Daewoo Shipbuilding & Marine Engineering Co., Ltd. And Its Subsidiaries

Consolidated Financial Statements
December 31, 2017 and 2016

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Index
December 31, 2017 and 2016

Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
Daewoo Shipbuilding & Marine Engineering Co., Ltd.

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

Management's Responsibilities for the Financial Statements

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

Auditor's Responsibilities

Our responsibility is to express an opinion on the consolidated financial statements based on our audit. We conducted our audit 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 financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the 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 significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion
In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Daewoo shipbuilding & Marine Engineering Co., and its subsidiaries as at December 31, 2017, and its financial performance and its cash flows for the year then ended in accordance with Korean IFRS.

Emphasis of Matters
Without qualifying our opinion, we draw attention to the following area of focus.

(1) Auditor's emphasis on area of focus on construction contracts[1]

Area of focus on construction contracts in accordance with the Practical Guidance of Auditing Standard 2016-1 are those matters that, in the auditor's professional judgment and communication with those charged with governance, were of most significance in the audit of the consolidated financial statements of the current period. These matters were addressed in the context of the audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have addressed the output of the audit process for the area of focus as below in forming an audit opinion on the consolidated financial statements of Daewoo Shipbuilding & Marine Engineering Co., Ltd., and its subsidiaries as a whole.

A. Revenue recognition based on input method

As explained in Note 4 (Critical Accounting Estimates and Assumptions) to the consolidated financial statements, the Group recognizes contract revenue and contract costs associated with the construction contract as revenue and expense respectively based on the percentage of completion of the contract activity at the end of the reporting period when the outcome of a construction contract can be estimated reliably. The percentage of completion of the contract activity is the proportion that costs incurred to date, excluding any contract cost that does not reflect the work performed, bear to the estimated total costs of the contract. The Group presents the gross amount due from customer for contract work as an asset for all contracts in progress for which costs incurred plus recognized profits (less recognized losses) exceed progress billings, and presents the gross amount due to customers for contract work as a liability for all contracts in progress for which progress billings exceed costs incurred plus recognized profits (less recognized losses).

Moreover, as explained in Note 36 (Construction Contracts) to the consolidated financial statements for the year period ended December 31, 2017, the changes in estimated contract revenue and contract costs have increased amounting to ₩ 95,037 million and decreased amounting to ₩ 790,041 million, respectively. According to the changes, the profit or loss for the current year has increased by ₩ 1,407,857 million, and the profit or loss for the succeeding year is estimated to decrease by ₩ 612,779 million. Based on above explained industry status, it is probable that the changes in estimated total contract revenue and costs are uncertain, and the changes in estimated total contract revenue and costs may have negative impacts on the profit or loss for the current year (or for the succeeding period); therefore, we identified revenue recognition based on the input method as a significant risk.

As at December 31, 2017, we performed the following audit procedures on the Group's revenue recognition based on the input method.

- We assessed whether the accounting policy of revenue recognition is appropriate.
- We reviewed the cause of the difference between the progress reported to the customer and the percentage of completion in construction based on the input method.
- We performed audit procedures for possible inflow of economic benefits.
  - Reviewed contract terms
  - Reviewed the significant decrease in prices of similar vessels and termination conditions
  - Inquired about customer's financial status and the progress of project

B. Uncertainty of estimated total contract costs

As explained in Note 4 (Critical Accounting Estimates and Assumptions) to the consolidated financial statements, estimated total contract costs is estimated based on future estimates of material cost, labor cost, construction period and others. As at December 31, 2017, when the estimation of remaining contract costs for construction in progress increases by 5%, the profit for the year before tax and net asset before tax decrease by ₩ 272,830 million.

Moreover, as explained in Note 4 (Critical Accounting Estimates and Assumptions) to the consolidated financial statements, in the prior period, the actual contract costs to estimated contract costs have significantly increased due to unexpected process delay and construction project inefficiency in offshore plants. In the current year, the estimated total contract costs has been changed due to effects of fluctuations in prices of materials and exchange rate in ships and offshore plants.

The increase in uncertainty of estimated total contract cost caused by price fluctuation risk in materials and the impacts of changes in estimated total contract costs on the profit or loss for the current year (or for the succeeding year) are considered; therefore, we identified uncertainty of estimated total contract costs as a significant risk.

As at December 31, 2017, in respect of the impacts of the Group's uncertainty of estimated total contract costs on the consolidated financial statements, we performed the following audit procedures.

- We reviewed process of internal control procedures designed and applied by the Group for the calculation of estimated total contract cost.
- We checked process of reporting estimated total contract cost of major projects to audit committee.
- We reviewed rationality of each components of total contract costs (material cost and labor time, etc.) compared to documents which practical department estimates.
- We reviewed the rationality of unit price and hourly labor cost applied to total contract cost calculation.
- We inquired about the project risk factors identified by the business and risk management departments in relation to the components of estimated total contract costs and whether the total contract costs are reflected.
- We compared total contract costs of similar construction projects and reviewed reasonableness.
- We reviewed reason for changing estimated total contract cost of the costs incurred after the reporting period.

C. Measurement of percentage of completion in construction

As explained in Note 4 (Critical Accounting Estimates and Assumptions) to the consolidated financial statements, the Group measures percentage of completion of the contract activity by the proportion that contract costs incurred to date, excluding any contract cost that does not reflect the work performed, bear to the estimated total contract costs.

Moreover, as explained in Note 36 (Construction Contracts) to the consolidated financial statements, in respect to contract in progress as at December 31, 2017, the changes in estimated total contract cost decreased by ₩ 790,041 million, and aggregated cost incurred amounts to ₩ 33,689,008 million. We identified measurement of percentage of completion as a significant risk as increase in uncertainty of estimated total contract cost due to effects of fluctuations in prices of materials and exchange rate in ships and offshore plants.

As at December 31, 2017, in respect of the Group's estimated total contract costs and aggregated cost incurred that have impacts on the measurement of percentage of completion, we have performed the following audit procedures.

- We performed analytical review procedures on changes in accumulated cost incurred and estimated total contract costs.
- We determined if there were any contract costs that did not reflect the work performed and excluded from the costs incurred and estimated, and reviewed related accounting policies.
- We compared the percentage of completion in the report submitted to the customer and percentage of completion based on input method, and inquired about the reason of the difference.
- We obtained understanding of direct cost allocation policy and tested internal control of cost allocation and transfer for each construction.
- We obtained understanding of indirect expense allocation policy and tested internal control of indirect expense allocation.
- We independently tested the occurrence and timing of cost recognition, which incurred during the year, for each construction contract.

D. Collectability of the amount due from customer under construction contracts

As explained in Note 4 (Critical Accounting Estimates and Assumptions) to the consolidated financial statements, the Group assess at the end of each reporting period whether there is any objective evidences that the amount due from the customer under construction contracts is impaired. The objective evidences include adverse change in the customer's financial situation, increase in the probability of contract termination due to delay in contract in progress or decrease in vessel price, delay in construction completion date, and others. After the Group's assessment on the objective evidence of impairment and if there is an objective evidence of impairment as a result of one or more events that occurred, and that loss event has an impact on the estimated future cash flows of construction contract that can be reliably estimated, the Group recognize the amount as 'impairment loss'.

As explained in Note 36 (Construction Contracts) to the consolidated financial statements, the Group recognized the amount due from customer under construction contract amounts to ₩ 4,089,030 million and ₩ 4,744,493 million as at December 31, 2017 and 2016, respectively, which represents 35.7% and 31.5% of the Group's total assets. The uncertainty in collectability of the amount due from customer under construction contracts has been increased because of contract termination and delay in contract completion that are caused by customers' financial difficulties due to extended global oil price decline. Therefore, we identified the collectability of the amount due from customer under construction contracts as a significant risk.

As at December 31, 2017, in respect of the collectability of the amount due from customer under construction contracts, we have performed the following audit procedures.

- We obtained understanding and assessed the internal control procedures that are designed and applied by the Group for the purpose of assessing the collectability of the amount due from customers.
- We inquired about reason for occurrence in the significant amount due from customer.
- We inquired about the status of project that recognized the significant amount due from customer.
- We inquired about contract termination possibility and customer's financial status.
- We reviewed the reasonableness of collectability assessment of the amount due from customer.

E. Accounting treatment regarding variations in contract work

As explained in Note 4 (Critical Accounting Estimates and Assumptions) to the consolidated financial statements, the Group includes a variation in contract revenue when it is probable that the customer will approve the variation and the amount of revenue arising from the variation or the contract is sufficiently advanced that it is probable that the specified performance standards will be met or exceeded and the amount of revenue can be reliably measured.

Total contract revenue at the initial amount of revenue agreed in the contract; however, the measurement of contract revenue is affected by a variety of uncertainties that depend on the outcome of future events such as increase contract revenue due to variations in contract work, claims and inventive payment; or decrease contract revenue as a result of penalties arising from delay caused by the Group in the completion of the contract.

It is probable that variations may occur, and there are uncertainties in the measurement of contract revenue; therefore, we identified accounting treatment regarding variations in contract work as a significant risk.

As at December 31, 2017, in respect of accounting treatment regarding variations in contract work, we have performed the following review procedures.

- We obtained understanding and assessed the internal control procedures that are designed and applied by the Group for the accounting treatment regarding variations in contract work.
- We tested supporting documents for the approval of customers in relation to the changing contract amounts from variations in contract work.
- We inquired about reason of significant change in contract revenue.
- We inquired about major contract condition such as cost reimbursement items and others.
- We inquired about approval or negotiation or probability of contract revenue included due to changes in specification of contract caused by the customer.

F. Accounting treatment regarding liquidated damage arising from delay

As explained in Note 4 (Critical Accounting Estimates and Assumptions), as of December 31, 2017, the maximum amount of liquidated damage arising from delay that the Group may incur estimated to ₩ 347,816 million. The best estimate of liquidated damage arising from delay that is likely payable by the Group as of December 31, 2017, is ₩ 137,182 million and the amount is deducted from the contract revenue amount.

The estimation of liquidate damage arising from delay is affected by a variety of uncertainties that depend on the outcome of future events; therefore, we identified the estimation of liquidated damage arising from delay as a significant risk.

As at December 31, 2017, in respect to accounting treatment regarding estimation of liquidated damage arising from delay, we have performed the following audit procedures.

- We reviewed the condition of liquidated damage arising from delay and contract completion date and reviewed condition of contract for major milestone.
- We performed analytical review procedure between expected completion date and estimated milestone completion date within the contract for the probable projects with liquidated damage arising from delay.
- We reviewed the reasonableness of the basis of estimated liquidated damage arising from delay.

Other Matters

We audited the consolidated financial statements of Daewoo Shipbuilding & Marine Engineering Co., Ltd. and its subsidiaries for the year ended December 31, 2016 and expressed a qualified opinion on those statements on March 29, 2017. We expressed a qualified opinion on the basis that the audit report did not fully disclose the uncertainty on the Group's ability to continue as a going concern and the auditing scope limitation related to the cut-off procedure of cost of sales.

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

Seoul, Korea
March 22, 2018

This report is effective as of March 22, 2018, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Consolidated Statements of Financial Position
December 31, 2017 and 2016

(in millions of Korean won)	Notes		December 31, 2017		December 31, 2016
Assets					
Current assets					
Cash and cash equivalents	3,5,6,7,35	₩	205,795	₩	224,268
Short-term financial instruments	3,5,7,35		82,504		29,488
Financial assets at fair value through profit or loss	3,5,25,35		31,377		7,819
Short-term held-to-maturity financial assets	5,9		27		8
Trade and other receivables	3,5,8,15,25,36		442,749		372,678
Due from customers for contract work	3,4,5,15,36		4,089,030		4,744,493
Current firm commitment assets	25		5,593		142,269
Current portion of currency forward assets	3,5,25,35		70,138		-
Inventories	10,15		743,359		1,071,062
Current tax assets	24		1,487		23
Other current assets	11		936,156		1,159,386
Assets held for sale	41		43,087		247,994
			6,651,302		7,999,488
Non-current assets					
Long-term financial instruments	3,5,7		414,024		386,329
Long-term financial assets at fair value through profit or loss	3,5,25,35		-		1,228
Held-to-maturity financial assets	5,9		305		339
Available-for-sale financial assets	3,4,5,9,15		52,085		88,017
Investment in associates and joint ventures	4,13,15		15,956		18,359
Long-term trade and other receivables	3,5,8,35,36		183,238		325,361
Firm commitment assets	25		314		315,893
Currency forward assets	3,5,25,35		67,637		-
Property, plant and equipment	4,14,15		4,003,428		5,197,877
Investment properties	16		7,914		10,171
Intangible assets	4,17		37,314		73,305
Deferred tax assets	4,24		1,353		514,588
Other non-current assets	11		11,883		133,875
			4,795,451		7,065,342
Total assets		₩	11,446,753	₩	15,064,830

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Consolidated Statements of Financial Position
December 31, 2017 and 2016

(in millions of Korean won)	Notes		December 31, 2017		December 31, 2016
Liabilities					
Current liabilities					
Short-term borrowings	3,5,15,20,35,43	₩	2,046,503	₩	2,860,994
Financial liabilities at fair value through profit or loss	3,5,25,35		42,724		6,461
Trade and other payables	3,5,18,35		1,072,985		1,675,392
Current portion of long-term debentures	3,5,19,43		-		1,348,886
Current portion of long-term borrowings	3,5,15,20,35,43		460,882		1,486,203
Current financial guarantee liabilities	3,5		-		3,022
Current provisions	23		-		3,698
Current firm commitment liabilities	25		28,020		1,708
Current portion of currency forward liabilities	3,5,25,35		10,023		211,214
Due to customers for contract work	4,25,36		2,354,607		4,513,338
Current tax liabilities	24		563		2,306
Other current liabilities	21		107,782		140,350
Liabilities held for sale	41		18,953		115,091
			6,143,042		12,368,663
Non-current liabilities					
Debentures	3,5,19,35,43		530,661		192,424
Long-term borrowings	3,5,15,20,35,43		673,611		742,041
Long-term financial liabilities at fair value through profit or loss	3,5,25,35		-		4,470
Long-term trade and other payables	3,5,18,35		136,145		153,726
Net defined benefit liabilities and other long-term employee benefit liabilities	4,22		160,540		191,394
Provisions	23,37		693,822		395,899
Financial guarantee liabilities	3,5		1,472		86,650
Firm commitment liabilities	25		65,507		-
Currency forward liabilities	3,5,25,35		263		260,677
Deferred tax liabilities	24		51,005		3,526
Other non-current liabilities	21		24		5,983
			2,313,050		2,036,790
Total liabilities			8,456,092		14,405,453
Equity					
Share capital	26,35,43		538,281		332,885
Other contributed capital	28,35,43		368,803		2,830,216
Hybrid bonds	28,35,42		2,284,775		1,000,000
Components of other capital	9,28		293,725		410,577
Accumulated deficit	27		(92,163)		(3,546,768)
Equity attributable to owners of the Parent			3,393,421		1,026,910
Non-controlling interest			(402,760)		(367,533)
Total equity			2,990,661		659,377
Total liabilities and equity		₩	11,446,753	₩	15,064,830

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

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Consolidated Statements of Profit or Loss
Years Ended December 31, 2017 and 2016

(in millions of Korean won, except per share amounts)	Notes		2017		2016
Sales	4,25,35,36,40	₩	11,101,818	₩	12,819,221
Cost of sales	34,35,36		9,557,731		13,449,557
Gross profit (loss)	40		1,544,087		(630,336)
Selling expenses	30,34,35		178,814		131,699
Administrative expenses	30,34,35		591,316		716,405
Research and development expenses	34		40,953		52,401
Operating profit (loss)			733,004		(1,530,841)
Finance income	5,31,35		1,449,884		33,748
Finance costs	5,31,35		46,550		115,345
Share of profit (loss) from associates and joint ventures	13		(167,258)		5,183
Foreign exchange gains	3,5,32		654,346		595,170
Foreign exchange losses	3,5,32		720,701		660,871
Other non-operating income	5,25,33		829,717		461,107
Other non-operating expenses	5,25,33		1,543,397		749,808
Profit (loss) before income tax expense			1,189,045		(1,961,657)
Income tax expense	4,24		543,287		827,831
Profit (loss) for the year		₩	645,758	₩	(2,789,488)
Profit (loss) is attributable to:					
Owners of the Parent Company		₩	621,492	₩	(2,734,139)
Non-controlling interest			24,266		(55,349)
Earning (loss) per share					
attributable to the equity holders of the Parent Company	29				
Basic earning (loss) per share		₩	7,141	₩	(126,098)
Diluted earning (loss) per share			4,995		(126,098)

The above consolidated statements of profit or loss should be read in conjunction with the accompanying notes.

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Consolidated Statements of Comprehensive Income
Years Ended December 31, 2017 and 2016

(in millions of Korean won)		2017		2016
Profit (loss) for the year	₩	645,758	₩	(2,789,488)
Other comprehensive income				
Items that will not be reclassified subsequently to profit or loss				
Remeasurements of net defined benefits liabilities		(3,148)		36,924
Revaluation surplus of property, plant and equipment		(81,952)		(7,494)
Items that may be subsequently reclassified to profit or loss				
Gains (losses) on translation of foreign operations		(3,913)		4,509
Changes in the fair value of available-for-sale financial assets		646		(4,947)
Share of other comprehensive income of associates and joint ventures		(21)		6
		(88,388)		28,998
Total comprehensive income (loss) for the year	₩	557,370	₩	(2,760,490)
Total comprehensive income (loss) is for the year attributable to:				
Owners of the Parent Company	₩	527,133	₩	(2,709,492)
Non-controlling interest		30,237		(50,998)

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

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Consolidated Statements of Changes in Equity
Years Ended December 31, 2017 and 2016

(in millions of Korean won)

	Attributable to owners of the Parent Company											
		Other paid-in capital			Components of other capital							
	Share capital	Other contributed capital	Treasury shares	Hybrid bond	Changes in the fair value of available-for-sale financial assets	Share of other comprehensive income of associates and joint ventures	Gains (losses) on translation of foreign operations differences	Revaluation surplus of property, plant and equipment	Accumulated deficit	Subtotal	Non-controlling interest	Total
Balance at January 1, 2016	₩ 1,372,077	₩ (6,059)	₩ -	₩ -	₩ 16,665	₩ 16	₩ (42,832)	₩ 448,524	₩ (859,329)	₩ 929,062	₩ (310,191)	₩ 618,871
Capital reduction	(1,260,478)	1,260,478	-	-	-	-	-	-	-	-	-	-
Issuance of shares	221,286	1,563,028	-	-	-	-	-	-	-	1,784,314	-	1,784,314
Issuance of permanent convertible notes	-	-	-	1,000,000	-	-	-	-	-	1,000,000	-	1,000,000
Other changes of capital	-	12,769	-	-	-	-	-	-	10,257	23,026	(6,343)	16,683
Total comprehensive income	-											
Loss for the year	-	-	-	-	-	-	-	-	(2,734,139)	(2,734,139)	(55,349)	(2,789,488)
Other comprehensive income	-	-	-	-	(4,948)	5	641	(7,494)	36,443	24,647	4,350	28,997
Total comprehensive income	-	-	-	-	-	-	-	-	-	-	-	-
Balance at December 31, 2016	₩ 332,885	₩ 2,830,216	₩ -	₩ 1,000,000	₩ 11,717	₩ 21	₩ (42,191)	₩ 441,030	₩ (3,546,768)	₩ 1,026,910	₩ (367,533)	₩ 659,377
Balance at January 1, 2017	₩ 332,885	₩ 2,830,216	₩ -	₩ 1,000,000	₩ 11,717	₩ 21	₩ (42,191)	₩ 441,030	₩ (3,546,768)	₩ 1,026,910	₩ (367,533)	₩ 659,377
Payment of fractional share cost	-	-	(726)	-	-	-	-	-	-	(726)	-	(726)
Transfer of reserves to accumulated deficit	-	(2,825,626)	-	-	-	-	-	-	2,825,626	-	-	-
Debt for equity swap	205,396	342,526	-	-	-	-	-	-	-	547,922	-	547,922
Issuance of permanent convertible notes	-	(264)	-	1,284,775	-	-	-	-	-	1,284,511	-	1,284,511
Interest payment for hybrid bonds	-	-	-	-	-	-	-	-	(15,007)	(15,007)	-	(15,007)
Other changes in capital	-	22,678	-	-	-	-	-	(24,139)	24,139	22,678	(65,464)	(42,786)
Total comprehensive income												
Profit for the year	-	-	-	-	-	-	-	-	621,492	621,492	24,266	645,758
Other comprehensive income	-	-	-	-	670	(21)	(11,411)	(81,952)	(1,645)	(94,359)	5,971	(88,388)
Total comprehensive income	-	-	-	-	-	-	-	-	-	-	-	-
Balance at December 31, 2017	₩ 538,281	₩ 369,530	₩ (726)	₩ 2,284,775	₩ 12,387	₩ -	₩ (53,602)	₩ 334,939	₩ (92,163)	₩ 3,393,421	₩ (402,760)	₩ 2,990,661

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

Daewoo Shipbuilding & Marine Engineering Co., Ltd. And its Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2017 and 2016

(in millions of Korean won)	Notes	2017	2016
Cash flows from operating activities			
Cash used in operating activities:	38		
Profit (loss) for the year		₩ 645,758	₩ (2,789,488)
Adjustments		1,453,995	2,366,408
Change in working capital		(2,987,955)	156,539
		(888,202)	(266,540)
Dividends received		1,174	3,847
Interests received		24,834	22,279
Interests paid		(164,145)	(265,997)
Income tax refunded (paid)		6,440	(24,595)
Net cash outflow from operating activities		(1,019,899)	(531,007)
Cash flows from investing activities	39		
Cash inflows from investing activities:			
Acceptance of governments grants		3,728	2,294
Decrease in short-term financial instruments		33,124	2,000
Decrease in long-term financial instruments		-	2
Collection of short-term loans		29,121	5,501
Disposal of held-to-maturity financial assets		7	12
Disposal of available-for-sale financial assets		1,785	17,070
Collection of long-term loans		9,329	56
Disposal of property, plant and equipment		25,554	204,644
Disposal of intangible assets		580	803
Disposal of asset held for sale		258,353	36,336
Disposal of other investment assets		551	3,122
Disposal of investment properties		785	-
Disposal of investments in associates and joint ventures		1,127	2,110
Cash flows from changes in scope of conolidation		-	7,873
		364,044	281,823
Cash outflows from investing activities:			
Redemption of governments grants		706	387
Increase in short-term financial instruments		17,012	19,496
Increase in long-term financial instruments		108,530	386,038
Acquisition of held-to-maturity financial assets		3	24
Acquisition of available-for-sale financial assets		404	10,060
Increase in long-term and short-term loans		28,187	22,153
Acquisition of property, plant and equipment		108,831	119,836
Acquisition of intangible assets		7,594	6,428
Cash flows from changes in scope of conolidation		69,941	-
Acquisition of other investment assets		112	85
		(341,320)	(564,507)
Net cash inflow (outflow) from investing activities		22,724	(282,684)

Daewoo Shipbuilding & Marine Engineering Co., Ltd. and Subsidiaries
Consolidated Statement of Cash Flows
Years Ended December 31, 2017 and 2016

(in millions of Korean won)	**Notes**	**2017**	**2016**
Cash flows from financing activities	39		
Cash inflows from financing activities:			
Proceeds from short-term borrowings		1,647,919	4,210,096
Proceeds from long-term borrowings		61,716	1,603
Reversal of share issue cost		13	-
		1,709,648	4,211,699
Cash outflows from financing activities:			
Redemption of short-term borrowings		583,989	2,703,189
Redemption of current portion of long-term borrowings		112,797	932,783
Redemption of current portion of long-term debentures		-	769,797
Early redemption of long-term borrowings		7,734	5,100
Acquisition of investment in subsidiaries		-	249
Interst paid for hybrid bonds		15,007	-
Payment of share issue cost		2,232	1,462
		(721,759)	(4,412,581)
Net cash inflow (outflow) from financing activities		987,889	(200,882)
Net decrease in cash and cash equivalents		(9,286)	(1,014,573)
Cash and cash equivalents at the beginning of the year		224,268	1,235,931
Effects of exchange rate changes on cash and cash equivalents		(9,187)	2,909
Cash and cash equivalents at the end of the year	6	₩ 205,795	₩ 224,267

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

1. General Information

Daewoo Shipbuilding & Marine Engineering Co., Ltd. (the Company), the controlling company in accordance with Korean IFRS 1110 *Consolidated Financial Statements,* was established on October 1, 2000, as one of entities spun-off from Daewoo Heavy Industry Co., Ltd. The spun-off registration date is October 23, 2000. On February 2, 2001, the Company listed its stock on the Korea Exchange and also listed its foreign Depository Receipts on the Luxembourg Stock Exchange on June 10, 2003. Moreover, the Company changed its name from Daewoo Shipbuilding & Commerce Co., Ltd. to Daewoo Shipbuilding & Marine Engineering Co., Ltd. The Company's major businesses are building and selling various types of ship, including special-purpose ships and construction of offshore plants. As at December 31, 2017, the Company's major shareholders consist of Korea Development Bank ("KDB") (50.06%) and others.

