

POSCO

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

(With Independent Auditors' Report Thereon)

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Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Shareholders
POSCO:

Opinion

We have audited the separate financial statements of POSCO ("the Company"), which comprise the separate statements of financial position as of December 31, 2018 and 2017, the separate statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes, comprising significant accounting policies and other explanatory information.

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

Basis for Opinion

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

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the separate financial statements as of and for the year ended December 31, 2018. These matters were addressed in the context of our audit of the separate financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(a) Assessment of impairment on investments in subsidiaries, associates and joint ventures

As described in note 11 to the separate financial statements, the carrying amount of investments in subsidiaries, associate and joint ventures recorded in the separate financial statements is ₩15,121,339 million as of December 31, 2018. The Company recognized impairment loss on investments in subsidiaries, associates and joint ventures amounted to ₩787,999 million during the year ended December 31, 2018.

The Company identifies whether an impairment indication occurs every year and performs impairment test over investments in subsidiaries, associate and joint venture, and compares the carrying amount with the greater of the calculated value-in-use and fair value used to determine whether it is impaired. In estimating the value-in-use, management's judgment is involved in determining the key assumptions such as sales growth rate, discount rate and terminal growth rate that have a significant impact on the estimated value-in-use. Considering significant degree of judgment in estimating value-in-use and likelihood of management bias, we identified assessment of impairment on investments in subsidiaries, associates and joint ventures as a key audit matter.

The primary procedures we performed to address this key audit matter included the following:

- Assess the qualification and objectivity of the external institution engaged by the Company to assess the value-in-use of some investments;
- Testing certain internal controls over the Company's impairment assessment process of investments in subsidiaries, associates and joint ventures;
- Compared the completeness of the list of impairment tests which an indication occurred;
- Evaluating the key assumptions used to determine the value in use which included the estimated sales growth rate and terminal growth rate by comparison with the latest financial budgets approved by the board of directors, historical performance and industry reports.
- Engaging our internal valuation specialists to assist us in assessing the discount rate applied and comparing with recalculated discount rate using observable information.
- Performing sensitivity analysis on the discount rate and terminal growth rate applied to assess the impact of changes in these key assumptions on the conclusion reached in management's impairment assessment.
- Compared the future cash flows forecasts prepared in prior year with the current year's performance to assess the Company's ability to accurately forecast.

(b) Assessment of impairment of long-lived assets

As described in note 13 to the separate financial statements, the Company has decided to suspend additional investments in Synthetic Natural Gas (SNG) business, for which the related equipment had been in trial-run stage for an extended period of time. The Company performed impairment test over the long-term assets of SNG business, which are primarily comprised of equipment. Based on the impairment test, the Company recognized impairment loss of ₩877,764 million for the year ended December 31, 2018.

For the equipment of SNG business that could not be used for other businesses of the Company, there are impairment indicators for each individual asset. Determination of whether an individual asset could be sold or is technologically obsolete involves management judgment. In addition, estimating the recoverable amount of the individual assets that could be sold also involves management judgment on key assumptions such as estimated useful life and replacement costs. Considering the significant degree of judgment involved and potential management bias, we identified the assessment of impairment of long-term assets in SNG business as a key audit matter.

The primary procedures we performed to address this key audit matter included the following:

- Assessing the qualification and objectivity of the external valuation institution engaged by the Company to assess the recoverable amount of long-term assets of SNG business.
- Engaging an external valuation institution to assist us in assessing the methodology and significant assumptions used by the external valuation institution engaged by the Company.
- For selected samples, performing physical observation to assess management's determination on whether the equipment is obsolete, and testing the assumptions used in estimating recoverable amount, such as estimated useful life and replacement costs.

Other Matter

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

Responsibilities of Management and Those Charged with Governance for the Separate Financial Statements

Management is responsible for the preparation and fair presentation of the separate financial statements in accordance with K-IFRS, and for such internal control as management determines is necessary to enable the preparation of separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the separate financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

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

Auditors' Responsibilities for the Audit of the Separate Financial Statements

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

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

- Identify and assess the risks of material misstatement of the separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used in the preparation of the separate financial statements and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the separate financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the separate financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Jo, Ja Young.

A handwritten signature in black ink that reads "KPMG Samjong Accounting Corp." The signature is written in a cursive, flowing style.

Seoul, Korea
March 7, 2019

This report is effective as of March 7, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying separate financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

POSCO
Separate Statements of Financial Position
As of December 31, 2018 and 2017

(in millions of Won)

	Notes	December 31, 2018	December 31, 2017
Assets			
Cash and cash equivalents	4,5,22	₩ 259,219	332,405
Trade accounts and notes receivable, net	6,22,36	3,968,372	3,867,714
Other receivables, net	7,22,36	206,432	210,230
Other short-term financial assets	8,22	7,025,143	5,824,087
Inventories	9,33	5,288,009	4,543,533
Assets held for sale	10	25,683	34,545
Other current assets	15	23,542	27,907
Total current assets		16,796,400	14,840,421
Long-term trade accounts and notes receivable, net	6,22	7,673	12,774
Other receivables, net	7,22	57,767	62,421
Other long-term financial assets	8,22	1,176,757	1,393,316
Investments in subsidiaries, associates and joint ventures	11,32	15,121,339	15,098,856
Investment property, net	12	108,215	97,307
Property, plant and equipment, net	13,32	20,154,334	21,561,270
Intangible assets, net	14	645,222	528,074
Other non-current assets	15	58,273	97,819
Total non-current assets		37,329,580	38,851,837
Total assets		₩ 54,125,980	53,692,258

See accompanying notes to the separate financial statements.

POSCO

Separate Statements of Financial Position, Continued As of December 31, 2018 and 2017

(in millions of Won)

	Notes	December 31, 2018	December 31, 2017
Liabilities			
Trade accounts and notes payable	22,36	₩ 1,106,226	1,025,027
Short-term borrowings			
and current installments of long-term borrowings	4,16,22,38	826,862	1,235,707
Other payables	17,22,36,38	1,072,733	862,535
Other short-term financial liabilities	18,22,38	12,638	23,164
Current income tax liabilities	34	803,543	351,148
Provisions	19	19,165	18,166
Other current liabilities	21	54,806	54,401
Total current liabilities		3,895,973	3,570,148
Long-term borrowings,			
excluding current installments	4,16,22,38	3,444,108	2,665,517
Other payables	17,22,38	144,343	78,481
Other long-term financial liabilities	18,22,38	79,936	129,176
Defined benefit liabilities, net	20	863	43
Deferred tax liabilities	34	1,179,672	1,273,896
Long-term provisions	19	93,719	19,250
Other non-current liabilities	21	15,264	14,292
Total non-current liabilities		4,957,905	4,180,655
Total liabilities		8,853,878	7,750,803
Equity			
Share capital	23	482,403	482,403
Capital surplus	23	1,154,775	1,156,429
Hybrid bonds	24	199,384	996,919
Reserves	25	(207,191)	233,390
Treasury shares	26	(1,532,728)	(1,533,054)
Retained earnings	27	45,175,459	44,605,368
Total equity		45,272,102	45,941,455
Total liabilities and equity	₩	54,125,980	53,692,258

See accompanying notes to the separate financial statements.

POSCO

Separate Statements of Comprehensive Income For the years ended December 31, 2018 and 2017

(in millions of Won, except per share information)

	Notes	2018	2017
Revenue	28,36	₩ 30,659,425	28,553,815
Cost of sales	9,20,30,33,36	(25,728,293)	(23,832,804)
Gross profit		4,931,132	4,721,011
Selling and administrative expenses			
Impairment loss on			
trade accounts and notes receivable	22,33	(6,586)	(3,898)
Other administrative expenses	20,29,30,33	(881,163)	(892,163)
Selling expenses	29,33	(234,007)	(922,497)
Operating profit		3,809,376	2,902,453
Finance income and costs			
Finance income	22,31	629,940	1,143,692
Finance costs	22,31	(458,326)	(667,207)
Other non-operating income and expenses			
Reversal of (Impairment loss) on other receivables	22,33	2,925	(14,235)
Other non-operating income	32	306,543	436,075
Other non-operating expenses	32,33	(2,055,559)	(446,037)
Profit before income tax		2,234,899	3,354,741
Income tax expense	34	(1,162,307)	(809,056)
Profit		1,072,592	2,545,685
Other comprehensive income (loss)			
Items that will not be reclassified			
subsequently to profit or loss:			
Remeasurements of defined benefit plans	20	(106,057)	(19,787)
Net changes in fair value of equity investments			
at fair value through other comprehensive income	8,22,25	(131,646)	-
Items that are or may be reclassified			
subsequently to profit or loss:			
Net changes in unrealized fair value			
of available-for-sale investments, net of tax	8,22,25	-	(50,850)
Total comprehensive income		₩ 834,889	2,475,048
Basic and diluted earnings per share (in Won)	35	₩ 13,186	31,409

See accompanying notes to the separate financial statements.

