination and reversal of temporary differences	641,222	(694,262)
Income tax recognized in other comprehensive income	(577,627)	154,138
Total income tax expense (benefit)	<u>₩ 429,240</u>	<u>(478,196)</u>

- (2) Income tax recognized directly in other comprehensive income for the years ended December 31, 2016 and 2015 is as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Gain (loss) on valuation of available-for-sale financial assets	₩ 57,939	139,037
Gains on valuation of derivatives	(1,619)	(14,136)
Defined benefit plan actuarial gain (loss)	(24,779)	33,669
Hybrid bonds interest	-	(225)
Gain on disposal of treasury stocks	-	(4,283)
Gains on revaluation of Property, plant and equipment	(609,160)	-
Others	(8)	76
Income tax recognized directly in other comprehensive income	<u>₩ (577,627)</u>	<u>154,138</u>

Income taxes related to gains/losses on valuation of available-for-sale financial assets, gains/losses on valuation of derivatives and defined benefit plan actuarial gains/losses and others are recognized in other comprehensive income.

- (3) Reconciliation of effective tax rate for the years ended December 31, 2016 and 2015 is as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Profit (loss) before income tax	₩ 1,085,909	(1,841,419)
Income tax using the each component's statutory tax rate	376,683	(444,506)
Adjustment for:		
- Tax effect of non-deductible expenses	34,601	16,886
- Tax effect of non-taxable income	(68,299)	(29,301)
- Tax credits	(15,373)	(11,361)
- Current adjustments for prior periods	7,373	(80,560)
- Others	94,255	70,646
Income tax expense (benefit)	<u>₩ 429,240</u>	<u>(478,196)</u>
Effective tax rate	<u>% 39.53</u>	<u>(*)</u>

(\*) As income tax benefit is occurred, the Group did not calculate effective tax rate.

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**40. Income Tax Expense (Benefit), Continued**

(4) Deferred tax expenses by origination and reversal of deferred assets and liabilities and temporary differences for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Deferred assets at the end of the period	₩ 445,510	1,089,437
Deferred assets at the beginning of the period	1,089,437	393,481
Others	<u>(2,705)</u>	<u>1,694</u>
Deferred tax effects by origination and reversal of temporary differences	₩ <u>641,222</u>	<u>(694,262)</u>

(5) As of December 31, 2016, the tax effects of temporary difference were calculated using the enacted statutory tax rate for the fiscal period when the temporary differences are expected to be reversed.

(6) The Group sets off a deferred tax asset against a deferred tax liability only if it relates to income taxes levied by the same taxation authority and has a legally enforceable right to set off current tax assets against current tax liabilities.

(7) Changes in deferred tax assets (liabilities) for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>Beginning balance</u>	<u>Change</u>	<u>Ending balance</u>
<b>2016</b>			
Investments in subsidiaries and associates	₩ (167,663)	48,774	(118,889)
Available-for-sale financial assets	83,440	(68,003)	15,437
Reserve for research and human development	(80,909)	45,107	(35,802)
Trade and other receivables	311,620	50,107	361,727
Asset revaluation	(390,661)	(202,739)	(593,400)
Property, plant and equipment	(80,952)	(41,983)	(122,935)
Derivatives	13,227	13,809	27,036
Accrued expenses	51,394	(13,564)	37,830
Provisions	298,042	(35,657)	262,385
Others	1,051,899	(439,778)	612,121
	₩ <u>1,089,437</u>	<u>(643,927)</u>	<u>445,510</u>
<b>2015</b>			
Investments in subsidiaries and associates	₩ (289,346)	121,683	(167,663)
Available-for-sale financial assets	22,654	60,786	83,440
Reserve for research and human development	(111,038)	30,129	(80,909)
Trade and other receivables	292,496	19,124	311,620
Asset revaluation	(394,246)	3,585	(390,661)
Property, plant and equipment	(57,875)	(23,077)	(80,952)
Derivatives	11,248	1,979	13,227
Accrued expenses	51,621	(227)	51,394
Provisions	488,574	(190,532)	298,042
Others	379,393	672,506	1,051,899
	₩ <u>393,481</u>	<u>695,956</u>	<u>1,089,437</u>

(8) Since it is probable that future taxable profit will be available against which the unused tax losses can be utilized, the Group recognized the related deferred tax assets.

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**41. Earnings (Loss) per Share**

(1) Basic earnings (loss) per share for the years ended December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>		<u>2016</u>	<u>2015</u>
Profit (loss) attributable to owners of the Company	₩	545,121	(1,349,911)
Interest of hybrid bonds		(21,000)	(20,293)
Weighted average number of ordinary shares outstanding <i>(In thousands of shares)</i>		<u>59,780</u>	<u>56,275</u>
Earnings (loss) per share <i>(In won)</i>	₩	<u>8,768</u>	<u>(24,349)</u>

(2) The weighted average numbers of ordinary shares for the year ended December 31, 2016 and 2015 are as follows:

<i>(In shares)</i>	<u>2016</u>		
	<u>Number of shares outstanding</u>	<u>Weighted average</u>	<u>Weighted average number of shares outstanding</u>
Beginning balance	59,779,523	366/366	59,779,523
Weighted average numbers of ordinary shares	59,779,523		59,779,523

<i>(In shares)</i>	<u>2015</u>		
	<u>Number of shares outstanding</u>	<u>Weighted average</u>	<u>Weighted average number of shares outstanding</u>
Beginning balance	55,225,440	365/365	55,225,440
Disposal of treasury stocks	1,167,690	287/365	918,156
	41,232	268/365	30,275
	1,443,980	22/365	87,034
	202,487	8/365	4,438
	1,698,694	2/365	9,308
Weighted average numbers of ordinary shares	59,779,523		56,274,651

(3) Since there are no dilutive potential common shares for the years ended December 31, 2016 and 2015, diluted earnings per share have not been calculated.

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**42. Cash Generated from Operations**

(1) Cash generated from operations for the years ended December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>
<b>Profit (loss) for the year</b>	₩ 656,668	(1,363,223)
<b>Adjustments for:</b>		
Salaries	-	193,405
Post-employment benefit costs	140,394	252,045
Depreciation	785,202	961,561
Amortization	106,664	106,679
Bad debt expenses	360,921	587,708
Finance income	(412,447)	(818,163)
Finance costs	988,815	1,699,471
Other non-operating income	(404,684)	(975,304)
Other non-operating expenses	546,147	243,828
Share of profit of equity accounted investees	(69,167)	55,784
Income tax expense (benefit)	429,240	(478,196)
Finance income (sales)	(305,498)	(451,305)
Finance costs (cost of sales)	235,654	358,157
<b>Changes in assets and liabilities:</b>		
Short-term financial assets	182,920	106,168
Trade receivables	(316,983)	(843,447)
Other receivables	55,170	693,741
Due from customers for contract work	1,334,778	215,982
Inventories	515,508	1,265,902
Derivatives	(555,508)	(1,074,247)
Firm commitments	460,210	261,309
Other current assets	111,822	1,296,120
Long-term financial assets	(5,337)	(45)
Long-term trade receivables	183,781	(2,627)
Long-term other receivables	-	2,167
Other non-current assets	3,246	2,601
Short-term financial liabilities	507,786	11,564
Trade payables	(236,399)	(716,202)
Other payables	22,108	(36,231)
Advances from customers	(131,513)	(141,703)
Due to customers for contract work	(1,981,375)	(1,763,926)
Other current liabilities	(5,186)	(21,188)
Long-term other payables	(27,589)	(6,291)
Benefits paid	(580,898)	(350,084)
Succession of benefits	10,379	13,111
Plan assets	216,577	(43,784)
Long-term provisions	217,161	216,748
Other non-current liabilities	11,243	(1,259)
	<u>₩ 2,393,142</u>	<u>820,049</u>

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**42. Cash Generated from Operations, Continued**

(2) Significant transactions that do not involve cash inflows and outflows as of 2016 and 2015 are as follow:

<i>(In millions of won)</i>	<b>2016</b>	<b>2015</b>
Reclassification of construction-in-progress	₩ 1,441,735	737,156
Reclassification of investment property to Property, plant and equipment	121,231	-
Reclassification of investment property and Property, plant and equipment to non-current assets held for sales	155,744	-
Reclassification of joint venture investment to non-current assets held for sales.	15,236	-
Reclassification of current portion of bond and borrowings	3,826,036	1,751,276
Increase (decrease) of change in fair value of available-for-sale financial assets	(178,312)	(433,382)
Reclassification of accrued expense and treasury stocks due to payment of treasury stocks in accordance with wage and collective bargaining	-	141,189
Reclassification investments in associates to available-for-sale financial assets	-	60,675
Revaluation of property, plant and equipment	1,913,856	-



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**43. Categories of Financial Instruments and Income and Costs by Categories**

(1) Categories of financial instruments as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

	<b>2016</b>									
	<b>Cash and cash equivalents</b>	<b>Held-for-trading investments</b>	<b>Financial assets at fair value through profit or loss</b>	<b>Available-for-sale financial assets</b>	<b>Loans and receivables</b>	<b>Derivative assets</b>	<b>Held-for-trading liabilities</b>	<b>Financial liabilities at fair value through profit or loss</b>	<b>Financial liabilities measured at amortized cost</b>	<b>Derivative liabilities</b>
Cash and cash equivalents	₩ 4,326,868	-	-	-	-	-	-	-	-	-
Short-term financial assets	-	3,549,487	232,091	340,559	570,995	-	-	-	-	-
Trade and other receivables	-	-	-	-	5,189,256	-	-	-	-	-
Due from customers for contract work	-	-	-	-	5,275,520	-	-	-	-	-
Derivative assets (current)	-	-	-	-	-	10,548	-	-	-	-
Long-term financial assets	-	9,490	269,039	221,802	2,236	-	-	-	-	-
Long-term trade and other receivables	-	-	-	-	347,765	-	-	-	-	-
Derivative assets (non-current)	-	-	-	-	-	75	-	-	-	-
Short-term financial liabilities	-	-	-	-	-	-	1,088,045	59,525	10,911,247	-
Trade and other payables	-	-	-	-	-	-	-	-	5,615,010	-
Derivative liabilities (current)	-	-	-	-	-	-	-	-	-	436,361
Long-term financial liabilities	-	-	-	-	-	-	112,507	824,948	5,538,275	-
Long-term trade and other liabilities	-	-	-	-	-	-	-	-	69,858	-
Derivative liabilities (non-current)	-	-	-	-	-	-	-	-	-	59,009
	<b>₩ 4,326,868</b>	<b>3,558,977</b>	<b>501,130</b>	<b>562,361</b>	<b>11,385,772</b>	<b>10,623</b>	<b>1,200,552</b>	<b>884,473</b>	<b>22,134,390</b>	<b>495,370</b>

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**43. Categories of Financial Instruments and Income and Costs by Categories, Continued**

(1) Categories of financial instruments as of December 31, 2016 and 2015 are summarized as follows, continued:

(In millions of won)