1.1 Consolidated Subsidiaries

As at December 31, 2017, there are no significant changes in the scope of consolidation and percentage of ownership interests held by the Group compared to December 31, 2016.

1.2 Changes in Scope for Consolidation

Subsidiaries newly included in the consolidation for the year ended December 31, 2017:

Name of subsidiary	Reason
DSME Information and Consulting	Included in a subsidiary as newly established

Subsidiaries excluded from the consolidation for the year ended December 31, 2017:

Name of subsidiary	Reason
DSEC Co., Ltd., BIDC Co., Ltd., DSME Construction Co., Ltd., Welliv Corp.	Loss of control due to disposal of shares
Shinhan Heavy Industries Co., Ltd., Samwoo Heavy Industry Co., Ltd.	Loss of control over these subsidiaries due to the agreement with its major creditor bank which was made by major creditor bank management procedure

2. Basis of Preparation and Significant Accounting Policies

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

2.1 Basis of Preparation

Daewoo Shipbuilding & Marine Engineering Co., Ltd. and its subsidiaries (collectively referred to as the "Group") maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

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

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

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 4.

(a) New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2017. The adoption of these amendments did not have any material impact on the financial statements.

- Amendments to Korean IFRS 1007 *Statement of Cash Flows*

Amendments to Korean IFRS 1007 *Statement of Cash flows* require to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash flows (Note 39).

- Amendments to Korean IFRS 1012 *Income Tax*

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

- Amendments to Korean IFRS 1112 *Disclosures of Interests in Other Entities*

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

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

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

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

When an investment in an associate or a joint venture is held by, or is held indirectly through, an entity that is a venture capital organization, or a mutual fund, unit trust and similar entities including investment-linked insurance funds, the entity may elect to measure that investment at fair value through profit or loss in accordance with Korean IFRS 1109. The amendments clarify that an entity shall make this election separately for each associate of joint venture, at initial recognition of the associate or joint venture. These amendments will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Group does not expect the amendments to have a significant impact on the financial statements because the Group is not a venture capital organization.

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

Paragraph 57 of Korean IFRS 1040 clarifies that a transfer to, or from, investment property, including property under construction, can only be made if there has been a change in use that is supported by evidence, and provides a list of circumstances as examples. The amendment will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Group does not expect the amendment to have a significant impact on the financial statements.

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

Amendments to Korean IFRS 1102 clarify accounting for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. Amendments also clarify that the measurement approach should treat the terms and conditions of a cash-settled award in the same way as for an equity-settled award. The amendments will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Group does not expect the amendments to have a significant impact on the financial statements.

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

According to the enactment, the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income (or part of it) is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration. If there are multiple payments or receipts in advance, the entity shall determine a date of the transaction for each payment or receipt of advance consideration. The enactment will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Group does not expect the enactment to have a significant impact on the financial statements.

- Enactment of Korean IFRS 1116 *Leases*

Korean IFRS 1116 *Leases* issued on May 22, 2017 is effective for annual periods beginning on or after January 1, 2019, with early adoption permitted. This standard will replace Korean IFRS 1017 *Leases*, Interpretation 2104 *Determining whether an Arrangement contains a Lease*, Interpretation

2015 *Operating Leases-Incentives*, and Interpretation 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*.

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

For a contract that is, or contains, a lease, the entity shall account for each lease component within the contract as a lease separately from non-lease components of the contract. A lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. The lessee may elect not to apply the requirements to short-term lease (a lease term of 12 months or less at the commencement date) and low value assets (e.g. underlying assets below $ 5,000). In addition, as a practical expedient, the lessee may elect, by class of underlying asset, not to separate non-lease components from lease components, and instead account for each lease component and any associated non-lease components as a single lease component.

Lessee accounting

A lessee shall apply this standard to its leases either:

·retrospectively to each prior reporting period presented applying Korean IFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* (Full retrospective application); or

·retropectively with the cumulative effect of initially applying the standard recognized at the date of initial application.

The Group has not yet elected the application method.

The Group did not analyze the financial effects of the initial application of Korean IFRS 1116, so, it is difficult to provide reasonable estimates of financial effects.

Lessor accounting

The Group expects the effect on the financial statements applying the new standard will not be significant as accounting for the Group, as a lessor, will not significantly change.

- Enactment of Korean IFRS 1109 *Financial Instruments*

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

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

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

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

With the implementation of Korean IFRS 1109, the Group began to adjust accounting system is analyzing the financial impact. The following areas are likely to be affected in general.

(a) Classification and Measurement of Financial Assets

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

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

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

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

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

As at December 31, 2017, the Group owns loans and receivables of ₩ 5,417,340 million, financial assets held-to-maturity of ₩ 331 million, financial assets available-for-sales of ₩ 52,085 million, and financial assets at FVTPL of ₩ 31,377 million.

According to Korean IFRS 1109, a debt instrument is measured at amortized cost if: a) the objective of the business model is to hold the financial asset for the collection of the contractual cash flows, and b) the contractual cash flows under the instrument solely represent payments of principal and interest. As at December 31, 2017, the Group measured loans and receivables of ₩ 5,417,340 million and financial assets held-to-maturity of ₩ 331 million at amortized costs.

According to Korean IFRS 1109, a debt instrument is measured at fair value through other comprehensive income if the objective of the business model is achieved both by collecting contractual cash flows and selling financial assets; and the contractual cash flows represents solely payments of principal and interest on a specific date under contract terms. As at December 31, 2017, the Group does not hold debt instruments classified as financial assets available-for-sale.

According to Korean IFRS 1109, equity instruments that are not held for trading, the Group can make an irrevocable election at initial recognition to classify the instruments as assets measured at fair value through other comprehensive income, which all subsequent changes in fair value being recognized in other comprehensive income and not recycled to profit or loss. As at December 31, 2017, the Group holds equity instruments of ₩ 52,085 million classified as financial assets available-for-sale and recycled unrealized gain or loss of ₩ 5 million arose from the equity instruments to profit or loss.

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

(b) Classification and Measurement of Financial Liabilities

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

Under Korean IFRS 1039, all financial liabilities designated at fair value through profit or loss recognized their fair value movements in profit or loss. However, under Korean IFRS 1109, certain fair value movements will be recognized in other comprehensive income and as a result profit or loss from fair value movements may decrease.

As at December 31, 2017, financial liabilities at FVTPL consist of trading derivative instruments that were not eligible as hedged items or hedging instruments and financial guarantee contract liabilities designated as financial liabilities at FVTPL, and during 2017, the Group recognized profit for the year of ₩ 2,675 million for the financial liabilities measured at fair value through profit or loss due to their fair value decrease.

(c) Impairment: Financial Assets and Contract Assets

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

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

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

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

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

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

As at December 31, 2017, the Group owns debt investment carried at amortized cost of ₩ 5,417,671 million (loans and receivables of ₩ 5,417,340 million, financial asset held-to-maturity of ₩ 331 million). And, the Group recognized loss allowance of ₩ 2,021,221 million for these assets.

(d)Hedge Accounting

Hedge accounting mechanics (fair value hedges, cash flow hedges and hedge of net investments in a foreign operations) required by Korean IFRS 1039 remains unchanged in Korean IFRS 1109, however, the new hedge accounting rules will align the accounting for hedging instruments more closely with the Group's risk management practices. As a general rule, more hedge relationships might be eligible for hedge accounting, as the standard introduces a more principles-based approach. Korean IFRS 1109 allows more hedging instruments and hedged items to qualify for hedge accounting, and relaxes the hedge accounting requirement by removing two hedge effectiveness tests that are a prospective test to ensure that the hedging relationship is expected to be highly effective and a quantitative retrospective test (within range of 80-125%) to ensure that the hedging relationship has been highly effective throughout the reporting period.

With implementation of Korean IFRS 1109, volatility in profit or loss may be reduced as some items that were not eligible as hedged items or hedging instruments under Korean IFRS 1039 are now eligible under Korean IFRS 1109.

As at December 31, 2017, the Group applies the hedge accounting to its assets, liabilities and firm commitments that amount to ₩ 39,869 million. With applying the hedge accounting, the Group recognized ₩ 940 million in loss during the current year.

Furthermore, when the Group first applies Korean IFRS 1109, it may choose as its accounting policy choice to continue to apply all of the hedge accounting requirements of Korean IFRS 1039 instead of the requirements of Korean IFRS 1109.

The fair value hedge accounting selected by the Group satisfies the hedge accounting requirements of Korean IFRS 1039; therefore, the Group does not expect to have a material impact on the financial statements when applying the standard.

- Korean IFRS 1115 *Revenue from Contracts with Customers*

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

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

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

· Identify contracts with customers

· Identify the separate performance obligation

· Determine the transaction price of the contract

· Allocate the transaction price to each of the separate performance obligations, and

· Recognize the revenue as each performance obligation is satisfied.

Since the second half of the year, the Group has formed a task force team consisting of the members from accounting department and the accounting firm, which is an external consultant, to identify the effect of Korean IFRS 1115 on the financial information of the Group. The Group regularly reports the implementation plan and results to management.

The Group plans to perform detailed analysis on financial effects of applying the standard and disclose the result of the analysis in the notes on the financial statement as at March 31, 2018.

As at October 30, 2017, the Group performed an impact assessment to identify potential financial effects of applying Korean IFRS 1115. The assessment was performed based on available information as at December 31, 2017.

The results of the assessment as at October 30, 2017 may change due to additional information that the Group may obtain after the assessment.

(a) Identify performance obligation

The Group provides ships and offshore plant and special ships, and other business division to a customer. During 2017, revenue from the ships and offshore plant and special ships division amount to ₩7,338,133 million and ₩3,909,685 million, respectively, which represent 62.2% and 35.2% of the Group's total revenue, respectively.

With the implementation of Korean IFRS 1115, the Group identifies a construction of each vessels in contracts entered by shipbuilding, offshore plant and special ships division as a performance obligation. The timing of revenue recognition depends on a performance obligation is satisfied at a point in time or over time. Where a performance obligation is satisfied over time, the related revenue is also recognized over time.

The Group has obligation to build and provide a ship ordered by a customer over the service period; therefore, the Group will recognize the allocated transaction price for each performance obligation over the service period as revenue.

The Group could not analyze the financial effects of separating performance obligations in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group may have an impact on the Group’s revenue.

(b) A performance obligation is satisfied over time

The ships and offshore plant and special ships division of the Group builds and sells a ship ordered by a customer, and it takes over one-year to build. The Group recognizes revenue over time based on costs incurred relative to total estimated costs to determine the extent of progress toward completion.

In accordance with Korean IFRS 1115, revenue is recognized over time, if one of the following three criteria is met:

· The customer simultaneously receives and consumes the benefits provided by the entity’s performance as the entity performs;

· The entity’s performance creates or enhances an assets that the customer controls as the asset is created or enhanced; or.

· The entity’s performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date.

The Group could not analyze the financial effects of revenue recognition timing for the ships and offshore plant and special ships division in detail. Meanwhile, a contract term analysis was performed by an accounting firm, which is an external consultant, and determined the Group has enforceable right to payment for performance completed to date. As a result of the impact assessment performed as at October 30, 2017, the Group does not expect to have an impact on the Group’s revenue.

(c) Input methods for measuring progress

Accounting to Korean IFRS 1115, a faithful depiction of the Group’s performance might be to recognize revenue at an amount equal to the cost of a good used to satisfy a performance obligation if the Group expects at contract inception that all of the following conditions would be met: i) the good is not distinct; ii) the customer is expected to obtain control of the good significantly before receiving services related to the good; iii) the cost of the transferred good is significant relative to the total expected costs to completely satisfy the performance obligation; and iv) the Group procures the good from a third party and is not significantly involved in designing and manufacturing the good.

The Group could not analyze the financial effects of input methods for measuring progress in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group expects to have an impact on the Group's revenue.

(d) Variable consideration

The Group may experience variable consideration due to liquidated damage (LD) and change order caused by the delays in delivery and overweight of vessels.

With implementation of Korean IFRS 1115, the Group estimates an amount of variable consideration by using the expected value which the Group expects to better predict the amount of consideration. The Group recognize revenue with transaction price including variable consideration 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 uncertainty associated with variable consideration has resolved.

The Group could not analyze the financial effects of variable consideration policy in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group expects to have an impact on the Group's revenue.

(e) Significant financing component in the contract

Heavy Tail payment method that collects most of receivable in delivery of the ship is recently spreading in shipbuilding industry.

According to Korean IFRS 1115, in determining the transaction price, an entity adjusts the promised amount of consideration for the effects of the time value of money if the timing of payments agreed to by the parties to the contract provides the customer or the entity with a significant benefit of financing the transfer of goods or services to the customer.

According to Korean IFRS 1115, the consideration is recognized as revenue when there is a significant financing component in a contract. However, if the Group expects that the period between when the Group transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less, the Group will apply a practical expedient that does not adjust the promised amount of consideration for the effects of a significant financing component.

The Group could not analyze the financial effects of significant financing component in the contract in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group expects a decrease in retained earnings before appropriation if the Group applies the effect of the time value of money between the revenue recognized by the percentage of completion applying Korean IFRS 1115 and collected revenue amount.

(f) Allocating the transaction price

With implementation of Korean IFRS 1115, the transaction price in an arrangement must be allocated to each separate performance obligation based on the relative standalone selling prices of the goods or services being provided to a customer. The Group determines the standalone selling price for each separate performance obligation by using `adjust market assessment approach'. In limited circumstances, the Group plans to use `expected cost plus a margin approach' to estimate expected cost plus a reasonable margin.

The Group could not analyze the financial effects of allocating each separate performance obligation based on the relative standalone selling prices in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group does not expect to have an impact on the Group's revenue.

(g) Incremental costs of obtaining a contract

The Group pays broker commissions to its brokers based on supply contracts signed through the brokers. The commission is an incremental cost because it would not have incurred if the contract has not been obtained.

With implementation of Korean IFRS 1115, the Group recognizes as an asset the incremental costs of obtaining a contract with a customer of the Group expects to recover those costs, and costs that are recognized as assets are amortized over the period that the related goods or services transfer to the customer. However, the Group plans to apply a practical expedient that permits an entity to expense the costs to obtain a contract as incurred when the expected amortization period is one year or less.

The Group could not analyze the financial effects of capitalization of incremental costs obtaining a contract in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group does not expect to have an impact on the Group's revenue.

(h) Warranties

The Group provides customers for certain project with a year warranty in addition to the assurance that the product complies with agreed-upon specifications. Therefore, the promised service is a performance obligation in accordance with Korean IFRS 1115.

In accordance with Korean IFRS 1115, if the Group provides the customer with a service in addition to the assurance that the product complies with agreed-upon specifications, the Group accounts for the promised warranty as a performance obligation and allocate a portion of the transaction price to that performance obligation.

The Group could not analyze the financial effects of distinguishing warranty obligations in detail. Meanwhile, as a result of the impact assessment performed as at October 30, 2017, the Group expects a decrease in retained earnings before appropriation as the portion of the transaction price is allocated to the warranty and revenue is recognized when the performance obligation is fulfilled in applying Korean IFRS 1115.

2.2 Basis of Consolidation

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

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

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

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

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

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

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

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

2.3 Business Combination

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

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

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

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

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

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

The subsequent accounting for changes in fair value of the contingent consideration, which does qualify as measurement period adjustments, depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity.

Contingent consideration that is classified as an asset or a liability is remeasured at subsequent reporting dates in accordance with Korean IFRS 1039 *Financial Instruments: Recognition and Measurement* or Korean IFRS, *Provisions, Contingent Liabilities and Contingent Assets*, as appropriate, with the corresponding gain or loss being recognized in profit or loss.

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

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

2.4 Investment in Associates and Joint ventures

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

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

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

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

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

When the Group reduces its ownership interest in an associate or a joint venture but continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities.In addition, the Group applies Korean IFRS 1105 to a portion of investment in an associate or a joint venture that meets the criteria to be classified as held for sale.

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

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

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

2.5 Interests in Joint Operations

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

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

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

- its share of the revenue from the sale of the output by the joint operation.
- its expenses, including its share of any expenses incurred jointly.

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

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

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

2.6 Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business, less accumulated impairment losses, if any.For impairment testing, goodwill is allocated to cash-generating units (or groups of cash-generating units) of the Group that were expected, at the date of acquisition, to benefit from the synergies of the combination giving rise to the goodwill.

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

The Group’s accounting policies with respect to the goodwill arising from acquisition of an affiliate are stated in the Note 2.4.

2.7 Cash and Cash Equivalents

Cash and cash equivalents include cash, savings and checking accounts and short-term investments highly liquidated with maturities of three months or less from acquisition.

2.8 Inventories

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

Cost of sales is recognized as a carrying amount of the inventories in the period they are sold, and the amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as expenses when occurred. In addition, the amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

2.9 Financial Assets

All financial assets are recognized and derecognized on trade date where the purchase or sale of a financial asset is under a contract whose terms require delivery of the financial asset within the timeframe established by the market concerned, and are initially measured at fair value plus transaction costs, except for those financial assets classified as at fair value through profit or loss (FVTPL), which are initially measured at fair value and for which transaction costs are recognized as expense in the period of occurrence. Financial assets are classified into the following specified categories: 'FVTPL,' 'held-to-maturity (HTM) investments,' 'available-for-sale (AFS) financial assets' and 'loans and receivables'. The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

(a) Effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and allocating interest income over the relevant period.

The effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of a financial asset, or, where appropriate, a shorter period, to the net carrying amount on initial recognition. Income is recognized on an effective interest basis for debt instruments other than those financial assets classified as at FVTPL.

(b) Financial assets at FVTPL

Financial assets are classified as at FVTPL when a financial asset is either held for trading or it is designated as at FVTPL.

A financial asset is classified as held for trading if:

- it has been acquired principally for the purpose of selling it in the near term
- it is a derivative that is not designated and effective as a hedging instrument

Financial assets at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any dividend or interest earned on the financial asset.

(c) HTM financial assets

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

(d) AFS financial assets

Non-derivative financial assets that are not classified as HTM, held for trading, financial assets at FVTPL or loans and receivables are classified as AFS financial assets. Financial assets can be designated as AFS on initial recognition. AFS financial assets are initially recognized at fair value plus directly related transaction costs. They are subsequently measured at fair value. Unquoted equity investments whose fair value cannot be measured reliably are carried at cost.

Gains and losses arising from changes in fair value are recognized in other comprehensive income and accumulated in the investments revaluation reserve, with the exception of impairment losses, interest calculated using the effective interest method and foreign exchange gains and losses on monetary assets, which are recognized in profit or loss. Where the investment is disposed of or is determined to be impaired, the cumulative gain or loss previously accumulated in the investments revaluation reserve is reclassified to profit or loss. Dividends on AFS equity instruments are recognized in profit or loss when the Group's right to receive the dividends is established.

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

(e) Loans and receivables

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

(f) Impairment of financial assets

Financial assets, other than those at FVTPL, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is an objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been affected.
For listed and unlisted equity investments classified as AFS, a significant or prolonged decline in the fair value of the security below its cost is considered to be an objective evidence of impairment.

For certain categories of financial assets, such as trade receivables, assets that are assessed not to be impaired individually are, in addition, assessed for impairment on a collective basis. An objective evidence of impairment for a portfolio of receivables could include observable changes in national or local economic conditions that correlate with default on receivables.

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

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

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

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

(g) Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity.

If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

2.10 Non-current Assets (or Disposal Group) Held for sale

Non-current assets held for sale are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

2.11 Property, Plant and equipment

Land is shown at fair value based on valuations by external independent valuers. Valuations are performed with sufficient regularity to ensure that the fair value of a revalued asset does not differ materially from its carrying amount. Any accumulated depreciation at the date of revaluation is eliminated against the gross carrying amount of the asset, and the net amount is restated to the revalued amount of the asset.

All other property, plant and equipment are stated at historical cost less depreciation and accumulated impairment loss. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Increases in the carrying amount arising on revaluation of land and buildings are credited to other comprehensive income and shown as other reserves in equity. Decreases that offset previous increases of the same asset are charged to other comprehensive income and debited against other reserves directly in equity; all other decreases are charged to the statement of profit or loss. Each year the difference between depreciation based on the revalued carrying amount of the asset charged to the statement of profit or loss, and depreciation based on the asset’s original cost, is transferred from ‘revaluation reserves’ to ‘retained earnings’.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost or revalued amounts to their residual values over their estimated useful lives, as follows:

	Useful lives (years)
Buildings	12 - 60

Structures	12 - 51
Machinery	6 - 34
Vessels and aircraft	10 - 40
Vehicles and others	6 - 15

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period. An asset's carrying amount is adjusted to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognized as 'other gains and losses, net' in the statement of profit or loss.

When revalued assets are sold, the amounts included in revaluation reserves are transferred to retained earnings.

2.12 Investment Property

Investment property, which is property held to earn rentals and/or for capital appreciation (including property under construction for such purposes), is measured initially at its cost, including transaction costs. Subsequent to initial recognition, investment property is measured at cost, less accumulated depreciation and accumulated impairment losses. Subsequent costs are recognized in carrying amount of an asset or as an asset if it is probable that future economic benefits associated with the assets will flow into the Group and the cost of an asset can be measured reliably. The carrying amount of components replaced by subsequent expenditure is removed, and costs related to ordinary repairs and maintenance are expensed as incurred.

While land is not depreciated, other depreciation expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

	Useful lives(years)
Buildings	50

Depreciation method, residual value and estimated useful lives of investment property are reviewed at the end of the each reporting period. If modification is believed to be reasonable after the review, the Group treats them as changes in accounting estimates.

2.13 Intangible Assets

(a) Intangible assets acquired separately

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

Intangible assets with indefinite useful lives that are acquired separately are carried at cost less accumulated impairment losses. If the result of the review differs from the previous estimates at the end of each reporting period, the difference is accounted for as a change in the accounting estimate.

(b) Internally generated intangible assets - research and development expenditure

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

An internally generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if, all of the following have been demonstrated:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale;
- the intention to complete the intangible asset and use or sell it;
- the ability to use or sell the intangible asset;
- how the intangible asset will generate probable future economic benefits;
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- the ability to measure reliably the expenditure attributable to the intangible asset during its development.

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

Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses.

(c) Intangible assets acquired in a business combination

Intangible assets that are acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost).

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

(d) Derecognition of intangible assets

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

Intangible assets with definite useful lives are amortized based on the following estimated useful lives:

	Useful lives (years)
Industrial rights	3 - 10
Development expense	5
Exclusive right to use facilities	20 - 40
Other intangible assets	2 - 50

Amongst the Group’s intangible assets, useful life of a membership is estimated to be indefinite since the usable period is not limited in accordance with the terms of the contract and the economic benefits are expected to be continuously generated from the asset during the holding period. Intangible assets that have indefinite useful lives are not amortized and are tested for impairment at the end of every fiscal year.

2.14 Impairment of Tangible and Intangible Assets other than Goodwill

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

Recoverable amount is an individual asset (or a cash-generating units) of the higher of fair value, less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pretax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an individual asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or the cash-generating unit) is reduced to its recoverable amount.An impairment loss is recognized immediately in profit or loss, unless the relevant asset is carried at a revalued amount, in which case the impairment loss is treated as a revaluation decrease.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or a cash-generating unit) is increased to the revised estimate of its recoverable amount, so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the cash-generating unit) in prior years.A reversal of an impairment loss is recognized immediately in profit or loss, unless the relevant asset is carried at a revalued amount, in which case the reversal of the impairment loss is treated as a revaluation increase.