POSCO

Separate Statements of Changes in Equity For the years ended December 31, 2018 and 2017

(in millions of Won)

	Share capital	Capital surplus	Hybrid bonds	Reserves	Treasury shares	Retained earnings	Total
Balance as of January 1, 2017	₩ 482,403	1,156,303	996,919	284,240	(1,533,468)	42,943,050	44,329,447
Comprehensive income:							
Profit	-	-	-	-	-	2,545,685	2,545,685
Other comprehensive income (loss)							
Remeasurements of defined benefit plans, net of tax	-	-	-	-	-	(19,787)	(19,787)
Net changes in unrealized fair value of available-for-sale investments, net of tax	-	-	-	(50,850)	-	-	(50,850)
Transactions with owners of the Company, recognized directly in equity:							
Year-end dividends	-	-	-	-	-	(459,987)	(459,987)
Interim dividends	-	-	-	-	-	(359,993)	(359,993)
Interest of hybrid bonds	-	-	-	-	-	(43,600)	(43,600)
Disposal of treasury shares	-	126	-	-	414	-	540
Balance as of December 31, 2017	₩ 482,403	1,156,429	996,919	233,390	(1,533,054)	44,605,368	45,941,455
Balance as of January 1, 2018	₩ 482,403	1,156,429	996,919	233,390	(1,533,054)	44,605,368	45,941,455
Adjustment on initial application of K-IFRS No. 1115, net of tax	-	-	-	-	-	(883)	(883)
Adjustment on initial application of K-IFRS No. 1109, net of tax	-	-	-	(321,654)	-	321,603	(51)
Adjusted balance as of January 1, 2018	482,403	1,156,429	996,919	(88,264)	(1,533,054)	44,926,088	45,940,521
Comprehensive income:							
Profit	-	-	-	-	-	1,072,592	1,072,592
Other comprehensive income (loss)							
Remeasurements of defined benefit plans, net of tax	-	-	-	-	-	(106,057)	(106,057)
Net changes in fair value of equity investments at fair value through other comprehensive income, net of tax	-	-	-	(118,927)	-	(12,719)	(131,646)
Transactions with owners of the Company, recognized directly in equity:							
Year-end dividends	-	-	-	-	-	(279,999)	(279,999)
Interim dividends	-	-	-	-	-	(400,003)	(400,003)
Repayment of hybrid bonds	-	(1,787)	(797,535)	-	-	-	(799,322)
Interest of hybrid bonds	-	-	-	-	-	(24,443)	(24,443)
Disposal of treasury shares	-	133	-	-	326	-	459
Balance as of December 31, 2018	₩ 482,403	1,154,775	199,384	(207,191)	(1,532,728)	45,175,459	45,272,102

See accompanying notes to the separate financial statements.

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Separate Statements of Cash Flows

For the years ended December 31, 2018 and 2017

<i>(in millions of Won)</i>	Notes	2018	2017
Cash flows from operating activities			
Profit	₩	1,072,592	2,545,685
Adjustments for :			
Expenses related to post-employment benefit		111,034	102,884
Depreciation		2,111,870	2,092,603
Amortization		69,101	91,603
Bad debt expenses		3,661	18,133
Finance income		(443,952)	(940,180)
Finance costs		235,892	448,249
Loss on valuation of inventories		12,169	2,363
Gain on disposal of property, plant and equipment		(47,941)	(26,284)
Loss on disposal of property, plant and equipment		120,570	140,987
Impairment losses on property, plant and equipment		940,595	17,651
Gain on disposal of intangible assets		(99,378)	(24,542)
Impairment losses on intangible assets		1,293	11,822
Impairment losses on investments in subsidiaries, associates and joint ventures		787,999	173,284
Reversal of impairment losses on investments in subsidiaries, associates and joint ventures		(56,420)	(225,860)
Impairment loss on assets held for sale		7,788	21,873
Increase to provisions		53,477	403
Income tax expense		1,162,307	809,056
Others, net		1,055	8,154
Changes in operating assets and liabilities	38	(813,429)	(1,338,714)
Interest received		154,529	89,041
Interest paid		(148,129)	(139,766)
Dividends received		228,296	159,506
Income taxes paid		(689,008)	(483,988)
Net cash provided by operating activities	₩	4,775,971	3,553,963

See accompanying notes to the separate financial statements.

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Separate Statements of Cash Flows, Continued For the years ended December 31, 2018 and 2017

(in millions of Won)

	Notes	2018	2017
Cash flows from investing activities			
Decrease in deposits	₩	2,821,831	1,475,451
Proceeds from disposal of short-term financial instruments		27,992,468	17,315,782
Proceeds from disposal of current portion of debt securities		855	-
Proceeds from disposal of long-term financial instruments		-	1
Proceeds from disposal of equity securities		45,445	-
Proceeds from disposal of debt securities		130,000	-
Proceeds from disposal of other securities		2,658	-
Proceeds from disposal of stock warrants		130	-
Proceeds from disposal of available-for-sale investments		-	994,901
Proceeds from disposal of investments in subsidiaries, associates and joint ventures		101,294	6,112
Proceeds from disposal of property, plant and equipment		4,551	-
Proceeds from disposal of intangible assets		26,954	23,431
Proceeds from disposal of assets held for sale		231	667
Increase in deposits		(3,404,466)	(1,650,334)
Acquisition of short-term financial investments		(28,613,172)	(18,831,717)
Payment of short-term loans		(2,950)	-
Payment of long-term loans		(261)	(60)
Acquisition of debt securities		(130,238)	-
Acquisition of equity securities		(1,443)	-
Acquisition of other securities		(464)	-
Acquisition of available-for-sale investments		-	(15,264)
Acquisition of investments in subsidiaries, associates and joint ventures		(855,602)	(115,147)
Acquisition of property, plant and equipment		(1,677,962)	(1,594,897)
Proceeds from disposal of property, plant and equipment		-	(3,654)
Acquisition of intangible asstes		(58,808)	(69,923)
Net cash used in investing activities	₩	(3,618,949)	(2,464,651)
Cash flows from financing activities	38		
Proceeds from borrowings		1,743,353	654,242
Increase in long-term financial liabilities		1,162	2,517
Receipt of government grants		86	-
Repayment of borrowings		(1,452,359)	(658,144)
Decrease in long-term financial liabilities		(16,099)	(9,136)
Payment of cash dividends		(679,998)	(820,102)
Payment of interest of hybrid bonds		(26,353)	(43,600)
Repayment of hybrid bonds		(800,000)	-
Net cash used in financing activities	₩	(1,230,208)	(874,223)
Effect of exchange rate fluctuation on cash held		-	(3,213)
Net increase (decrease) in cash and cash equivalents		(73,186)	211,876
Cash and cash equivalents at beginning of the period	5	332,405	120,529
Cash and cash equivalents at end of the period	5 ₩	259,219	332,405

See accompanying notes to the separate financial statements.

POSCO

Notes to the Separate Financial Statements

As of December 31, 2018

1. Reporting Entity

POSCO (the "Company") is the largest steel producer in Korea which was incorporated on April 1, 1968 to manufacture and sell steel rolled products and plates in the domestic and overseas markets.

The shares of the Company have been listed on the Korea Exchange since June 10, 1988. The Company owns and operates two steel plants (Pohang and Gwangyang) and one office in Korea, and it also operates internationally through six overseas liaison offices.

As of December 31, 2018, major shareholders are as follows:

Shareholder's name	Number of shares	Ownership (%)
National Pension Service	9,342,192	10.72
BlackRock Fund Advisors(*1,2,3)	4,549,553	5.22
Nippon Steel & Sumitomo Metal Corporation(*1)	2,894,712	3.32
GIC Private Limited	2,016,887	2.31
KB Financial Group Inc. and subsidiaries(*2)	2,001,820	2.30
Others	66,381,671	76.13
	<u>87,186,835</u>	<u>100.00</u>

(*1) Includes American Depositary Receipts (ADRs) of POSCO, each of which represents 0.25 share of POSCO's common share which has par value of ₩5,000 per share.

(*2) Includes shares held by subsidiaries and others.

(*3) The number of shares held by the shareholder in accordance with the status report of large-scale share and others on October 4, 2018.

As of December 31, 2018, the shares of the Company are listed on the Korea Exchange, while its ADRs are listed on the New York Stock Exchanges.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

2. Statement of Compliance

Statement of compliance

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

These financial statements are separate financial statements prepared in accordance with K-IFRS No. 1027 "Separate Financial Statements" presented by a parent, an investor with joint control of, or significant influence over, an investee, in which the investments are accounted for at cost.

The separate financial statements were authorized for issue by the Board of Directors on January 30, 2019, and will be submitted for approval at the shareholders' meeting to be held on March 15, 2019.

In 2018, the Company adopted K-IFRS No. 1115 "Revenue from Contracts with Customers" and K-IFRS No. 1109 "Financial Instruments" for the first time. Changes to significant accounting policies are described in Note 2 "Changes in Accounting Policies".

Basis of measurement

The separate financial statements have been prepared on the historical cost basis, except for the following material items in the statement of financial position, as described in the accounting policy below.

- (a) Derivatives instruments measured at fair value
- (b) Financial instruments measured at fair value through profit or loss
- (c) Financial instruments measured at fair value through other comprehensive income
- (d) Available-for-sale financial assets measured at fair value
- (e) Defined benefit liabilities measured at the present value of the defined benefit obligation less the fair value of the plan assets

Functional and presentation currency

These separate financial statements are presented in Korean Won, which is the Company's functional currency which is the currency of the primary economic environment in which the Company operates.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Use of estimates and judgments

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

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period prospectively.