	2015									
	Cash and cash equivalents	Held-for-trading investments	Financial assets at fair value through profit or loss	Available-for-sale financial assets	Loans and receivables	Derivative assets	Held-for-trading liabilities	Financial liabilities at fair value through profit or loss	Financial liabilities measured at amortized cost	Derivative liabilities
Cash and cash equivalents	₩ 3,105,303	-	-	-	-	-	-	-	-	-
Short-term financial assets	-	3,726,853	288,053	217,832	394,489	-	-	-	-	-
Trade and other receivables	-	-	-	-	5,340,950	-	-	-	-	-
Due from customers for contract work	-	-	-	-	6,599,947	-	-	-	-	-
Derivative assets (current)	-	-	-	-	-	41,756	-	-	-	-
Long-term financial assets	-	31,749	268,974	886,068	2,692	-	-	-	-	-
Long-term trade and other receivables	-	-	-	-	589,100	-	-	-	-	-
Derivative assets (non-current)	-	-	-	-	-	9,375	-	-	-	-
Short-term financial liabilities	-	-	-	-	-	-	305,463	91,339	9,105,681	-
Trade and other payables	-	-	-	-	-	-	-	-	5,874,330	-
Derivative liabilities (current)	-	-	-	-	-	-	-	-	-	571,856
Long-term financial liabilities	-	-	-	-	-	-	210,203	942,507	8,053,165	-
Long-term trade and other liabilities	-	-	-	-	-	-	-	-	98,728	-
Derivative liabilities (non-current)	-	-	-	-	-	-	-	-	-	303,488
	₩ 3,105,303	3,758,602	557,027	1,103,900	12,927,178	51,131	515,666	1,033,846	23,131,904	875,344

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**43. Categories of Financial Instruments and Income and Costs by Categories, Continued**

(2) Financial instruments income and costs by categories for the years ended December 31, 2016 and 2015 are as follows:

(In millions of won)

	Profit (loss) for the year		Other comprehensive income (loss)		Interest income and interest expense(*)		Fee income and fee expense		Impairment loss	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Cash and cash equivalents ₩	37,533	85,378	-	-	44,886	43,159	-	-	-	-
Held for trading investments	106,857	167,790	-	-	99,385	112,305	-	-	-	-
Financial assets at fair value through profit or loss	6,792	(22,213)	-	-	-	-	-	-	-	-
Available-for-sale financial assets	76,299	165,628	(178,312)	(433,382)	5,317	5,764	-	1,269	(120,510)	(261,336)
Loans and receivables	(180,891)	(249,372)	-	-	55,520	87,586	2,702	5,414	(354,856)	(606,308)
Held for trading liabilities	20,354	(139,327)	-	-	(1,094)	-	-	-	-	-
Financial liabilities at fair value through profit or loss	(130,181)	114,468	-	-	(6,000)	-	-	-	-	-
Financial liabilities measured at amortized cost	(638,182)	(865,033)	-	-	(424,838)	(453,249)	-	-	-	-
Derivatives	(159,214)	(929,464)	1,819	44,423	-	-	-	-	-	-

(\*) Interest income and interest expense includes interest income and interest expense arising from effective interest rate amortization.

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**44. Financial Instruments**

(1) Credit risk

(i) Exposure to credit risk

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk as of December 31, 2016 and 2015 is as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Cash and cash equivalents	₩ 4,324,938	3,103,952
Held-for-trading investments	3,558,977	3,758,602
Financial assets at fair value through profit or loss	501,130	557,028
Available-for-sale financial assets	399,958	332,130
Loans and receivables	11,385,772	12,927,177
Derivative assets	10,624	51,130
	<u>₩ 20,181,399</u>	<u>20,730,019</u>

The maximum exposure to credit risk for financial guarantee contracts is ₩27,191 million as of December 31, 2016 (see Note 47).

The maximum exposure to credit risk for loans and receivables at the reporting date by geographic region is as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Korea	₩ 2,963,831	2,778,795
North America	572,499	934,777
Asia	2,797,075	2,772,194
Europe	2,896,292	3,172,249
Others	2,156,075	3,269,162
	<u>₩ 11,385,772</u>	<u>12,927,177</u>

(ii) Impairment loss

The aging of loans and receivables and the related allowance for impairment as of December 31, 2016 and 2015 are as follows:

<i>(In millions of won)</i>	<u>2016</u>		<u>2015</u>	
	<u>Gross</u>	<u>Impairment</u>	<u>Gross</u>	<u>Impairment</u>
Not past due	₩ 10,436,487	(271,609)	12,020,486	(467,196)
Past due up to 6 months	1,055,936	(255,355)	828,387	(27,515)
Past due 6~12 months	182,103	(28,228)	219,795	(65,784)
Past due 1~3 years	713,799	(578,102)	1,013,507	(707,644)
More than three years	872,329	(741,588)	500,515	(387,373)
	<u>₩ 13,260,654</u>	<u>(1,874,882)</u>	<u>14,582,690</u>	<u>(1,655,512)</u>

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**44. Financial Instruments, Continued**

(1) Credit risk, continued

(ii) Impairment loss, continued

The movement in the allowance for impairment in respect of loans and receivables during the years ended December 31, 2016 and 2015 is as follows:

<i>(In millions of won)</i>		<b>2016</b>	<b>2015</b>
Beginning balance	₩	1,655,512	1,481,994
Impairment loss recognized		376,608	613,373
Reversal of allowance accounts		(21,752)	(7,065)
Write-offs and others		(71,876)	(67,587)
Others		(63,610)	(365,203)
Ending balance	₩	1,874,882	1,655,512

The allowance accounts in respect of loans and receivables is used to record impairment losses unless the Group is satisfied that all collection measures have been exhausted. At that point, the amounts are considered irrecoverable and are written off against the financial asset directly.

For the years ended December 31, 2016 and 2015, impairment losses and impairment reversals that occur in other receivables, recorded as other non-operating income are as follows:

<i>(In millions of won)</i>		<b>2016</b>	<b>2015</b>
Other bad debt expense	₩	335	8,551
Reversal of other allowance doubtful accounts		(1,389)	(106)
	₩	(1,054)	8,445

(iii) The analysis of the aging of financial assets that are past due as of December 31, 2016 and 2015 but not impaired is summarized as follows:

<i>(In millions of won)</i>		<b>2016</b>				
		<b>Carrying amount</b>	<b>6 months or less</b>	<b>6~12 months</b>	<b>1~3 years</b>	<b>More than 3 years</b>
Loans and receivables	₩	1,220,894	800,582	153,875	135,697	130,740

<i>(In millions of won)</i>		<b>2015</b>				
		<b>Carrying amount</b>	<b>6 months or less</b>	<b>6~12 months</b>	<b>1~3 years</b>	<b>More than 3 years</b>
Loans and receivables	₩	1,368,181	795,167	154,012	305,861	113,141

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44. Financial Instruments, Continued

(2) Liquidity risk

- (i) The contractual maturities of financial liabilities, including estimated interest payments and excluding the impact of netting agreements as of December 31, 2016 are summarized as follows:

(In millions of won)

		2016					
		Carrying amount	Contractual cash flow	6 months or less	6~12 months	1~3 years	More than 3 years
<b>Non-derivative financial liabilities:</b>							
Held for trading liabilities	₩	1,891,006	1,891,005	1,026,134	39,923	702,894	122,054
Bank loans		11,715,186	11,994,835	5,565,550	3,883,186	1,735,517	810,582
Bond issues		4,138,239	4,350,636	246,391	1,075,597	2,338,791	689,857
Exchangeable bond		236,910	267,804	-	-	-	267,804
Trade and other payables		5,684,868	6,074,974	5,916,457	88,954	69,432	131
Deposit liabilities		344,688	344,688	344,688	-	-	-
Others		14,499	14,499	14,499	-	-	-
<b>Derivative financial liabilities:</b>							
Derivative contracts used for hedging:							
Outflow		495,370	505,186	306,088	136,441	62,001	656
Other derivative contracts:							
Outflow		194,019	195,206	50,975	31,673	110,849	1,709
	₩	<u>24,714,785</u>	<u>25,638,833</u>	<u>13,470,782</u>	<u>5,255,774</u>	<u>5,019,484</u>	<u>1,892,793</u>

The maximum amount of assurance for financial guarantee contracts is ₩27,191 million as of December 31, 2016 (see Note 47).

It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amounts.

- (ii) The contractual maturities of financial liabilities, including estimated interest payments and excluding the impact of netting agreements as of December 31, 2015 are summarized as follows:

(In millions of won)

		2015					
		Carrying amount	Contractual cash flow	6 months or less	6~12 months	1~3 years	More than 3 years
<b>Non-derivative financial liabilities:</b>							
Held for trading liabilities	₩	1,332,052	1,368,177	349,423	40,123	810,605	168,026
Bank loans		12,403,767	12,825,521	7,326,248	1,327,468	3,882,835	288,970
Bond issues		4,226,567	4,539,107	407,861	153,853	2,238,944	1,738,449
Exchangeable bond		221,762	259,715	-	-	259,715	-
Trade and other payables		5,973,058	6,077,910	5,913,791	54,088	109,578	453
Deposit liabilities		296,592	296,592	296,592	-	-	-
Others		10,158	10,189	10,174	15	-	-
<b>Derivative financial liabilities:</b>							
Derivative contracts used for hedging:							
Outflow		875,344	903,283	348,252	235,515	312,255	7,261
Other derivative contracts:							
Outflow		217,460	217,460	6,671	586	174,079	36,124
	₩	<u>25,556,760</u>	<u>26,497,954</u>	<u>14,659,012</u>	<u>1,811,648</u>	<u>7,788,011</u>	<u>2,239,283</u>

The maximum amount of assurance for financial guarantee contracts is ₩35,160 million as of December 31, 2015.

It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amounts.

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**44. Financial Instruments, Continued**

(2) Liquidity risk, continued

(iii) The periods in which the cash flows associated with cash flow hedges are expected to occur as of December 31, 2016 and 2015 are summarized as follows:

(In millions of won)

		2016					
		Carrying amount	Expected cash flows	6 months or less	6~12 months	1~3 years	More than 3 years
<b>Forward exchange contracts</b>							
Assets	₩	414	414	414	-	-	-
Liabilities		(17,827)	(18,152)	(12,916)	(3,010)	(2,225)	(1)
<b>Product forward</b>							
Assets		9,583	9,583	9,583	-	-	-
Liabilities		(11,305)	(11,305)	(11,305)	-	-	-
	₩	(19,135)	(19,460)	(14,224)	(3,010)	(2,225)	(1)

(In millions of won)

		2015					
		Carrying amount	Expected cash flows	6 months or less	6~12 months	1~3 years	More than 3 years
<b>Forward exchange contracts</b>							
Assets	₩	10,208	10,304	9,437	519	348	-
Liabilities		(31,374)	(31,812)	(22,245)	(8,171)	(1,396)	-
<b>Product forward</b>							
Assets		26,673	26,673	26,673	-	-	-
Liabilities		(25,790)	(25,790)	(25,790)	-	-	-
<b>Interest rate swaps</b>							
Liabilities		(2,576)	(2,576)	(760)	(691)	(1,125)	-
	₩	(22,859)	(23,201)	(12,685)	(8,343)	(2,173)	-

(3) Currency risk

(i) Exposure to currency risk

The Group's exposure to foreign currency risk based on notional amounts as of December 31, 2016 and 2015 is as follows:

(In millions of won)

		2016					
		USD	EUR	CNY	JPY	Others	Total
Cash and cash equivalents	₩	604,611	4,113	887	208	202,234	812,053
Loans and receivables		7,919,274	100,363	25,308	1,161	194,871	8,240,977
Trade and other payables		(2,102,177)	(209,202)	(1,629)	(9,180)	(235,476)	(2,557,664)
Borrowings		(4,181,211)	(113,720)	-	(75,326)	(748)	(4,371,005)
Gross statement of financial position exposure		2,240,497	(218,446)	24,566	(83,137)	160,881	2,124,361
Derivative contracts		(537,574)	(3,173)	-	22	-	(540,725)
Net exposure	₩	1,702,923	(221,619)	24,566	(83,115)	160,881	1,583,636