2.15 Leases

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

(a) The Group as a lessor

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

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

(b) The Group as a lessee

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

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

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

Lease incentives received in operating lease contract are recognized as liabilities, unless another systematic basis is more representative of the time pattern of the benefit from use of the leased asset, it is recognized by deducting lease expense on a straight-line basis.

2.16 Foreign Currencies

Items included in the financial statements of entities subject to the consolidation are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Group's functional currency.
Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences are recognized in profit or loss in the period in which they arise except for exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings and exchange differences on transactions entered into in order to hedge certain foreign currency below for hedging accounting policies) and exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore forming part of the net investment in the foreign operation), which are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal or partial disposal of the net investment.
For the purpose of presenting consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in Korean won using exchange rates prevailing at the end of the reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuated significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate). On the disposal of a foreign operation (i.e. a disposal of the Group's entire interest in a foreign operation, a disposal involving loss of control over a subsidiary that includes a foreign operation or partial disposal of an interest in a joint arrangement or an associate that includes a foreign operation of which the retained interest becomes a financial asset), all of the accumulated exchange differences in respect of that operation attributable to the

owners of the Group are reclassified to profit or loss. Any exchange differences that have previously been attributed to non-controlling interests are derecognized, but they are not reclassified to profit or loss.

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

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

2.17 Borrowing Costs

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

Details of borrowing costs the Group capitalized for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**2017**		**2016**
Capitalized borrowing costs.	₩	166,467	₩	215,122
Cost of sales		166,272		215,076
Construction in progress		195		46
Specific borrowing interest rate		4.14%		3.25%
General borrowing interest rate		3.31%		2.59%

2.18 Financial Liabilities and Equity Instruments

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement, and financial liabilities are classified as either financial liabilities at FVTPL or other financial liabilities.

(a) Equity instruments

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

(b) Financial guarantee contract liabilities

Financial guarantee contract liabilities recognized by the Group are the Group's obligation to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument. The liability is initially measured at fair value, subsequently at the higher of the amount determined in accordance with Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* and the amount initially recognized less cumulative amortization in accordance with Korean IFRS 1018 *Revenue*.

(c) Financial liabilities at FVTPL

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

- it has been acquired principally for the purpose of repurchasing it in the near term; or
- it is a derivative that is not designated and effective as a hedging instrument.

Financial liabilities at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss.

(d) Other financial liabilities

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

(e) Derecognition of financial liabilities

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

2.19 Derivative Financial Instruments

Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in which case the timing of the recognition in profit or loss depends on the nature of the hedge relationship. The Group designates certain derivatives as either hedges of recognized assets or liabilities or firm commitments (fair value hedges), hedges of highly probable forecast transactions or hedges of foreign currency risk of firm commitments (cash flow hedges).

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

(a) Embedded derivatives

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

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

(b) Hedge accounting

The Group designates derivative instruments as fair value and cash flow hedge instruments. At the inception of the hedge relationship, the Group documents the relationship between the hedging instrument and the hedged item along with its risk management objectives and its strategy for undertaking various hedge transactions.

Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

(c) Fair value hedges

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

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

(d) Cash flow hedges

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

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

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

2.20 Post-employment Benefits and Termination Benefits

Defined contribution plans are recognized as an expense when employees have rendered service entitling them to the contributions.

For defined benefit plan, the defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. Remeasurement, comprising actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the statement of financial position with a charge or credit recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss. Past service cost is recognized in profit or loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs comprise of service cost (including current service cost, past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement.

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

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

2.21 Provisions

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

The Group discloses contingent liabilities when:

A. there is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity.
B. there is a present obligation that arises from past events, but it is not recognized because:
   i. it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation.
   ii. the amount of the obligation cannot be measured with sufficient reliability.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material).

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

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

2.22 Government Grants

Government grants are not recognized until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received. Government grants, which require the Group to purchase, construct or otherwise acquire non-current assets, are recognized as deferred revenue in the consolidated statement of financial position and transferred to profit or loss on a systematic and rational basis over the useful lives of the related assets.

Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

2.23 Revenue Recognition

The Group recognizes revenue when the amount of revenue can be measured reliably, when it is probable that the economic benefits associated with the transaction will flow to the Group and when the following criteria specific to each of the Group's activities are met:

(a) Sale of goods and rendering of services

The Group recognizes revenue from sale of goods at the time of transfer, in principle, but when there are terms that require final sales decision after the transfer, it recognizes the revenue when all of the relevant terms are satisfied. Revenues from contracts to render services are recognized by reference to the stage of completion of the contracts.

When a loss is expected with respect to contracts to render services and construction contracts, the Group immediately accounts for the expected loss as a provision for estimated losses on uncompleted contracts and includes it in the cost of goods sold or construction cost in the current operation.

(b) Dividend income

Dividend income from investments is recognized when the Group's right to receive payment has been established and included in finance income within the statement of profit or loss.

(c) Rental income

The Group's policy for recognition of revenue from operating leases is included in other non-operating income.

(d) Interest income

Interest income is recognized using the effective interest method according to the time passed. When a loan and receivable is impaired, the Group reduces the carrying amount to its recoverable amount (present value of the estimated future cash flows discounted at the original effective interest rate) and continues unwinding the discount as interest income. Interest income on impaired loans and receivables is recognized using the original effective interest rate.

2.24 Construction Contract

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

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

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

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

2.25 Income Tax

Income tax consists of current tax and deferred tax.

(a) Current tax

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

(b) Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

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

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

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

(c) Recognition of current and deferred taxes for the year

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

2.26 Fair value

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

In addition, for financial reporting purposes, items that are measured at fair value or for which the fair value is disclosed are categorized by the fair value hierarchy levels, and the defined levels are as follows:

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

3. Financial Instruments

3.1 Financial Risk Management

3.1.1 Financial risk factors

The Group's activities are exposed to a variety of financial risks: market risk (including currency risk, price risk, and interest rate risk), credit risk and liquidity risk. The purpose of managing financial risk is to identify the potential risk factors that may affect the Group's financial performance and minimize it to the extent that is acceptable. Risk management is carried out by the relevant departments based on the risk management policies approved by the Board of Directors, and the risk management department identifies, assesses and hedges financial risks through close cooperation with other relevant departments. Overall, financial risk management policy of the Group is consistent with that of the prior period.

3.1 .2 Risk aversion activities

3.1.2-1 Market risk management

(a)Foreign currency risk

Foreign exchange risk arises from future commercial transactions or when recognized assets or liabilities are denominated in a currency that is not the Group's functional currency. Exchange rate exposure is managed within approved policy parameters utilizing forward exchange contracts.

1) Foreign currency sensitivity analysis

The Group is exposed to foreign exchange risk arising from foreign currency transactions, primarily with respect to the US dollar and Euro. The book amounts of the Group' monetary assets and liabilities denominated in foreign currencies as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017									
	USD		**EUR**		**JPY**		**Others**		**Total**	
Functional currency	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**
KRW	₩5,164,410	₩1,870,815	₩ 421	₩130,867	₩ -	₩ 364	₩ 64,973	₩ 53,660	₩5,229,804	₩2,055,706
RON	18,469	70,582	1,213	424	-	-	3	-	19,685	71,007
CNY	18,641	26,890	-	-	-	-	-	-	18,641	26,890
Others	1,402	17,444	-	-	-	-	42	6	1,444	17,450
	₩5,202,922	₩1,985,731	₩ 1,635	₩ 131,291	₩ -	₩ 364	₩ 65,018	₩ 53,666	₩5,269,575	₩2,171,051

(in millions of Korean won)	2016									
	USD		**EUR**		**JPY**		**Others**		**Total**	
Functional currency	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**	**Assets**	**Liabilities**
KRW	₩5,889,793	₩3,751,957	₩ 8,984	₩ 169,869	₩ -	₩ 519	₩ 206,247	₩ 108,773	₩6,105,024	₩4,031,118
RON	20,534	249,437	114	15,366	-	-	4	1	20,652	264,804
CNY	23,852	89,444	-	-	-	-	-	-	23,852	89,444
Others	1,581	16,380	-	-	-	-	-	-	1,581	16,380
	₩5,935,760	₩4,107,218	₩ 9,098	₩ 185,235	₩ -	₩ 519	₩ 206,251	₩ 108,774	₩6,151,109	₩4,401,746

The Group's sensitivity to a 10% increase or decrease in Korean won (functional currency of the Group) against the major foreign currencies as at December 31, 2017 and 2016, is presented in the table below. The sensitivity rate used in reporting foreign currency risk internally to key management personnel is 10% and it represents management's assessment of the reasonably possible change in foreign exchange rates.

The sensitivity analysis includes only outstanding monetary items denominated in foreign currencies. The impact of weakened/strengthened Korean won by 10 % on the Group's pre-tax profit for the year is as follows:

(in millions of Korean won)	2017			
	USD	**EUR**	**JPY**	**Others**
10% increase (Korean won weakened)	₩ 321,719	₩ (12,966)	₩ (36)	₩ 1,135
10% decrease (Korean won strengthened)	(321,719)	12,966	36	(1,135)

(in millions of Korean won)	2016			
	USD	**EUR**	**JPY**	**Others**
10% increase (Korean won weakened)	₩ 182,854	₩ (17,614)	₩ (52)	₩ 9,748
10% decrease (Korean won strengthened)	(182,854)	17,614	52	(9,748)

2) Forward foreign exchange contracts

It is the policy of the Group to enter into forward foreign exchange contracts to cover specific foreign currency payments and receipts within 70%~100% of the exposure generated.

The following table details the forward foreign currency contracts outstanding as at December 31, 2017 and 2016.

(in millions of Korean won, in thousands of US dollar, Euro, British pound and Canadian Dollar)	2017					
	Average contracted exchange rate		**Sell amounts**		**Buy amounts**	**Fair value**
For fair value hedging						
Sell USD	1,098.39	USD	3,795,811	KRW	4,169,264	127,489
For trading						
Sell USD / Buy EUR	1.33	USD	2,255	EUR	1,700	(238)
Sell USD / Buy GBP	1.45	USD	182	GBP	125	(14)
Sell USD	1,159.63	USD	346,000	KRW	401,233	31,377
		KRW	-	KRW	4,570,497	158,614
		USD	4,144,248	USD	-	
		EUR	-	EUR	1,700	
		GBP	-	GBP	125	

(in millions of Korean won, in thousands of US dollar, Euro, British pound and Canadian Dollar)	2016					
	Average contracted exchange rate		**Sell amounts**		**Buy amounts**	**Fair value**
For fair value hedging						
Sell USD	1,104.19	USD	5,897,500	KRW	6,511,952	(471,891)
For trading						
Sell USD / Buy EUR	1.31	USD	12,359	EUR	9,449	(2,787)
Sell USD / Buy GBP	1.45	USD	182	GBP	125	(31)
Sell USD / Buy CAD	0.94	USD	856	CAD	909	(200)
Sell USD	1,184.43	USD	394,000	KRW	466,665	(6,023)
Sell GBP	1,805.98	GBP	16,000	KRW	28,896	5,251
		KRW	-	KRW	7,007,513	
		USD	6,304,897	USD	-	
		EUR	-	EUR	9,449	(475,681)
		GBP	16,000	GBP	125	
		CAD	-	CAD	909	

(b) Price risk

The Group's investment in marketable equity securities is made upon management's decision and it does not have specific investment policies for equity securities. As at December 31, 2017, the Group has marketable equity securities that are classified as available-for-sale financial assets in the consolidated financial position, and when the price of the marketable equity securities increase by 10%, the effect to other components of equity will be increased by ₩367 million (2016 : increased by ₩464 million). Conversely, if the price decreases, it will be decreased.

(c) Interest risk

The interest rate risk mainly arises through floating borrowings. The Group is exposed to interest rate risk since it has borrowings issued at floating rates.

The Group performs various analysis to manage interest rate risk. In order to minimize the interest rate fluctuation risk, the Group can use various means, including refinancing, renewal of existing financing and hedging, and make decisions on the optimal financing method.

The Group's exposures to interest rates on financial assets and financial liabilities as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**2017**		**2016**
Fixed interest rate				
Financial assets[1]	₩	563,717	₩	436,670
Financial liabilities[2]		(2,110,266)		(2,834,085)
	₩	(1,546,549)	₩	(2,397,415)
Floating interest rate				
Financial assets[1]	₩	225,327	₩	311,248
Financial liabilities[2]		(1,601,392)		(3,796,465)
	₩	(1,376,065)	₩	(3,485,217)

[1] Financial assets consist of cash and cash equivalents, short-term and long-term financial instruments and short-term and long-term loans.
[2] Financial liabilities consist of short-term and long-term borrowings and debentures.

The Group has not recognized fixed-rate financial assets as at FVTPL and has not designated derivatives as hedging instruments of fair value hedge accounting. Therefore, changes in interest rates do not affect profit or loss.

The table below summarizes the impact of increases/decreases of interest rate on the Group's pre-tax profit for the year. The analysis is based on the assumption that the interest rate has increased/decreased by 100 basis points with all other variables held constant.

(in millions of Korean won)		**2017**		**2016**
Financial instruments with floating interest rates				
100 bp increase	₩	(13,761)	₩	(34,852)
100 bp decrease		13,761		34,852

The sensitivity analyses above have been determined based on the exposure to interest rates for both derivatives and non-derivative instruments at the end of the reporting period. For floating-rate financial assets and liabilities, the analysis is prepared assuming the amount of the financial assets and liabilities outstanding at the end of the reporting period was outstanding for whole year.

A 100 bp increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

3.1.2-2 Credit Risk Management

Credit risk is managed on a group basis. Credit risk arises from cash and cash equivalents, deposits with financial institutions and derivative financial instruments, as well as credit exposures to customers, including outstanding receivables and committed transactions. For financial institutions, only independently rated parties with a minimum rating of 'A' are accepted. If wholesale customers are independently rated, these ratings are used. If there is no independent rating, the credit quality of the customer is evaluated taking into account its financial position, past experience and other factors. The maximum exposure to credit risk of loans and receivables and derivatives is represented by the carrying amount, and for financial guarantee liabilities, it is represented by the maximum amount to be paid at the debtor's request, which amounts to ₩ 180,984 million (2016: ₩ 255,297 million) (Notes 15 and 35).

The Group reviews the book amount of its financial assets to determine whether there is any indication that those assets have suffered an impairment loss. The Group recognizes the difference between the book amount and recoverable amount as impairment loss.

3.1 .2-3 Liquidity Risk Management

The Group manages liquidity risk by maintaining sufficient cash and marketable securities, the availability of funding through an adequate level of committed credit facilities and the ability to close out market position. Due to the dynamic nature of the underlying business, the Group maintains flexibility in funding by maintaining availability under committed credit lines.

a) The table below analyses the Group's non-derivative financial liabilities into relevant maturity groupings based on the remaining period at the end of reporting period to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. The balances due within a year equals to their book amount as the impact of discounting is not significant.

(in millions of Korean won)	2017			
	Less than 1 year	**Between 1 and 2 years**	**Over 2 years**	**Total**
Borrowings and others[1]	₩ 2,554,524	₩ 36,061	₩ 1,539,523	₩ 4,130,108
Trade and other payables	1,072,984	93,228	42,917	1,209,129
Financial guarantee contract[2]	180,984	-	-	180,984
	₩ 3,808,492	₩ 129,289	₩ 1,582,440	₩ 5,520,221

(in millions of Korean won)	2016			
	Less than 1 year	**Between 1 and 2 years**	**Over 2 years**	**Total**
Borrowings and others[1]	₩ 5,903,941	₩ 492,804	₩ 465,138	₩ 6,861,883
Trade and other payables	1,675,392	72,365	81,361	1,829,118
Financial guarantee contract[2]	255,297	-	-	255,297
	₩ 7,834,630	₩ 565,169	₩ 546,499	₩ 8,946,298

[1] The cash flows for borrowings (including debentures) include expected interest expense.
[2] Amount of financial guarantee contract represents a limit of payment guarantee, which is the maximum amount payable by the Group in case the debtor claims for the full guaranteed amount.

The table below analyses the Group's derivative instruments into relevant maturity groupings based on the remaining period at the end of reporting period to the contractual maturity date. The amount of the derivative instruments that are settled in net amounts is based on undiscounted net cash inflows and outflows in accordance with the terms of the contract. In case the amounts to be received or paid are not settled, an interest rate estimated based on the yield curve at the end of the reporting period is used.

(in millions of Korean won)	2017							
		Less than 1 year		**Between 1 and 2 years**		**Over 2 years**		**Total**
Net settlement:								
Currency forward contracts	₩	91,338	₩	53,580	₩	16,264	₩	161,182

(in millions of Korean won)	2016							
		Less than 1 year		**Between 1 and 2 years**		**Over 2 years**		**Total**
Net settlement:								
Currency forward contracts	₩	(224,358)	₩	(217,669)	₩	(121,006)	₩	(563,033)

3.2 Capital Risk Management

The Group manages its capital in order to maintain the ability to continuously provide profits to its shareholders and interest parties and optimum capital structure to reduce capital expenses. Meanwhile, purpose of capital risk management and policy of managing risk is consistent with that of the prior period.

In order to maintain such optimum, the Group adjusts dividend payments, redeems paid-up capital to shareholders and issues shares to reduce liabilities or sell assets.

Consistent with others in the industry, the Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is total borrowings less cash and cash equivalents and short financial instruments. Total capital is 'equity' as shown in the consolidated statement of financial position plus net debt. The credit rating was unchanged and the gearing ratios as at December 31, 2017 and 2016, were as follows:

(in millions of Korean won)		**2017**		**2016**
Total borrowings (Notes 19 and 20)	₩	3,711,658	₩	6,630,549
Less: cash and cash equivalents and short-term financial instruments		(288,300)		(253,755)
Net debt		3,423,358		6,376,794
Total equity		2,990,661		659,377
Total capital	₩	6,414,019	₩	7,036,171
Gearing ratio		53%		91%

3.3 Financial Instruments Measured at Fair Value

3.3.1 Fair value hierarchy classifications of the financial instruments that are measured at fair value in the consolidated statement of financial position as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017			
	Level 1[1]	**Level 2[1]**	**Level 3**	**Total**
Financial assets				
Financial assets at FVTPL				
Derivative held for trading	₩ -	₩ 31,377	₩ -	₩ 31,377
Derivative financial assets				
Derivative instrument for hedging	-	137,775	-	137,775
Available-for-sale financial assets				
Listed securities	8	-	-	8
Beneficiary certificates	3,663	-	-	3,663
Non-listed securities	-	6,296	20,872	27,168
	₩ 3,671	₩ 175,448	₩ 20,872	₩ 199,991
Financial liabilities				
Financial liabilities at FVTPL				
Derivative held for trading	₩ -	₩ 252	₩ -	₩ 252
Financial liabilities designated at fair value through profit or loss	-	42,472	-	42,472
Derivative financial liabilities				
Derivative instrument for hedging	-	10,286	-	10,286
	₩ -	₩ 53,010	₩ -	₩ 53,010

(in millions of Korean won)	2016			
	Level 1[1]	**Level 2[1]**	**Level 3**	**Total**
Financial assets				
Financial assets at FVTPL				
Derivative held for trading	₩ -	₩ 7,140	₩ -	₩ 7,140
Others	1,906	-	-	1,906
Available-for-sale financial assets				
Listed securities	42	-	-	42
Beneficiary certificates	4,641	-	-	4,641
Unlisted securities	-	1,799	32,648	34,447
Debt securities	-	252	-	252
	₩ 6,589	₩ 9,191	₩ 32,648	₩ 48,428
Financial liabilities				
Financial liabilities at FVTPL				
Derivative held for trading	₩ -	₩ 10,931	₩ -	₩ 10,931
Derivative financial liabilities				
Derivative instrument for hedging	-	471,891	-	471,891
	₩ -	₩ 482,822	₩ -	₩ 482,822

[1] There were no significant transfers between Level 1 and Level 2 for the years ended December 31, 2017 and 2016.

3.3.2 The management of the Group concluded that the book amount of financial instruments in the consolidated statement of financial position, which are not subsequently measured at the fair value, are a reasonable approximate of the fair value (Note 5).

3.3.3 Following table describes the valuation techniques used to measure Level 2 and 3 fair value, and the relationship between significant but not observable input and non-observable inputs and fair value measurements.

(in millions of Korean won)	2017			
	Level	**Valuation techniques**	**Inputs**	**Range of inputs**
Financial instruments that are measured at fair value				
Foreign currency forward contracts	2	Discounted cash flow	Forward rate, credit risk adjusted discount rate	N/A
Unlisted equity securities	2	Quoted price in inactive market	Quoted price in inactive market	N/A
	3	Discounted cash flow	Weighted-average cost of capital	8.72%
			Sales growth rate	2.9%
		Comparative analysis with similar entities	PBR	0.78
			EV/EBITDA	6.97
Financial instruments that are not measured at fair value but fair value disclosures are required				
Debt instrument	2	Discounted cash flow	Credit risk adjusted discount rate	N/A

3.3.4 Valuation Processes for Fair Value Measurements Categorized as Level 3

The Group evaluates the fair value measurement for the purpose of financial reporting by an external agency and accounting department reviews the evaluation results of an external agency. These fair value measurements include fair value measurements that are classified as Level 3

3.3.5 Sensitivity analysis for Recurring Fair Value Measurements Categorized as Level 3

Sensitivity analysis of financial instruments is performed to measure favorable and unfavorable changes in the fair value of financial instruments which are affected by the unobservable parameters, using a statistical technique. When the fair value is affected by more than two input parameters, the most favorable or most unfavorable amounts are presented.

The results of the sensitivity analysis for the effect on profit or loss from changes in inputs for each financial instrument that categorized as level 3 and subject to sensitivity analysis, are as follows:

(in millions of Korean won)	2017			
	Favorable changes		**Unfavorable changes**	
	Profit or loss	**Equity**	**Profit or loss**	**Equity**
Financial assets				
Available-for-sale financial assets [1]	₩	₩ 1,766	₩	₩ (1,402)
Available-for-sale financial assets [2]		641		(642)
		2,407		2,044

[1] The above available-for-sale financial assets are non-listed securities that are valued using the discounted cash flow. Fair value changes are calculated by increasing or decreasing the WACC, which is one of the inputs, by 10%.

[2] The above available-for sale financial assets are held by private equity funds. Fair value changes are calculated by increasing and decreasing the estimated final recoverable amount by 10% at the end of the business.

3.3.6 Transfers Between Fair Value Hierarchy Levels of Recurring Fair Value Measurements

The Group's policy is to recognize transfers between levels of the fair value at the date of the event or change in circumstances that caused the transfer.

Details of transfers between levels of each fair value hierarchy of financial instruments are as follows:

There were no transfers between levels 1 and 2 for recurring fair value measurements during the year.

Changes in level 3 for recurring fair value measurements for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**2017**		**2016**
Available-for-sale financial assets:				
Unlisted securities				
Beginning balance	₩	32,647	₩	65,979
Purchases (Disposal)		-		551
Transfer[1, 2]		6,149		(37,090)
Valuation		16		3,207
Other changes[3]		(17,940)		-
Ending balance	₩	20,872	₩	32,647

[1] As unlisted securities changed valuation methods from cost methods to fair value measurement, amount has been transferred to Level 3 during the year.
[2] The amounts consist of transfer of Level 1 due to listing of unlisted share and transfer from Level 2 because of debt-to-equity swap of debt securities during 2016.
[3] Other changes include changes in the scope of consolidation and others.

3.3.7 Financial asset and liabilities that are subject to the subsequent measurement at fair value; however, measured at cost as their fair value cannot be measured reliably and excluded from the fair value disclosure as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**2017**		**2016**
Available-for-sale financial assets				
Unlisted securities	₩	8,793	₩	35,910
Other equity investments		12,454		12,726
	₩	21,247	₩	48,636

Meanwhile, the management of the Group determined that the differences between the book amount and the fair value of financial instrument in the consolidated statement of financial position are not significant.

3.4 Reclassification and Transfer of Financial Assets

For the year ended December 31, 2017, there are no financial assets reclassified due to changes in purpose or use. As at December 31, 2017, there are no transferred financial assets that are not derecognized in their entirety.