(a) Judgments

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

- Note 11 - Investments in subsidiaries, associates and joint ventures
- Note 24 - Hybrid bonds

(b) Assumptions and estimation uncertainties

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

- Note 11 - Investments in subsidiaries, associates and joint ventures
- Note 13 - Property, Plant and Equipment
- Note 19 - Provisions
- Note 20 - Employee benefits
- Note 22 - Financial Instruments
- Note 34 - Income taxes
- Note 37 - Commitments and contingencies

(c) Measurement of fair value

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

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

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

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

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

- Level 1 – unadjusted quoted prices in active markets for identical assets or liabilities.
- Level 2 – inputs other than quoted prices included in Level 1 that are observable for the assets or liability, either directly or indirectly.
- Level 3 – inputs for the assets or liability that are not based on observable market data.

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

Information about the assumptions made in measuring fair values is included in the following note:

- Note 22 – Financial instruments

Changes in Accounting Policies

The Company has initially adopted K-IFRS No. 1115 "Revenue from Contracts with Customers" and K-IFRS No. 1109 "Financial Instruments" from January 1, 2018. The other accounting standards adopted from January 1, 2018 had no significant effect on the Company's separate financial statements.

The effect of initially applying these standards is mainly attributed to the following:

- Identify the shipping services included in certain sales contracts as a separate performance obligation
- Estimate variable consideration such as sales discount
- Change in classification and subsequent measurement of financial assets
- Increase in impairment loss on financial assets

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(a) K-IFRS No. 1115 "Revenue from Contracts with Customers"

K-IFRS No. 1115 "Revenue from Contracts with Customers" provides a unified five-step model for determining the timing, measurement and recognition of revenue. It replaced previous revenue recognition guidance, including K-IFRS No. 1018 "Revenue", K-IFRS No. 1011 "Construction Contracts", K-IFRS No. 2031 "Revenue- Barter transactions involving advertising services", K-IFRS No. 2113 "Customer Loyalty Programs", K-IFRS No. 2115 "Agreements for the construction of real estate", and K-IFRS No. 2118 "Transfers of assets from customers".

The Company applied the modified retrospective approach by recognizing the cumulative impact of initially applying the revenue standard as of January 1, 2018, the date of initial application and the Company also decided to apply the practical expedients as allowed by K-IFRS No. 1115 by applying the new standard only to those contracts that are not considered as completed contracts at the date of initial application. Accordingly, the Company did not restate the financial statements for comparative periods.

The following table summarizes the impact, net of tax, of transition to K-IFRS No. 1115 on retained earnings as of January 1, 2018.

(in millions of Won)

		Retained earnings
Shipping services included in the sales contract	₩	(510)
Variable consideration for sales discounts		(373)
	₩	<u>(883)</u>

The details of new significant accounting policies and impacts of the adoption of K-IFRS No. 1115 are as follows:

1) Identification of performance obligations

The Company operates manufacturing and selling steel rolled products and plates, and certain sales contracts include transport service. When applying K-IFRS No. 1115, sales of manufactured products or merchandise and delivery of products (i.e. shipping service) are identified as separate performance obligations in the contracts with customers. For transactions for which the shipping terms are on shipment basis and the customer pays shipping costs, the two performance obligations are separately accounted for because delivery of products is performed after the control over the products is transferred to the customer. The transaction price allocated to the performance obligation of delivery service is recognized when the obligation of delivery of the product is completed.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

The Company identified shipping service included in the sales contract as a separate performance obligation that will be satisfied over the promised service period. This change in relevant accounting policy resulted in decreases in revenue and cost of sales increases in contract liabilities and decrease in other payables as of and for the year period ended December 31, 2018. In addition, the Company has decided to reclassify the costs incurred in the shipping services from selling and administrative expenses to cost of sales during the year ended December 31, 2018.

2) Variable consideration

The Company provides a certain percentage of price discount, if an accounts receivable is collected earlier than a certain collection date. Under K-IFRS No. 1115, the Company estimates the amount of variable consideration by using the expected value which the Company expects to better predict the amount of consideration. The Company recognizes 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 refund period has lapsed. This change in relevant accounting policy resulted in increase in revenue and contract liabilities for the year period ended December 31, 2018.

3) Impact of changes in accounting policies

The effects of adoption of K-IFRS No. 1115 to the Company's separate statements of financial position and separate statements of comprehensive income as of and for the year period ended December 31, 2018 are as follows. There is no material impact on the Company's separate statements of cash flows for the year period ended December 31, 2018.

(in millions of Won)

		As reported	Adjustments of K-IFRS No. 1115	Amounts without adoption of K-IFRS No. 1115
Financial statements of financial position				
Current liabilities	₩	3,895,973	526	3,896,499
Other payables		1,072,733	16,955	1,089,688
Current income tax liabilities		803,543	(366)	803,177
Other current liabilities		54,806	(16,063)	38,743
Non-current liabilities		4,957,905	120	4,958,025
Deferred tax liabilities		1,179,672	120	1,179,792
Retained earnings		45,175,459	(646)	45,174,813
Statements of comprehensive income				
Revenue	₩	30,659,425	980	30,660,405
Cost of sales		(25,728,293)	(3,089)	(25,731,382)
Profit before income tax		2,234,899	(2,109)	2,232,790
Income tax expense		(1,162,307)	580	(1,161,727)
Profit		1,072,592	(1,529)	1,071,063

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) K-IFRS No. 1109 "Financial Instruments"

K-IFRS No. 1109 "Financial Instruments" regulates requirements for measurement and recognition of certain contracts in relation to trading financial assets and liabilities or nonfinancial items. It replaced existing guidance in K-IFRS No. 1039 "Financial Instruments: Recognition and Measurement".

The Company applied retrospectively the standard with exemptions where an entity is not required to restate the comparative information for prior periods in relation to classification and measurement (including impairment) changes. The Company recognized the cumulative effect resulting from initial application of K-IFRS No. 1109 as reserves and retained earnings of the Company at the date of initial application.

The following table summarizes the impact, net of tax, of transition to K-IFRS No. 1109 on reserves and retained earnings as of January 1, 2018.

<i>(in millions of Won)</i>		Reserves	Retained earnings
Classification to fair value through profit or loss in securities and select to fair value through other comprehensive income in equity securities	₩	(321,654)	321,654
Recognition of expected credit losses		-	(51)
	₩	<u>(321,654)</u>	<u>321,603</u>

The details of new significant accounting policies and the nature and effect of the changes to previous accounting policies are set out below.

1) Classification and measurement of financial assets and financial liabilities

K-IFRS No. 1109 contains three principal classification categories for financial assets: measured at amortized cost, at fair value through other comprehensive income and at fair value through profit or loss. The classification of financial assets under K-IFRS No. 1109 is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. Under K-IFRS No. 1109, derivatives embedded in contracts where the host is a financial asset in the scope of the standard are never separated. Instead, the hybrid financial instrument as a whole is assessed for classification.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

As of January 1, 2018, the date of initial application, measurement categories and carrying amounts of financial assets in accordance with K-IFRS No. 1039 "Financial Instruments: Recognition and Measurement" and K-IFRS No. 1109 "Financial Instruments" are as follows:

<i>(in millions of Won)</i>	Original classification under K-IFRS No. 1039	Original carrying amounts under K-IFRS No. 1039	New classification under K-IFRS No. 1109	New carrying amounts under K-IFRS No. 1109
Cash and cash equivalents	Loans and receivables	₩ 332,405	Amortized cost	₩ 332,405
Trade accounts and notes receivable (*1)	Loans and receivables	3,874,929	Amortized cost	3,874,859
Other receivables	Loans and receivables	162,313	Fair value through profit or loss	1,898
			Amortized cost	160,415
Equity securities (*2)	Available-for-sale financial assets	1,324,715	Fair value through other comprehensive income	1,324,715
Debt securities	Available-for-sale financial assets	10,305	Fair value through profit or loss	8,050
			Fair value through other comprehensive income	2,255
Other Securities	Available-for-sale financial assets	60,569	Fair value through profit or loss	60,569
Deposit instruments	Loans and receivables	666,112	Amortized cost	666,112
Short-term financial instruments	Loans and receivables	5,155,702	Fair value through profit or loss	5,155,702

(*1) As a result of the adoption of K-IFRS No. 1109, as of January 1, 2018, the date of initial application, loss allowance was increased by ₩70 million and retained earnings were decreased by ₩51 million.

(*2) As a result of the adoption of K-IFRS No. 1109, as of January 1, 2018, the date of initial application, with respect to securities classified as fair value through profit or loss and equity securities determined fair value through other comprehensive income, reserves were decreased by ₩321,654 million and retained earnings were increased by ₩321,654 million.

K-IFRS No. 1109 "Financial Instruments" retains most of the requirements of K-IFRS 1039 "Financial Instruments: Recognition and Measurement" for the classification and measurement of financial liabilities. Accordingly, the application of K-IFRS No. 1109 "financial instruments" has no significant effect on the Company's accounting policies related to financial liabilities.