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**44. Financial Instruments, Continued**

- (3) Currency risk, continued  
(i) Exposure to currency risk, continued

(In millions of won)

	2015					
	USD	EUR	CNY	JPY	Others	Total
Cash and cash equivalents	₩ 863,414	347	1,787	213	162,085	1,027,846
Loans and receivables	10,613,112	145,190	8,863	1,280	635,621	11,404,066
Trade and other payables	(2,627,678)	(122,684)	(520)	(8,686)	(382,098)	(3,141,666)
Borrowings	(4,124,657)	(153,173)	-	(88,705)	(6,773)	(4,373,308)
Gross statement of financial position exposure	4,724,191	(130,320)	10,130	(95,898)	408,835	4,916,938
Derivative contracts	(816,891)	(7,593)	-	(22)	94	(824,412)
Net exposure	₩ 3,907,300	(137,913)	10,130	(95,920)	408,929	4,092,526

Significant exchange rates applied for the years ended December 31, 2016 and 2015 are as follows:

(In won)

	Average rate		Spot rate	
	2016	2015	2016	2015
USD	₩ 1,160.50	1,131.49	1,208.50	1,172.00
EUR	1,283.30	1,255.16	1,267.60	1,280.53
CNY	174.40	179.48	173.26	178.48
JPY(100)	1,068.17	934.56	1,036.81	972.01

- (ii) Sensitivity analysis

A weakening of the won, as indicated below, against the USD, EUR, CNY, JPY and other currencies as of December 31, 2016 and 2015 would have increased (decreased) profit or loss by the amounts shown below. This analysis is based on foreign currency exchange rate variances that the Group considered to be reasonably possible at the reporting date. The analysis assumes that all other variables, in particular interest rates, remain constant. The analysis is performed on the same basis for 2015. The changes in profit or loss are as follows:

(In millions of won)

	Profit or loss	
	2016	2015
USD (3 percent strengthening)	₩ 51,088	117,219
EUR (3 percent strengthening)	(6,649)	(4,137)
CNY (3 percent strengthening)	737	304
JPY (3 percent strengthening)	(2,494)	(2,878)

A strengthening of the won against the above currencies as of December 31, 2016 and 2015 would have had the equal but opposite effect on the above currencies to the amounts shown above assuming all other variables remain constant.



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**44. Financial Instruments, Continued**

(4) Interest rate risk

(i) The interest rate profile of the Group's interest-bearing financial instruments as of December 31, 2016 and 2015 is as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>
<b>Fixed rate instruments:</b>		
Financial assets	₩ 7,376,097	6,772,907
Financial liabilities	(12,140,688)	(13,004,075)
	<u>₩ (4,764,591)</u>	<u>(6,231,168)</u>
<b>Variable rate instruments:</b>		
Financial assets	₩ 1,546,384	1,233,328
Financial liabilities	(4,095,403)	(3,896,007)
	<u>₩ (2,549,019)</u>	<u>(2,662,679)</u>

(ii) Fair value sensitivity analysis for fixed rate instruments.

The Group doesn't have recognized fixed rate instruments as financial instruments at fair value recognized through profit or loss, and also, has not designated derivatives such as interest rate swap contracts as hedging instruments of hedge accounting. Therefore, changes in interest rate have not affected profit or loss.

(iii) Interest rate risk arises from savings and borrowings with floating interest rates. The Group properly hedges the risk borrowings with floating interest rates through interest rate swaps. Interest rate swap contracts as of December 31, 2016 are as follows:

(In millions of won)

<u>Counterparties</u>	<u>Amount</u>	<u>Interest rate</u>	<u>Expiration date</u>
Mirae asset Daewoo Co.,Ltd. and others	540,000	Receives floating interest rate Pays fixed interest rate	CD (91 days) 1.47%~2.86%
			2018.12.06

(iv) Cash flow sensitivity analysis for variable rate instruments

A change of 100 basis points in interest rates as of December 31, 2016 and 2015 would have increased (decreased) equity and profit or loss by the amounts shown below. This analysis assumes that all other variables, in particular foreign currency rates, remain constant. The analysis is performed on the same basis for 2015. The changes in equity and profit or loss are as follows:

(In millions of won)

	<u>Profit or loss</u>		<u>Equity</u>	
	<u>100 bp increase</u>	<u>100 bp decrease</u>	<u>100 bp increase</u>	<u>100 bp decrease</u>
<b>2016</b>				
Variable rate instruments	₩ (25,490)	25,490	-	-
Interest rate swaps	5,400	(5,400)	-	-
Net cash flow sensitivity	<u>₩ (20,090)</u>	<u>20,090</u>	<u>-</u>	<u>-</u>
<b>2015</b>				
Variable rate instruments	₩ (26,627)	26,627	-	-
Interest rate swaps	1,800	(1,800)	500	(500)
Net cash flow sensitivity	<u>₩ (24,827)</u>	<u>24,827</u>	<u>500</u>	<u>(500)</u>

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44. Financial Instruments, Continued

(5) Fair values

(i) Fair values versus carrying amounts

The fair values of financial assets and liabilities, together with the carrying amounts shown in the statement of financial position, are as follows:

(In millions of won)

	2016		2015	
	Carrying amounts	Fair value	Carrying amounts	Fair value
<b>Assets carried at fair value:</b>				
Held for trading investments	₩ 3,558,977	3,558,977	3,758,602	3,758,602
Financial assets at fair value through profit or loss	501,130	501,130	557,027	557,027
Available-for-sale financial assets(*)	562,361	562,361	1,103,900	1,103,900
Derivative assets	10,623	10,623	51,131	51,131
	<u>₩ 4,633,091</u>	<u>4,633,091</u>	<u>5,470,660</u>	<u>5,470,660</u>
<b>Cash and cash equivalents</b>	₩ 4,326,868	4,326,868	3,105,303	3,105,303
<b>Assets carried at amortized cost:</b>				
Loans and receivables	₩ 11,385,772	11,385,772	12,927,178	12,927,178
<b>Liabilities carried at fair value:</b>				
Held for trading liabilities	₩ 1,200,552	1,200,552	515,666	515,666
Financial liabilities at fair value through profit or loss	884,473	884,473	1,033,846	1,033,846
Derivative liabilities	495,370	495,370	875,344	875,344
	<u>₩ 2,580,395</u>	<u>2,580,395</u>	<u>2,424,856</u>	<u>2,424,856</u>
<b>Liabilities carried at amortized cost:</b>				
Bank loans	₩ 11,698,143	11,698,143	12,403,767	12,403,767
Bond issues	4,138,239	4,138,239	4,226,567	4,226,567
Exchangeable bond	236,910	236,910	221,762	221,762
Trade and other payables	5,684,868	5,684,868	5,973,058	5,973,058
Deposit liabilities	344,688	344,688	296,592	296,592
Finance leases liabilities	17,043	17,043	-	-
Others	14,499	14,499	10,158	10,158
	<u>₩ 22,134,390</u>	<u>22,134,390</u>	<u>23,131,904</u>	<u>23,131,904</u>

(\*) The amounts of available-for-sale financial assets that were recorded at their acquisition cost because the fair values cannot be reliably estimated as of December 31, 2016 and 2015 are ₩144,466 million and ₩64,839 million, respectively.

(ii) Interest rates used for determining fair value

The interest rates used to discount estimated cash flows, when applicable, are based on the government yield curve at the reporting date plus an adequate credit spread. The interest rates applied as of December 31, 2016 and 2015 are as follows:

	2016	2015
Available-for-sale financial assets	4.94%~17.32%	1.62%~12.20%
Derivatives	0.74%~5.36%	1.07%~5.26%

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**44. Financial Instruments, Continued**

(5) Fair values, continued

(iii) Fair value hierarchy

The Group classified fair value measurements in accordance with the fair value hierarchy which reflects the significance of the inputs used in fair value measurements.

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The financial instruments carried at fair value, by fair value hierarchy as of December 31, 2016 and 2015 are as follows:

*(In millions of won)*

		<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
<b>2016</b>					
Held for trading investments	₩	144,699	3,404,752	9,526	3,558,977
Financial assets at fair value					
through profit or loss		-	209,005	292,125	501,130
Available-for-sale financial assets		34,582	282,754	100,359	417,695
Derivative assets		-	10,623	-	10,623
Held for trading liabilities		12,709	1,068,219	119,624	1,200,552
Financial liabilities at fair value					
through profit or loss		-	-	884,473	884,473
Derivative liabilities		-	495,370	-	495,370
<b>2015</b>					
Held for trading investments		1,686,898	2,040,256	31,448	3,758,602
Financial assets at fair value					
through profit or loss		-	178,189	378,838	557,027
Available-for-sale financial assets		653,915	273,275	111,871	1,039,061
Derivative assets		-	51,131	-	51,131
Held for trading liabilities		177,987	163,287	174,392	515,666
Financial liabilities at fair value					
through profit or loss		-	-	1,033,846	1,033,846
Derivative liabilities		-	875,344	-	875,344

The fair value of financial instruments traded in active markets is based on quoted market prices at the end of reporting period. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Group is the current bid price. These instruments are included in level 1. Instruments included in level 1 are comprised primarily of listed equity investments.

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**44. Financial Instruments, Continued**

(5) Fair values, continued

(iii) Fair value hierarchy, continued

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fairly value an instrument are observable, the instrument is included in level 2. If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3.

Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments.
- The fair value of forward foreign exchange contracts is determined using forward exchange rates at the end of reporting period, with the resulting value discounted back to present value.
- Other techniques, such as discounted cash flow analysis, are used to determine fair value for the remaining financial instruments.

Unlisted equity securities, investments in capital and others investments in companies newly established or having no comparative company are excluded from the fair value valuation because their fair value cannot be measured reliably.