4. Critical Accounting Estimates and Assumptions

The Group makes estimates and assumptions concerning the future. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the current circumstances. Actual results may differ from these estimates.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

4 .1 Construction Contracts

4.1.1 Revenue recognition based on the input method

The Group recognizes contract revenue and contract cost associated with the construction contract as revenue and expense respectively by based on the percentage of completion of the contract activity at the end of the reporting period when the outcome of a construction contract can be estimated reliably. The percentage of completion of the contract activity is the proportion that costs incurred to date, excluding any contract cost that does not reflect the work performed, bear to the estimated total costs of the contract. The Group presents the gross amount due from customer for contract work as an asset for all contracts in progress for which costs incurred plus recognized profits (less recognized losses) exceed progress billings, and presents the gross amount due to customers for contract work as a liability for all contracts in progress for which progress billings exceed costs incurred plus recognized profits (less recognized losses).

4.1.2 Uncertainty of estimates in total contract costs

Contract revenue is affected by the stage of completion of a contract which is determined by reference to the contract costs incurred to date. Total contract costs is estimated based on future estimates of material cost, labor cost and construction period and others. In the prior period, the actual contract costs to estimated contract costs have significantly increased due to unexpected process delay and construction project inefficiency in offshore plants. In the current year, the estimated total contract costs has been changed due to effects of fluctuations in prices of materials and exchange rate in ships and offshore plants.

As at December 31, 2017, when the estimation of remaining contract costs for construction in progress changes by 5%, the effect to profit for the year before income tax and net asset before income tax effect decreases by ₩272,830 million.

4.1.3. Collectability of amounts due from customer under construction contracts

The Group assess at the end of each reporting period whether there is any objective evidence that an amounts due from customer under construction contracts is impaired. The objective evidences that an amounts due from customer under construction contract is impaired include adverse change in customer’s financial situation, delay in construction process or increase in possibility of cancellation due to decrease in vessel price and delay in delivery schedule. After the Group’s assessment on the objective evidence of impairment and if there is objective evidence of impairment as a result of one or more events that occurred and that loss event has an impact on the estimated future cash flows of construction contract that can be reliably estimated, the Group recognize the amount as 'impairment loss'.

As at December 31, 2017, the uncertainty of estimates in collectability of the amount due from customer under construction contracts has been increased because of contract termination and delay in contract completion that are caused by customers' financial difficulties due to extended global oil price decline.

4.1.4 Uncertainty of estimates in total contract revenue regarding variation in contract work

The total contract revenue is measured based on the original contract price from the initially agreed contract, however, the amount of contract revenue may increase or decrease due to a variation, claim, and incentive payment. A variation is included in contract revenue by the Group when it is probable that the customer will approve the variation and the amount of revenue arising from the variation and the amount of revenue can be reliably measured. Such measurement of contract revenue is affected by a variety of uncertainties that depend on the outcome of future event.

4.1.5 Uncertainty of estimates in liquidated damage arising from delay

The liquidated damage arising from delay caused by the Group in completion of contract may cause a decrease in total contract revenue; therefore, the Group estimates the liquidated damage for a project that may delay in completion schedule on a basis of historical experience. As at December 31, 2017, the maximum amount of liquidated damage arising from delays estimated to ₩347,816 million. The best estimate of liquidated damage, which arise from delays caused by the Group, and likely payable by the Group, is ₩137,182 million, and the amount is deducted from the contract revenue amount. These amounts would be consistently revalued until completion of construction.

The Group continuously prepare countermeasure acts; such as claim for extension of construction completion date and gives evidence of the reason that construction completion delay is not cause by the Group to their customers in order to minimize the liquidated damage.

4.2 Deferred Tax Assets

The Group reviews the book amount of deferred tax assets at the end of each reporting period, and decrease the carrying value of deferred tax assets when it is not probable to generate sufficient taxable profit to recover all or part of deferred tax asset.

4.3 Fair Value of Financial Instruments

Equity instruments that are traded in an active market are classified as AFS financial assets and measured at fair value.

For non-marketable equity instruments, it is reasonable to discount the future expected cash flows at a current market rate applied to instruments with similar terms and risks.This valuation technique requires management's assumption on the expected future cash flows and discount rate and, therefore, is based on uncertainty.

4.4 Post-employment Benefits Plan and Other Long-term Employee Benefits

The Group operates defined benefit pension plan, long-term seniority reward regulation, and retirement reward regulation. The service cost of the plan is determined using actuarial valuations. In order to apply actuarial valuations, it is necessary to assume a discount rate, an expected rate of return on plan assets, wage increase rate and others. Post-employment benefit plan contains significant uncertainties on the estimation due to its long-term nature.The net defined benefit liabilities and other long-term employee benefit as at December 31, 2017, are ₩ 136,595 million (2016: ₩ 162,336 million) and ₩ 23,946 million (2016: ₩ 29,057 million), respectively, and details are described in Note 22.

4.5 Impairment of Non-financial Assets

At the end of the reporting period, the Group reviews the carrying amounts of its non-financial assets to determine whether there is any indication that those assets have suffered an impairment loss. Intangible assets with indefinite useful lives are tested for impairment at least annually and whenever there is an indication that the asset may be impaired. Other non-financial assets are tested for impairment whenever there is an indication that the carrying amount will not be recoverable. In assessing value in use, management estimates future expected cash flows derived from the relevant asset or cash-generating unit and applies an appropriate discount rate to compute the present value.

4.6 Impairment of AFS Financial Assets and Investments in Subsidiaries, Associates and Joint ventures

In assessing whether an AFS financial asset and investments in subsidiaries, associates and joint ventures is impaired, the Group evaluates, among other factors, the duration and extent to which the fair value of an asset is less than its cost and the financial health of and short-term business outlook for the investee, changes in technology and operational and financing cash flows.

5. Financial Instruments by Category

5.1 Carrying Amounts of Financial Instruments by Category

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

(in millions of Korean won)	2017						
	Loans and receivables	**Financial assets at FVTPL**	**Held-to-maturity financial assets**	**Available-for-sale financial assets**	**Derivative financial assets for hedging**	**Total (Carrying amount)**	**Fair value**
Cash and cash equivalents	₩ 205,795	₩ -	₩ -	₩ -	₩ -	₩ 205,795	₩ 205,795
Short- and long-term financial assets	496,528	-	-	-	-	496,528	496,528
Financial assets at FVTPL[1]	-	31,377	-	-	-	31,377	31,377
Held-to-maturity financial assets	-	-	331	-	-	331	331
Available-for-sale financial assets	-	-	-	52,085	-	52,085	52,085
Trade and other receivables[2]	625,987	-	-	-	-	625,987	625,987
Due from customers for contract work, net	4,089,030	-	-	-	-	4,089,030	4,089,030
Currency forward assets	-	-	-	-	137,775	137,775	137,775
	₩ 5,417,340	₩ 31,377	₩ 331	₩ 52,085	₩ 137,775	₩ 5,638,908	₩ 5,638,908

(in millions of Korean won)	2016						
	Loans and receivables	**Financial assets at FVTPL**	**Held-to-maturity financial assets**	**Available-for-sale financial assets**	**Derivative financial assets for hedging**	**Total (Carrying amount)**	**Fair value**
Cash and cash equivalents	₩ 224,268	₩ -	₩ -	₩ -	₩ -	₩ 224,268	₩ 224,268
Short- and long-term financial assets	415,817	-	-	-	-	415,817	415,817
Financial assets at FVTPL[1]	-	9,046	-	-	-	9,046	9,046
Held-to-maturity financial assets	-	-	347	-	-	347	347
Available-for-sale financial assets	-	-		88,017	-	88,017	88,017
Trade and other receivables[2]	698,039	-	-	-	-	698,039	698,039
Due from customers for contract work, net	4,744,493	-	-	-	-	4,744,493	4,744,493
	₩ 6,082,617	₩ 9,046	₩ 347	₩ 88,017	₩ -	₩ 6,180,027	₩ 6,180,027

[1] Financial assets at FVTPL consist of currency forward assets held for trading.
[2] Amounts are sum of current and non-current assets, net of provision for impairment.

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

(in millions of Korean won)	2017				
	Financial liabilities at FVTPL	**Other financial liabilities**	**Derivative financial liabilities for hedging**	**Total (Carrying amount)**	**Fair value**
Borrowings	₩ -	₩ 3,180,996	₩ -	₩ 3,180,996	₩ 3,171,019
Debentures	-	530,661	-	530,661	520,664
Financial liabilities at FVTPL[1]	42,724	-	-	42,724	42,724
Trade and other payables	-	1,209,129	-	1,209,129	1,209,129
Currency forward liabilities[1]	-	-	10,286	10,286	10,286
Financial guarantee liabilities[2]	-	1,472	-	1,472	1,472
	₩ 42,724	₩ 4,922,258	₩ 10,286	₩ 4,975,268	₩ 4,955,294

(in millions of Korean won)	2016				
	Financial liabilities at FVTPL	**Other financial liabilities**	**Derivative financial liabilities for hedging**	**Total (Carrying amount)**	**Fair value**
Borrowings	₩ -	₩ 5,089,238	₩ -	₩ 5,089,238	₩ 5,089,142
Debentures	-	1,541,311	-	1,541,311	1,409,339
Financial liabilities at FVTPL[1]	10,931	-	-	10,931	10,931
Trade and other payables	-	1,829,118	-	1,829,118	1,829,118
Currency forward liabilities[1]	-	-	471,891	471,891	471,891
Financial guarantee liabilities[2]	-	89,672	-	89,672	89,672
	₩ 10,931	₩ 8,549,339	₩ 471,891	₩ 9,032,161	₩ 8,900,093

[1] Financial liabilities at FVTPL consist of currency forward liabilities held for trading and financial liabilities designated at fair value through profit or loss. Meanwhile, currency forward liabilities that are effective as a hedging instrument are classified as a derivative financial liability.

[2] As described in Notes 15 and 35, the Group recognized expected payment guarantees amount, based on the agreement, provided to the related parties as financial guarantee liabilities.

5.2 Net Gains or Losses by Category of Financial Instruments

Net gains or losses on each category of financial instruments for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**2017**		**2016**
Loans and receivables				
Interest income	₩	17,077	₩	29,881
Impairment loss (reversal) [1]		(392,704)		(556,008)
Gains (losses) on foreign exchange translation, net		(306,375)		145,183
Losses on foreign currencies transaction, net		(97,650)		(67,034)
Financial assets at FVTPL				
Gains on valuation of foreign exchange forward contracts, net		34,078		6,071
Gains on foreign exchange forward transaction, net		11,092		54,680
Held-to-maturity financial assets				
Interest income		9		9
Gain on disposal of financial assets at FVTPL		-		325
Available-for-sale financial assets				
Interest income		-		11
Dividend income		748		3,505
Changes in the fair value of available-for-sale financial assets (other comprehensive income)		1,549		(7,469)
Gains on disposal of available-for-sale financial assets		968		7,571
Impairment loss on available-for-sale financial assets		(44)		(13,545)
Derivative financial assets for hedging				
Gains on valuation of foreign exchange forward contracts, net		336,885		-
Gains on foreign exchange forward transaction, net		66,468		33,473
Financial liabilities at FVTPL				
Gains (losses) on valuation of foreign exchange forward contracts, net		288		(4,027)
Gains (losses) on foreign exchange forward transaction, net		2,817		(10,865)
Gains on valuation of financial liabilities at FVTPL		2,355		-
Other financial liabilities				
Interest expenses		(46,550)		(115,345)
Gains (losses) on foreign exchange translation, net		161,456		(193,500)
Gains on foreign currencies transaction, net		176,214		49,650
Gains on redemption of bonds		-		75
Transfer to(from) financial guarantee liabilities		9,447		(119,065)
Gains on debt restructuring		1,422,602		-
Capitalized financial expenses		(175,136)		(215,112)
Derivative financial liabilities for hedging				
Gains (losses) on valuation of foreign exchange forward contracts, net		45,841		(162,618)
Gains on foreign exchange forward transaction, net		101,144		28,218
Reversal of financial guarantee liabilities		-		119,065

[1] The amount of impairment loss for the year ended December 31, 2017 includes reversal of provision for impairment.

6. Cash and Cash Equivalents

The cash and cash equivalents in the consolidated statement of cash flows are the same as the cash and cash equivalents in the consolidated statement of financial position. Details of cash and cash equivalents as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**December 31, 2017**		**December 31, 2016**
Cash on hand	₩	28	₩	1,862
Financial institution deposits		205,767		222,405
	₩	205,795	₩	224,267

7. Restricted or Pledged Financial Assets

The restricted or pledged financial assets as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**December 31, 2017**		**December 31, 2016**	**Description**
Cash and cash equivalents	₩	6,329	₩	44,020	Guaranteed security and the others
Short-term financial asset		82,504		21,988	Guarantee for contract performance guarantee
Long-term financial asset		414,024		385,475	Guarantee for contract performance guarantee and the others
	₩	502,857	₩	451,483	

8. Trade and Other Receivables

8.1 Details of trade and other receivables as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Receivables from construction contracts and trade	₩ 459,940	₩ 1,023,961	₩ 388,161	₩ 1,190,442
Less: Provision for impairment	(60,123)	(948,623)	(84,999)	(1,014,737)
Receivables from construction contracts and trade, net	399,818	75,338	303,162	175,705
Loans	179,772	196,614	33,904	297,212
Less: Provision for impairment	(155,980)	(134,016)	(11,650)	(211,632)
Loans, net	23,792	62,598	22,254	85,580
Other receivable	29,106	34,261	69,880	36,367
Less: Provision for impairment	(11,271)	-	(25,224)	-
Other receivable, net	17,835	34,261	44,656	36,367
Accrued income	37,141	230	40,021	12,725
Less: Provision for impairment	(35,862)	(6)	(38,929)	(2,042)
Accrued income, net	1,279	224	1,092	10,683
Guarantee deposits provided	25	28,696	1,514	20,098
Less: Provision for impairment	-	(17,879)	-	(3,072)
Guarantee deposits provided, net	25	10,817	1,514	17,026
	₩ 442,749	₩ 183,238	₩ 372,678	₩ 325,362

The impact from discount of trade and other receivables is immaterial; therefore, the difference between the book amount and fair value of the account is also immaterial.

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

(in millions of Korean won)	2017					
`	**Receivables from construction contracts**	**Loans**	**Other receivables**	**Accrued income**	**Guarantee deposits provided**	**Total**
Receivables not past due	₩ 329,690	₩ 83,275	₩ 53,405	₩ 205	₩ 7,892	₩ 474,467
Past due but not impaired						
Up to 30 days	24,352	-	2,382	-	-	26,734
30 days to 60 days	187	2	875	-	-	1,064
60 days to 90 days	738	-	371	-	-	1,109
Over 90 days	13,846	-	111	-	29	13,986
	39,123	2	3,739	-	29	42,893
Impaired						
Up to 30 days	-	285,303	-	-	20,800	306,103
30 days to 60 days	594	-	512	-	-	1,106
60 days to 90 days	22,997	-	1,639	-	-	24,636
Over 90 days	1,091,497	7,806	4,072	37,166	-	1,140,541
	1,115,088	293,109	6,223	37,166	20,800	1,472,386
	₩ 1,483,901	₩ 376,386	₩ 63,367	₩ 37,371	₩ 28,721	₩ 1,989,746

(in millions of Korean won)	2016					
	Receivables from construction contracts	**Loans**	**Other receivables**	**Accrued income**	**Guarantee deposits provided**	**Total**
Receivables not past due	₩ 211,093	₩ 92,664	₩ 23,214	₩ 11,256	₩ 13,789	₩ 352,016
Past due but not impaired						
Up to 30 days	16,332	-	484	-	-	16,816
30 days to 60 days	71,673	-	316	-	-	71,989
60 days to 90 days	3,800	-	411	-	-	4,211
Over 90 days	129,083	-	18,952	147	9	148,191
	220,888	-	20,163	147	9	241,207
Impaired						
Up to 30 days	-	227,885	-	-	7,614	235,499
30 days to 60 days	-	-	-	-	-	-
60 days to 90 days	-	-	531	-	-	531
Over 90 days	1,146,622	10,568	62,338	41,342	201	1,261,071
	1,146,622	238,452	62,869	41,342	7,814	1,497,099
	₩ 1,578,603	₩ 331,116	₩ 106,246	₩ 52,745	₩ 21,612	₩ 2,090,322

8.3 Movements in the provision for impairment of trade and other receivables for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017					
	Receivables from construction contracts and trade	**Loans**	**Other receivables**	**Accrued income**	**Guarantee deposits provided**	**Total**
Beginning balance	₩ 1,099,738	₩ 223,282	₩ 25,222	₩ 40,971	₩ 3,072	₩ 1,392,285
Impairment loss (reversal)	66,993	17,098	(3,506)	(265)	8	80,328
Other[1]	(157,986)	49,617	(10,446)	(4,838)	14,799	(108,854)
	₩ 1,008,745	₩ 289,997	₩ 11,270	₩ 35,868	₩ 17,879	₩ 1,363,759

[1] Other includes unwinding of discount and changes in the scope of consolidation adjustments,

(in millions of Korean won)	2016					
`	**Receivables from construction contracts and trade**	**Loans**	**Other receivables**	**Accrued income**	**Guarantee deposits provided**	**Total**
Beginning balance	₩ 868,634	₩222,933	₩ 22,219	₩ 41,484	₩ -	₩1,155,270
Impairment loss (reversal)	199,834	349	3,003	(513)	3,072	205,745
Other	31,270	-	-	-	-	31,270
	₩1,099,738	₩223,282	₩ 25,222	₩ 40,971	₩ 3,072	₩1,392,285

The Group estimates an provision for impairment that are assessed to be impaired individually based on an individual basis, and the amount of the impairment loss recognized is the difference between the asset's book amount and the recoverable amount. The receivables with 30 days past due are classified as normal receivables and the Group maintains a provision policy for them. The receivables more than 30 days past due are classified as overdue receivables, and the Group recognizes an impairment loss for them based on aging of receivables and historical loss experience.

Provision for impaired receivables is included in administrative expenses or other non-operating expenses in the statement of profit or loss and reversal of provision is deducted from the provision for impairment accounts. Impairment loss included in administrative expenses in the statement of profit or loss includes impairment loss on due from customers under construction contracts. When a trade receivable is considered uncollectible, it is written off against the provision for impairment account.

The Group's maximum exposure to credit risk for receivables is represented by the aforementioned book amount. Meanwhile, the Group holds collateral or other credit enhancements to cover its credit risk associated with some of receivables.

8.4 Credit quality of receivables from construction contracts that are neither past due nor impaired for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017	2016
Group 1[1]	₩ 329,690	₩ 211,093
Group 2[2]	-	-
Ending balance	₩ 329,690	₩ 211,093

[1] Customers with no past bankruptcy experience.

[2] Customers with past bankruptcy experience

8.5 The maximum exposure amount of the credit risk is the book value for each category of the above receivables as at December 31, 2017. On the other hand, the Group has set up a mortgage on certain receivables and other receivables, and has provided guarantees as collateral.

9. Held-to-maturity Financial Assets and Available-for-sale Financial Assets

9.1 Held-to-maturity Financial Assets

Details of HTM financial assets as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Government and public bonds	₩ 27	₩ 305	₩ 8	₩ 339

Movements of HTM financial assets for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	31-Dec-17		31-Dec-16	
	Current	Non-current	Current	Non-current
Beginning balance	₩ 8	₩ 339	₩ 11	₩ 324
Acquisitions	-	3	-	24
Disposals	(7)	-	(12)	-
Liquidity transfer	29	(29)	9	(9)
Changes in scope for Consolidation	(3)	(8)	-	-
Ending balance	₩ 27	₩ 305	₩ 8	₩ 339

9.2 Available-for-sale Financial Assets

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

(in millions of Korean won)	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Equity securities				
Listed securities	₩ -	₩ 8	₩ -	₩ 42
Beneficiary certificates	-	3,663	-	4,641
Non-listed securities	-	35,960	-	70,357
Equity investments	-	12,454	-	12,726
	-	52,085	-	87,766
Debt securities				
Government and public bonds and others	-	-	-	252
	-	-	-	252
	₩ -	₩ 52,085	₩ -	₩ 88,018

Accumulated impairment losses on available-for-sale financial assets amounted to ₩ 37,691 million.

Movements of AFS financial assets for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	**December 31, 2017**	**December 31, 2016**
Beginning balance	₩ 88,017	₩ 141,800
Acquisitions	404	10,060
Disposals	(818)	(9,499)
Evaluation	1,549	(7,469)
Transfer , etc[1]	(44)	(13,545)
Impairment	-	(33,330)
Changes in scope for consolidation	(37,023)	-
Ending balance	₩ 52,085	₩ 88,017

[1] Account substitution and equity investments in kind are included.

10. Inventories

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

(in millions of Korean won)	**December 31, 2017**			**December 31, 2016**		
	Acquisition cost	**Valuation allowance**	**Book amount**	**Acquisition cost**	**Valuation allowance**	**Book amount**
Merchandise	₩ -	₩ -	₩ -	₩ 331	₩ -	₩ 331
Work in process[1]	488,680	(215,515)	273,165	459,957	(68,444)	391,513
Raw materials	347,616	(56,398)	291,218	616,214	(103,300)	512,914
Supplies	20,295	(5,077)	15,218	18,932	-	18,932
Goods in transit	163,713	-	163,713	134,007	-	134,007
Temporary resources	-	-	-	44	-	44
Land and others	45	-	45	13,321	-	13,321
	₩1,020,349	₩(276,990)	₩743,359	₩1,242,806	₩(171,744)	₩1,071,062

[1] The Group's recognized construction in progress of which contract is terminated due to the customer's fault as work in process.

Inventories are stated in the consolidated statement of financial position at the lower of cost or net realizable value in case that the market value is lower than the acquisition cost.

In subsequent periods, if the market value of an impaired inventory recovers, the Group reverses the valuation loss up to the initially booked amount.

11. Other Assets

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

(in millions of Korean won)	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Advance payments	₩ 770,513	₩ -	₩ 948,244	₩ -
Less: Provision for impairment	(68)	-	(689)	-
Advance payments, net	770,445	-	947,555	-
Prepaid construction costs	2,243	-	1,958	-
Prepaid expenses	128,893	5,888	128,673	127,804
VAT receivables	1,846	-	24,665	-
Others	32,728	5,996	56,535	6,070
	₩ 936,155	₩ 11,884	₩ 1,159,386	₩ 133,874

12. Subsidiaries

Details of the subsidiaries of the Group as at December 31, 2017, and 2016, are as follows:

	Location	Closing month	Main business	Ownership of the Group (%) 2017	Ownership of the Group (%) 2016	Ownership of the non-controlling interests (%)[1] 2017	Ownership of the non-controlling interests (%)[1] 2016
DW Mangalia Heavy Industries S.A.[2]	Romania	December	Shipbuilding	51.00	51.00	49.00	49.00
DSEC Co., Ltd. [3]	Busan	December	Service and wholesale	-	70.07	-	29.93
Welliv Corp.[3&6]	Geoje	December	Service	-	100.00	-	-
DSME Construction Co., Ltd[3]	Incheon	December	Construction	-	99.21	-	0.79
DSME Shandong Co., Ltd	China	December	Manufacturing ship parts	100.00	100.00	-	-
Shinhan Heavy Industries Co.,Ltd[4]	Ulsan	December	Manufacturing ship parts	-	89.22	-	10.78
DeWind Co.[5]	USA	December	Developing wind power	100.00	100.00	-	-
DeWind Frisco LLC[5]	USA	December	Developing wind power	-	100.00	-	-
DeWind Novus III LLC[5]	USA	December	Developing wind power	-	100.00	-	-
Little Pringle I[5]	USA	December	Developing wind power	-	100.00	-	-
Little Pringle II[5]	USA	December	Developing wind power	-	100.00	-	-
Samwoo Heavy Industry Co., Ltd[4]	Gwangyang	December	Manufacturing ship parts	-	100.00	-	-
DK Maritime S.A.	Panama	December	Shipping	100.00	100.00	-	-
DSME Oman LLC	Oman	December	Development of real estate and related business activities	70.00	70.00	30.00	30.00
DSME Far East LLC	Russia	December	Shipbuilding	100.00	100.00	-	-
PT.DSME ENR CEPU [4]	Indonesia	December	Investments in mining	85.00	85.00	15.00	15.00
BIDC Co.	Busan	December	Warehouse, Packaging, Transportation	-	51.04	-	64.24
DSME Information and Consulting	Geoje	December	IT service	100.00	-	-	-

[1] Ownership of the non-controlling interests, directly or indirectly not attributable to owners of the Group, may differ from ownership calculated by subtracting subsidiary (or subsidiaries) within the Group that holds the simple sum of the direct shares from 100% of the shares in each subsidiary.
[2] The Board of Directors of the Group resolved to sell DW Mangalia Heavy Industries S.A., its subsidiary, and entered into sales contract on November 10, 2017, but 2MMS, an investment Group of Romanian government, exercised its preemption right and, as a result, the sales contract is being discussed with 2MMS.
[3] Excluded from subsidiaries as sale was completed during the year ended December 31, 2017.
[4] The Group owns more than 50% of equity of Shinhan Heavy Industries Co., Ltd. and Samwoo Heavy Industry Co., Ltd. but the Group lost its control over these subsidiaries due to the agreement with its major creditor bank which was made by major creditor bank management procedure in accordance with Corporate Restructuring Promotion Act of subsidiaries during the year ended December 31, 2017. However, the Group reclassified investment in subsidiaries as investment in associates as it has a significant influence over these subsidiaries.
[5] The Group classified investment in DeWind Co. as non-current assets held for sale during the

year ended December 31, 2017, as it is planned to be disposed sale within one year.
[6] Group sold 1,200,000 of its ordinary shares(100%) to Welliv Holdings, and some of the proceeds were received as a 34.39 % stake in the Welliv Private Investment Joint Company (see Note 13, 39), an investor in Welive Holdings.