2) Impairment of financial assets

K-IFRS No. 1109 replaces the incurred loss model in K-IFRS No. 1039 with a forward-looking expected credit loss model for debt instruments, lease receivables, contractual assets, loan commitments, and financial guarantee contracts.

Under K-IFRS No. 1109, impairment losses are likely to be recognized earlier than using the incurred loss model under the existing guidance in K-IFRS No. 1039 as loss allowances is measured either 12-month or lifetime expected credit loss based on the extent of increase in credit risk.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

As of January 1, 2018, the date of initial application, the Company recognized an increase in loss allowance of ₩70 million and a decrease in retained earnings of ₩51 million, respectively.

In addition to the application of K-IFRS No. 1109, the Company applied the amendments to K-IFRS No. 1001 "Presentation of Financial Statements", which requires the recognition of impairment of financial assets to be separated in the separate statements of comprehensive income. Bad debt expenses and other bad debt expenses are presented as separate items.

3. Summary of Significant Accounting Policies

The significant accounting policies applied by the Company in preparation of its separate financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these financial statements, except for those as disclosed in note 2.

Investments in subsidiaries, associates and joint ventures

These separate financial statements are prepared and presented in accordance with K-IFRS No. 1027 "Separate Financial Statements". The Company applied the cost method to investments in subsidiaries, associates and joint ventures in accordance with K-IFRS No. 1027. Dividends from a subsidiary, associate or joint venture are recognized in profit or loss when the right to receive the dividend is established.

Foreign currency transactions and translation

Foreign currency transactions are initially recorded using the spot exchange rate between the functional currency and the foreign currency at the date of the transaction. At the end of each reporting period, foreign currency monetary items are translated using the closing rate. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the original transaction. Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rate at the date fair value is initially determined.

Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous financial statements are recognized in profit or loss in the period in which they arise. When gains or losses on non-monetary items are recognized in other comprehensive income, exchange components of those gains or losses are recognized in other comprehensive income. Conversely, when gains or losses on non-monetary items are recognized in profit or loss, exchange components of those gains or losses are recognized in profit or loss.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, demand deposits, and short-term investments in highly liquid securities that are readily convertible to known amounts of cash with maturities of three months or less from the acquisition date and which are subject to an insignificant risk of changes in value. Equity investments are excluded from cash and cash equivalents.

Non-derivative financial assets

Trade receivables and debt securities issued are initially recognized when they are originated. All other financial assets are initially recognized when the Company becomes a party to the contractual provisions of the instrument.

A financial asset(unless it is a trade receivable without a significant financing component) is initially measured at fair value plus, for an item not at financial assets measured at fair value through profit or loss, transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

On initial recognition, a financial asset is classified as measured at amortized cost, debt instruments measured at fair value through other comprehensive income, equity instruments measured at fair value through other comprehensive income, or financial assets measured at fair value through profit or loss.

Financial assets are not reclassified subsequent to their initial recognition unless the Company changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

(a) Financial assets measured at amortized cost

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at fair value through profit or loss.

- it is held within a business model whose objective is to hold assets to collect contractual cash flows
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Financial assets measured at amortized cost are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, gains and losses on foreign currency translation and impairment losses are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Debt instruments measured at fair value through other comprehensive income

A debt instrument is measured at fair value through other comprehensive income if it meets both of the following conditions and is not designated as at fair value through profit or loss.

- it is held within a business model whose objective is achieved by both collection contractual cash flows and selling financial assets and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Debt instruments measured at fair value through other comprehensive income are subsequently measured at fair value. Interest income which is calculated using the effective interest method, gains and losses from foreign currency translation and impairment losses are recognized in profit or loss and other net profit or losses are recognized in other comprehensive income. At the time of elimination, other accumulated comprehensive income is reclassified to profit or loss.

(c) Equity instruments measured at fair value through other comprehensive income

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to present subsequent changes in the investment's fair value in other comprehensive income. This election is made on an investment-by-investment basis.

Equity instruments measured at fair value through other comprehensive income are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in other comprehensive income and never reclassified to profit or loss.

(d) Financial assets measured at fair value through profit or loss

All financial assets not classified as measured at amortized cost or fair value through other comprehensive income as described above are measured at fair value through profit or loss. This includes all derivative financial assets. On initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at fair value through other comprehensive income as at fair value through profit or loss if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

Financial assets measured at fair value through profit or loss are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(e) Derecognition of non-derivative financial assets

The Company derecognizes non-derivative financial assets when the contractual rights to the cash flows from the financial asset expire, or the Company transfers the rights to receive the contractual cash flows from the financial asset as well as substantially all the risks and rewards of ownership of the financial asset. Any interest in a transferred financial asset that is created or retained by the Company is recognized as a separate asset or liability.

If the Company retains substantially all the risks and rewards of ownership of the transferred financial assets, the Company continues to recognize the transferred financial assets and recognizes financial liabilities for the consideration received.

(f) Offsetting a financial asset and a financial liability

Financial assets and financial liabilities are offset and the net amount is presented in the separate statement of financial position only when the Company currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.

Inventories

Inventory costs, except materials-in-transit in which costs are determined by using specific identification method, are determined by using the moving-weighted average method. The cost of inventories comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. The allocation of fixed production overheads to the costs of finished goods or work in progress are based on the normal capacity of the production facilities.

Inventories are measured at the lower of cost or net realizable value. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories arising from an increase in net realizable value is recognized as a reduction in the amount of inventories recognized as a cost of goods sold in the period in which the reversal occurs.

The carrying amount of those inventories is recognized as cost of goods sold in the period in which the related revenue is recognized.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Non-current assets held for sale

Non-current assets or disposal groups comprising assets and liabilities that are expected to be recovered primarily through sale rather than through continuing use are classified as held for sale. In order to be classified as held for sale, the assets or disposal groups must be available for immediate sale in their present condition and their sale must be highly probable. The assets or disposal groups that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

The Company recognizes an impairment loss for any initial or subsequent write-down of an asset or disposal group to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized in accordance with K-IFRS No. 1036 "Impairment of Assets".

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

Investment property

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

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

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

Property, plant and equipment

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

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

The cost of replacing a part of an item is recognized in the carrying amount of the item of property, plant and equipment, if the following recognition criteria are met:

- (a) it is probable that future economic benefits associated with the item will flow to the Company and
- (b) the cost can be measured reliably.

The carrying amount of the replaced part is derecognized at the time the replacement part is recognized. The costs of the day-to-day servicing of the item are recognized in profit or loss as incurred.

Items of property, plant and equipment are depreciated from the date they are available for use or, in respect of self-constructed assets, from the date that the asset is completed and ready for use. Other than land, the costs of an asset less its estimated residual value are depreciated. Depreciation of property, plant and equipment is recognized in profit or loss on a straight-line basis, which most closely reflects the expected pattern of consumption of the future economic benefits embodied in the asset, over the estimated useful lives of each component of an item of property, plant and equipment. Land is not depreciated.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in profit or loss when the item is derecognized.

The estimated useful lives for the current period are as follows:

Buildings	5-40 years
Structures	5-40 years
Machinery and equipment	15 years
Vehicles	4 years
Tools	4 years
Furniture and fixtures	4 years
Lease assets	18 years

The estimated residual value, useful lives and the depreciation method are reviewed at least at the end of each reporting period and, if expectations differ from previous estimates, the changes are accounted for as changes in accounting estimates.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Borrowing costs

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

To the extent that the Company borrows funds specifically for the purpose of obtaining a qualifying asset, the Company determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. The Company immediately recognizes other borrowing costs as an expense. To the extent that the Company borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Company shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Company that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Company capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period.

Intangible assets

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

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

Intellectual property rights	7 years
Development expense	4 years
Port facilities usage rights	4-75 years
Other intangible assets	4 years

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

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

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

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

Government grants

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

(a) Grants related to assets

Government grants whose primary condition is that the Company purchase, construct or otherwise acquire long-term assets are deducted from the carrying amount of the assets and recognized in profit or loss on a systematic and rational basis over the life of the depreciable assets.

(b) Grants related to income

Government grants which are intended to compensate the Company for expenses incurred are deducted from the related expenses.

Leases

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

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(a) Finance leases

At the commencement of the lease term, the Company recognizes as finance assets and finance liabilities the lower amount of the fair value of the leased property and the present value of the minimum lease payments, each determined at the inception of the lease. Any initial direct costs are added to the amount recognized as an asset.

Minimum lease payments are apportioned between the finance charge and the reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability. Contingent rents are charged as expenses in the periods in which they are incurred.

The depreciable amount of a leased asset is allocated to each accounting period during the period of expected use on a systematic basis consistent with the depreciation policy the Company adopts for similar depreciable assets that are owned. If there is no reasonable certainty that the Company will obtain ownership by the end of the lease term, the asset is fully depreciated over the shorter of the lease term and its useful life.

(b) Operating leases

Leases obligations under operating leases are recognized as an expense on a straight-line basis over the lease term. Contingent rents are charged as expenses in the periods in which they are incurred.