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**44. Financial Instruments, Continued**

- (6) The valuation of the fair value hierarchy Level 2 and inputs description.  
The valuation techniques and input variables used in measuring Level 2 fair values as of December 31, 2016 and 2015 are as follows:

(In millions of won)

	<u>2016</u>	<u>2015</u>	<u>Valuation techniques</u>	<u>Input variables</u>
<b>Held-for-trading investments:</b>				
Debt securities	₩ 3,400,620	2,030,404	Cash flow discount model and others	Discount rate and others
Beneficiary certificates	4,090	8,109	Net asset value, cash flow discount model and others	Discount rate and others
Derivatives	42	1,743	Cash flow discount model and others	Currency forward price, discount rate and others
	<u>3,404,752</u>	<u>2,040,256</u>		
<b>Financial assets at fair value through profit or loss:</b>				
Others	209,005	178,189	Net asset value, cash flow discount model and others	Discount rate and others
<b>Available-for-sale financial assets:</b>				
Debt securities	213,288	183,747	Cash flow discount model and others	Discount rate and others
Beneficiary certificates	17,500	17,150	Market approach, net asset value, Cash flow discount model and others	CER future price, discount rate and others
Others	51,966	72,378	Net asset value and others	
	<u>282,754</u>	<u>273,275</u>		
<b>Derivatives assets:</b>				
Derivatives	10,623	51,131	Cash flow discount model and others	Currency forward price, discount rate and others
<b>Held-for-trading liabilities:</b>				
Sale of securities	997,580	120,458	Cash flow discount model and others	Discount rate and others
Derivatives	58,004	6,705	Cash flow discount model and others	Currency forward price, discount rate and others
Conversion rights to exchangeable bond	12,635	36,124	Binomial model	Volatility, discount rate and others
	<u>1,068,219</u>	<u>163,287</u>		
<b>Derivatives liabilities:</b>				
Derivatives	495,370	875,344	Cash flow discount model and others	Currency forward price, discount rate and others

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**44. Financial Instruments, Continued**

- (7) Level 3 fair values  
(i) Changes in assets and liabilities which are classified as Level 3 fair values among assets and liabilities measured at fair value for the years ended December 31, 2016 and 2015 are as follows

*(In millions of won)*

	<b>2016</b>						
	<b>Beginning Balance</b>	<b>Acquisitions</b>	<b>Disposals</b>	<b>Transfer to Level 3</b>	<b>Transfer from Level 3</b>	<b>Valuation</b>	<b>Ending Balance</b>
Held-for-trading investments	₩ 31,448	1,710	(8,452)	-	-	(15,180)	9,526
Financial assets at fair value through profit or loss	378,838	256,224	(333,966)	-	-	(8,971)	292,125
Available-for-sale financial assets	111,871	7,132	(13,240)	(17)	9,460	(14,847)	100,359
Held-for-trading liabilities	174,392	4,187	(14,549)	-	-	(44,406)	119,624
Financial liabilities at fair value through profit or loss	1,033,846	429,396	(612,300)	-	-	33,531	884,473

*(In millions of won)*

	<b>2015</b>						
	<b>Beginning Balance</b>	<b>Acquisitions</b>	<b>Disposals</b>	<b>Transfer to Level 3</b>	<b>Transfer from Level 3</b>	<b>Valuation</b>	<b>Ending Balance</b>
Held-for-trading investments	₩ 32,082	31,123	(24,588)	-	-	(7,169)	31,448
Financial assets at fair value through profit or loss	252,922	460,058	(304,100)	-	-	(30,042)	378,838
Available-for-sale financial assets	73,757	3,107	(8,510)	44,790	-	(1,273)	111,871
Held-for-trading liabilities	142,500	45,836	(109,780)	-	-	95,836	174,392
Financial liabilities at fair value through profit or loss	1,075,508	1,364,766	(1,275,997)	-	-	(130,431)	1,033,846

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**44. Financial Instruments, Continued**

(7) Level 3 fair values, continued

(ii) The valuation techniques and input variables used in measuring Level 3 fair values as of December 31, 2016 and 2015 are as follows:

(In millions of won)

	<u>2016</u>	<u>Valuation techniques</u>	<u>Input variables</u>	<u>Significant unobservable input variables</u>	<u>Ranges of significant unobservable input variables</u>
<b>Held-for-trading investments:</b>					
Derivatives	₩ 9,526	Black-Scholes Models and others	Volatility and others	Underlying asset price, volatility of underlying asset and others	0.102022 ~ 0.489925
<b>Financial asset at fair value through profit or loss:</b>					
Others	292,125	Black-Scholes Models and others	Volatility and others	Underlying asset price, volatility of underlying asset and others	0.102022 ~ 0.489925
<b>Available-for-sale financial assets:</b>					
Equity securities	75,250	Cash flow discount model, Guideline Public Company Method	Discount rate, Market multiple and others	Discount rate, market multiples and others	4.94% ~ 17.32% 1.76 ~ 15.86
Beneficiary certificates	19,098	Base price(*)	-	-	-
Others	6,011	Cash flow discount model	Discount rate and others	Discount rate and others	4.94% ~ 17.32%
	<u>100,359</u>				
<b>Financial liabilities held for trading:</b>					
Derivatives	119,624	Black-Scholes model and others	Volatility and others	Underlying asset price, volatility of underlying asset and others	0.102022 ~ 0.489925
<b>Financial liabilities at fair value through profit or loss:</b>					
Others	884,473	Black-Scholes model and others	Volatility and others	Underlying asset price, variability of underlying asset	0.102022 ~ 0.489925

(\*)The price has been calculated by dividing net asset value which is computed by subtracting total liabilities from total assets with entire shares the Group has held.

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**44. Financial Instruments, Continued**

(7) Level 3 fair values, continued

(ii) The valuation techniques and input variables used in measuring Level 3 fair values as of December 31, 2016 and 2015 are as follows, continued:

(In millions of won)

	<u>2015</u>	<u>Valuation techniques</u>	<u>Input variables</u>	<u>Significant unobservable input variables</u>	<u>Ranges of significant unobservable input variables</u>
<b>Held-for-trading investments:</b>					
Derivatives	₩ 31,448	Black-Scholes Models and others	Volatility and others	Underlying asset price, volatility of underlying asset and others	0.145230 ~ 0.548749
<b>Financial asset at fair value through profit or loss:</b>					
Others	378,838	Black-Scholes Models and others	Volatility and others	Underlying asset price, volatility of underlying asset and others	0.145230 ~ 0.548749
<b>Available-for-sale financial assets:</b>					
Equity securities	71,578	Cash flow discount model, Guideline Public Company Method	Discount rate, Market multiple and others	Discount rate, market multiples and others	3.84%~13.92% 2.41
Beneficiary certificates	32,125	Base price(*)	-	-	-
Others	8,168	Cash flow discount model	Discount rate and others	Discount rate and others	4.53%~9.83%
	<u>111,871</u>				
<b>Financial liabilities held for trading:</b>					
Derivatives	174,392	Black-Scholes model and others	Volatility and others	Underlying asset price, volatility of underlying asset and others	0.145230 ~ 0.548749
<b>Financial liabilities at fair value through profit or loss:</b>					
Others	1,033,846	Black-Scholes model and others	Volatility and others	Underlying asset price, variability of underlying asset	0.145230 ~ 0.548749

(\*)The price has been calculated by dividing net asset value which is computed by subtracting total liabilities from total assets with entire shares the Group has held.



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**44. Financial Instruments, Continued**

(7) Level 3 fair values, continued

(iii) Effects by changes in unobservable input variables on fair value measurement of financial assets and liabilities as of December 31, 2016 and 2015 are as follows:

(In millions of won)

	Unobservable input variables	Effects by changes in unobservable input variables on fair value measurement	Measuring methods of the effect of changes	Effects of changes in fair value			
				Profit (loss) for the year		Other comprehensive income (loss)	
				Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
<b>Held-for-trading investments:</b>							
Derivatives	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	₩ 4,106	(4,317)	-	-
<b>Financial asset at fair value through profit or loss:</b>							
Others	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	1,202	(1,183)	-	-
<b>Available-for-sale financial assets:</b>							
Equity securities	Discount rate	Fair value decrease by discount rate increase	Measuring fair value changes by 1% discount rate increase or decrease	-	-	6,759	(5,317)
	Stock price multiple	Fair value increase by stock price multiple increase	Measuring fair value changes by 10% stock price multiple increase or decrease	-	-	544	(543)
Beneficiary certificates	Discount rate	Fair value decrease by discount rate increase	Measuring fair value changes by 1% discount rate increase or decrease	-	-	191	(191)
Others	Discount rate	Fair value decrease by discount rate increase	Measuring fair value changes by 1% discount rate increase or decrease	-	-	60	(60)
<b>Financial liabilities held for trading:</b>							
Derivatives	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	11,347	(10,991)	-	-
<b>Financial liabilities at fair value through profit or loss:</b>							
Others	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	12,513	(12,607)	-	-

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**44. Financial Instruments, Continued**

(7) Level 3 fair values, continued

(iii) Effects by changes in unobservable input variables on fair value measurement of financial assets and liabilities as of December 31, 2016 and 2015 is as follows, continued:

(In millions of won)

	Unobservable input variables	Effects by changes in unobservable input variables on fair value measurement	Measuring methods of the effect of changes	Effects of changes in fair value			
				Profit (loss) for the year		Other comprehensive income (loss)	
				Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
<b>Held-for-trading investments:</b>							
Derivatives	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	₩ 3,213	(3,721)	-	-
<b>Financial asset at fair value through profit or loss:</b>							
Others	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	1,589	(1,519)	-	-
<b>Available-for-sale financial assets:</b>							
Equity securities	Discount rate	Fair value decrease by discount rate increase	Measuring fair value changes by 1% discount rate increase or decrease	-	-	7,839	(5,418)
	Stock price multiple	Fair value increase by stock price multiple increase	Measuring fair value changes by 10% stock price multiple increase or decrease	-	-	466	(466)
<b>Financial liabilities held for trading:</b>							
Derivatives	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	19,598	(18,458)	-	-
<b>Financial liabilities at fair value through profit or loss:</b>							
Others	Volatility of underlying asset	Fair value decrease by Volatility increase	Measuring fair value changes by 10% Volatility increase or decrease	17,126	(17,796)	-	-

As the impact from changes in unobservable input variables on financial assets and liabilities cannot be reliably estimated, they are excluded from the effects of changes in fair value.

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**44. Financial Instruments, Continued**

(8) Transfer of financial assets

(i) Transferred financial assets that are not derecognized in their entirety as of December 31, 2016 and 2015 are as follows:

*(In millions of won)*

		<b>Financial asset at fair value through profit or loss</b>	
		<b>Held-for-trading investments</b>	
		<b>2016</b>	<b>2015</b>
Carrying amount of asset	₩	781,268	1,469,833
Carrying amount of related liabilities		743,000	1,395,600
<b>For those liabilities that have recourse only to the transferred assets:</b>			
Fair value of assets		781,268	1,469,833
Fair value of related liabilities		743,000	1,395,600
Net position		38,268	74,233

(ii) Lending securities

The Group continues to recognize whole lending securities in which the Group retains substantially all the risks and rewards of ownership of transferred lending securities because the Group will require the securities after the rental periods expires. As of December 31, 2016 and 2015, book value of the lending securities is as follows:

*(In millions of won)*

		<b>2016</b>	<b>2015</b>	<b>Borrowers</b>
Available-for-sale financial asset	Common stocks of Hyundai Merchant Marine Co., Ltd	10,120	43,279	Merrill Lynch International, The Hong Kong and Shanghai Banking Corporation Limited

In addition to above, debt and rental securities of HI Investment & Securities Co., Ltd, one of subsidiaries, as of years ended December 31, 2016 and 2015 are as follows:

*(In millions of won)*

		<b>2016</b>	<b>2015</b>
Stock lending and borrowing with credit	Stocks	-	29
Debt securities	Stocks	8,531	3,305
	Bonds	346,708	284,351
		<u>355,239</u>	<u>287,656</u>

HI Investment & Securities Co., Ltd. has securities lending and borrowing transaction. When borrowing securities from Korea Securities Depository, HI Investment & Securities Co., Ltd. records them in memorandum account as borrowed securities, and recognizes it as financial liabilities at fair value through profit or loss when disposing them. HI Investment & Securities Co., Ltd. also recognizes short-selling as financial liabilities at fair value through profit or loss.