Summarized financial information of subsidiaries as at and for the year ended December 31, 2017 are as follows:

(in millions of Korean won)	2017					
	Total assets	**Total liabilities**	**Total equity**	**Sales**	**Profit (loss) for the year**	**Total comprehensive income**
DSME Information and Consulting	₩ 6,468	₩ 4,563	₩ 1,905	₩ 30,454	₩ 1,705	₩ 1,705
DW Mangalia Heavy Industries S.A.	205,322	991,678	(786,356)	261,026	55,163	67,273
DSME Shandong Co., Ltd.	340,180	108,869	231,311	139,082	2,739	(10,749)
DK Maritime S.A	4,223	126,261	(122,038)	-	5	5
DSME Oman LLC	3,587	57,676	(54,089)	-	(3,080)	3,614
PT. DSME ENR CEPU	91,951	76,200	15,751	115	4,023	1,060
DSME Far East	130	(930)	1,060	-	(41)	(121)

Meanwhile, above summarized financial information and financial performance are before inter-company elimination.

The financial information allocated to non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2017 and 2016, is as follows:

(in millions of Korean won)	2017		
	Non-controlling interests	**Profit (loss) allocated to non-controlling interest**	**Dividends allocated to non-controlling interests**
DW Mangalia Heavy Industries S.A.	₩ (385,314)	₩ 27,030	₩ -

(in millions of Korean won)	2016		
	Non-controlling interests	**Profit (loss) allocated to non-controlling interest**	**Dividends allocated to non-controlling interests**
DW Mangalia Heavy Industries S.A.	₩ (418,278)	₩ (60,898)	₩ -
DSEC Co., Ltd.	27,109	4,637	-
DSME Construction Co., Ltd	(651)	33	-
BIDC Co., Ltd.	35,622	4,054	-

The summarized cash flow activities of non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017					
	Beginning	**Net cash flow from operating activities**	**Net cash flow from investing activities**	**Net cash flow from financing activities**	**Effects of the foreign currency exchange rate change**	**Ending**
DW Mangalia Heavy Industries S.A.	₩ 7,843	₩ 95,055	₩ (1,219)	₩ (75,559)	₩ (5,661)	₩ 20,459

(in millions of Korean won)	2016					
	Beginning	**Net cash flow from operating activities**	**Net cash flow from investing activities**	**Net cash flow from financing activities**	**Effects of the foreign currency exchange rate change**	**Ending**
DW Mangalia Heavy Industries S.A.	₩ 13,933	₩ 243,723	₩ (961)	₩ (248,821)	₩ (31)	₩ 7,843
DSEC Co., Ltd.	28,671	20,989	(249)	(7,700)	258	41,969
DSME Construction Co., Ltd	30,702	78,582	(16,621)	(77,755)	-	14,908
BIDC Co., Ltd.	2,308	13,002	(62)	(1,500)	(10)	13,737

Changes in ownership interest in subsidiaries that do not result in loss of control for the years ended December 31, 2016, are as follows:

(in millions of Korean won)	2016				
	Ownership percentage before transaction (%)	**Ownership percentage after transaction (%)**	**Increase in paid-up capital**	**Changes in non-controlling interests**	**Gain from change in the Company's ownership interest**
DSME Construction Co., Ltd	99.18	99.21	₩ 6	₩ (5)	₩ -

13. Investments In Associates and Joint Ventures

Details of investments in associates and joint ventures as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)			December 31, 2017		December 31, 2016	
	Location	**Main business**	**Ownership ratio (%)**	**Book amount**	**Ownership ratio (%)**	**Book amount**
Associates						
NIDAS Marine Ltd.[1]	Nigeria	Holding Company	-	₩ -	49.00	₩ -
NIDAS Shipping Services Ltd.[1]	Cyprus	Shipping	-		13.00	-
Korea Marine Finance Corp.[1]	Seoul	Service	-	-	35.29	3,152
Wing Ship Technology Corp.	Daejeon	Production and sale WIG-craft	23.20	-	23.20	-
TPI Megaline Co,Ltd	Seoul	Shipping	19.00	3,580	19.00	6,177
PT.PJUC[2]	Indonesia	Development, sales and investment of natural resources	45.00	-	45.00	9,030
Daehan Shipping Co., Ltd.	Haenam	Shipbuilding	23.35	-	23.35	-
Welliv Private Investment Joint Company[5]	Geoje	Holding Company	34.39	12,376	-	-
Shinhan Heavy Industries Co.,Ltd[3]	Ulsan	Manufacturing ship parts	89.22	-	-	-
Samwoo Heavy Industry Co., Ltd[3]	Gwangyang	Manufacturing ship parts	100.00	-	-	-
Joint ventures						
SBM Shipyard Ltd.	Angola	Holding Company	33.33	-	33.33	-
KODE NOVUS I LLC[4]	USA	Developing wind power	50.00	-	50.00	-
KODE NOVUS II LLC[4]	USA	Developing Wind power	48.00	-	48.00	-
				₩ 15,956		₩ 18,359

[1] During the year ended December 31, 2017, the Group sold all of its interest in NIDAS Marine Ltd., NIDAS Shipping Services Ltd. and Korea Marine Finance Corp.
[2] The Group concludes that it has a significant influence over PT.PJUC as PT.PJUC is the associate of PT.DSME ENR CEPU, one of subsidiaries. The effective ownership of the Group is 38.25%.
[3] Reclassified from investment in subsidiaries as investments in associates during the year ended December 31, 2017.
[4] Reclassified to available-for-sale assets during the year ended December 31, 2017.
[5] Group sold 1,200,000 of its ordinary shares(100%) to Welliv Holdings, and some of the proceeds were received as a 34.39 % stake in the Welliv Private Investment Joint Company (see Note 12, 39), an investor in Weliv Holdings.
As a senior partner of the invested company, the Group may receive a distribution equivalent to 2% of the contribution paid annually. When the remaining assets are distributed, the Group has a

priority right to receive the cumulative amount of the limited partnership and amount at internal earning profit rate of 6% per annum.

Changes in the investments in associates and joint ventures for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017						
	Beginning balance	**Acquisition (disposal)**	**Share of profit (loss) of associates and joint ventures**	**Impairment loss**	**Dividend received**	**Other changes[1]**	**Ending balance**
Associates							
Korea Marine Finance Corp.	₩ 3,152	₩ (3,152)	₩ -	₩ -	₩ -	₩ -	₩ -
TPI Megaline Co,Ltd	6,178	-	(2,401)	-	(197)	-	3,580
PT.PJUC	9,030	-	3,677	(10,365)	-	(2,343)	-
Daehan Shipping Co.,Ltd	-	-	(1,406)	-	-	1,406	-
Welliv Private Investment Joint Company	-	9,750	2,626	-	-	-	12,376
	₩ 18,360	₩ 6,598	₩ 2,496	₩ (10,365)	₩ (197)	₩ (937)	₩ 15,956

[1] Other changes consists of impairment loss and exchange rate change.

(in millions of Korean won)	2016						
	Beginning balance	**Acquisition (disposal)**	**Share of profit (loss) of associates and joint ventures**	**Share of other comprehensive income of associates and joint ventures**	**Dividend received**	**Other changes[3]**	**Ending balance**
Associates							
Korea Marine Finance Corp.	₩ 3,305	₩ -	₩ (161)	₩ 8	₩ -	₩ -	₩ 3,152
Dominus[1]	30,192	-	-	-	-	(30,192)	-
TPI Megaline Co,Ltd	-	-	3,993	-	-	2,184	6,177
PT.PJUC[2]	-	-	3,681	-	-	5,349	9,030
Daehan Shipping Co.,Ltd	-	-	(828)	-	-	828	-
Joint venture							
KODE NOVUS I LLC	-	-	(1,360)	-	-	1,360	-
	₩ 33,497	₩ -	₩ 5,325	₩ 8	₩ -	₩ (20,471)	₩ 18,359

[1] During the prior period, the Group transferred its right to receive dividend distribution and the voting right as subordinated investor of the fund, to investors of convertible bonds of Shinhan heavy industries Co., Ltd., one of the Group's subsidiaries, for redemption of the convertible bonds. Accordingly, the Group ceased the significant influence over the fund and reclassified it as available-for-sale financial assets.
[2] During the prior period, the Group concludes that it has a significant influence over PT.PJUC as PT.PJUC is the associate of PT.DSME ENR CEPU, one of subsidiaries. The effective ownership of the Group is 38.25%.
[3] Other changes consists of impairment loss and exchange rate change.

14. Property, Plant and Equipment

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

(in millions of Korean won)	December 31, 2017					
	Cost	**Revaluation surplus**	**Government grants**	**Accumulated depreciation**	**Accumulated impairment losses**	**Book amount**
Land	₩ 1,492,696	₩ 461,985	₩ -	₩ -	₩ (95,078)	₩ 1,859,603
Buildings	1,282,356	-	(5,506)	(461,594)	(163,319)	651,937
Structures	1,322,389	-	-	(434,647)	(80,186)	807,556
Machinery	1,182,654	-	(107)	(725,683)	(160,322)	296,542
Vehicle	238,202	-	-	(161,464)	(38,361)	38,377
Ships and aircraft	247,802	-	-	(106,883)	(14,012)	126,907
Tools	356,472	-	(1)	(241,515)	(102,690)	12,266
Supplies	230,355	-	(89)	(166,362)	(47,152)	16,752
Construction-in-progress	209,910	-	-	-	(16,422)	193,488
	₩ 6,562,836	₩ 461,985	₩ (5,703)	₩ (2,298,148)	₩ (717,542)	₩ 4,003,428

(in millions of Korean won)	December 31, 2016					
	Cost	**Revaluation surplus**	**Government grants**	**Accumulated depreciation**	**Accumulated impairment losses**	**Book amount**
Land	₩ 1,666,629	₩ 549,911	₩ -	₩ -	₩ (9)	₩ 2,216,531
Buildings	1,399,956	-	(5,648)	(461,729)	(86,715)	845,864
Structures	1,420,338	-	-	(425,459)	(93,438)	901,441
Machinery	1,296,349	-	(139)	(759,338)	(33,957)	502,915
Vehicle	247,487	-	-	(160,942)	(15,485)	71,060
Ships and aircraft	204,680	-	-	(100,122)	-	104,558
Tools	367,971	-	(2)	(252,839)	(2,442)	112,688
Supplies	237,002	-	(118)	(181,480)	(1,166)	54,238
Construction-in-progress	471,586	-	-	-	(83,002)	388,584
	₩ 7,311,998	₩ 549,911	₩ (5,907)	₩ (2,341,909)	₩ (316,214)	₩ 5,197,879

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

(in millions of Korean won)	2017				
	Land	**Buildings**	**Structure**	**Machinery**	**Vehicle**
At January 1	₩ 2,216,532	₩ 845,863	₩ 901,441	₩ 502,916	₩ 71,059
Acquisition	15,491	20	1,181	10,602	210
Disposals	(3,769)	(177)	(87)	(736)	(135)
Depreciation	-	(31,595)	(38,874)	(42,763)	(7,495)
Others[1]	(368,651)	(162,174)	(56,105)	(173,477)	(25,262)
At December 31	₩ 1,859,603	₩ 651,937	₩ 807,556	₩ 296,542	₩ 38,377

(in millions of Korean won)	2017				
	Ships and aircraft	**Tool**	**Supplies**	**Construction -in-progress**	**Total**
At January 1	₩ 104,558	₩ 112,687	₩ 54,238	₩ 388,584	₩ 5,197,878
Acquisition	4,366	14,313	17,221	45,427	108,831
Disposals	-	(964)	(73)	(17,734)	(23,675)
Depreciation	(6,761)	(9,625)	(11,862)	-	(148,975)
Others[1]	24,744	(104,145)	(42,772)	(222,789)	(1,130,631)
At December 31	₩ 126,907	₩ 12,266	₩ 16,752	₩ 193,488	₩ 4,003,428

(in millions of Korean won)	2016				
	Land	**Buildings**	**Structure**	**Machinery**	**Vehicle**
At January 1	₩ 2,416,233	₩1,003,612	₩ 973,034	₩ 576,542	₩ 79,266
Acquisition	1,428	3,548	1,413	21,701	7,232
Disposals	(125,378)	(59,427)	(23,979)	(4,979)	(831)
Depreciation	-	(29,588)	(43,536)	(58,718)	(13,045)
Others[1]	(75,752)	(72,281)	(5,491)	(31,631)	(1,562)
At December 31	₩ 2,216,531	₩ 845,864	₩ 901,441	₩ 502,915	₩ 71,060

(in millions of Korean won)	2016				
	Ships and aircraft	**Tool**	**Supplies**	**Construction -in-progress**	**Total**
At January 1	₩ 110,904	₩ 104,089	₩ 74,002	₩ 500,653	₩ 5,838,335
Acquisition	1,036	31,909	13,247	37,323	118,837
Disposals	(40)	(2,671)	(2,756)	(1,089)	(221,150)
Depreciation	(7,343)	(23,296)	(22,407)	-	(197,933)
Others[1]	1	2,657	(7,848)	(148,303)	(340,210)
At December 31	₩ 104,558	₩ 112,688	₩ 54,238	₩ 388,584	₩ 5,197,879

[1] Others mainly consist of land revaluation, transfer of construction-in-progress to property, plant and equipment, reversal of impairment loss on property, plant and equipment and others.

As described in Note 42, the Group measured the amount of impairment loss of the cash generating units that had indication of an impairment due to decrease in the sales volume and deterioration in market condition and the assets planned to be disposed through the business normalization plan. After impairment assessment, the Group recognized total ₩ 627,265 million of impairment loss on property, plant and equipment, intangible assets and investment properties(including decrease in revaluation surplus of ₩86,305 million). The estimated recoverable amount from the impairment assessment is the net fair value of individual asset, which is the estimated value of the sale or potential appraisal with the potential buyer. The appraised value is classified as level 3 fair value measurement and is assessed using public announcement of officially assessed price and sales comparison approach.

15. Pledged Assets

15.1 As at December 31, 2017, the Group's assets except deposits (Note 7) that are pledged as collaterals for borrowings and others are summarized as follows:

(in millions of Korean won, in thousands of foreign currency)

Assets	Book amount		Pledged amount		Guarantee for	Borrowings amount		Lender
Available-for-sale financial assets	₩	11,500	₩	870,998	Performance guarantees	₩	-	Korea Defense Industry Association
Investment in subsidiaries[1]	₩	-	₩	9,384	Loan guarantee	USD	40,637	KEXIM
Property, plant and equipment, investment property, non-current assets held for sale and trade receivables	₩	3,468,253	₩	3,735,200	Borrowings in local currency	₩	1,415,559	Korea Development Bank and others
			USD	899,440	Borrowings and others	USD	1,044,852	
	CNY	1,185,471	CNY	267,240	Borrowings	CNY	222,700	Korea Development Bank Shanghai branch and others
	₩	3,479,753	₩	4,615,582		₩	1,415,559	
	CNY	1,185,471	USD	899,440		USD	1,085,489	
			CNY	267,240		CNY	222,700	

[1] The Group provides investment in subsidiaries as collateral for borrowing of PT. DSME ENR CEPU, a subsidiary of the Group.

15.2 Significant guarantees provided to those other than the Group's related parties as at December 31, 2017, are as follows:

(in millions of Korean won, in thousands of foreign currency)

Provided for	Guarantee Amount		Lender
Korea Line Corp.	USD	101,987	KDB and others

15.3 As at December 31, 2017, Group received refund guarantee export ships and others. Details of guarantees provided to the Group are as follows:

(in millions of Korean won, in thousands of foreign currency)

Provided by	Guarantee Limit		Actual warranty balance	
	Currency	Amount	Currency	Amount
KDB	USD	4,700,000	USD	1,958,571
			USD	4,402,409
KEXIM	USD	5,480,385	EUR	9,348
			GBP	102,178
Other financial institutions	USD	1,200,707	USD	972,442

Meanwhile, the Group has provided guarantees for the transfer of the export purpose, the raw materials for build a ship, and the export warrants related to the performance guarantee, production financing borrowing and the new funding support provided by the Korea Development Bank and the Korea Export-Import Bank(Note 42), Collateral and so on. In addition to the above, the Group is provided with performance guarantee of ₩ 2,082,073 million from KDIA and others.

16. Investment Properties

16.1 Investment properties as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	December 31, 2017		
	Land	Buildings	Total
Acquisition cost	₩ 4,661	₩ 8,473	₩ 13,134
Accumulated depreciation	-	(3,867)	(3,867)
Accumulated impairment	-	(1,354)	(1,354)
Book amount	₩ 4,661	₩ 3,252	₩ 7,913

(in millions of Korean won)	December 31, 2016		
	Land	Buildings	Total
Acquisition cost	₩ 4,661	₩ 9,286	₩ 13,947
Accumulated depreciation	-	(3,776)	(3,776)
Book amount	₩ 4,661	₩ 5,510	₩ 10,171

16.2 Changes in the book amounts of investment properties for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017		
	Land	**Buildings**	**Total**
Beginning balance	₩ 4,661	₩ 5,509	₩ 10,170
Depreciation	-	(119)	(119)
Impairment	-	(1,353)	(1,353)
Others		(785)	(785)
Ending balance	₩ 4,661	₩ 3,252	₩ 7,913

(in millions of Korean won)	2016		
	Land	**Buildings**	**Total**
Beginning balance	₩ 6,075	₩ 7,218	₩ 13,293
Acquisition (disposal)	-	(3,122)	(3,122)
Depreciation	-	(223)	(223)
Others	(1,414)	1,636	222
Ending balance	₩ 4,661	₩ 5,509	₩ 10,170

Income generated from the investment properties for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	**2017**	**2016**
Rental income	₩ 162	₩ 179

Fair values of the investment properties as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017		2016	
	Book amount	**Fair value**	**Book amount**	**Fair value**
Land	₩ 4,661	₩ 4,661	₩ 4,661	₩ 4,661
Buildings	3,252	3,252	5,509	5,509
	₩ 7,913	₩ 7,913	₩ 10,170	₩ 10,170

The Group assessed the fair value of land through an independent appraiser on December 31, 2015.

17. Intangible Assets

Intangible assets as at December 31, 2017 and 2016, consist of:

(in millions of Korean won)	December 31, 2017			December 31, 2016		
	Cost	Accumulated amortization[1]	Book amount	Cost	Accumulated amortization	Book amount
	₩ 70,798	₩ (33,484)	₩ 37,314	₩ 141,735	₩ (68,430)	₩ 73,305

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

(in millions of Korean won)	2017						
	Goodwill	Intellectual property rights	Development costs	Computer software	Facility usage rights	Others	Total
Beginning balance	₩ 8,727	₩ 9,784	₩ 25,962	₩ 1,156	₩ 25,714	₩ 1,962	₩ 73,305
Additions(disposal)	-	2,230	5,171	67	-	(499)	6,969
Amortization	-	(591)	(1,281)	(594)	(677)	(172)	(3,315)
Other changes[1,2]	(8,727)	(10,244)	(18,464)	(181)	(1,770)	(259)	(39,645)
Ending balance	₩ -	₩ 1,179	₩ 11,388	₩ 448	₩ 23,267	₩ 1,032	₩ 37,314

[1] Other changes include impairment losses on intangible assets and the changes in scope of consolidation such as disposal of certain subsidiaries.
[2] After impairment assessment, the Group recognized ₩ 29,415 million of impairment losses(Note 14).

(in millions of Korean won)	2016						
	Goodwill	Intellectual property rights	Development costs	Computer software	Facility usage rights	Others	Total
Beginning balance	₩ 8,949	₩ 8,877	₩ 28,917	₩ 2,348	₩ 27,232	₩ 5,571	₩ 81,894
Additions(disposal)	-	2,501	3,532	43	-	(548)	5,528
Amortization	-	(1,557)	(2,861)	(1,048)	(742)	(277)	(6,485)
Other changes[1]	(222)	(37)	(3,626)	(187)	(776)	(2,784)	(7,632)
Ending balance	₩ 8,727	₩ 9,784	₩ 25,962	₩ 1,156	₩ 25,714	₩ 1,962	₩ 73,305

[1] Other changes include impairment losses on intangible assets and the changes in scope of consolidation, such as disposal of certain subsidiaries.

18. Trade and Other Payables

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

(in millions of Korean won)	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Trade payables	₩ 735,589	₩ -	₩ 615,905	₩ -
Other payable	244,239	121,650	934,048	140,303
Accrued expenses	79,939	14,495	104,435	13,423
Deposits received	13,217	-	21,003	-
	₩ 1,072,984	₩ 136,145	₩ 1,675,391	₩ 153,726

19. Debentures

Details of the book amount of debentures as at December 31, 2017 and 2016, are as follows:

Type	Maturity date	Annual interest rate (%) December 31, 2017	December 31, 2017	December 31, 2016
4-2nd non-guarantee bonds	April 21, 2023	1.00	₩ 149,142	₩ 300,000
5-2nd non-guarantee bonds	April 21, 2023	1.00	98,635	200,000
6-1st non-guarantee bonds	April 21, 2023	1.00	213,274	440,000
6-2nd non-guarantee bonds	April 21, 2023	1.00	29,321	60,000
7th non-guarantee bonds	April 21, 2023	1.00	148,768	350,000
Commercial papers[1]	April 21, 2023	1.00	101,894	200,000
			741,034	1,550,000
	Less: discount on debentures		(210,373)	(8,689)
	Less: current portion		-	(1,348,886)
			₩ 530,661	₩ 192,425

[1] The Group recognizes corporate bonds issued by the Group as debentures.

As described in Note 43, the Group and bond holders agreed to debt restructuring which includes the debt-to-equity swap of 50% or more of existing corporate bonds and CP, extending the maturity of remaining bonds and CP and decreasing interest rate of remaining bonds through bondholders' meeting and amendment of CP contract related to terms and conditions of issuing, respectively, during April, 2017. In accordance with this debt restructuring plan debt-to-equity swap of corporate bonds and CP was executed on August 12, 2017 and December 21, 2017.(Note 43).