Impairment for financial assets

The Company recognizes loss allowances for expected credit losses on:

- financial assets measured at amortized cost
- debt instruments measured at fair value through other comprehensive income
- lease receivables, contractual assets, loan commitments, and financial guarantee contracts

If credit risk has increased significantly since the initial recognition, a loss allowance for lifetime expected credit loss is required to be measured at the end of every reporting period. If credit risk has not increased significantly since the initial recognition, a loss allowance is measured based on 12-month expected credit loss.

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If the financial instrument has low credit risk at the end of the reporting period, the Company may assume that the credit risk has not increased significantly since initial recognition. However, a loss allowance for lifetime expected credit losses is required for contract assets or trade receivables that do not contain a significant financing component.

(a) Judgments on credit risk

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating expected credit losses, the Company considers reasonable and supportable information that is relevant and available without undue cost or effect. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment and including forward-looking information.

The Company assumes that the credit risk on a financial asset has increased significantly if it is more than 30 days past due. The Company considers a financial asset to be in default when the borrower is unlikely to pay its credit obligations to the Company in full, without recourse by the Company to actions such as realizing security (if any is held). The Company considers a debt security to have low credit risk when its credit risk rating is equivalent to the globally understood definition of 'investment grade'.

(b) Measurement of expected credit losses

Lifetime expected credit losses are the expected credit losses that result from all possible default events over the expected life of a financial instrument. 12-month expected credit losses are the portion of lifetime expected credit losses that result from default that are possible within the 12 months after the reporting date. The maximum period considered when estimating expected credit losses is the maximum contractual period over which the Company is exposed to credit risk.

Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls such as the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Company expects to receive.

Expected credit losses for financial assets measured at amortized cost are recognized in profit or loss. Loss allowances for financial assets measured at amortized cost are deducted from carrying amount of the assets. For debt instruments measured at fair value through other comprehensive income, the loss allowance is charged to profit or loss and is recognized in other comprehensive income.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(c) Credit-impaired financial assets

At each reporting date, the Company assesses whether financial assets measured at amortized cost and debt instrument measured at fair value through other comprehensive income are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Objective evidence that a financial asset or group of financial assets are impaired includes:

- significant financial difficulty of the issuer or borrower
- a breach of contract, such as a default or delinquency in interest or principal payments
- the lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider
- it becoming probable that the borrower will enter bankruptcy or other financial reorganization
- the disappearance of an active market for that financial asset because of financial difficulties

(d) Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in entirety or a portion. The Company individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery based on continuous payments and extinct prescriptions. The Company expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

Impairment for non-financial assets

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

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Management estimates the recoverable amount of an individual asset. If it is impossible to measure the individual recoverable amount of an asset, then management estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

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

Any impairment identified at the CGU level is used to reduce the carrying amount of the other assets in the CGU on a pro rata basis. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives that is not designated as a hedging instrument are measured at fair value, and changes therein are recognized in profit or loss.

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Notes to the Separate Financial Statements, Continued **As of December 31, 2018**

Non-derivative financial liabilities

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

(a) Financial liabilities measured at fair value through profit or loss

A financial liability is classified as at fair value through profit or loss if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs that are directly attributable to the acquisition are recognized in profit or loss as incurred.

(b) Financial liabilities measured at amortized cost

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

(c) Derecognition of financial liabilities

The Company derecognizes a financial liability when its contractual obligations are discharged or cancelled, or expire. The Company also derecognizes a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognized at fair value. On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Employee benefits

(a) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within twelve months after the end of the period in which the employees render the related service. When an employee has rendered service to the Company during an accounting period, the Company recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as profit or loss. If the Company has a legal or constructive obligation which can be reliably measured, the Company recognizes the amount of expected payment for profit-sharing and bonuses payable as liabilities.

(b) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service, and are calculated at the present value of the amount of future benefit that employees have earned in return for their service in the current and prior periods, less the fair value of any related assets. The present value is determined by discounting the expected future cash flows using the interest rate of corporate bonds that have maturity dates approximating the terms of the Company's obligations and that are denominated in the same currency in which the benefits are expected to be paid. Any actuarial gains and losses are recognized in profit or loss in the period in which they arise.

(c) Retirement benefits: Defined contribution plans

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

(d) Retirement benefits: Defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Company's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method.

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Notes to the Separate Financial Statements, Continued **As of December 31, 2018**

The discount rate is the yield at the reporting date on corporate bonds that have maturity dates approximating the terms of the Company's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Company recognizes all actuarial gains and losses arising from actuarial assumption changes and experiential adjustments in other comprehensive income when incurred.

When the fair value of plan assets exceeds the present value of the defined benefit obligation, the Company recognizes an asset, to the extent of the total of cumulative unrecognized past service cost and present value of any economic benefits available in the form of refunds from the plan or reduction in the future contributions to the plan.

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

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

Provisions

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

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

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

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

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

Provision for restoration related to contaminated area is recognized when the area meets the Company's policy and legal standards of contamination.

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

Emission Rights

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

(a) Greenhouse Gases Emission Right

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

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

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

(b) Emission liability

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

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Equity instruments

(a) Share capital

Common stock is classified as equity and the incremental costs arising directly attributable to the issuance of common stock less their tax effects are deducted from equity.

If the Company reacquires its own equity instruments, the amount of those instruments ("treasury shares") are presented as a contra equity account. No gain or loss is recognized in profit or loss on the purchase, sale, issuance or cancellation of its own equity instruments. When treasury shares are sold or reissued subsequently, the amount received is recognized as an increase to equity, and the resulting surplus or deficit on the transaction is recorded in capital surplus.

(b) Hybrid bonds

Debt and equity instruments issued by the Company are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of financial liability and an equity instrument. When the Company has an unconditional right to avoid delivering cash or another financial asset to settle a contractual obligation, the instruments are classified as equity instruments.

Revenue from contracts with customers

The Company has initially applied K-IFRS No.1115 "Revenue from Contracts with Customers" from January 1, 2018. Revenue is measured based on the consideration promised in the contract with the customer. The Company recognizes revenue when the control over a good or service is transferred to the customer. The following are the revenue recognition policies for performance obligations in the contracts with customers.

(a) Steel products

For domestic sales, the control of the product is usually transferred to the customer when the product is delivered to the customer, at which point in time revenue is recognized. Invoices are generally payable within 10 to 90 days. When a customer makes payment prior to the due date, they are offered a discount at certain percentage of the invoice amount. Only when the price discount period has passed, only the amount of the cumulative revenue that has already been recognized, Income recognized including income.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

For export sales, revenue is recognized at the time when control of the product is transferred to the customer based on the "International Incoterms for Interpretation of Trade Terms" prescribed in the respective contracts. Invoices are usually issued at the date of bill of lading and revenues are recognized based on the terms of Letter of Credit (L / C), Acceptance Condition (D / A), Payment Condition (D / P), Telegraphic Transfer (T / T) and others. The Company does not offer price discounts related to prepayment for export.

(b) Transportation services

For the performance obligation for transportation services included in the Company's product sales contracts, revenue is recognized over the period when the services are provided and the revenue is measured by reference to the degree to which the service has been completed. The billing date and payment terms for the service charge are the same as the billing date and payment terms for sale of steel products.

Finance income and finance costs

The Company's finance income and finance costs include:

- interest income;
- interest expense;
- dividend income;
- the foreign currency gain or loss on financial assets and financial liabilities;
- the net gain or loss on financial assets measured at fair value through profit or loss;
- the net gain or loss on the disposal of investments in debt securities measured at fair value through other comprehensive income.

Interest income or expense is recognized using the effective interest method. Dividend income is recognized in profit or loss on the date on which the Company's right to receive payment is established. The 'effective interest rate' is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to:

- the gross carrying amount of the financial asset; or
- the amortized cost of the financial liability.

In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortized cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

Income tax

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to items recognized directly in equity or in other comprehensive income.

The Company recognizes interest and penalties related to corporate tax as if it is applicable to the income taxes, the Company applies K-IFRS 1012 "Income Taxes", if it is not applicable to the income taxes, the Company applies K-IFRS 1037 "Provisions Contingent Liabilities and Contingent Assets".

The Company offsets current tax assets and current tax liabilities if, and only if, the Company:

- has a legally enforceable right to set off the recognized amounts, and
- intends either to settle on a net basis, or to realize the asset and settle the liability simultaneously.

(a) Current tax

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

(b) Deferred tax

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. The Company recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates, and joint ventures, except to the extent that the Company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Company recognizes a deferred tax asset for deductible temporary differences arising from investments in subsidiaries, associates and joint ventures, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized. However, deferred tax is not recognized for the following temporary differences: taxable temporary differences arising on the initial recognition of goodwill, or the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting profit or loss nor taxable income.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

A deferred tax asset is recognized for the carryforward of unused tax losses tax credits and deductible temporary differences to the extent that it is probable that future taxable profit will be available against which the unused tax losses, tax credits and deductible temporary differences can be utilized. The future taxable profit depends on reversing taxable temporary differences. When there are insufficient taxable temporary differences, the probability of future taxable profit (including the reversal of temporary differences) should be considered.

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

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.

Earnings per share

Management calculates basic earnings per share ("EPS") data for the Company's ordinary shares, which is presented at the end of the statement of comprehensive income. Basic EPS is calculated by dividing profit attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

New standards and interpretations not yet adopted

The following new standard has been published but is not mandatory for the Company for annual period beginning on January 1, 2018, and the Company has not early adopted them.