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**44. Financial Instruments, Continued**

(9) Offsetting of financial assets and financial liabilities

The details of financial assets or financial liabilities netting arrangements as of December 31, 2016 and 2015 are as follows:

(In millions of won)

	<b>2016</b>					
	<b>Total recognized financial assets</b>	<b>Total recognized financial assets that will be setoff</b>	<b>Net financial assets presented in the Statement of Financial Position</b>	<b>Related amount : won't be setoff in the Statement of Financial Position</b>		<b>Net amount</b>
				<b>Financial instruments</b>	<b>Received cash security</b>	
<b>Financial assets</b>						
Held for trading investments	₩ 2,667,492	-	2,667,492	(2,558,316)	-	109,175
Financial assets at fair value through profit or loss	218,530	-	218,530	(84,868)	-	133,662
Available for sale financial asset	176,585	-	176,585	(89,811)	-	86,774
Loans and receivables	88,397	(80,211)	8,186	-	-	8,186
	<u>₩ 3,151,004</u>	<u>(80,211)</u>	<u>3,070,793</u>	<u>(2,732,995)</u>	<u>-</u>	<u>337,797</u>
<b>Financial liabilities</b>						
Held for trading liabilities	₩ 1,103,267	-	1,103,267	(1,042,986)	-	60,281
Financial liabilities at fair value through profit or loss	443,987	-	443,987	(55,220)	-	388,767
Financial liabilities carried at amortized cost	1,757,244	(80,211)	1,677,033	(1,636,140)	-	40,893
	<u>₩ 3,304,498</u>	<u>(80,211)</u>	<u>3,224,287</u>	<u>(2,734,347)</u>	<u>-</u>	<u>489,941</u>

The 'related amount that won't be setoff in the statement of financial position' is recognized up to the amount of 'Net financial assets presented in the statement of financial position'.

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**44. Financial Instruments, Continued**

(9) Offsetting of financial assets and financial liabilities, continued

The details of financial assets or financial liabilities netting arrangements as of December 31, 2016 and 2015 are as follows, continued:

(In millions of won)

	2015					
	Total recognized financial assets	Total recognized financial assets that will be setoff	Net financial assets presented in the Statement of Financial Position	Related amount : won't be setoff in the Statement of Financial Position		Net amount
				Financial instruments	Received cash security	
<b>Financial assets</b>						
Held for trading investments	₩ 3,078,238	-	3,078,238	(2,629,483)	-	448,755
Financial assets at fair value through profit or loss	253,283	-	253,283	(66,528)	-	186,755
Available for sale financial asset	182,597	-	182,597	(56,274)	-	126,323
Loans and receivables	166,856	(98,800)	68,056	-	-	68,056
	<u>₩ 3,680,974</u>	<u>(98,800)</u>	<u>3,582,174</u>	<u>(2,752,285)</u>	<u>-</u>	<u>829,889</u>
<b>Financial liabilities</b>						
Held for trading liabilities	₩ 448,721	-	448,721	(313,583)	(22,000)	113,138
Financial liabilities at fair value through profit or loss	393,761	-	393,761	(45,965)	-	347,796
Financial liabilities carried at amortized cost	2,514,074	(98,800)	2,415,274	(2,370,735)	-	44,539
	<u>₩ 3,356,556</u>	<u>(98,800)</u>	<u>3,257,756</u>	<u>(2,730,283)</u>	<u>(22,000)</u>	<u>505,473</u>

The 'related amount that won't be setoff in the statement of financial position' is recognized up to the amount of 'Net financial assets presented in the statement of financial position'.

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**45. Commitments and Contingencies**

- (1) As of December 31, 2016, the Group has entered into overdraft agreements with KEB Hana Bank and others amounting to ₩140,000 million, EUR 7,500 thousand, CNY 326,109 thousand, INR 45,000 thousand and general loan agreements amounting to ₩2,343,094 million, USD 1,445,500 thousand, CNY 1,184,721 thousand, EUR 22,750 thousand, BRL 56,006 thousand.
- (2) As of December 31, 2016, the Group has entered into credit facilities agreements such as letters of credit with KEB Hana bank and others for the Group's exports and imports totaling ₩150,000 million, USD 7,471,071 thousand.
- (3) As of December 31, 2016, the Group has entered into credit facilities agreements such as pre-shipment credit and network loan with various banks amounting to ₩4,355,447 million, USD 336,992, thousand EUR 19,000 thousand and CNY 240,000 thousand.
- (4) As of December 31, 2016, six bank notes and one check have been provided to customers as collaterals for the Group's borrowings from the customers and construction contract performance guarantees.
- (5) As of December 31, 2016, the Group is contingently liable for loan guarantees of its foreign subsidiaries amounting to ₩402,008 million, USD 1,649,519 thousand, EUR 41,231 thousand, CNY 759,000 thousand and BRL 109,956 thousand and purchase loans of customers amounting to CNY 7,794 thousand jointly with local dealers. The Group has provided performance guarantees in relation to Jazan Refinery and Terminal Project Package 2 (contract amount: USD 341,165 thousand) which is being built by Hyundai Arabia Company LLC., Moho Nord Tension Leg Platform Project (contract amount: USD 889,407 thousand, EUR 50,760 thousand) and Moho Nord Floating Production Unit Project (contract amount: USD 1,304,781 thousand) which is being built by HHI France SAS and HHI Mauritius Ltd., one of the Group's subsidiaries. Furthermore, the Group has also entered into joint shipbuilding contracts with Hyundai Samho Heavy Industries Co., Ltd., one of the Group's subsidiaries, for the construction of two ships at a contract amount of USD 255,233 thousand.
- (6) In connection with the Group's contract performance guarantees as of December 31, 2016, the Group has been provided with maximum guarantees amounting to ₩2,765,557 million and USD 19,656,624 thousand by various banking facilities, and regarding advance from customers for ship building, the Group has also been provided with maximum guarantees amounting to USD 12,189,452 thousand by Export-Import Bank of Korea and others. Regarding this, the Group provides as collateral its ships under construction and materials for construction.
- (7) The Group entered into a consortium agreement on a natural resource development project with various organizations including Korea National Oil Corporation. Related other non-current assets relate to resource development as of December 31, 2016 and 2015 are summarized as follows:

<i>(In millions of won)</i>	<u>2016</u>	<u>2015</u>
Other non-current assets	₩ 63,307	63,307
Accumulated impairment	(63,307)	(63,307)
	<u>₩ -</u>	<u>-</u>

The Group recognized an impairment loss amounting to ₩63,307 million for the year ended December 31, 2013, since the carrying amount of the investment related to resource development exceeds its recoverable amount. And also, the Group obtained borrowings for a natural resource development project from the Korea National Oil Corporation (see *Note 23*).

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45. Commitments and Contingencies, Continued

(8) As of December 31, 2016, the Group entered into a conditional commercial paper purchase guarantee contract guaranteed by Paradise Co., Ltd. amounting to ₩10,000 million.

(9) As of December 31, 2016, the Group entered into guarantee contracts as follows:

(In millions of won)

	Issuing entity	Agreement limits	Maturity	Business
Underlying asset purchase commitment	Welcome to Hagal 1 <sup>st</sup> Co.,Ltd.	₩ 35,000	2019-08-23	Yongin hagal-dong Cooperative apartment Housing Project
	Ferguson 1 <sup>st</sup> Co.,Ltd.			Pyeongtaek dongsak 2nd District Cooperative apartment Housing Project(2nd)
	Finale dongsak 2 <sup>ND</sup> Co.,Ltd.	20,000	2019-06-03	Pyeongtaek dongsak 2nd District Cooperative apartment Housing Project(3 <sup>rd</sup> )
	Smart Dontan 1 <sup>st</sup> Co.,Ltd.	10,000	2019-03-29	Hwaseong Dongtan 2nd District A36Bloch Cooperative apartment Housing Project
	Widen Dongtan 1 <sup>st</sup> Co., Ltd.	5,000	2019-10-30	Osan Wesamm-dong Cooperative apartment Housing Project
	Calling Water Amsa 1 <sup>st</sup> Co., Ltd.	5,000	2020-05-04	Gangdong-gu Amsa-dong Cooperative apartment Housing Project
	Never Issue 1 <sup>st</sup> Co., Ltd	10,000	2017-07-04	Seosan Yecheon Cooperative apartment Housing Project
	Lake Backwoon 4 <sup>th</sup> Co.,Ltd.	13,300	2019-11-04	Uiwang Baegun Cooperative apartment Housing Project
	MS Dongtan Techno 1 <sup>st</sup> Co., Ltd.	51,000	2019-07-22	Dongtan 2nd Knowledge Industry Center Construction Project
	Dione Plus 1 Co., Ltd.	70,000	2019-12-18	New Songdo City Cooperative apartment Housing Project
	HI Gumdan 1 <sup>st</sup> Co.,Ltd	22,000	2017-09-29	Gumdan knowledge industry center Mortgage loan
	HI LCT Co.,Ltd.	30,000	2020-03-20	Haeundae LCT Complex Development Project
	HI Yeonsan Co.,Ltd.	20,000	2019-05-03	Busan Yeonsan-dong Residential Complex Housing Project
	HI Opo 1 <sup>st</sup> Co.,Ltd.	28,500	2018-12-09	Gwangju Opo-eup Cooperative apartment Housing Project
	HI Gohyeon 1 <sup>st</sup> Co., Ltd	20,000	2020-09-12	Geoje Kohyun Port Redevelopment Project
	HI Gohyeon 2 <sup>nd</sup> Co., Ltd	10,000	2020-09-12	Geoje Kohyun Port Redevelopment Project
	HI Pangyo 1 <sup>st</sup> Co., Ltd	40,000	2019-06-28	Seongnam Pangyo Daejang-dong City Development Project
	AA03 5 <sup>th</sup> Co., Ltd.	15,000	2017-11-20	Gimpo Hangang new city Cooperative apartment Housing Project
	Plan up Kimpo 3 <sup>rd</sup> Co.,Ltd.	8,300	2018-10-22	Gimpo and Poongmu 2 district Cooperative apartment construction Project
	Plan up Kimpo 7 <sup>th</sup> Co.,Ltd.	15,000	2018-10-22	Gimpo and Poongmu 2 district Cooperative apartment construction Project
	GOLDEN CLEAR 10 <sup>th</sup> Co., Ltd.	18,000	2018-10-28	Goyang Samsung Wonheung station Officetel/Commercial building development project
	High Edu Foret Co.,Ltd.	25,300	2019-08-26	Goyang tanhyundong apartment construction project.