20. Borrowings

20.1 Short-term borrowings

Details of the book amount of short-term borrowings as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won, in thousands of USD, EUR, CNY, RON)

Denominated currency	Creditor	Details	Annual interest rate (%) December 31, 2017	December 31, 2017 Foreign currency		December 31, 2017 Korean won	December 31, 2016 Foreign currency		December 31, 2016 Korean won
Short-term borrowings in Korean won	Korea Development Bank	General loans and others	3.00		-	₩ 827,659			₩ 570,555
	Export-Import Bank of Korea	Production finance	3.00		-	587,900			254,000
	Kookmin Bank	Bank overdraft			-	4,302			96,645
		Working capital and others	-		-	-			14,300
	Busan Bank	Operating capital	-		-	-			10,000
	Shinhan Bank	Facilities capital	-		-	-			13,720
	Woori Bank	General loans and others	-		-	-			131,660
	KEB Hana Bank	General loans and others	-		-	-			207,000
	KwangJu Bank	Operating capital	-		-	-			2,000
	Construction Guarantee Cooperative and others	Investment loans	-		-	-			12,225
						1,419,861			1,312,105
Short-term borrowings in foreign currencies	Korea Development Bank and others	USANCE	6ML+0.3, other	USD	376,210	403,071	USD	562,099	679,168
				EUR	59	76		-	-
		Current capital	PBOC*1.15, other	USD	19,440	20,788		-	-
				CNY	131,600	21,537		-	-
	Shinhan Bank	Working capital	3ML+1.8	USD	50,000	53,493	USD	50,000	60,210
	KEB Hana Bank	General loans	-		-	-	USD	225,000	271,913
	Export-Import Bank of Korea	Production finance	3ML+2.65	USD	119,169	127,678	USD	397,985	480,965
	CEC Bank	Current capital	-		-	-	RON	39,532	11,062
	Woori Bank	Current capital	-		-	-	USD	14,000	16,919
	Standard Chartered Bank Korea Ltd.	Current capital	-		-	-	USD	18,000	21,634
	Korea Development Bank	Current capital	-		-	-	CNY	40,500	7,018
						626,643			1,548,889
						₩ 2,046,504			₩ 2,860,994

20.2 Long-term Borrowings

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

(in millions of Korean won, in thousands of USD, CNY, CAD)

Denominated currency	Creditor	Details	Annual interest rate (%) December 31, 2017	December 31, 2017 Foreign currency	December 31, 2017 Korean won	December 31, 2016 Foreign currency	December 31, 2016 Korean won
Long-term borrowings in Korean won	Korea Development Bank	Facilities capital	-	-	₩ -		₩ 310,877
	Woori Bank	General loans	1.00	-	19,972		7,642
	Shinhan Bank	General loans	1.00	-	16,000		-
	Kookmin Bank	General loans	1.00	-	20,000		-
	KEB Hana Bank	General loans	1.00	-	91,912		-
	NongHyup Bank	PF loans	-	-	-		23,000
	Korea Housing & Urban Guarantee Corporation	Facilities capital and others	7.05, other	-	113		6,612
					147,997		348,131
Long-term borrowings in foreign currencies	Korea Development Bank	Operating capital	3ML+2.08, other	USD 730,000	782,887	USD 742,850	897,679
				CNY 91,100	14,908	CNY 182,200	31,568
	Korea National Oil Corp.	Special energy capital	-	USD 11,712	12,967	USD 11,802	13,069
	Export-Import Bank of Korea	Production finance and others	6ML+3.05, other	USD 216,879	232,365	USD 736,025	889,486
	GNG Holdings Inc. and others	Operating capital	Libor(1Y) +5, other	USD 1,021	1,094	USD 5,258	6,305
	PLAN-UP DM	Operating capital	-	-	-	USD 34,484	41,525
					1,044,221		1,879,632
					1,192,218		2,227,763
Less: Current portion of long-term borrowings					(460,882)		(1,486,203)
Less: Present value premium					(57,724)		481
					₩ 673,612		742,041

The Group's property, plant and equipment are pledged as collaterals in relation to the above borrowings (Note 15).

21. Other Liabilities

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

(in millions of Korean won)	2017		2016	
	Current	Non-current	Current	Non-current
Advance received	₩ 41,337	₩ -	₩ 25,189	₩ 5,948
Income in advance	279	-	240	-
Withholdings	66,150	-	90,697	-
Others	15	23	24,224	35
	₩ 107,781	₩ 23	₩ 140,350	₩ 5,983

22. Net Defined Benefit Liabilities

22.1 As at December 31, 2017 and 2016, amounts recognized in the consolidated statement of financial position are as follows:

(in millions of Korean won)	December 31, 2017	December 31, 2016
Present value of defined benefit obligation	₩ 389,625	₩ 428,386
Fair value of plan assets	(253,030)	(266,050)
Net defined benefit liabilities	136,595	162,336
Other long-term employee benefit liabilities	₩ 23,946	₩ 29,057

22.2 Movements in the net defined benefit liabilities for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017			
	Present value of defined benefit obligations	**Plan assets**	**Other long-term employee benefit obligation**	**Total**
Beginning balance	₩ 428,386	₩ (266,050)	₩ 29,057	₩ 191,393
Current service cost	55,315	-	1,184	56,499
Past service cost and gains or losses on settlements	(586)	-	391	(195)
Interest cost (interest income)	10,843	(6,486)	(989)	3,368
	493,958	(272,536)	29,643	251,065
Remeasurements:				
Return on plan assets	-	3,776	-	3,776
Actuarial gain from change in demographic assumptions	9	-	(1,340)	(1,331)
Actuarial gain from change in financial assumptions	(10,141)	-	(507)	(10,648)
Actuarial gain from experience adjustments	4,326	-	(369)	3,957
	(5,806)	3,776	(2,216)	(4,246)
Contributions	-	(36,865)	-	(36,865)
Benefit payments	(72,004)	38,663	(2,697)	(36,038)
Other[1]	(26,523)	13,931	(783)	(13,375)
Ending balance	₩ 389,625	₩ (253,031)	₩ 23,947	₩ 160,541

[1] Included the changes in scope of consolidation, such as disposal of certain subsidiaries.

(in millions of Korean won)	**2016**			
	Present value of defined benefit obligations	**Plan assets**	**Other long-term employee benefit obligation**	**Total**
Beginning balance	₩ 531,108	₩ (352,449)	₩ 41,627	₩ 220,286
Current service cost	79,902	-	(6,513)	73,389
Past service cost and gains or losses on settlements	(5,619)	-	-	(5,619)
Interest cost (interest income)	14,931	(8,864)	694	6,761
	620,322	(361,313)	35,808	294,817
Remeasurements:				
Return on plan assets	-	4,059	-	4,059
Actuarial gain from change in demographic assumptions	(11)	-	(21)	(32)
Actuarial loss from change in financial assumptions	(38,503)	-	(667)	(39,170)
Actuarial gain from experience adjustments	(14,474)	-	(4,001)	(18,475)
	(52,988)	4,059	(4,689)	(53,618)
Contributions	-	(6,000)	-	(6,000)
Benefit payments	(123,357)	76,500	(1,824)	(48,681)
Other	(15,591)	20,704	(238)	4,875
Ending balance	₩ 428,386	₩ (266,050)	₩ 29,057	₩ 191,393

22.3 The significant actuarial assumptions as at December 31, 2017 and 2016, are as follows:

(in percentage, %)	**2017**	**2016**
Discount rate	2.8 %	2.4 ~ 2.9 %
Salary growth rate (including inflation rate)	1.9 ~ 3.3 %	1.1 ~ 3.9 %

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

(in millions of Korean won)	**2017**	**2016**
Deposit and installment savings	₩ 203,419	₩ 250,223
Others[1]	49,612	15,826
	₩ 253,031	₩ 266,049

[1] Includs the contributions to the National Pension Fund.

22.5 While holding all other assumptions constant as at December 31, 2017, and in the case where significant actuarial assumptions are within the reasonable and possible changes, the fluctuation of the defined benefit obligations is as follows:

(in millions of Korean won)	2017		2016	
	Increase	**Decrease**	**Increase**	**Decrease**
Changes in 100 basis point (bp) of discount rate	₩ (32,949)	₩ 38,785	₩ (40,438)	₩ 48,562
Changes in 1 % of expected salary growth rate	39,126	(33,845)	48,415	(41,049)

Since there is correlation among actuarial assumptions, changes of assumptions will not occur in isolation and above sensitivity analyses will not show the actual change of defined benefit obligations. Also, in the above sensitivity analyses, present value of defined benefit obligations is measured by using the projected unit credit method, which is applied to measure the amount of defined benefit obligations in the statement of financial position.

23.6 The weighted average duration of the defined benefit obligations is 9.61 years. The expected maturity analysis of undiscounted pension benefits as at December 31, 2017, is as follows:

(in millions of Korean won)	**Less than 1 year**	**Between 1-2 years**	**Between 2-5 years**	**Between 5-10 years**	**Over 10 years**	**Total**
Pension benefits	₩ 31,604	₩ 47,588	₩ 122,357	₩ 192,778	₩ 483,948	₩ 878,275

The Group reviews the funding level on an annual basis and has a policy to eliminate deficit in the fund. Expected contributions to post-employment benefit plans for the year ending December 31, 2018 are ₩36,276 million.

23. Provisions

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

(in millions of Korean won)	2017		
	Provision for construction warranties	**Other provisions**	**Total**
Beginning balance	₩ 141,204	₩ 258,393	₩ 399,596
Additional provisions	46,991	390,643	437,634
Used during period	(16,509)	(72,109)	(88,618)
Others[1]	(14,917)	(39,873)	(54,790)
Ending balance	156,769	537,053	693,822
Less: current portion of provisions	-	-	-
Provisions, net	₩ 156,769	₩ 537,053	₩ 693,822

(in millions of	2016

Korean won)		Provision for construction warranties		Other provisions		Total
Beginning balance	₩	87,950	₩	61,680	₩	149,630
Additional provisions		90,458		217,806		308,264
Used during period		(37,149)		(22,245)		(59,394)
Others[1]		(55)		1,151		1,096
Ending balance		141,204		258,392		399,596
Less: current portion of provisions		(3,698)		-		(3,698)
Provisions, net	₩	137,506	₩	258,392	₩	395,898

[1] Others include impairment losses and changes in the scope of consolidation, such as disposal of certain subsidiaries.

24. Income Taxes Expense

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

(in millions of Korean won)		2017		2016
Income tax payable(receivable)	₩	(11,017)	₩	15,292
Changes in deferred income tax from temporary differences		551,507		819,538
Total amount of income tax effect		540,490		834,830
Income tax directly reflected to shareholders' equity		2,797		(6,999)
Income tax expense	₩	543,287	₩	827,831

24.2 The tax on the Group's profit (loss) before tax differs from the theoretical amount that would arise using the weighted average tax rate applicable to the profits (losses) of the Group as follows:

(in millions of Korean won)		2017		2016
Profit (loss) before tax	₩	1,189,045	₩	(1,961,657)
Tax calculated at applicable tax rates[1]		287,749		(474,721)
Adjustments:				
Tax effect of permanent differences		(13,846)		3,080
Tax credits		-		(7)
Unrecognized deferred tax assets[2]		269,384		1,299,479
Income tax expense	₩	543,287	₩	827,831
Effective tax rate[3]		44.78%		-

[1] The weighted average applicable tax rate on net income before income taxes is the applicable corporate tax rate (including inhabitant tax) applicable to taxable income in the Republic of Korea.
[2] The Group recognizes a deferred tax asset for all deductible temporary differences and unused tax losses when it is probable the taxable profit will be available against which the temporary difference can be utilized. However, certain deferred tax assets recognized in the previous year, due to uncertainty of future taxable profit from drop in international oil prices and the decrease in contracts, is recognized as income tax expense.
[3] Effective tax rate is not calculated due to the loss before income tax on 2016.

24.3 Changes in temporary differences, deficit and deferred tax assets and liabilities for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017			
	Beginning balance	Increase (decrease)	Changes in the scope of consolidation	Ending balance
Temporary differences				
Loss on revaluation of land	₩ 5,290	₩ (206)	₩ (5,055)	₩ 29
Research and development reserves	(16,940)	13,710	-	(3,230)
Provision for construction warranties	33,305	11,232	(2,210)	42,327
Provision for construction loss	107,482	60,391	(1,109)	166,764
Gain (loss) on foreign currency translation	929	112	(12)	1,029
Gain (loss) on valuation of forward currency	2,332	23,148	-	25,480
Investments in subsidiaries and associates and others	232,371	28,403	-	260,774
Changes in the fair value of available-for-sale financial assets (Other components of equity)	(3,832)	(1,758)	891	(4,699)
Gain on revaluation of land	(258,481)	(29,423)	31,042	(256,862)
Provision for advance depreciation	(53,313)	(7,113)	-	(60,426)
Other	1,103,662	326,804	(33,440)	1,397,026
	₩ 1,152,805	₩ 425,300	₩ (9,893)	₩ 1,568,212
Tax losses	609,626	(167,402)	(15,394)	426,830
Tax refund due to accounting different from facts	393,391	(30,061)	-	363,330
	2,155,822	227,837	(25,287)	2,358,372
Recognized deferred tax asset (liabilities)	514,588	(538,953)	(25,287)	(49,652)
Unrecognized deferred tax asset (liabilities)	₩ 1,641,234	₩ 766,790	₩ -	₩ 2,408,024

(in millions of Korean won)	2016		
	Beginning balance[1]	**Increase (decrease)** [2]	**Ending balance**
Temporary differences			
Loss on revaluation of land	₩ 5,377	₩ (87)	₩ 5,290
Research and development reserves	(33,477)	16,537	(16,940)
Provision for construction warranties	20,573	12,732	33,305
Provision for construction loss	131,012	(23,529)	107,482
Gain (loss) on foreign currency translation	7,481	(6,552)	929
Gain (loss) on valuation of forward currency	24,555	(22,222)	2,332
Investments in subsidiaries and associates and others	77,784	154,587	232,371
Changes in the fair value of available-for-sale financial assets (Other components of equity)	(5,640)	1,807	(3,832)
Gain on revaluation of land	(269,239)	10,758	(258,481)
Provision for advance depreciation	(53,564)	251	(53,313)
Other	514,037	589,625	1,103,662
	₩ 418,899	₩ 733,907	₩ 1,152,805
Tax losses	965,304	(355,678)	609,626
Tax refund due to accounting different from facts[1]	-	393,391	393,391
	1,384,203	771,620	2,155,822
Recognized deferred tax asset (liabilities)	1,335,461	(820,873)	514,588
Unrecognized deferred tax asset (liabilities)	₩ 48,742	₩ 1,592,493	₩ 1,641,234

[1] Based on tax laws Article 58-3, the Group deducts from the corporate tax amount of each business year from the business year to which the correction belongs, the amount of tax that was overpaid due to accounting different from facts. In this case, the amount to be deducted in each business year is limited to 20% of the excessively paid tax amount, and the remaining tax amount after deduction is carried forward to the subsequent business year and there is no expiration date.
[2] Included in the fiscal year under review is the reduction in tax losses carried forward based on the notice of the tax investigation results (₩71,619 millions) and the reduction in tax refund due to accounting different from facts (₩30,061 millions).

24.4 The analysis of deferred tax assets and liabilities as at December 31, 2017 and 2016, is as follows:

(in millions of Korean won)		**2017**		**2016**
Deferred tax assets				
Deferred tax asset to be recovered within 12 months	₩	32,093	₩	94,476
Deferred tax asset to be recovered after more than 12 months		362,589		833,912
		394,682		928,388
Deferred tax liabilities				
Deferred tax liability to be recovered within 12 months		-		-
Deferred tax liability to be recovered after more than 12 months		(444,334)		(413,800)
		(444,334)		(413,800)
Deferred tax assets (liabilities), net	₩	(49,652)	₩	514,588

24.5 The Group recognizes a deferred tax asset for all deductible temporary differences and unused tax losses when it is probable the taxable profit will be available against which the temporary difference can be utilized. However, certain deferred tax assets recognized in the previous year, due to uncertainty of future taxable profit from drop in international oil prices and the decrease in contracts, is recognized as income tax expense. Details of unrecognized deferred tax assets as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**2017**		**2016**
Unused losses	₩	1,552,107	₩	2,455,503
Deductible taxable difference		7,204,344		4,326,456

(*)The maturity of unused losses is as follows:

(in millions of Korean won)		**2017**		**2016**
Within 5 years	₩	-	₩	-
Between 5-10 years		1,552,107		2,455,503

24.6 The aggregate current and deferred tax relating to items that are charged or credited directly to equity for the years ended December 31, 2017 and 2016, is as follows:

(in millions of Korean won)	2017		
	Before tax	**Tax effect**	**After tax**
Changes in the fair value of available-for-sale financial assets	₩ 17,086	₩ (4,699)	₩ 12,387
Revaluation surplus of property, plant and equipment	461,985	(127,046)	334,939
Remeasurements	35,027	(9,632)	25,395
	₩ 514,098	₩ (141,377)	₩ 372,721

(in millions of Korean won)	2016		
	Before tax	**Tax effect**	**After tax**
Changes in the fair value of available-for-sale financial assets	₩ 15,835	₩ (3,038)	₩ 12,797
Share of other comprehensive income of associates and joint ventures	28	(7)	21
Revaluation surplus of property, plant and equipment	583,659	(140,102)	443,557
Remeasurements	37,833	(9,290)	28,543
	₩ 637,355	₩ (152,437)	₩ 484,918

25. Derivative Instruments

Details of derivative instruments held for hedging and trading purposes as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	December 31, 2017						
	Sales	**Other non-operating income (expense)**	**Firm commitment assets[1]**	**Firm commitment liabilities[1]**	**Due to customer under construction contract**	**Currency forward assets**	**Currency forward liabilities**
For fair value hedging[1]	₩ 3,356	₩ (4,296)	₩ 5,907	₩ 93,527	₩ (2,385)	₩ 137,775	₩ 10,286
For trading[2]	-	48,275	-	-	-	31,377	252
	₩ 3,356	₩ 43,979	₩ 5,907	₩ 93,527	(2,385)	₩ 169,152	₩ 10,538

(in millions of Korean won)	December 31, 2016						
	Sales	**Other non-operating income (expense)**	**Firm commitment assets[1]**	**Firm commitment liabilities[1]**	**Due to customer under construction contract**	**Currency forward assets**	**Currency forward liabilities**
For fair value hedging[1]	₩ (211,252)	₩ 11,565	₩ 458,162	₩ 1,708	₩ (9,589)	₩ -	₩ 471,891
For trading[2]	-	44,225	-	-	-	7,140	10,931
	₩ (211,252)	₩ 55,790	₩ 458,162	₩ 1,708	₩ (9,589)	₩ 7,140	₩ 482,822

[1] The Group has entered into currency forward contracts (Korean won against USD) in order to hedge exchange rate fluctuation risk and applied fair value hedge accounting to the respective firm commitment as at December 31, 2017.
[2] The Group recognized currency forward assets and liabilities held for trading purpose as financial assets (liabilities) at FVTPL.

26. Share Capital

On August 23, 2004, the Group retired 1,000,000 shares of treasury share acquired for ₩15,416 million upon the approval at the Board of Directors' meeting. Accordingly, the number of shares issued has been decreased. However, the amount of paid-up capital has not been reduced. As a result, the face value of the Group's issued shares and the ordinary share presented in the consolidated statement of financial position are not identical as at December 31, 2017 and December 31, 2016.

The Group's total number of authorized shares, issued shares and par value per share are 800,000,000, 106,656,288 and ₩5,000, respectively, as at December 31, 2017 and 2016.

Changes in number of shares and share capital for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won, and in number of shares)	**Details**	**Number of shares (in shares)**		**Share capital**
January 1, 2016	Beginning balance	273,415,368	₩	1,372,077
December 26, 2016	Capital reduction without consideration	(60,217,183)		(301,086)
December 26, 2016	Share consolidation	(191,878,367)		(959,392)
December 29, 2016	Capital increase	44,257,142		221,286
December 31, 2016	Ending balance	65,576,960		332,885
January 1, 2017	Beginning balance	65,576,960		332,885
June 29, 2017	Debt to equity swap (Note 43)	19,647,036		98,235
August 12, 2017	Debt to equity swap (Note 43)	19,804,813		99,024
December 21, 2017	Debt to equity swap (Note 43)	1,627,479		8,137
December 31, 2017	Ending balance	106,656,288		538,281

27. Accumulated Deficit

27.1 Accumulated deficit as at December 31, 2017 and 2016, consist of:

(in millions of Korean won)		**December 31, 2017**		**December 31, 2016**
Legal reserves[1]	₩	91,246	₩	93,013
Reserve for research and human resource development		70,000		138,333
Reserve for facility expansion		3,450,000		3,450,000
Reserve for dividend equalization		70,000		70,000
Accumulated deficit before disposition		(3,773,409)		(7,298,114)
	₩	(92,163)	₩	(3,546,768)

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

28. Other Contributed Capital and Components of Other Capital

28.1 Other contributed capital as at December 31, 2017 and 2016, consists of:

(in millions of Korean won)		**December 31, 2017**		**December 31, 2016**
Other contributed capital				
Gain on capital reduction	₩	-	₩	1,260,478
Share premium		54,617		1,565,148
Others[1]		314,899		4,590
		368,803		2,830,216
Components of other capital				
Revaluation surplus of property, plant and equipment		334,939		441,030
Gain on valuation of AFS financial assets		12,387		11,717
Share of other comprehensive income of associates and joint ventures		-		21
Loss on foreign currency translation of foreign operations		(51,601)		(42,191)
		293,725		410,577
	₩	662,528	₩	3,240,793

[1] Including other contributed capital amounting to ₩1,176 million, which meets the requirement for equity since agreement for debt-to-equity swqp was made but was not converted as at December 31, 2017.

28.2 Hybrid Capital Instrument

Hybrid capital instrument as at December 31, 2017 and 2016, consists of:

(in millions of Korean won)		**December 31, 2017**		**December 31, 2016**
8th Private unregistered non-guarantee convertible bond[1]	₩	1,000,000	₩	1,000,000
9th Private unregistered non-guarantee convertible bond[2]		1,284,775		-
	₩	2,284,775	₩	1,000,000

[1] As at December 29, 2016, the Group issued convertible to KEXIM to secure its capital, by offsetting ₩1,000,000 million of the outstanding balance of export financing loan made from November 25, 2015 to December 12, 2016.

These convertible bonds are classified as equity as there is no contractual cash payment obligation of the issuer. Details of convertible bonds issued by the Group are changed as at June 28, 2017, and the condition of bond issuance are as follows:

	Details
Bonds	8th Private unregistered non-guarantee convertible bond
Value at issue	₩ 1,000,000 million
Maturity	December 29, 2046(30 years), The maturity date can be extended under the same conditions as the discretion of the issuer.
Interest paid	Amount: 3% until June 28, 2017, 1% until Dec 31, 2021, 0.25% added every year on standard yield of 5 year maturity public unsecured corporate bonds. Payment: Pay quarterly, Optional payment suspension only if there is no reason for not suspending interest payment(*) (*)Reason for not suspending interest payment: A dividend payment decision is made in the last 12 months, or the shares of the issuer are reduced by the Group's retained earnings or purchased, repaid by the Group
Early redemption right	Optional redemption for all and part of the bonds every year, after Dec 31, 2021,
Conversion condition	₩ 40,350 per share
Trigger clause	The liquidation of the issuing Group

[2] As at June 28, 2017, the Group issued convertible bonds to KEXIM to secure its capital, by offsetting ₩1,284,775 million of the outstanding balance of export financing loan made from October 17, 2014 to February 9, 2017.

These convertible bonds are classified as equity as there is no contractual cash payment obligation of the issuer. Details of convertible bonds issued by the Group are as follows:

	Details
Bonds	9th Private unregistered non-guarantee convertible bond
Value at issue	₩ 1,284,775 million
Maturity	June 28, 2047 (30 years), The maturity date can be extended under the same conditions as the discretion of the issuer.
Interest paid	Amount: 1.0% until December 31, 2021, 0.25% added every year on standard yield of 5 year maturity public unsecured corporate bonds. Payment: Pay quarterly, Optional payment suspension only if there is no reason for not suspending interest payment(*) (*)Reason for not suspending interest payment: A dividend payment decision is made in the last 12 months, or the shares of the issuer are reduced by the Group's retained earnings or purchased, repaid by the Group
Early redemption right	Optional redemption for all and part of the bonds every year, after 3 years from the issuance date,
Conversion condition	₩ 40,350 per share
Trigger clause	The liquidation of the issuing Group

29. Earnings per Share

29.1 Basic earnings (losses) per share is calculated by dividing the profit (loss) attributable to equity holders of the Group by the weighted average number of ordinary shares outstanding during the year excluding ordinary shares purchased by the Group and held as treasury shares.