(a) K-IFRS No. 1116 "Leases"

The Company will apply K-IFRS No. 1116 "Leases" for the year beginning on January 1, 2019. The Company is evaluating analysis of financial impact resulting from adoption of new standards and the estimated effect on the separate financial statements at the date of initial application based on current situation as of December 31, 2018. However, a reasonable estimation of financial impact is not determined since the analysis of financial impact is not completed.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

K-IFRS No. 1116 "Leases" replaces existing leases guidance, including K-IFRS No. 1017 "Leases", K-IFRS No. 2104 Determining whether an Arrangement contains a Lease, K-IFRS No. 2015 Operating Leases-Incentives and K-IFRS No. 2027 Evaluating the Substance of Transactions Involving the Legal Form of a Lease.

K-IFRS No. 1116 introduces a single accounting model that requires a lessee to recognize lease related asset and liability in the financial statements. 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 with a term of 12 months or less at the commencement date or low value assets. Accounting treatment for lessor is similar to the existing standard which classifies lease into finance and operating lease.

1) Leases in which the Company is a lessee

Upon adoption of K-IFRS No. 1116, the Company will recognize new assets and liabilities for its operating leases. The nature of expenses related to those leases will change because the Company will recognize a depreciation charge for right-of-use assets and interest expense on lease liabilities. Previously, the Company recognized operating lease expense on a straight-line basis over the term of the lease term. It is expected that there will be no significant impact on finance leases.

As of the authorization date for issuance of these separate financial statements, the Company is still evaluating whether certain arrangements related to the use of vessels, warehouses and IT facilities contain leases that shall be accounted for in accordance with K-IFRS No. 1116. The outcome of such evaluations may have significant impact on the Company's separate financial statements upon adoption of K-IFRS No. 1116.

As a lessee, the Company shall apply K-IFRS No. 1116 using one of the following two transition methods; (a) retrospectively to each prior reporting period presented in accordance with K-IFRS No. 1008 "Accounting Policies, Changes in Accounting Estimates and Errors"; or (b) retrospectively with the cumulative effect of initially applying this standard recognized at the date of initial application.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

The Company intends to apply the modified retrospective approach when initially applying K-IFRS No. 1116 as of January 1, 2019, the date of initial application. Accordingly, the Company will recognize the accumulated effect resulting from initial application of K-IFRS No. 1115 as retained earnings of the Company at the date of initial application and not restate the financial statements for comparative periods.

The Company plans to apply the practical expedient to grandfather the definition of a lease on transition. This means that it will apply K-IFRS No. 1116 to all contracts entered into before January 1, 2019 and identified as leases in accordance with K-IFRS No. 1017 and K-IFRS No. 2104.

2) Leases in which the Company is a lessor

As a lessor, the Company expects the adoption of K-IFRS No. 1116 to have no significant impact on its separate financial statements.

(b) K-IFRS No. 2123 "Uncertainty over Tax Treatments"

If there is an uncertainty on tax treatment such as dispute of a particular tax treatment by the taxation authority, the Company determines whether it is probable that the taxation authority will accept an uncertain tax treatment in determining taxable profit, tax bases, unused tax losses, unused tax credits or tax rates.

If the Company concludes it is probable that the taxation authority will accept an uncertain tax treatment, the Company determines the taxable profit (tax loss), tax bases, unused tax losses, unused tax credits or tax rates consistently with the tax treatment used or planned to be used in its income tax filings. If the Company concludes it is not probable that the taxation authority will accept an uncertain tax treatment, the Company reflects the effect of uncertainty for each uncertain tax treatment by using either of the most likely amount or the expected value depending on which method the entity expects to better predict the resolution of the uncertainty.

The application of K-IFRS No. 2123 "Uncertainty over Tax Treatments" is mandatory for the year beginning on January 1, 2019. The Company expects the adoption of the standard will not have significant impact on separate financial statements.

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Notes to the Separate Financial Statements, Continued **As of December 31, 2018**

4. Risk Management

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

- credit risk
- liquidity risk
- market risk
- capital risk

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

(a) Financial risk management

1) Risk management framework

The Board of Directors has overall responsibility for the establishment and oversight of the Company's risk management framework. The Company's risk management policies are established to identify and analyze the risks faced by the Company, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Company's activities.

The Company, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

2) Credit risk

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

The Company implements a credit risk management policy under which the Company only transacts business with counterparties that have a certain level of credit rate evaluated based on financial condition, historical experience, and other factors. The Company's exposure to credit risk is influenced mainly by the individual characteristics of each customer. The default risk of a nation or an industry in which a customer operates its business does not have a significant influence on credit risk. The Company has established a credit policy under which each new customer is analyzed individually for creditworthiness.

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Notes to the Separate Financial Statements, Continued **As of December 31, 2018**

The Company establishes an allowance for impairment that represents its estimate of expected losses in respect of trade and other receivables. The main components of this allowance are a specific loss component that relates to individually significant exposures, and a collective loss component established for companies of similar assets in respect of losses that have been incurred.

Credit risk also arises from transactions with financial institutions, and such transactions include transactions of cash and cash equivalents, various deposits, and financial instruments such as derivative contracts. The Company manages its exposure to this credit risk by only entering into transactions with banks that have high international credit ratings. The Company's treasury department authorizes, manages, and oversees new transactions with financial institutions with whom the Company has no previous relationship.

Furthermore, the Company limits its exposure to credit risk of financial guarantee contracts by strictly evaluating their necessity based on internal decision making processes, such as the approval of the board of directors.

3) Liquidity risk

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

The Company's cash flow from business, borrowing or financing is sufficient to meet the cash requirements for the Company's strategic investments. Management believes that the Company is capable of raising funds by borrowing or financing if the Company is not able to generate cash flow requirements from its operations. The Company has committed borrowing facilities with various banks.

4) Market risk

Market risk means that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. The goal of market risk management is optimization of profit and controlling the exposure to market risk within acceptable limits.

① Currency risk

The Company is exposed to currency risk on sales, purchases and borrowings that are denominated in a currency other than the functional currency of the Company, Korean Won.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

The Company's policy in respect of foreign currency risks is a natural hedge whereby foreign currency income is offset with foreign currency expenditures. The remaining net exposures after the natural hedge have been hedged using derivative contracts such as forward exchange contracts. In addition, the Company's derivative transactions are limited to hedging actual foreign currency transactions and speculative hedging is not permitted. The Company reduces the foreign currency exposure by repayment of foreign currency borrowings subjected to investment in overseas when its maturities come.

② Interest rate risk

The Company manages the exposure to interest rate risk by adjusting of borrowing structure ratio between borrowings at fixed interest rate and variable interest rate. The Company monitors interest rate risks regularly in order to avoid exposure to interest rate risk on borrowings at variable interest rate.

③ Other market price risk

Equity price risk arises from fluctuation of market price of listed equity securities. Management of the Company measures regularly the fair value of listed equity securities and the risk of variance in future cash flow caused by market price fluctuations. Significant investments are managed separately and all buy and sell decisions are approved by management of the Company.

(b) Management of capital

The fundamental goal of capital management is the maximization of shareholders' value by means of the stable dividend policy and the retirement of treasury shares. The capital structure of the Company consists of equity and net borrowings (after deducting cash and cash equivalents) and current financial instruments from borrowings. The Company applied the same capital risk management strategy that was applied in the previous period.

Net borrowing-to-equity ratio as of December 31, 2018 and 2017 is as follows:

(in millions of Won)		2018	2017
Total borrowings	₩	4,270,970	3,901,224
Less: Cash and cash equivalents		259,219	332,405
Net borrowings		4,011,751	3,568,819
Total equity	₩	45,272,102	45,941,455
Net borrowings-to-equity ratio		8.86%	7.77%

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

5. Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Demand deposits and checking accounts	₩	38,574	97,907
Time deposits		84,700	-
Other cash equivalents		135,945	234,498
	₩	<u>259,219</u>	<u>332,405</u>

6. Trade Accounts and Notes Receivable

Trade accounts and notes receivable as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Current			
Trade accounts and notes receivable	₩	3,989,699	3,886,950
Less: Allowance for doubtful accounts		(21,327)	(19,236)
	₩	<u>3,968,372</u>	<u>3,867,714</u>
Non-current			
Trade accounts and notes receivable	₩	11,904	18,586
Less: Present value discount		(2,983)	(5,107)
Less: Allowance for doubtful accounts		(1,248)	(705)
	₩	<u>7,673</u>	<u>12,774</u>

Trade accounts and notes receivable sold to financial institutions, for which the derecognition conditions were not met, amounted to ₩176,612 million and ₩83,976 million as of December 31, 2018 and 2017, respectively. The fair value of trade accounts and notes receivable approximates the carrying amounts and trade accounts and notes receivable are included in short-term borrowings from financial institutions (Note 16).