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45. Commitments and Contingencies, Continued

(9) As of December 31, 2016, the Group entered into guarantee contracts as follows, continued:

(In millions of won)

	Issuing entity	Agreement limits	Maturity	Business
Underlying asset purchase	HI One 4 <sup>th</sup> Co., Ltd.	₩ 20,000	2020-01-01	Songdo 6, 8 zone Cooperative apartment Housing Project
commitment	HI Ivy 10 <sup>th</sup> Co.,Ltd.	18,000	2017-03-23	Seocho-dong office building Real Estate Fund equity
	Dongwon Smart hub 1 <sup>st</sup> Co., Ltd.	20,000	2019-05-15	Sihwa Industrial Complex efficiency apartment expansion project
	Ivy Global 17 <sup>th</sup> Co.,Ltd.	20,500	2023-10-30	Home Plus Store Operation Private equity securitization
	HI One 8 <sup>th</sup> Co.,Ltd	10,000	2019-09-09	Dontan 2 <sup>nd</sup> A67BL Cooperative apartment Housing Project
	HI One 9 <sup>th</sup> Co.,Ltd	10,000	2019-09-09	Dongtan 2 <sup>nd</sup> A67BL Cooperative apartment Housing Project
	Sewoon Ivy 1 <sup>th</sup> Co., Ltd.	30,000	2019-07-19	Sewoon 6-3-1,2 district office building construction project
	Yongin Dongbaek 1 <sup>st</sup> Co., Ltd.	25,000	2020-04-14	Yongin Dongbaek Elderly Welfare Housing Project
	Ivy Global 6 <sup>th</sup> Co., Ltd.	20,000	2020-03-23	Mullae-dong Knowledge Industry Center construction project
	High clan 9 <sup>th</sup> , 10 <sup>th</sup> Co., Ltd	65,000	2019-09-26	Haeundae Residence Hotel Development Project
	High clan 6 <sup>th</sup> Co., Ltd.	15,000	2019-07-22	Yongin Yeoksam District Residence Development Project
	New Hi Ramada Co., Ltd.	65,000	2019-10-25	Busan station Development of new hotel project
	High clan 7 <sup>th</sup> Co., Ltd.	30,000	2020-03-02	Yongin Giheung HIGGS Complex facility Development Project
	High clan 4 <sup>th</sup> Co., Ltd.	8,000	2018-01-12	Cheonan Cheongdang-dong Loan on real estate
	H.S. blue 1 <sup>st</sup> Co.,Ltd.	20,500	2019-02-12	Subordinated debt of JB Woori Capital Co.,Ltd.
	Jini Forever 1 <sup>st</sup> Co., Ltd.	42,000	2020-11-11	Subordinated debt of Lotte Non-Life Insurance Co., Ltd.
	Jini Forever 2 <sup>nd</sup> Co., Ltd.	63,000	2017-11-14	Future freight receivables of Korean Air Lines Co.,Ltd.
	Himarine H Yudonghwa 1 <sup>st</sup> CO.,Ltd	45,600	2018-09-18	China's HNA Group newbuilding bulk ship financing
	Himarine H Yudonghwa 2 <sup>nd</sup> Co., Ltd.	23,100	2018-12-13	China's HNA Group newbuilding bulk ship financing
	Hiair KYudonghwa 1 <sup>st</sup> Co.,Ltd.	30,500	2020-06-02	Future freight receivables of Korean Air Lines Co.,Ltd.
		₩ 1,082,600		

(10) HI Gold Ocean Kmarin No.11 Ship Investment Company entered into a currency interest swap contract for ship building and chartering with KEB Hana Bank. When HI Gold Ocean Kmarin No.11 Ship Investment Company pays settlement amount to KEB Hana Bank upon termination of a contract, HI Gold Ocean Kmarin No.11 Ship Investment Company will be able to get a loan from banks. If these loans are executed, the Group entered into a guarantee contract, which ensures that it will be able to borrow up to ₩40,000 million.



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**45. Commitments and Contingencies, Continued**

(11) The Group sold stocks of HI Gold Ocean Kmarin No. 8 Ship Investment Company (7,788,229 shares of common stock) to Hyundai Ship Private Fund 2. In connection with this transaction, the Group made a beneficiary contract with Hanwha Life Insurance Co., Ltd. retaining the right of first refusal to purchase a beneficiary certificate of Hyundai Ship Private Fund 2, within an exercise period and amount of contracted price for sale. The Group also entered into a guarantee contract to ensure its ability to pay the difference between the contracted price for sale and the actual price, should Hanwha Life Insurance Co., Ltd. sell this beneficiary certificate to a third parties for less than the contracted price.

(12) The Group has entered into offsetting contracts with ship owners in Liberia and ship owners in Panama regarding to agreements above in January, 2016, and the Group has a loan to withdraw USD 71,000 thousand as early repayment from ship owners in Liberia and loan USD 52,000 thousand to ship owner in Panama newly.

(13) The Group has entered into financial asset transfer agreements in order to sell guarantee deposits of construction which the Group has been proceeding with various banks. As of December 31, 2016, financial asset transfer agreements are as follows:

*(In thousands of foreign currency)*

	<u>Bank</u>	<u>Transfer asset</u>	<u>Commitment limit</u>	<u>Running balance</u>
Jeddah South	HSBC	FAC Reserve	USD 318,860	USD 301,612
Shuqaiq	SABB	PAC Reserve	USD 309,795	USD 266,359
NASR 2	NBAD	Monthly payment	USD 65,000	USD 35,569

(14) The Group has received notice of results for tax audit from National Tax Service on October 23, 2015, and the Group plans to file appeals to tax tribunal regarding to ₩43,350 million out of notified tax amount from the tax audit. Hyundai Samho Heavy Industries Co., Ltd., one of Subsidiaries, has received notice of results for tax audit from Gwangju Regional Tax Office on October 30, 2015, and filed appeals to tax tribunal regarding to ₩2,835 million out of notified tax amount from the tax audit as of December 31, 2016.

(15) The Group has received a 60.81% anti-dumping duty rate from US department of Commerce's third annual review of transformers exported to the United States on March 14, 2017, and the Group plans to file appeals to CIT(International Trade Court).

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**46. Litigations**

- (1) File appeals for cancellation income tax imposition case (Supreme Court 2016 du 278)

Date of filing	February 2, 2016
Litigant	Plaintiff: The Company , Defendant: The National Tax Service (Dong Ulsan tax office)
Litigation content	Application for cancellation of additional tax payment amounted to ₩107,600 million related to the participation in the capital increase of Hyundai Space and Aircraft Co., Ltd. on March 27, 2006
Litigation value	₩100,600 million
The progress of litigation	Plaintiff lost the first trial (Ulsan District Court 2009 guhap 1932) on January 5, 2011 Plaintiff partially won the second trial (Busan High Court 2011 nu 693) on February 15, 2013 Plaintiff totally won the third trial (Supreme Court 2013 du 6206) on September 10, 2015 Plaintiff totally won dismissed defendant's appealed trial (Busan high court 2015 nu 165) on January 15, 2016 Again appeals were cancelled and plaintiff totally won (Supreme Court 2016 du 278) on June 10, 2016
Future litigation schedule and countermeasures	Again appeals were cancelled because of disposition of tax imposition by the National Tax Service on March 7, 2016
The effect on the Group as a result of litigation	The lawsuit has settled and there is no impact on the Group's consolidated financial statements.

- (2) A damage suit (Seoul Central District Court 2016 gahap 519022)

Date of filing	October 14, 2015
Litigant	Plaintiff: Korea Gas Corporation, Defendant: The Company and 18 other firms.
Litigation content	Korea Gas Corporation filed appeals against to Doosan Heavy Industries & Construction Co., Ltd., Hyundai Engineering & Construction Co., Ltd. And 22 other construction firms including the Company regarding to claiming compensation (amounting to ₩108,000 million) for damage by bidding collusion of first and second main pipe constructions which are ordered by Korea Gas Corporation.
Litigation value	₩108,000 million
The progress of litigation	In progress after filing appeals on October 14, 2015
Future litigation schedule and countermeasures	Currently, the first trial suit is in progress and the arbitration procedure such as document submission will be performed.
The effect on the Group as a result of litigation	If the Group loses the case, it is expected to make an additional loss from compensation. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.

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**46. Litigations, Continued**

(3) Ordinary wage lawsuit (Supreme Court 2016 da 7975)

Date of filing	December 28, 2012
Litigant	Plaintiff: Kyung-hwan Jeong and nine others , Defendant: The Company
Litigation content	Plaintiff filed a suit claiming that total bonuses should be included in the ordinary wage category and recalculated.
Litigation value	<del>₩</del> 630 million
The progress of litigation	Defendant partially lost the first trial (Ulsan district court 2012 gahap 10108) on February 12, 2015 Defendant totally won the second trial (Busan high court 2015 na 1888) on January 13, 2016. Plaintiff filled appeal and the third trial is in progress (Supreme court 2016 da 7975) on January 28, 2016
Future litigation schedule and countermeasures	Currently, the third trial at the supreme court is in progress and the Supreme Court examines a principal laws
The effect on the Group as a result of litigation.	If the Group loses the case, it is expected to make an additional loss from compensation. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.

(4) Ordinary wage lawsuit (Supreme Court 2016 na 11003)

Date of filing	February 11, 2016 (Trial at the Supreme Court)
Litigant	Plaintiff: Hyeong-tae Min , Defendant: The Hyundai Samho Heavy Industries Co., Ltd.
Content of Litigation	Since regular bonus, a personal pension and fixed overtime pay for 20 hours are included in ordinary wage, plaintiff filed a lawsuit for seeking additional payment related to the difference between the amount of overtime pay, yearly and monthly leave allowance, incentive and others containing those are included in ordinary wage and the amount of overtime pay and others previously paid.
Litigation value	<del>₩</del> 13 million
The progress of litigation	Defendant won the first trial
Future litigation schedule and countermeasures	Termination.
The effect on the Group as a result of litigation.	Termination.

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**46. Litigation, Continued**

(5) Ordinary wage lawsuit (Supreme Court 2016 da 10544)

Date of filing	December 28, 2012 (Date when the Supreme Court received a petition of appeal on February 23, 2016)
Litigant	Plaintiff: Hyeon-seok Jang and four others, Defendant: Hyundai Mipo Dockyard Co., Ltd.
Content of Litigation	Five workers working for Hyundai Mipo Dockyard Co., Ltd. filed a lawsuit for seeking wages unpaid during recent 3 years (December 28, 2009~December 27, 2012) because total bonuses, summer vacation bonus, a personal pension subsidy and other wages were excluded in the ordinary wage so legal allowance, incentive, retirement pay and others which are calculated based on the ordinary wage were partially unpaid.
Litigation value	₩240 million
The progress of litigation	Plaintiff partially won the litigation on February 12, 2015 (Both sides appealed against a decision). Plaintiff lose the second trial on January 13, 2016 (Defendant totally won the trial). Plaintiff filed appeals and the third trial is in progress on January 28, 2016. The Supreme Court allocated justice department in charge of the case on April 5, 2016. The Supreme Court initiated examining a principal laws and other reasons why plaintiff appealed on April 6, 2016. Discussing the issue of the trial is in progress on October 17, 2016.
Future litigation schedule and countermeasures	The Supreme Court is examining a principal laws.
The effect on the Group as a result of litigation.	If the Group loses the case, it is expected to make an additional loss from compensation. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.

(6) Claim for restitution of unjust enrichment

Date of filing	August 17, 2015
Litigant	Plaintiff : Changlin Corp , Defendant: The Company and Hyundai Heavy Industries (China) investment Co., Ltd.
Litigation content	Changlin Corp claimed that the Company had gotten unjustified profit amounting to CNY 496 million through the transactions with Hyundai (Jiangsu) Construction Machinery Co., Ltd., therefore, Changlin Corp. filed an appeal for claiming to return the unjustified profit.
Litigation value	CNY 496 million.
The progress of litigation	Plaintiff filed a suit to China Jiansu People's Court and sent the duplicate of a complaint on August 17, 2015. The Group received the duplicate of a complaint on October 13, 2016. The Group applied the withdrawal of arbitration to Singapore on February 21, 2017.
Future litigation schedule and countermeasures	The Group received the notice of withdrawal of suit on February 23, 2017 After signing the agreement on February 4, 2017, The Group applied the withdrawal of arbitration to Singapore and confirmed that the lawsuit was withdrawn on February 23, 2017.
The effect on the Group as a result of litigation.	The litigation and arbitration has terminated with notice of withdrawal and there is no impact on the Group's consolidated financial statements.