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

(in Korean won)		**2017**		**2016**
Profit (loss) from discontinued operation attributable to the ordinary equity holders of the Parent Company	₩	621,492,030,973	₩	(2,734,138,726,921)
Paid interest of hybrid capital instrument[1]		(26,445,004,150)		-
Profit (loss) attributable to the ordinary equity holders of the Parent Company		595,047,026,823		(2,734,138,726,921)
Weighted average number of ordinary shares outstanding		83,327,667 shares		21,682,581shares
Basic earnings (losses) per share	₩	7,141	₩	(126,098)

[1] Interest payable related to hybrid capital instrument ₩11,438 million is included as at December 31, 2017.

29.2 Weighted-average number of ordinary shares outstanding used in the calculation of earnings per share, for the years ended December 31, 2017 and 2016, is as follows:

(in shares)	2017				
	Issued shares	Treasury shares	Outstanding shares	Number of days	Weighted average number of ordinary shares outstanding
Jan. 1, 2017	65,576,960		65,576,960	24	4,311,910
Jan. 25, 2017	65,576,960	(16,207)	65,560,753	155	27,840,868
Jun. 29, 2017	85,223,996	(16,207)	85,207,789	44	10,271,624
Aug. 12, 2017	105,028,809	(16,207)	105,012,602	131	37,689,454
Dec. 21, 2017	106,656,288	(16,207)	106,640,081	11	3,213,811
				365	83,327,667

(in shares)	2016				
	Issued shares	Treasury shares	Outstanding shares	Number of days	Weighted average number of ordinary shares outstanding
Jan. 1, 2016	21,319,818	-	21,319,818	363	21,145,065
Dec. 29, 2016	65,576,960	-	65,576,960	3	537,516
				365	21,682,581

The Company retired 60,217,183 shares owned by the largest shareholder on December 26, 2016. And, the Company decided to merge the remaining shares at the ratio of 10:1 (Note 26). The weighted average number of ordinary shares outstanding has been adjusted to reflect the effect of capital reduction without consideration on the beginning of the earliest period comparatively presented.

29.3 Diluted earnings is adjusted weighted average number of ordinary shares outstanding with assumption that every dilutive securities are converted to ordinary shares. The Group issued dilutive securities as convertible bonds (hybrid capital instrument). Convertible bonds are assumed that converted to ordinary shares and interest cost of the convertible bonds added to earnings of ordinary shares.

(in Korean won)		2017		2016
Profit (loss) attributable to the ordinary equity holders of the Parent Company	₩	595,047,026,823	₩	(2,734,138,726,921)
Interest of convertible bonds (hybrid capital instrument) [1]		26,445,004,150		-
Profit (loss) used to determine diluted EPS		621,492,030,973		(2,734,138,726,921)
Weighted average number of ordinary shares outstanding		83,327,667 shares		21,682,581 shares
Adjustment:				
Assumption of conversion of permanent bonds		41,096,089		-
Weighted average number of ordinary shares outstanding		124,423,756 shares		21,682,581 shares
Diluted earnings (losses) per share[1]	₩	4,995	₩	(126,098)

[1] The Group Issued hybrid equity securities convertible into ordinary shares during prior year but didn’t calculate diluted earnings per share due to anti-dilution effect.

30. Selling and Admistrative Expenses

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

(in millions of Korean won)		2017		2016
Advertising	₩	1,137	₩	1,357
Commission expenses		175,816		119,150
Other		1,861		11,193
	₩	178,814	₩	131,700

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

(in millions of Korean won)		2017		2016
Salaries	₩	51,167	₩	72,389
Post-employment benefits		4,886		13,930
Employee welfare benefits		8,948		2,078
Rental expenses		8,078		4,784
Depreciation		4,425		4,001
Amortization		741		1,365
Bad debt expense		379,370		553,492
Repairs and maintenance expense		7,778		3,975
Travel expense		2,438		3,437
Training expense		1,202		2,466
Administrative service costs		15,347		13,417
Other		106,936		41,072
	₩	591,316	₩	716,406

31. Finance Income and Costs

Details of net finance income (costs) for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		2017		2016
Interest income:				
Deposits	₩	4,922	₩	9,854
Trade receivables and other receivables		12,155		20,027
Others		9		20
		17,086		29,901
Dividend income:				
AFS financial assets		476		3,505
Investments in associates		272		342
		748		3,847
Reversal of financial guarantee liabilities:		9,447		-
Changes in liabilities		1,422,602		-
		1,449,883		33,748
Interest expenses:				
Bank overdrafts and interests on loans		189,090		309,802
Others		-		89
Less: Amount included in cost of qualifying assets		(142,540)		(194,546)
		46,550		115,345
Transfer to financial guarantee liabilities:		-		-
		46,550		115,345
Net finance income(cost)	₩	1,403,333	₩	(81,597)

32. Foreign Exchange Gains and Losses

Details of foreign exchange gains and losses for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		2017		2016
Gain on foreign currency transactions	₩	397,499	₩	391,861
Gain on foreign exchange translations		256,847		203,309
		654,346		595,170
Loss on foreign currency transactions		319,432		425,409
Less: Amount included in cost of qualifying assets		(497)		(16,164)
Loss on foreign currency transactions, net		318,935		409,245
Loss on foreign exchange translations		409,950		256,028
Less: Amount included in cost of qualifying assets		(8,184)		(4,402)
Loss on foreign exchange translations, net		401,766		251,626
		720,701		660,871
Net foreign exchange gains and losses	₩	(66,355)	₩	(65,701)

33. Other Non-operating Income and Expenses

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

(in millions of Korean won)		**2017**		**2016**
Gain on valuation of firm commitment	₩	779	₩	187,809
Gain on valuation of currency forward		417,092		6,165
Gain on currency forward transactions		183,027		154,562
Gain on disposal of available-for-sales securities		1,052		10,432
Gain on disposal of property, plant and equipment		2,430		26,077
Reversal of impairment loss on property, plant and equipment		69,403		-
Others		155,934		76,062
	₩	829,717	₩	461,107

33.2 Details of other non-operating expenses for periods ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		2017		2016
Loss on valuation of firm commitment	₩	555,413	₩	76,627
Loss on valuation of currency forward		-		166,738
Loss on currency forward transactions		1,506		49,056
Loss on disposal of property, plant and equipment		552		36,196
Other provision for impairment		60,541		2,515
Impairment loss of property, plant and equipment		509,947		158,897
Impairment loss of intangible assets		29,660		5,176
Impairment loss on assets held-for-sale		-		32,293
Contingent loss		361,559		127,732
Others		24,219		94,577
	₩	1,543,397	₩	749,807

34. Expenses by Nature

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

(in millions of Korean won)	2017					
		Selling and administrative and research and development expenses		Cost of sales		Total
Changes in inventories	₩	-	₩	290,943	₩	290,943
Purchase of raw materials		-		4,251,940		4,251,940
Employee benefits		87,578		819,692		907,270
Depreciation		5,184		143,907		149,091
Amortization		1,389		1,926		3,315
Commission		190,162		110,354		300,516
Travel		2,791		6,100		8,891
Administrative service fees		17,065		90,977		108,042
Rent		8,211		47,098		55,309
Amount paid to subcontractor		2,105		1,948,408		1,950,513
Others		496,598		1,846,386		2,342,984
	₩	811,083	₩	9,557,731	₩	10,368,814

(in millions of Korean won)	2016		
	Selling and administrative and research and development expenses	**Cost of sales**	**Total**
Changes in inventories	₩ -	₩ 942,943	₩ 942,943
Purchase of raw materials	-	5,829,237	5,829,237
Employee benefits	96,480	1,170,720	1,267,200
Depreciation	5,173	192,983	198,156
Amortization	2,012	4,473	6,485
Commission	119,150	126,428	245,578
Travel	3,670	12,593	16,263
Administrative service fees	13,428	120,006	133,434
Rent	4,949	82,744	87,693
Amount paid to subcontractor	2,040	2,840,411	2,842,451
Others	653,604	2,127,019	2,780,623
	₩ 900,506	₩ 13,449,557	₩ 14,350,063

35. Related Parties

35.1 Related parties of the Group as at December 31, 2017, are as follows:

	Group
Controlling Company	KDB
Associates	Wing Ship Technology Corp., Daehan Shipbuilding Co., Ltd., TPI Megaline Co., Ltd., Shinhan Heavy Industries Co., Ltd., Samwoo Heavy Industry Co., Ltd, Welliv Private Equity Limited Partnerships, PT.PJUC
Joint ventures	SBM Shipyard Ltd.
Other related parties	D&H Solutions AS, PT. DSME Indonesia, DSME Offshore Engineering Center, DSME Kazakhstan LLP, PAENAL YARD, KC Kazakh B.V., SEYOUNG Academy for middle school students and others, Related parties of KDB and government related parties(KEXIM and others)[1].

[1] Disclosure of the Group do not consist of all transactions, commitments and outstanding balances in accordance with Korean IFRS 1024, para 25.

35.2 Intercompany transactions, which were eliminated in consolidation, between the Parent Company and subsidiaries are not disclosed. Significant transactions with the related parties for the years ended December 31, 2017, and 2016, are as follows:

(in millions of Korean won)	**Transaction**	**2017**	**2016**
Controlling Group:			
KDB	Interest and other income	₩ 361,499	₩ 68,386
	Interest and other expenses	81,867	228,737
	Proceeds from borrowings	810,004	2,019,388
	Redemption of borrowings	522,200	632,773
	Debt-to-equity swap	268,932	1,784,314
Associates:			
DAEHAN Shipbuilding Co., Ltd. and others	Sales	1,986	243
	Purchases	137,147	16,264
	Interest and other income	4,531	462
	Increase in loans	28,187	-
	Decrease in loans	30,095	-
Other related parties:			
KEXIM	Interest and other expense	83,282	109,367
	Proceeds from borrowings	817,000	1,945,302
	Redemption of borrowings	76,000	1,084,628
	Debt-to-equity swap	1,284,775	1,000,000
Related parties of KDB and others	Sales	2,329	231
	Purchases	62,311	57,996
	Interest and other income	267	9,722
	Interest and other expense	83,733	65,229
	Decrease in loans	108	-
Total	Sales	₩ 4,315	₩ 474
	Purchases	199,458	74,260
	Interest and other income	366,297	78,570
	Interest and other expense	248,882	403,333
	Increase in loans	28,187	-
	Decrease in loans	30,203	-
	Proceeds from borrowings	1,627,004	3,964,690
	Redemption of borrowings	598,200	1,717,401
	Debt-to-equity Swap	1,553,707	2,784,314

35.3 Significant receivables from and payables to the related parties as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	December 31, 2017					
	Financial instruments and others[1]	**Trade receivables[1]**	**Other receivables[1]**	**Loans and others[1]**	**Borrowings**	**Other payables**
Controlling Group:						
KDB	₩ 859,914	₩ -	₩ 24,274	₩ 135,988	₩ 1,766,712	₩ 12,398
Associates:						
Daehan Shipbuilding Co. Ltd. and others	-	133	10,118	151,131	-	79,420
Joint ventures:						
SBM Shipyards Ltd. and others	-	-	-	183,133	-	-
Other related parties:						
KEXIM	-	-	-	1,954	904,404	1,571
Related parties of KDB and others	3,311	16,079	1,491	37,150	-	95
	₩ 863,225	₩ 16,212	₩ 35,883	₩ 509,356	₩ 2,671,116	₩ 93,484

[1] Amount before deduction of provision for impairment loss.

(in millions of Korean won)	December 31, 2016					
	Financial instruments and others[1]	**Trade receivables[1]**	**Other receivables[1]**	**Loans and others[1]**	**Borrowings**	**Other payables**
Controlling Group:						
KDB	₩ 690,086	₩ -	₩ 25,796	₩ 3,228	₩ 2,286,906	₩ 230,605
Associates:						
NIDAS Marine Ltd., and others	-	229	3,352	86,896	-	22,511
Joint ventures:						
SBM Shipyards Ltd. and others	-	5,438	6,275	187,665	-	-
Other related parties:						
KEXIM	-	-	-	3,881	1,544,085	737
Related parties of KDB and others	4,758	7,028	6,278	52,089	1,765,597	14,408
	₩ 694,844	₩ 12,695	₩ 41,701	₩ 333,759	₩ 5,596,588	₩ 268,261

[1] Amount before deduction of provision for impairment loss.

Meanwhile, changes in provision for impairment of trade and other receivables in relation to the above receivables with related parties for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	2017							
	Beginning balance		**Impairment loss (reversal)**		**Others**		**Ending balance**	
Loans and others	₩	216,975	₩	199	₩	87,102	₩	304,276

(in millions of Korean won)	2016							
	Beginning balance		**Impairment loss**		**Others**		**Ending balance**	
Loans and others	₩	198,370	₩	48	₩	18,557	₩	216,975

35.4 Key management compensation for the years ended December 31, 2017 and 2016, is as follows:

(in millions of Korean won)	**2017**		**2016**	
Short-term salaries	₩	1,165	₩	2,722
Post-employment benefits		293		316
	₩	1,458	₩	3,038

The Group's key management includes directors (including outside directors) who are registered executives and members of the Audit Committee.

35.5 Significant collaterals and guarantees provided for the related parties as at December 31, 2017, are as follows:

(in thousands of foreign currency)

Provided for	**Guaranteed amount**		**Guarantor**
Other related parties[1,2,3]	USD	75,413	Tengizchevroil LLP ("TCO") and others

[1] The Group provided performance guarantees related to local construction of Kazakhstan for TCO FGP Module Fabrication.
[2] The Group provided performance guarantees to KazMunayGas regarding the share of mining area in Kazakhstan disposed by KC Kazakh B.V.
[3] The Group provided guarantees for KODE NOVUS I LLC and Dewind FRISCO LLC jointly and severally to finance for wind farm development, which is propelled by Dewind Co. and recognized a financial liability at fair value through profit or loss amounting to ₩42,472 million.

As at December 31, 2017, there are no financial guarantee liabilities recognized by the Group for the payment guarantees provided for related parties.

35.6 Significant guarantees provided by related parties as at December 31, 2017, are as follows:

(in thousands of foreign currency)

Guarantor	Type of obligations guaranteed	Guaranteed amount		Type of borrowings	Borrowing amount	
Parent Group:						
KDB	Usance bills	USD	314,400	Short-term borrowings	USD	92,749
	Advance payment bonds and others	USD	4,700,000	-	USD	1,958,571
KEXIM	Advance payment bonds and others	USD	5,480,385	-	USD	4,402,409
				-	EUR	9,348
				-	GBP	102,178
Total		USD	10,494,785		USD	6,453,729
					EUR	9,348
					GBP	102,178

35.7 The Group entered into a non-cancellable long-term transportation contract with TPI Megaline Co., Ltd. of which the term is 10 years. The book amount of finance lease assets as at December 31, 2017 is ₩ 42,943 million.

36. Construction Contracts

36.1 Changes in the remaining balance of construction contracts for the years ended December 31, 2017, and 2016, are as follows:

(in millions of Korean won)	2017									
	Beginning balance		New contracts		Others [1]		Recognized construction revenue [2]		Ending balance	
Shipbuilding	₩	13,210,280	₩	2,918,714	₩	(1,016,136)	₩	(6,942,062)	₩	8,170,796
Offshore plant and special ships		7,982,303		294,124		556,376		(3,629,134)		5,203,669
Construction		823,154		105,455		(745,994)		(182,615)		-
Others		15,358		2,359		(3,273)		(4,822)		9,622
	₩	22,031,095	₩	3,320,652	₩	(1,209,027)	₩	(10,758,633)	₩	13,384,087

(in millions of Korean won)	2016				
	Beginning balance	**New contracts**	**Others [1]**	**Recognized construction revenue [2]**	**Ending balance**
Shipbuilding	₩ 18,970,464	₩ 1,343,725	₩ (258,493)	₩ (6,845,416)	₩ 13,210,280
Offshore plant and special ships	14,430,996	486,191	(1,695,417)	(5,239,467)	7,982,303
Construction	844,240	488,565	(72,805)	(436,846)	823,154
Others	37,176	2,427	(9,685)	(14,560)	15,358
	₩ 34,282,876	₩ 2,320,908	₩ (2,036,400)	₩ (12,536,289)	₩ 22,031,095

[1] Others consist of increase or decrease due to fluctuations of foreign exchange rates and changes of contract amount. Also, the Group entered into a sales contract and completed disposal of investment in DSME Construction Co., Ltd. on July 12, 2017, which results in the remaining balance of construction contracts to be presented as '0'. Accordingly, others include decrease amount of remaining balance of construction contracts.
[2] Recognized construction revenue excludes increase or decrease of sales related to firm commitment assets (liabilities).

36.2 Details of in-progress construction contracts such as recognized construction profit or loss as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	December 31, 2017			
	Accumulated construction revenue	**Accumulated construction cost**	**Accumulated profit (loss)**	**Reserve[1]**
Shipbuilding	₩ 7,035,926	₩ (6,798,969)	₩ 236,957	₩ 978,285
Offshore plant and special ships	24,974,212	(26,808,903)	(1,834,691)	-
Other	132,273	(81,137)	51,136	-
	₩ 32,142,411	₩ (33,689,009)	₩ (1,546,598)	₩ 978,285

(in millions of Korean won)	December 31, 2016			
	Accumulated construction revenue	**Accumulated construction cost**	**Accumulated profit (loss)**	**Reserve[1]**
Shipbuilding	₩ 5,805,931	₩ (5,399,785)	₩ 406,146	₩ 1,136,496
Offshore plant and special ships	23,874,457	(26,472,397)	(2,597,940)	-
Construction	509,233	(458,523)	50,710	
Other	146,214	(93,001)	53,213	-
	₩ 30,335,835	₩ (32,423,706)	₩ (2,087,871)	₩ 1,136,496

[1] Reserve, before the deduction of provision for impairment, refer to the receivable related to a transferred vessel for which payment term is postponed, and the principal and the accrued interest are being collected in accordance with the contract.

36.3 Details of due to and from customers for contract work as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	**December 31, 2017**		**December 31, 2016**	
	Due from customers contract work	**Due to customers contract work**	**Due from customers contract work**	**Due to customers contract work**
Shipbuilding	₩ 2,407,043	₩ 1,275,168	₩ 2,255,291	₩ 2,239,419
Offshore plant and special ships	1,668,962	1,054,142	2,431,794	2,221,643
Construction	-	-	56,274	3,421
Others	13,025	25,297	1,134	48,855
	₩ 4,089,030	₩ 2,354,607	₩ 4,744,493	₩ 4,513,338

Provision for construction loss included in the due from customers amounts to ₩299,310 million (December 31, 2016: ₩111,170 million) and provision for expected loss included in the amounts due to customers amounts to ₩307,270 million (December 31, 2016: ₩331,350 million), as at December 31, 2017.

36.4 Contractual details that contract revenue for the year ended December 31, 2017 more than 5% of sales in previous year, are as follows:

(in millions of Korean Won)					**December 31, 2017**				**December 31, 2016**			
	Customers	**Contract date**	**Expected completion date[1]**	**Percentage of Completion**	**Due from customers for contract work**		**Trade receivables (receivables from construction contracts)**		**Due from customers for contract work**		**Trade receivables (receivables from construction contracts)**	
					Gross	**Provision**	**Gross**	**Provision[2]**	**Gross**	**Provision**	**Gross**	**Provision[2]**
Drillship	America	2012-09-27	2019-09-30	98.7%	₩ 91,970	₩ -	₩ -	₩ -	₩ 99,287	₩ -	₩ -	₩ -
Drillship	Africa	2013-10-15	2018-12-31	96.5%	480,138	(206,488)	-	-	541,578	(105,744)	-	-
Drillship	Africa	2013-10-15	2018-12-30	96.4%	484,116	(206,488)	-	-	546,065	(105,744)	-	-
Drillship	America	2013-06-24	2020-06-30	97.8%	181,169	-	-	-	164,477	-	-	-
Drillship	America	2013-07-12	2021-01-30	93.3%	435,944	(127,316)	-	-	491,729	(61,430)	-	-
Drillship	America	2013-07-12	2021-01-30	89.9%	397,340	(111,282)	-	-	448,185	(77,876)	-	-
FPSO	Europe	2010-08-23	2018-10-30	99.9%	-	-	778	-	-	-	3,075	-
FP	Oceania	2011-10-14	2018-02-28	99.9%	5,915	-	2,073	-	-	-	2,338	-
FPSO	Oceania	2012-03-08	2019-01-30	97.1%	185,644	-	24,490	-	-	-	18,583	-
FP	Africa	2012-08-16	2018-03-30	98.2%	-	-	(85)	-	-	-	16,222	-
FP	Europe	2012-12-21	2018-08-30	95.8%	-	-	24,986	-	-	-	43,145	-
FP	Europe	2013-02-20	2018-03-31	99.5%	-	-	5,111	-	-	-	28,274	-
FP	Asia	2013-05-26	2018-07-19	95.3%	14,806	-	1,343	-	-	-	3,293	-
FP	Asia	2014-10-09	2020-07-27	10.0%	-	-	71,331	-	-	-	-	-
FLNG	Asia	2012-03-16	2018-02-12	99.7%	7,956	-	-	-	-	-	1	-

[1] Expected completion date is the date expected by the Group as at December 31, 2017, and it is affected by a variety of uncertainties that depend on the outcome of future events.
[2] Accumulated impairment loss excludes the loss recognized through the collective assessment.

As at December 31, 2017, two construction contracts were omitted in the disclosure according to Amendment to Korean IFRS 1011, article 45.2(2) due to contractual reasons with customers. The Group has never disclosed such above-mentioned omitted disclosures in the securities report, investment prospectus, nor quarterly report / semi-annual reports required in Capital Market Act. And, it was reported to the audit committee on March 9, 2018.

36.5 Details of contracts for using rate of accumulated contract costs incurred per operating segments divided by estimated total contract costs to measure percentage of completion, are as follows:

(in millions of Korean won)	December 31, 2017					
	Provisions for expected losses	Changes in total contract revenue	Changes in total estimated contract costs	Changes in gain (loss) from construction	Due from customers under construction contracts	
		Changes in estimation	Changes in estimation	Changes in estimation	Gross amount	Accumulated impairment loss
Ships	₩ 352,920	₩ (757,146)	₩ (703,931)	₩ 397,286	₩ 2,407,043	₩ -
Offshore plant and special ships	253,660	850,142	(86,334)	1,100,572	2,320,536	(651,574)
Other	-	2,041	224	(1)	13,025	-
	₩ 606,580	₩ 95,037	₩ (790,041)	₩ 1,497,857	₩ 4,740,604	₩ (651,574)

(in millions of Korean won)	December 31, 2016								
	Provisions for expected loss	Changes in total contract revenue		Changes in total estimated contract costs		Changes in gain (loss) from construction		Due from customers under construction contracts	
		Changes in estimation	Correction of error[1]	Changes in estimation	Correction of error[1]	Changes in estimation	Correction of error[1]	Gross amount	Accumulated impairment loss
Shipbuilding	₩ 127,694	₩ 118,149	₩ -	₩ 692,542	₩ (40)	₩ (53,132)	₩ 16	₩ 2,255,291	₩ -
Offshore plant and special ships	312,915	383,557	(130,038)	1,307,256	(93,116)	(698,934)	(99,230)	2,782,587	(350,793)
Construction	1,911	10,646	-	20,221	-	(9,720)	-	56,274	-
Other	-	(22)	-	(435)	-	2,324	-	1,134	-
	₩ 442,520	₩ 512,330	₩ (130,038)	₩ 2,019,584	₩ (93,156)	₩ (759,462)	₩ (99,214)	₩ 5,095,286	₩ (350,793)

[1] Due to errors in estimated total contract revenue and costs, the Group restated the 2016 financial statements. The effects of change in construction profit or loss from the restatement are included in the effects of the correction of the above mentioned error in the statements of financial position as at December 31, 2015.