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

7. Other Receivables

Other receivables as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Current			
Short-term loans	₩	2,950	-
Other accounts receivable		186,951	199,724
Others		25,065	22,476
Less: Allowance for doubtful accounts		(8,534)	(11,970)
	₩	<u>206,432</u>	<u>210,230</u>
Non-current			
Long-term loans	₩	26,335	22,877
Long-term other accounts receivable		36,832	44,616
Others		2,915	2,896
Less: Allowance for doubtful accounts		(8,315)	(7,968)
	₩	<u>57,767</u>	<u>62,421</u>

8. Other Financial Assets

(a) Other financial assets as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Current			
Debt securities	₩	21	-
Available-for-sale securities (bonds)		-	2,305
Deposit instruments(*1)		1,248,715	666,080
Short-term financial instruments		5,776,407	5,155,702
	₩	<u>7,025,143</u>	<u>5,824,087</u>
Non-current			
Long-term derivatives assets held for trading	₩	1,265	-
Equity securities		1,104,092	-
Debt securities		9,667	-
Other securities		61,701	-
Available-for-sale securities (equity instruments)		-	1,384,784
Available-for-sale securities (others)		-	8,500
Deposit instruments(*2)		32	32
	₩	<u>1,176,757</u>	<u>1,393,316</u>

(*1) As of December 31, 2018 and December 31, 2017, ₩5,715 million and ₩10,080 million, respectively, are restricted in relation to government assigned project.

(*2) The Company is required to provide deposits to maintain checking accounts and accordingly the withdrawal of these deposits is restricted.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Equity securities and available-for-sale securities (equity instruments) as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	2018				2017		
	Number of shares	Ownership (%)	Acquisition cost	Fair value	Net changes in fair value of equity securities	Book value	Book value
Marketable equity securities							
Nippon Steel & Sumitomo Metal Corporation	15,698,500	1.65	₩ 473,962	301,010	(172,952)	301,010	430,748
KB Financial group Inc.	3,863,520	0.92	178,839	179,654	815	179,654	244,947
Woori Bank	20,280,000	3.00	244,447	316,368	71,921	316,368	319,410
DONGKUK STEEL MILL CO., LTD	1,786,827	1.87	10,471	12,919	2,448	12,919	19,655
SAMWONSTEEL Co., Ltd.	5,700,000	14.25	8,930	16,188	7,258	16,188	19,010
DONGKUK INDUSTRIES COMPANY	2,611,989	4.82	11,911	6,387	(5,524)	6,387	10,278
Others (8 companies)			61,083	42,247	(18,836)	42,247	52,240
			989,643	874,773	(114,870)	874,773	1,096,288
Non-marketable equity securities							
Congonhas Minerios S.A. (*1)	3,658,394	2.02	221,535	182,992	(38,543)	182,992	145,394
Poongsan Special Metal	315,790	5.00	7,657	7,657	-	7,657	7,657
HANKUM CO., LTD	21,000	4.99	4,599	4,599	-	4,599	4,599
Core-Industry Co., Ltd.	490,000	19.84	4,214	4,214	-	4,214	4,214
AJUSTEEL CO., LTD	17,000	4.36	4,165	4,165	-	4,165	4,165
Others (32 companies) (*2)			158,059	25,692	(132,367)	25,692	122,467
			400,229	229,319	(170,910)	229,319	288,496
			₩ 1,389,872	1,104,092	(285,780)	1,104,092	1,384,784

(*1) Fair value is based on an analysis performed by an external professional evaluation agency.

(*2) Other securities amounting to ₩60,069 million as of December 31, 2017 are included in book value which is classified as fair value through profit or loss from January 1, 2018, first application date of K-IFRS No. 1109 "Financial Instrument".

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Notes to the Separate Financial Statements, Continued
As of December 31, 2018

9. Inventories

(a) Inventories as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Finished goods	₩	1,146,961	927,413
Semi-finished goods		1,343,877	1,255,713
By-products		6,166	8,454
Raw materials		1,130,000	917,241
Fuel and materials		552,270	520,341
Materials-in-transit		1,120,349	916,255
Others		555	479
		<u>5,300,178</u>	<u>4,545,896</u>
Less: Allowance for inventories valuation		(12,169)	(2,363)
	₩	<u>5,288,009</u>	<u>4,543,533</u>

(b) The changes of allowance for inventories valuation for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Beginning	₩	2,363	11,843
Loss on valuation of inventories		12,169	2,363
Utilization on sale of inventories		(2,363)	(11,843)
Ending	₩	<u>12,169</u>	<u>2,363</u>

10. Assets Held for Sale

Assets held for sale as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Investments in subsidiaries(*1)	₩	25,683	34,153
Property, plant and equipment		-	392
	₩	<u>25,683</u>	<u>34,545</u>

(*1) During the year ended December 31, 2017, the Company determined to dispose part of the interest of POSCO Thainox Public Company Limited, subsidiary of the Company, and classified investments in subsidiaries as assets held for sale. The Company recognized ₩ 7,788 million of impairment loss from the difference between book value and net fair value of the interest, and finished disposal for part of it.

POSCO

Notes to the Separate Financial Statements, Continued As of December 31, 2018

11. Investments in Subsidiaries, Associates and Joint ventures

(a) Investments in subsidiaries, associates and joint ventures as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Subsidiaries	₩	12,393,106	12,129,758
Associates		634,094	639,229
Joint ventures		2,094,139	2,329,869
	₩	15,121,339	15,098,856

There are no significant restrictions on the ability of subsidiaries, associates and joint ventures to transfer funds to the controlling company, such as in the forms of cash dividends and repayment of loans or payment of advances.

(b) Details of subsidiaries and carrying amounts as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

(in millions of Won)			2018					2017
	Country	Principal operations	Number of shares	Ownership (%)	Net asset value	Acquisition cost	Book value	Book value
[Domestic]								
POSCO DAEWOO Corporation(*1)	Korea	Trading	77,606,130	62.90	₩ 2,799,146	3,610,164	3,407,110	3,610,164
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	Korea	Engineering and construction	22,073,568	52.80	2,567,002	1,014,314	1,014,314	1,014,314
POSCO ENERGY CO., LTD.	Korea	Power generation	40,234,508	89.02	1,221,038	658,176	658,176	658,176
POSCO Processing&Service	Korea	Steel sales and trading	12,568,393	93.95	526,368	385,995	385,995	385,995
POSCO COATED & COLOR STEEL Co., Ltd.	Korea	Coated steel manufacturing and sales	3,412,000	56.87	222,238	108,421	108,421	108,421
POSCO Venture Capital Co., Ltd.	Korea	Investment in venture companies	19,700,000	95.00	124,882	103,780	103,780	103,780
POSCO CHEMTECH	Korea	Refractory manufacturing and sales	35,442,000	60.00	693,809	100,535	100,535	100,535
POSCO ES MATERIALS CO.,LTD(*2)	Korea	Secondary battery active material manufacturing and sales	8,999,630	90.00	185,303	196,409	107,096	83,309
POSMATE	Korea	Business facility maintenance	902,946	59.80	182,319	73,374	73,374	73,374
POSCO ICT	Korea	Computer hardware and software distribution	99,403,282	65.38	337,892	70,990	70,990	70,990
POSCO M-TECH(*4,5)	Korea	Packing materials manufacturing and sales	20,342,460	48.85	88,251	107,278	107,278	50,857
POSCO Family Strategy Fund	Korea	Investment in venture companies	460	69.91	46,944	45,273	32,457	32,457
Busan E&E Co., Ltd.(*6)	Korea	Municipal solid waste fuel and power generation	6,029,660	70.00	48,899	30,148	30,148	30,148
Others (9 companies)	Korea				358,815	162,755	101,774	215,155
					9,402,906	6,667,612	6,301,448	6,537,675
[Foreign]								
PT. KRAKATAU POSCO	Indonesia	Steel manufacturing and sales	739,900	70.00	107,854	813,431	813,431	813,431
POSCO WA PTY LTD	Australia	Iron ore sales and mine development	617,869,589	100.00	395,539	635,736	635,736	631,625
POSCO Maharashtra Steel Private Limited	India	Steel manufacturing and sales	361,789,958	100.00	449,687	722,569	722,569	722,569
POSCO AUSTRALIA PTY LTD	Australia	Iron ore sales and mine development	761,775	100.00	453,907	330,623	330,623	330,623
Zhangjiagang Pohang Stainless Steel Co., Ltd.	China	Stainless steel manufacturing and sales	-	58.60	526,652	283,845	283,845	283,845
POSCO Thainox Public Company Limited	Thailand	Stainless steel manufacturing and sales	6,599,893,819	84.66	323,097	444,506	416,612	416,612
POSCO SS VINA Co., Ltd.(*3)	Vietnam	Steel manufacturing and sales	-	100.00	(33,935)	241,426	-	241,426
POSCO-China Holding Corp.	China	Investment management	-	100.00	509,515	593,841	593,841	240,430
POSCO-India Private Limited	India	Steel manufacturing and sales	764,999,999	99.99	78,278	184,815	75,567	75,567
POSCO MEXICO S.A. DE C.V.	Mexico	Plate steel manufacturing and sales	2,686,745,272	83.28	220,698	180,072	180,072	180,072
POSCO America Corporation	USA	Steel trading	437,941	99.45	74,035	192,156	192,156	192,156
POSCO-VIETNAM CO., Ltd.	Vietnam	Steel manufacturing and sales	-	100.00	27,699	160,572	160,572	160,572
POSCO VST CO., LTD.	Vietnam	Stainless steel manufacturing and sales	-	95.65	37,915	144,573	144,573	144,573
POSCO(Guangdong) Automotive Steel Co., Ltd.	China	Plate steel manufacturing and sales	-	83.64	92,656	130,751	130,751	130,751
POSCO COATED STEEL (THAILAND) CO., LTD	Thailand	Plate steel manufacturing and sales	36,000,000	100.00	91,078	121,592	121,592	121,592
POSCO Asia Co., Ltd.	Hong Kong	Steel and raw material trading	9,360,000	100.00	195,899	117,710	117,710	117,710
POSCO ASSAN TST STEEL INDUSTRY	Turkey	Steel manufacturing and sales	144,579,160	60.00	(50,292)	92,800	92,800	92,800
POSCO JAPAN CO., Ltd.	Japan	Steel trading	90,438	100.00	153,197	68,436	68,436	68,436
Qingdao Pohang Stainless Steel Co., Ltd.	China	Stainless steel manufacturing and sales	-	70.00	103,632	65,982	65,982	65,982
POSCO(Suzhou) Automotive Processing Center Co., Ltd.	China	Steel manufacturing and sales	-	90.00	139,132	62,494	62,494	62,494
POSCO AFRICA (PROPRIETARY) LIMITED	South Africa	Mine development	1,390	100.00	32,796	50,297	50,297	50,297
POSCO-Malaysia SDN. BHD.	Malaysia	Steel manufacturing and sales	144,772,000	81.79	(8,221)	45,479	45,479	45,479
POSCO(Guangdong) Coated Steel Co., Ltd.	China	Plate steel sheet manufacturing and sales	-	87.04	31,627	31,299	31,299	31,299
POSCO Argentina S.A.U.	Argentina	Mineral exploration, manufacturing and sales	-	100.00	347,636	349,097	349,097	-
Others (27 companies)					670,281	439,521	406,124	371,742
					4,970,362	6,503,623	6,091,658	5,592,083
					₩ 14,373,268	13,171,235	12,393,106	12,129,758