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**46. Litigations, Continued**

(7) Request for Semi-rig(Fred Olsen Energy) arbitration (London Maritime Arbitrators Association)

Date of filing	London Maritime Arbitrators Association (LMAA) initiated arbitration on October 22, 2015.
Litigant	Plaintiff: The Company , Defendant: Fred Olsen Energy(below "Ship-owner")
Litigation content	In shipbuilding process, Ship-owner has disturbed process in progress in such a way that unreasonably delay for approval or request to change the initial design and regulations under agreement, and in results the Company initiated the LMAA (London Maritime Arbitrators Association) arbitration on October 22, 2015. Meanwhile, Ship-owner notified the Company of cancellation of the agreement and claimed to refund advances (USD 186 million) on October 27, 2015, and the Company applied additional arbitration to address unfair contract cancellation of the contract and requested compensation on November 4, 2015.
Litigation value	USD 519 million.
The progress of litigation	The arbitration agreement was finalized on September 1, 2016.
Future litigation schedule and countermeasures	The Company entered into a settlement agreement on August 20, 2016 and sent a notice of withdrawal of arbitration to the arbitration court on August 21, 2016. The arbitration was finalized formally on September 1, 2016.
The effect on the Group as a result of litigation	The arbitration has terminated with notice of withdrawal and there is no impact on the Group's consolidated financial statements.

(8) Construction payment request for arbitration (Korean Commercial Arbitration Board 151110237-796669)

Date of filing	Request for arbitration in Korean Commercial Arbitration Board on November 6, 2015
Litigant	Plaintiff: The Company , Defendant: Hyundai Corporation
Litigation content	The Company signed a sales agreement that the Company supplies transformers and high-voltage circuit breakers to export to Russia with Hyundai Corporation, and delivered goods to Hyundai Corporation. But Hyundai Corporation did not make a payment (USD 81 million), and the Group applied arbitration to address payment.
Litigation value	USD 81 million.
The progress of litigation	Commence the arbitration in Korean Commercial Arbitration Board on November 6, 2015 Korean Commercial Arbitration Board issued an arbitration award that order Hyundai corporation to pay USD 38 million and interest to the Group on August 4, 2016
Future litigation schedule and countermeasures	The arbitration award under the Korean Commercial Arbitration Board has been terminated on August 4, 2016.
The effect on the Group as a result of litigation	The arbitration award under the Korean Commercial Arbitration Board has been terminated. As a result, there is no impact on the Group's consolidated financial statements.

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**46. Litigations, Continued**

(9) Request for Accommodation Vessel arbitration (London Maritime Arbitrators Association)

Date of filing	London Maritime Arbitrators Association (LMAA) initiated arbitration on April 14, 2016.
Litigant	Plaintiff: The Company, Defendant: Edda Accommodation II Ltd. (below "Ship-owner")
Litigation content	Ship-owner notified the Company of cancellation of the shipbuilding contract and claimed to refund advances (USD 69 million) on April 11, 2016. The Company applied additional arbitration to address unfair cancellation of the contract and requested compensation on April 14, 2016.
Litigation value	USD 161 million, interest and other compensation.
The progress of litigation	The arbitration agreement was finalized on September 12, 2016.
Future litigation schedule and countermeasures	The Company entered into a settlement agreement on August 29, 2016 and sent a notice of withdrawal of arbitration to the arbitration court on September 12, 2016. The arbitration was terminated formally.
The effect on the Group as a result of litigation	The arbitration has terminated with notice of withdrawal and there is no impact on the Group's consolidated financial statements.

(10) Request for Semi-rig (Seadrill) arbitration (London Maritime Arbitrators Association)

Date of filing	London Maritime Arbitrators Association (LMAA) initiated arbitration on October 12, 2015
Litigant	Plaintiff: The Hyundai Samho Heavy Industries Co., Ltd., Defendant: Seadrill (below "Ship-owner")
Litigation content	Ship-owner has disturbed process in progress in such a way that unreasonably delay for approval or request to change the initial design and regulations under agreement, and in results Ship-owner notified Hyundai Samho Heavy Industries Co., Ltd. of cancellation of the agreement and claimed to refund advances (USD 198 million, including interest amount) in September 2015, and The Hyundai Samho Heavy Industries Co., Ltd. applied additional arbitration to address unfair contract cancel and request compensation on October 12, 2015.
Litigation value	More than USD 524 million
The progress of litigation	London Maritime Arbitrators Association initiated arbitration on October 22, 2015 Submission of Point of Claim on March 11, 2016 Ship-owner received Defense data on July 22, 2016 Submission of Response to Defense on November 2, 2016 Ship-owner received Reply data on December 20, 2016 Signed Settlement MOU on February 10, 2017 Signed Settlement Agreement and Resale Agreement on March 10, 2017
Future litigation schedule and countermeasures	Arbitration has been terminated due to the Settlement Agreement and there is no subsequent litigation schedule.
The effect on the Group as a result of litigation	Settlement Agreement: Returning Advance received USD 170 million (Except for USD 43,510 thousand of interest on returning advance received and including a reduction of advance received USD 400 thousand), Paying their own costs of legal fee respectively and Paying 50% of LMAA fee respectively.

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**46. Litigations, Continued**

(11) Counterindemnity charged sue related to LPG price-fixing (Seoul central district court 2012 gahap 85828 and three cases)

Date of filing	October 12, 2012
Litigant	Plaintiff: Taxi drivers, the disabled and others , Defendant: Hyundai Oilbank Co., Ltd.
Litigation content	The Fair Trade Commission imposed fines on two LPG importers and four domestic oil refinery companies including subsidiaries for alleged collusive price-fixing on LPG prices from January 1, 2003 to December 31, 2008. 117,624 private taxi drivers, corporate taxi drivers and others jointly filed a lawsuit against four domestic oil refinery companies including Hyundai Oilbank Co., Ltd. and two LPG importers claiming damages.
Litigation value	₩12,400 million
The progress of litigation	The first trial is currently pending (Seoul Central District Court)
Future litigation schedule and countermeasures	The Group plans to appeal against a decision, if it loses the first trial (entirely or partly).
The effect on the Group as a result of litigation	If the Group loses the case, additional loss is expected limited to the Group's portion of liabilities of wage. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.

(12) Counterindemnity charged sue related to land contamination for Hankook Shell Oil Co. (Seoul central district court 2012 gahap 504978)

Date of filing	February 21, 2012
Litigant	Plaintiff: Hankook Shell Oil Co., Ltd., Defendant: Hyundai Oilbank Co., Ltd.
Litigation content	Hankook Shell Oil Co., Ltd. filed litigation for damages of contamination cleanup costs and others including already accrued costs and costs likely to accrue in the future due to fuel spills at Busan refinery in the past and current Busan oil reservoir of Hyundai Oilbank Co., Ltd. on the site of the Hankook Shell Oil Co., Ltd.
Litigation value	₩14,800 million
The progress of litigation	The first trial is currently pending (Seoul Central District Court)
Future litigation schedule and countermeasures	The Group plans to appeal against a decision, if it loses the first trial (entirely or partly).
The effect on the Group as a result of litigation	If the Group loses the case, additional loss is expected limited to the Group's portion of liabilities of wage. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.

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**46. Litigations, Continued**

- (13) Appeal to Tax Tribunal for canceling the imposed customs and others against Seoul Customs (Tax Tribunal 2014 guan 0110)

Date of filing	December 6, 2013 (date of request for trial)
Litigant	Plaintiff: Hyundai Oilbank Co., Ltd., Defendant: Seoul Customs
Litigation content	The Seoul Customs concluded that a part of a customs refund of crude oil imports is unjust because subsidiary mostly took refund proportional to HS Crude despite HS Crude, LS Crude and Condensate oil are used for making petroleum products. Regarding that, Hyundai Oilbank Co., Ltd. appealed to tax tribunal for canceling the imposed customs and others against seoul customs.
Litigation value	₩41,600 million
The progress of litigation	Tax Tribunal decision on acceptance on November 28, 2016
Future litigation schedule and countermeasures	The customs duty is refunded on December 15, 2016 as a result of the Tax Tribunal decision.
The effect on the Group as a result of litigation	As a result of the Tax Tribunal decision, Tax judge has terminated and there is no impact on the Group's consolidated financial statements.

- (14) Sue for canceling the refund denial decision against Korea National Oil Corporation (Seoul High Court 2016 nu 38329)

Date of filing	January 9, 2014
Litigant	Plaintiff: Hyundai Oilbank Co., Ltd., Defendant: Korea National Oil Corporation ("KNOC")
Litigation content	Subsidiaries deducted Fuel Gas as byproducts when calculating voluntary requirement which is criterion for estimating oil import tariff based on the result of auditing adequacy of oil import tariff refund and requested for oil import tariff refund by including hydrogen in fuel sales quantity and other sales quantity which are subject to oil import tariff. However KNOC concluded that there was no legal basis for the audit result by The Board of Audit and Inspection of Korea and denied to give a refund amounting to ₩3,100 million. So subsidiaries filed a lawsuit.
Litigation value	₩3,100 million
The progress of litigation	Plaintiff won the first trial (Suwon District Court) on January 27, 2016 Defendant appealed to the court above on February 29, 2016 The second trial (Seoul High Court) is currently pending
Future litigation schedule and countermeasures	The Group plans to appeal against a decision, if it loses the second trial (entirely or partly).
The effect on the Group as a result of litigation	If the Group wins the case, it is expected to take a refund from compensation. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.



HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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**46. Litigations, Continued**

(15) Request for Multi-purpose vessel arbitration (London Maritime Arbitrators Association)

Date of filing	London Maritime Arbitrators Association (LMAA) initiated arbitration on May 10, 2016.
Litigant	Plaintiff: The Company , Defendant : Toisa Limited (below "Ship owner")
Litigation content	Ship-owner notified the Company of cancellation of the ship construction contract and claimed refund advances (USD 67.5 million) on April 28, 2016. The Company debated unfair cancellation of the contract and initiated the arbitration for claiming related compensation on May 10, 2016.
Litigation value	USD 82.5 million, interest and other compensation.
The progress of litigation	In progress after initiation of London Maritime Arbitrators Association (LMAA) arbitration on May 10, 2016.
Future litigation schedule and countermeasures	After document submission on August 1, 2016, the Group is preparing for future procedures.
The effect on the Group as a result of litigation	If the arbitral award is favorable for the Group, it is expected to make a profit from compensation. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated.

In addition to the cases mentioned above, the Group is currently a defendant in 96 lawsuits involving claims amounted to ₩137,700 million. Currently, the impact on the Group's consolidated financial statements, if any, cannot be reliably estimated. However, management of the Group believes that the ultimate outcomes will not have a significant impact on the Group's operations and financial position.

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**47. Related Parties**

- (1) Significant transactions for the years ended December 31, 2016 and 2015 between the Group and associates or joint ventures are as follows:

(In millions of won)

	2016			
	Sales and other		Purchases and other	
	Sales	Dividends Income	Purchase of Raw materials	Others purchase
<b>Associates:</b>				
Wärtsilä-Hyundai Engine Company Ltd.	₩ 1,952	34,754	69,960	-
Others(*)	27,148	417	6	13,596
	₩ 29,100	35,171	69,966	13,596

(\*) Including associates and joint ventures' subsidiaries.