36.6 Changes in the estimation of total contract revenues and costs

As the estimated total revenue and costs for contracts in progress have changed, details of changes in estimated total contract revenue and costs, profits or loss for the year ended December 31, 2017, and the succeeding period, and the impact on due from customers for contract work are as follows:

	2017							
(in millions of Korean won)	**Changes in estimated total contract revenue**		**Changes in estimated total contract cost**		**Impact on profit (loss) for the year**		**Impact on profit (loss) for the succeeding period**	
Shipbuilding	₩	(757,146)	₩	(703,931)	₩	397,286	₩	(450,501)
Offshore plant and special ships		850,142		(86,334)		1,100,572		(164,096)
Other		2,041		224		(1)		1,818
	₩	95,037	₩	(790,041)	₩	1,497,857	₩	(612,779)

	2016							
(in millions of Korean won)	**Changes in estimated total contract revenue**		**Changes in estimated total contract cost**		**Impact on profit (loss) for the year**		**Impact on profit (loss) for the succeeding period**	
Shipbuilding	₩	118,149	₩	692,542	₩	(53,132)	₩	(521,261)
Offshore plant and special ships		383,557		1,307,256		(698,934)		(224,765)
Construction		10,646		20,222		(9,720)		144
Other		(22)		(435)		2,324		(1,911)
	₩	512,330	₩	2,019,585	₩	(759,462)	₩	(747,793)

The impact on profit (loss) for the year(prior period) and the succeeding period is determined based on total contract costs, which are estimated based on the circumstances present from the start of the contract to the end of current period, and the estimated contract revenue as at December 31, 2017. Contract costs and contract revenue may change in the future.

37. Commitments and Contingencies

37.1 The Group provided 14 blank notes to Korea National Oil Corporation as construction warranty and others at December 31, 2017. In addition, the Group provided DSA/MSA obligation performance guarantee for NASSCO shipping of DESEC Co., Ltd. at USD 4,034 thousand.

37.2 The Group is involved in a lawsuit as a plaintiff pending in relation to repayment request of lot loans, and thirty four other pending lawsuits with aggregated claim amount of ₩ 209,330 million, RON 1,249 thousand and CNY15,485 thousand as at December 31, 2017. The Group requested for arbitrations to the London Maritime Arbitrators Association in relation to settlement of contract amount and additional contract cost incurred with some customers.

37.3 During the year ended December 31, 2017, some investors who bought the Group's share, corporate bonds and commercial papers sued the Group certain accouning firm and others for damage claims asserting that they were misled by false audit report, business report, registration of securities, prospectus, etc. Including the foresaid litigation, the Group is involved 84 other lawsuits as a defendant with aggregated claim amount of ₩ 255,380 million, USD 109,840 thousand and RON 1,997 thousand, including a pending lawsuit at Seoul High Court in relation to overtime payment request as at December 31, 2017.

The outcome of the above cases cannot be reasonably estimated, and any outflows of resources and the timing are also uncertain. As at December 31, 2017, the Group recognized the best estimated loss amounting to ₩ 502,550 million from pending litigations and performance guarantees as provisions.

37.4 The Group's major joint ventures are as follows.

The Group has invested in Nigeria oil fields Nigeria development project by forming a Korean consortium (9.75% of the Group's shares) including Korea National Oil Corp. The Group recognized the investment in Nigeria oil fields as other investment assets
The Group has invested in Kazakhstan oil fields development project by forming a Korean consortium (5.00% of the Group's shares). The consortium has invested in Jambyl mine near the Caspian Sea by forming a Korean consortium of 27% (1.35% of the Group's shares) with Kazmunay Gas, Kazakhstani national oil Group.
The Group has participated in a Korean consortium (85% of the Group's shares) with GNG Holdings Inc. for the Cepu oil field in Indonesia.
The Group has invested in "Southwest Pacific Seafloor Hydrothermal Deposit Project" with the Ministry of Land, Transport and Maritime Affairs in order to secure exclusive development rights of the project.

37.5 Corporate Judging Committee of KRX decided to evaluate the Group for suspicion of violating accounting standards and suspicion of former employee embezzlement and malpractice. The Committee granted a period of improvement for one year until September 28, 2017. Accordingly, trading of the shares issued by the Group was suspended during the period of improvement. On October 26, 2017, the Committee decided to release the trading suspension on October 30, 2017.

37.6 As at December 31, 2017 , the claim amount of ₩ 109,173 million related to the construction contract of the Group was included in the statement of profit or loss as the repair cost (cost of goods sold) of ₩ 66,580 million. Meanwhile, the Group is obligated to warranty liabilities in connection with the construction contracts of the Group. As a result, the Group assumes the expected warranty cost as the provision for construction warranties (Note 24).

38.7 Details of commitment limit to major financial institutions as at December 31, 2017 are as follows:

(in thousands of US dollar and millions of Korean won)

			Amount
KDB and others	Issuance of L/C limit	USD	1,061,800
	Foreign-currency payment guarantee limit	USD	11,384,342
		CNY	2,100
	Borrowing limit and others	KRW	4,036,443
		USD	1,094,852
		CNY	222,700

38.8 The Group has been using a certain portion of a building through a lease agreement. Accordingly, rental expense recognized from the lease agreement, for the years ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)	**2017**	**2016**
Rental expenses	8,459	1,576

Meanwhile, the lease agreement entered by the Group can be renewed at the market price at the end of the lease term. Also, to terminate the agreement, the Group must notify it three months in advance. There is no purchase option when the agreement is terminated.

The total future minimum lease payments are as follows:

(in millions of Korean won)	**2017**	**2016**
Less than 1 year	4,167	7,446
Between 1 year and 5 years	17,846	-
	₩ 22,013	₩ 7,446

38. Cash Flows from Operating Activities

Cash flows from operating activities for the years ended December 31, 2017 and 2016, are as follow:

(in millions of Korean won)		**2017**		**2016**
1. Profit(loss) for the year	₩	645,758	₩	(2,789,488)
2. Adjustments for		1,453,995		2,366,409
(1) Addition of expenses		3,767,137		4,568,197
Post-employment benefits		59,086		80,350
Depreciation		149,092		198,156
Impairment loss on property, plant and equipment		509,947		158,897
Amortization		3,315		6,485
Impairment loss and other impairment losses		439,910		556,008
Loss on valuation of firm commitment		555,413		76,627
Loss on valuation of currency forward		-		166,738
Impairment loss on investments in associates and joint ventures		10,365		11,313
Interest expense		46,550		115,345
Capitalized financial expense		175,136		215,112
Loss on foreign currency translation		401,766		251,626
Income tax expense		543,287		827,831
Transfer to provision for construction loss		165,752		1,576,335
Transfer to provision for construction warranties		48,987		91,868
Transfer to provision for contingent liabilities		395,551		127,732
Loss on disposal of investments in subsidiaries		161,133		5,419
Other expenses		101,847		102,355
(2) Deduction of income		(2,313,142)		(2,201,788)
Reversal of provision for construction loss		690		1,678,241
Reversal of provision for construction warranties		1,996		1,412
Gain on valuation of firm commitment		779		187,809
Gain on valuation of currency forward		417,092		6,165
Interest income		17,086		29,901
Dividend income		748		3,847
Gain on foreign currency translation		256,847		203,309
Reversal of impairment loss on property, plant and equipment		69,403		-
Changes in liabilities		1,422,602		-
Other incomes		125,899		91,104
3. Changes in working capital		(2,987,955)		156,539
Trade and other receivables		(73,287)		528,602
Inventories		317,522		906,267
Due from customers for contract work		(233,560)		(48,459)
Other current assets		218,900		309,425
Long-term trade and other receivables		46,104		(78,551)
Firm commitment assets		255,080		203,319
Currency forward assets		(102,379)		(329,453)

Other non-current assets	201	(2,019)
Trade and other payables	(767,095)	(724,499)
Due to customers for contract work	(2,066,837)	(599,694)
Other current liabilities	8,449	18,697
Long-term trade and other payables	(5,893)	1,279
Net defined benefit obligation	(72,903)	(54,681)
Provisions	(131,763)	25,618
Other non-current liabilities	(380,494)	688
Cash used in operations	₩ (888,202)	₩ (266,540)

39. Non-cash Transactions

39.1 The principle significant non-cash transactions from investment and financing activities that are not included in the consolidated statements of cash flows are as follows:

(in millions of Korean won)	**2017**	**2016**
Capital increase (debt-to-equity swaps)	₩1,664,906	₩ 1,784,314
Issuance of hybrid capital instruments (refunding)	1,284,775	1,000,000
Transfer of long-term loans to the respective current assets	126,768	273,527
Transfer of long-term borrowings to current portion of long-term borrowings	254,538	577,650
Transfer of short-term loans and debentures to the respective non-current liabilities	903,742	-
Transfer of construction in progress to property, plant and equipment	6,220	65,506
Transfer to non-current asset held for sale	103,505	98,449
Acquisition of investment in associates[1]	9,750	-
Offsetting long-term/ short-term loans and other receivables	-	141,703
Transfer of long-term financial assets to current portion	₩ 101,896	₩ -

[1] The Group disposed of 1,200,000 ordinary shares (100%) of Weliv Corp. to Weliv Holdings Co.,Ltd. and acquired 34.39% shares of Welliv Private Equity Limited Partnerships which is an investor of Weliv Holdings Co.,Ltd.(Note 12 and 13).

Meanwhile, cash inflows and outflows arising from short-term financial instruments, short-term loans and short-term borrowings with large frequent transactions and short-term maturities have been presented in net amounts.

39.2 The adjustment of liabilities arising from financing activities for the years ended December 31, 2017 is as follows:

(in millions of Korean won)	**Liabilities from financing activities**					
	Short-term borrowings	**Current portion of long-term borrowings**	**Current**	**Long-term borrowings**	**Debentures**	**Total**
Beginning balance	₩ 2,860,994	₩ 1,486,203	₩ 1,348,886	₩ 742,041	₩ 192,424	₩ 6,630,549
Cash flows from financing activities	1,063,930	(112,797)	-	53,982	-	1,005,115
Exchange differences	(22,741)	(161,929)	-	135,689	-	(48,981)
Amortization	-	-	1,931	2,968	30,134	35,033
Debt Restructuring[1]	(1,497,110)	(596,129)	(941,529)	(180,612)	(101,185)	(3,316,566)
Transfer and others	(123,768)	(65,194)	(409,288)	188,962	409,288	-
Change in scope of consolidation	(234,802)	(89,272)	-	(269,418)	-	(593,492)
Ending balance	₩ 2,046,503	₩ 460,882	₩ -	₩ 673,611	₩ 530,661	₩ 3,711,658

[1] Included the difference between the fair value of the liability that would change as a result of the debt restructuring and the book amount of the derecognized liability (Note 43).

40. Segment Information

40.1 The Group classifies its segments by the type of goods and details of the goods and services that generate income, and major customers for each segment are as follows:

Division	**Goods or services**	**Off shore plants customers**	**Ratio of sales (%)**
Ships	LNGC and others	Maersk Line A/S and others	62.2
Offshore plants and special ship	Marine steel structure and others	Statoil and others	35.2
Construction	Apartments, roads and others	Various customers	1.7
Others	Energy, service	Various customers	0.9
			100.00

Financial information by segment is as follows:

(in millions of Korean won)	2017					
	Ships	**Off shore plants and special ship**	**Construction**	**Others**	**Consolidation adjustment**	**Total after adjustment**
Sales	₩ 7,338,133	₩ 3,909,685	₩ 197,732	₩ 172,111	₩ (515,843)	₩ 11,101,818
Gross profit (loss)	568,775	932,052	11,978	27,112	4,170	1,544,087
Operating profit (loss)[1]	710,805	-	5,106	(4,525)	21,617	733,003
Depreciation[1]	148,127	-	43	1,348	(426)	149,092
Amortization[1]	3,286	-	-	29	-	3,315
Profit (loss) for the year[1]	801,291	-	3,797	(46,279)	(113,051)	645,758
Property, plant and equipment and intangible assets[1]	4,185,668	-	-	1,323	(146,249)	4,040,742
Total assets[1]	11,570,033	-	-	108,967	(232,247)	11,446,753
Total liabilities[1]	9,379,275	-	-	459,988	(1,383,170)	8,456,092

(in millions of Korean won)	2016					
	Ships	**Off shore plants and special ship**	**Construction**	**Others**	**Consolidation adjustment**	**Total after adjustment**
Sales	₩ 7,056,512	₩ 5,342,893	₩ 463,837	₩ 768,797	₩ (812,818)	₩ 12,819,221
Gross profit (loss)	273,192	(1,007,963)	35,371	120,130	(51,066)	(630,336)
Operating profit (loss)[1]	(1,463,132)	-	17,720	15,042	(100,471)	(1,530,841)
Depreciation[1]	197,043	-	233	7,225	(6,345)	198,156
Amortization[1]	6,019	-	-	307	159	6,485
Profit (loss) for the year[1]	(3,144,328)	-	6,712	(76,448)	424,576	(2,789,488)
Property, plant and equipment and intangible assets[1]	5,460,705	-	398	103,558	(293,480)	5,271,181
Total assets[1]	14,984,073	-	212,753	524,366	(656,362)	15,064,830
Total liabilities[1]	15,272,149	-	195,343	641,253	(1,703,293)	14,405,452

[1] Because the Group cannot distinguish segment information between Ships and Offshore plant & Special ships; the information is included within the segment of Ships.

Financial information by region is as follows:

(in millions of Korean won)	2017					
	Domestic	**Romania**	**China**	**USA and Others**	**Consolidation adjustment**	**Total after adjustment**
Sales	₩ 11,216,209	₩ 261,026	₩ 139,082	₩ 1,344	₩ (515,843)	₩ 11,101,818
Gross profit (loss)	1,541,745	(24,238)	23,099	(689)	4,170	1,544,087
Operating profit (loss)	739,602	(33,844)	12,676	(7,048)	21,617	733,003
Depreciation	116,223	13,602	19,416	277	(426)	149,092
Amortization[1]	2,014	444	831	26	-	3,315
Profit (loss) for the year	749,343	55,163	2,739	(48,436)	(113,051)	645,758
Property, plant and equipment and intangible assets	3,738,191	139,884	307,602	1,314	(146,249)	4,040,742
Total assets	11,030,999	205,322	340,180	102,499	(232,247)	11,446,753
Total liabilities	8,283,290	991,678	108,869	455,425	(1,383,170)	8,456,092

(in millions of Korean won)	2016					
	Domestic	**Romania**	**China**	**USA and Others**	**Consolidation adjustment**	**Total after adjustment**
Sales	₩ 12,924,285	₩ 520,103	₩ 157,650	₩ 30,001	₩ (812,818)	₩ 12,819,221
Gross profit (loss)	(540,845)	(57,494)	26,545	(7,476)	(51,066)	(630,336)
Operating profit (loss)	(1,344,203)	(72,550)	13,426	(27,043)	(100,471)	(1,530,841)
Depreciation	174,284	11,861	16,679	1,677	(6,345)	198,156
Amortization[1]	4,709	551	942	124	159	6,485
Profit (loss) for the year	(2,978,423)	(124,282)	(4,058)	(107,301)	424,576	(2,789,488)
Property, plant and equipment and intangible assets	5,050,568	163,246	346,367	4,480	(293,480)	5,271,181
Total assets	14,694,564	481,576	392,124	152,928	(656,362)	15,064,830
Total liabilities	14,125,406	1,335,204	150,065	498,070	(1,703,293)	14,405,452

40.2 The major customer who accounts for more than 10% of the Group's revenue is one customer and its revenue amounts to ₩1,338,690 million for the year ended December 31, 2017, and there is no major customer who contributes more than 10% of the Group 's revenue for the year ended December 31, 2016.

41. Non-current Assets Held-for-sale

As described in Note 43, the Group entered into an agreement with major creditor bank to stabilize the Group's financial position including disposal plan of the Group's property, plant and equipment including the Seoul office building as physical self-help plan. The Group classified the assets that are expected to meet the terms of sale within one year as a non-current assets held for sale.

Details of assets of disposal group classified as held for sale as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)		**December 31, 2017**		**December 31, 2016**
Non-current Assets Held-for-sale:				
Land	₩	1,339	₩	33,843
Buildings		847		13,810
Construction-in-progress		38,295		50,846
Disposed assets Held-for-sale[1]		2,606		149,495
Total assets	₩	43,087	₩	247,994
Disposed liabilities Held-for-sale[1]	₩	18,953	₩	115,090

[1] As at December 31, 2017, the assets and liabilities of subsidiaries, whose sale is probable, are classified as held for sale assets and liabilities.

The Group measured a non-current asset classified as held for sale at the lower of its book amount and fair value less costs to sell. There is no related impairment loss recognized as at December 31, 2017, as the book amount exceeds the fair value less cost to sell.

The Group classified the assets and liabilities of subsidiaries whose sales are determined in 2017 as non-current assets held for sale assets and liabilities. The Group recognized non-current assets held for sale assets and liabilities as net fair value in accordance with Korean IFRS 1105, based on estimated contract amounts.

Details of a group of assets and liabilities held for sale (before impairment loss) for the year ended December 31, 2017, is as follows:

(in millions of Korean won)		**2017**
A group of assets held for sale		
Cash and cash equivalents	₩	215
Trade and other receivables		423
Inventories		482
Property, plant and equipment		1,310
Other assets		176
		2,606
A group of liabilities held for sale		
Borrowings		14,272
Trade and other payables		730
Other provisions		3,800
Other liabilities		151
	₩	18,953

42. Create Self-Help Plan to Stabilize Financial Position of the Company

The Group entered into an agreement with the creditor Bank on November 9, 2015 in order to handle the deterioration of financial situation from cumulative operating loss occurred for the following reasons.

1) Increase in total contract costs due to delays in offshore projects and recognized provisions for delays in deliveries.
Mainly due to the delays in the progress of the offshore projects compared to the plan, additional loss were incurred to reflect the total contract costs. In addition, the Gorup recognized provisions for delay as the Group believes that it is probable that the actual project delivery date may exceeds the contractual delivery date due to delay in progress.

2) Establishing provisions for impairment by assessing the collectability of the amounts due from customers as credit ratings of customers have been declined.
Customers, who are facing financial difficulties due to prolonged decline of global oil prices, have been requesting for delivery delay of drill ship. The Group considered this fact in assessing collectability of the amounts due from customer and estimated the provision for impairment.

3) Impairment loss on assets including investments in subsidiaries in consideration of decrease in the sales volume of the Group and deterioration in market condition.
As at December 31, 2017, the Group recognized impairment losses on property, plant and equipment, intangible assets, investment properties for ₩ 627,265 million (including decrease of revaluation surplus of ₩ 86,305 million), and investments in subsidiaries and due to the Group's decrease in sales volume and deterioration of market conditions(Note 14). Also, the Group have prompted restructure its business (reduce, liquidate and sell business unrelated to shipbuilding and marine business) to stabilize its financial position. During the year ended December 31, 2017, the Company completed disposal of investment in DSEC Co., Ltd., and finalized disposal plan of investments in DSME Construction Co., Ltd. and Welliv Corp and others.

On June 28, 2017 and August 21, 2017, the major creditor bank management procedure began for Shinhan Heavy Industries Co., Ltd. and Samwoo Heavy Industry Co., Ltd., the Group's subsidiaries, and the Group reclassified these subsidiaries as associates as it lost its control over them due to the agreement with its major creditor bank.

Meanwhile, the Group is consistently enhancing self-supporting efforts in accordance with the agreement with the creditor bank to perform business stabilization plan. This agreement includes new capital supports, financial structure improvement (dispose un-core assets including Magok District, cost reduction and others) and enhancement of its competitiveness for mid/long-term period through capital injection plan and others.

The financial statements have been accounted for on the assumption that assets and liabilities can be recovered or repaid at book amounts through the normal business activities. There is a possibility that the financial condition and business performance will fluctuate greatly depending on the shipbuilding market condition. To improve financial structure, the Group and bond holders agreed to the debt restructuring that includes debt-to-equity swap of 50% or more of existing corporate bonds and CP, and extending the maturity and decreasing interest rate for the rest of remaining bonds through bondholders' meeting and amendment of CP contract for terms and conditions of issuing, respectively, during April, 2017. Accordingly, the Group is in the process of debt restructuring and debt-to-equity swap. June 28, 2017, the Creditor Financial Institutions (such as Korea Development Bank and other financial institutions) executed debt adjustments of debt-to-equity swap and maturity extension and new capital support up to ₩ 2.9 trillion from KDB and KEXIM Bank is in progress (see Note 43). Meanwhile, KDB and KEXIM Bank pledged to provide new capital support to DSME until the repayment date of the remaining bonds after the debt-to-equity swap and to use the reserved portion of the new funds for remaining bonds in order of priority.

43. Debt Restructuring

Since the announcement of the "DSME Restructuring Promotion Plan" for prompt normalization of management of the Company, the Group agreed to the debt restructuring that includes the debt-to-equity swap, maturity extension and interest rate changes for unsecured bonds held by financial institutions, unsecured and bearer bonds (4-2, 5-2, 6-1, 6-2 and 7th) and commercial paper (CP). This debt restructuring agreement was made based on mutual consent of creditor financial institutions, resolution of the bondholders' meeting and amended CP contract.

43.1 Details of debt restructuring are as follows:

(in millions of Korean won)		**Amount subject to debt restructuring**		**Debt to equity swaps**		**Change in terms**
Short-term borrowings[1,4]	₩	1,608,764	₩	1,460,880	₩	147,884
Corporate bonds[2]		1,350,000		710,860		639,140
Commercial papers		194,578		97,289		97,289
Long-term borrowings[3,4]		680,673		680,653		-
	₩	3,834,015	₩	2,949,682	₩	884,313

[1] Short-term borrowings in foreign currencies that are subject to debt restructuring and change in terms are debt amounts as at June 28. Short-term borrowings include ₩80 billion of borrowings recognized on July 3, 2017, and which of ₩64 billion is subject to debt-to-equity swap on December 21, 2017.
[2] Bonds were restructured as at August 11, 2017 and December 21, 2017, and debt-to-equity swap ratio of bonds held by Korean Development Bank (7th bond amounting to ₩50 billion) and other creditors were 100% and 50.3% (total 17,435,051 shares), respectively.
[3] There is a difference of ₩20 million between long-term borrowings subject to debt restructuring and debt-to-equity swap. The difference is cash repayments.
[4] The KEXIM's unsecured debt of ₩1,284,775 million (short-term borrowings of ₩724,042 million and long-term borrowings of ₩560,733 million) was offset by issuing the same amount of convertible bonds(Notes 29).

As a result of the above-mentioned debt restructuring agreement, the Group issued new shares through a third-party allotment on June 29, 2017 (as at the date of payment) by debt-to-equity swap of creditor bank's unsecured bonds. In addition, further debt-to-equity swaps for ₩ 799,124 million of corporate bonds(1st) and CP and for ₩ 65,669 million of corporate bonds(2nd) and creditor banks were executed on August 12, 207 and December 21, 2017, respectively.

43.2 Debt-to-equity swaps and changes in terms

i) Debt-to-equity swaps

	Details
Number of shares	41,260,484 shares[1]
Types of share issued	Ordinary shares
Issue price	₩ 40,350
Sale restrictions	None

[1] 181,156 shares (assuming conversion rate of 50%) which was not converted to investment during the year ended December 31, 2017, were recognized as other paid-in capital.

ii) Debt grace period

(in millions of Korean won)	**Public offering bonds (including CP)**	**Unsecured borrowings**
Debt in the grace period	₩ 736,429	₩ 147,884
Grace period	6 years	10 years
Payment method	3-year grace, 3-year grace repayment	5-year grace, 5-year grace repayment

iii) Reduction of interest rate and treatment of delinquent interest payment

(in millions of Korean won)	**Public offering bonds (including CP)**	**Unsecured borrowings**
Target bond	₩ 736,429	₩ 147,884
Effective interest rate	1%	1%
Applicable period	6 years	10 years

43.3 The effects of debt-to-equity swaps and debt restructuring

For the year ended December 31, 2017, the Group recognized ₩1,422,602 million of gain on debt restructuring as finance income and ₩26,421 million as other capital in relation to the above-mentioned debt-to-equity swaps and debt restructuring.

44. Events After the Reporting Period

In connection with the payment guarantees provided to KODE NOVUS LLC. and Dewind FRISCO LLC., the related parties, the Board of Directors of the Company decided to accept the guarantee liability of ₩86,267 million due to the insolvency of the original debtor on January 31, 2018(Note 36).

45. Approval of Issuance of the Financial Statements

The consolidated financial statements 2017 was approved for issue by the Board of Directors on March 15, 2018.