(In millions of won)

	2015			
	Sales and other		Purchases and other	
	Sales	Dividends Income	Purchase of Raw materials	Others purchase
<b>Associates:</b>				
Hyundai Corporation	₩ 624,513	2,496	688	10,199
Wärtsilä-Hyundai Engine Company Ltd.	1,993	35,229	45,871	1
Others(*)	15,153	200	30,756	55
	₩ 641,659	37,925	77,315	10,255

(\*) Including associates and joint ventures' subsidiaries.

In addition to the above transactions, the Group has sold its entire interest in its subsidiary, Hyundai Energy & Resources Co., Ltd., to Hyundai Corporation which is a related party for ₩43,273 million.

- (2) Outstanding balances as of December 31, 2016 and 2015 between the Group and associates or joint ventures are as follows:

(In millions of won)

	2016			
	Trade and other receivables		Trade and other payables	
	Trade Receivable	Other receivables	Trade Payables	other payables
<b>Associates:</b>				
Wärtsilä-Hyundai Engine Company Ltd.	₩ 360	-	9,444	-
Others(*)	14,972	277	-	9,845
	₩ 15,332	277	9,444	9,845

(\*) Including associates and joint ventures' subsidiaries.

(In millions of won)

	2015			
	Trade and other receivables		Trade and other payables	
	Trade Receivable	Other receivables	Trade Payables	other payables
<b>Associates:</b>				
Wärtsilä-Hyundai Engine Company Ltd.	-	16,771	1,491	239
Others(*)	4,367	91	-	11,848
	₩ 4,367	16,862	1,491	12,087

(\*) Including associates and joint ventures' subsidiaries.

HYUNDAI HEAVY INDUSTRIES CO., LTD. AND SUBSIDIARIES  
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47. Related Parties, Continued

- (3) Significant transactions for the years ended December 31, 2016 and 2015 between subsidiaries and associates or joint ventures are as follows:

(In millions of won)

Subsidiaries	Associates and joint ventures	Sales and other	2016	
			Purchases and other	
			Raw materials purchase	Others purchase
Hyundai Samho Heavy Industries Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	₩ 22	186	-
Hyundai Oilbank Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	971	-	-
	Hyundai Cosmo Petrochemical Co., Ltd.	1,138,130	746,128	12
Hyundai Chemical Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd	83,680	5,960	-
HI Investment & Securities Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	3	-	-
	KoFC-Partners Pioneer Champ 2011-1 Investment Fund	752	-	-
Hyundai Venture Investment Corporation	KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	54	-	-
	KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	209	-	-
	Hyundai Agro-Bio Fund I	124	-	-
	Hyundai Youth Fund 1	250	-	-
	Hyundai Venture Investment corp. hydrogen fund	161	-	-
Hyundai Oilbank (Shanghai) Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.	-	91,592	-
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	BMC Hyundai S.A.	51,741	2,248	-
		₩ 1,276,097	846,114	12

(\*) Including associates and joint ventures' subsidiaries.

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47. Related Parties, Continued

(3) Significant transactions for the years ended December 31, 2016 and 2015 between subsidiaries and associates or joint ventures are as follows, continued:

(In millions of won)

Subsidiaries	Associates and joint ventures	Sales and other	2015	
			Raw materials purchase	Others purchase
Hyundai Samho Heavy Industries Co., Ltd.	Hyundai Corporation	₩ 3	-	26
	Wärtsilä-Hyundai Engine Company Ltd.	22	59,088	-
Hyundai Oilbank Co., Ltd.	New Korea Country Club	41	-	-
	Hyundai Corporation	300,120	166	130
	Wärtsilä-Hyundai Engine Company Ltd.	1,112	-	-
	Hyundai Cummins Engine Company	160	-	-
	Hyundai Cosmo Petrochemical Co., Ltd.	1,193,427	766,879	11
Hyundai and Shell Base Oil Co., Ltd.	Hyundai Corporation	1,458	-	-
Hyundai Venture Investment Corporation	KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	173	-	-
	KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	483	-	-
	Hyundai Agro-Bio Fund I	250	-	-
	Hyundai Youth Fund 1	215	-	-
	Hyundai Venture Investment Corp. Hydrogen Fund	148	-	-
HI Investment & Securities Co., Ltd.	KoFC-Partners Pioneer Champ 2011-1 Investment Fund	745	-	-
HI Asset Management Co., Ltd.	HI Global Dynamic Asset Allocation Private Securities Investment Trust 1	310	-	-
Hyundai Oilbank (Shanghai) Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.	-	120,991	-
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	BMC Hyundai S.A.	83,274	3,572	-
Hyundai Heavy Industries Co. Bulgaria	Hyundai Corporation	126	-	-
		₩ 1,582,067	950,696	167

(\*) Including associates and joint ventures' subsidiaries.

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47. Related Parties, Continued

- (4) Outstanding balances as of December 31, 2016 and 2015 between subsidiaries and associates or joint ventures are as follows:

(In millions of won)

Subsidiaries	Associates and joint ventures	2016			
		Trade and other receivables		Trade and other payables	
		Trade Receivable	Other receivables	Trade Payables	other payables
Hyundai Samho Heavy Industries Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	₩ 2	-	15	-
Hyundai Oilbank Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	76	-	-	-
	Hyundai Cosmo Petrochemical Co., Ltd.	101,887	8,434	63,867	906
Hyundai Chemical Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.	41,123	-	316	-
Hyundai Oilbank (Shanghai) Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.	-	-	20,450	-
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	BMC Hyundai S.A.	128,903	-	-	-
		₩ 271,991	8,434	84,648	906

(\*) Including associates and joint ventures' subsidiaries.

(In millions of won)

Subsidiaries	Associates and joint ventures	2015			
		Trade and other receivables		Trade and other payables	
		Trade Receivable	Other receivables	Trade Payables	other payables
Hyundai Samho Heavy Industries Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	₩ 2	-	-	-
Hyundai Oilbank Co., Ltd.	Wärtsilä-Hyundai Engine Company Ltd.	73	-	-	-
	Hyundai Cosmo Petrochemical Co., Ltd.	92,016	15	19,808	1
Hyundai Venture Investment Corporation	KoFC-HVIC Pioneer Champ 2010-11 Venture Fund	-	1,373	-	-
	KoFC-HVIC Pioneer Champ 2011-7 Venture Fund	-	483	-	-
	Hyundai Agro-Bio Fund I	-	63	-	-
	Hyundai Youth Fund 1	-	125	-	-
	Hyundai Venture Investment corp. hydrogen fund	-	80	-	-
Hyundai Oilbank (Shanghai) Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.	-	-	13,696	-
Hyundai Heavy Industries Brasil - Manufacturing and Trading of Construction Equipment	BMC Hyundai S.A.	112,250	-	-	-
		₩ 204,341	2,139	33,504	1

(\*) Including associates and joint ventures' subsidiaries.

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**47. Related Parties, Continued**

- (5) Details of guarantees between the Company, subsidiaries and associates and joint ventures as of December 31, 2016 are as follows:

*(In thousands of foreign currency)*

<b>Guarantee provider</b>	<b>Guarantee recipient</b>	<b>Provider</b>	<b>Type of guarantees</b>	<b>Currency</b>	<b>Guaranteed Amount</b>
Hyundai Oilbank Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.	Mizuho Corporate Bank Ltd,	Payment	USD	22,500

- (6) The Group sold its partial equity interest in its subsidiary, Hyundai M Partners Co., Ltd. (formerly, Hyundai Finance Corporation), to Hyundai Miraero Co., Ltd. which is a related party for the ₩ 33,275 million for the year ended December 31, 2016.

- (7) Details of guarantee which the Group provided for the related parties are as follows:

*(In millions of won)*

<b>Related parties</b>	<b>Pledged asset</b>	<b>Book value</b>	<b>Amount</b>	<b>Provider</b>
Pyeongchang wind power Co., Ltd.	Investments in associates – Pyeongchang wind power Co., Ltd.	₩ 3,129	79,200	Woori bank and others

- (8) Compensation for key management of the Group for the years ended December 31, 2016 and 2015 is ₩11,206 million and ₩18,342 million, respectively. Key management is defined as directors and internal auditors who have important roles and responsibilities involving the planning, operation and control of the Group.

**48. Shares in Non-consolidated Structured Companies**

- (1) Non-consolidated structured companies is taking into account the nature, purpose, activities of the structured entity and how the structured entity is financed, entered into such a structured asset-backed security, structured finance, investment fund and trust agreement with structured company. Shares in non-consolidated structured company fails to retain its dominance pursuant to K-IFRS NO.1110 are held by the Group is classified as asset-backed security, structured finance and investment fund according to the nature and purpose of the structured company, the nature of the equity and risk is as follows :

<b>Nature of structured company</b>	<b>Purpose and Activities</b>	<b>Main financing method</b>
Asset-backed security	Financing through asset-backed security and securitization	Issue ABCP
Structured finance	Real estate development project(including Social Overhead Capital)	Investment and borrowing
Investment fund and trust	Asset management and distribution	Issue beneficiary certificates

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**48. Shares in Non-consolidated Structured Companies, Continued**

- (2) The carrying amount of the assets and liabilities recognized in the line items of the consolidated financial statements and the Group's maximum exposure to loss from its interests in unconsolidated structured entities.

(In millions of won)

		<b>Asset-based security</b>	<b>Structured finance</b>	<b>Investment fund and trust</b>	<b>Total</b>
Asset					
Security	₩	-	25,048	37,679	62,727
Investment in associates		-	-	13,164	13,164
Total		-	25,048	50,843	75,891
Off balance account					
Purchase agreement		1,092,600	-	78,941	1,171,541
Maximum amount of exposure	₩	1,092,600	25,048	129,784	1,247,432
A method to determine the maximum exposure		Purchase agreement, Lending firm commitment	Book value	Book value and Payment guarantee	

**49. Non-current assets held for sale**

- (1) Non-current assets held for sale as of December 31, 2016 are summarized as follows:

(In millions of won)

	<b>Book value</b>
Property, plant and equipment(*1)	₩ 62,271
Investments in joint ventures(*2)	15,236
	₩ 77,507

(\*1) For the year ended December 31, 2016 the Group classified parts of land and buildings it holds as non-current assets held for sale since the Group had decided to sell those assets for the purpose of improving the financial structure.

(\*2) Relevant assets were classified into non-current assets held for sale as the Group had decided to sell the total ownership of Hyundai-Avancis Co., Ltd.

- (2) The Group recognized impairment loss of ₩3,609 million as the difference between the net fair value of the property, plant and equipment and the book value. Impairment loss are included in non-operating expenses.

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**50. Subsequent Events**

The Board of Directors of the Company decided to spin-off the special-line business including the electric and electronics business, the construction equipment business, and the robot and investment business in order to enhance the competitiveness of each business sector and to promote the diversification of management risks. The main contents of the spin-off are as follows, and it was finally approved at the shareholders' meeting on February 27, 2017.

<b>Division</b>	<b>Content</b>
Spin-off method	Equity spin-off
Spin-off Company	Remaining company after spin-off Hyundai Heavy Industries Co.,Ltd
	Newly established company by spin-off Hyundai Electric and energy Co.,Ltd (tentative name)
	Newly established company by spin-off Hyundai Construction Machinery Co.,Ltd (tentative name)
Spin-off Schedule	Newly established company by spin-off Hyundai Robotics Co.,Ltd (tentative name)
	Board resolution date November 15, 2016
	Date of general meeting February 27, 2017
	Date of spin-off April 1, 2017