POSCO

Notes to the Separate Financial Statements, Continued As of December 31, 2018

- (*1) As of December 31, 2018, the Company performed the impairment test on shares of POSCO DAEWOO Corporation due to evidences of impairment such as continuous decrease of the fair value. Recoverable amount was determined based on its value in use, which is estimated from the present value of estimated future cash flows discounted at 7.84%. As a result of the impairment test, the Company has recognized ₩203,054 million of impairment loss on its shares due to its carrying amount that significantly exceeded its recoverable amount.
- (*2) As of December 31, 2018, the Company performed the impairment test on shares of POSCO ES MATERIALS CO., LTD due to business performance below the expectation. Recoverable amount was determined based on its value in use, which is estimated from the present value of estimated future cash flows discounted at 15.28%. As a result of the impairment test, the Company has recognized ₩ 89,313 million of impairment loss on its shares due to its carrying amount that significantly exceeded its recoverable amount.
- (*3) As of December 31, 2018, the Company performed the impairment test on shares of POSCO SS VINA Co., Ltd. due to evidences of impairment such as continuous loss. Recoverable amount was determined based on its value in use, which is estimated from the present value of estimated future cash flows discounted at 5.45%. As a result of the impairment test, the Company has recognized ₩ 241,426 million of impairment loss on its shares due to its carrying amount that significantly exceeded its recoverable amount.
- (*4) As of December 31, 2018, the fair value of POSCO M-TECH was increased significantly and the recoverable amount is estimated since there is an objective evidence of a decrease in impairment loss recognized in prior periods. Recoverable amount was determined based on fair value less cost to sell, which was calculated by the stock price as of the valuation date. The fair value measurement is classified as fair value hierarchy Level 3 considering the inputs used to measure.
- (*5) The Company classified POSCO M-TECH as a subsidiary investment in consideration of additional facts and circumstances, such as the relative size of the voting rights held by the Company and the degree of diversification of other voting rights holders, although the Company holds less than half of the voting rights of POSCO M-Tech Co., Ltd.
- (*6) As of December 31, 2018 and 2017, the investments in a subsidiary amounting to ₩ 30,148 million were provided as collateral in relation to the loan agreements of Busan E&E Co., Ltd.

POSCO

Notes to the Separate Financial Statements, Continued As of December 31, 2018

(c) Details of associates and carrying amounts as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

(in millions of Won)				2018					2017
	Country	Principal operations	Number of shares	Ownership (%)		Net asset value	Acquisition cost	Book value	Book value
[Domestic]									
EQP POSCO Global NO1	Korea	Mine investment	169,316,307,504	29.63	₩	551,977	169,316	169,316	169,316
Natural Resources PEF	Korea	STS material manufacturing and sales	18,130,000	49.00		260,427	100,655	100,655	100,655
SNNC						(11,563)	540,468	19,052	19,052
Others (6 companies)						800,841	810,439	289,023	289,023
[Foreign]									
Nickel Mining Company SAS	New Caledonia	Raw material manufacturing and sales	3,234,698	49.00		136,379	189,197	189,197	189,197
7623704 Canada Inc. (*1)	Canada	Mine investment	114,452,000	10.40		1,232,207	124,341	124,341	124,341
Zhongyue POSCO (Qinhuangdao)									
Tinplate Industrial Co., Ltd	China	Tinplate manufacturing and sales	-	24.00		49,251	11,003	11,003	11,003
Others (4 companies)						32,612	25,547	20,530	25,665
						1,450,449	350,088	345,071	350,206
					₩	2,251,290	1,160,527	634,094	639,229

(*1) As of December 31, 2018, it was classified as an associate even though the Company's ownership percentage is less than 20% of ownership since the Company has significant influence over the investee when considering its structure of the Board of Directors and others.

(d) Details of joint ventures and carrying amounts as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	Country	Principal operations	Number of shares	Ownership (%)	2018		2017	
					Net asset value	Acquisition cost	Book value	Book value
Roy Hill Holdings Pty Ltd(*1)	Australia	Mine development	10,494,377	10.00	₩ 3,623,127	1,225,464	1,225,464	1,225,464
CSP - Companhia Siderurgica do Pecem(*2)	Brazil	Steel manufacturing and sales	1,108,696,532	20.00	1,375	558,821	336,600	573,830
POSCO-NPS Niobium LLC	USA	Mine development	325,050,000	50.00	726,810	364,609	364,609	364,609
KOBRASCO	Brazil	Steel materials manufacturing and sales	2,010,719,185	50.00	266,897	98,962	98,962	98,962
Others (4 companies)					360,554	68,504	68,504	67,004
					₩ 4,978,763	2,316,360	2,094,139	2,329,869

(*1) As of December 31, 2018 and 2017, the investments in joint ventures amounting to ₩1,225,464 million were provided as collateral in relation to loans from project financing of Roy Hill Holdings Pty Ltd.

(*2) As of December 31, 2018, the Company performed the impairment test on shares of CSP - Companhia Siderurgica do Pecem due to evidences of impairment including continuous loss. Recoverable amount was determined based on its value in use, which is estimated from the present value of estimated future cash flows discounted at 8.71%. As a result of the impairment test, the Company has recognized ₩235,730 million of impairment losses on its shares due to its carrying amount that significantly exceeded its recoverable amount.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

12. Investment Property, Net

(a) Investment property as of December 31, 2018 and 2017 are as follows:

		2018			2017		
		Acquisition cost	Accumulated depreciation	Book value	Acquisition cost	Accumulated depreciation	Book value
Land	₩	44,637	-	44,637	38,035	-	38,035
Buildings		150,630	(96,353)	54,277	133,473	(83,680)	49,793
Structures		22,508	(13,207)	9,301	21,691	(12,212)	9,479
	₩	<u>217,775</u>	<u>(109,560)</u>	<u>108,215</u>	<u>193,199</u>	<u>(95,892)</u>	<u>97,307</u>

The fair value of investment property as of December 31, 2018 is ₩483,508 million.

(b) Changes in the carrying amount of investment property for the years ended December 31, 2018 and 2017 were as follows:

1) For the year ended December 31, 2018

(in millions of Won)		Beginning	Depreciation(*1)	Transfer(*2)	Ending
Land	₩	38,035	-	6,602	44,637
Buildings		49,793	(3,715)	8,199	54,277
Structures		9,479	(596)	418	9,301
	₩	<u>97,307</u>	<u>(4,311)</u>	<u>15,219</u>	<u>108,215</u>

(*1) The useful life and depreciation method of investment property are identical to those of property, plant and equipment.

(*2) Mainly includes assets transferred from property, plant and equipment in relation to change in rental ratio and the purpose of use.

2) For the year ended December 31, 2017

(in millions of Won)		Beginning	Depreciation(*1)	Transfer(*2)	Ending
Land	₩	34,213	-	3,822	38,035
Buildings		46,437	(3,308)	6,664	49,793
Structures		5,646	(585)	4,418	9,479
	₩	<u>86,296</u>	<u>(3,893)</u>	<u>14,904</u>	<u>97,307</u>

(*1) The useful life and depreciation method of investment property are identical to those of property, plant and equipment.

(*2) Mainly includes assets transferred from property, plant and equipment in relation to change in rental ratio and the purpose of use.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

13. Property, Plant and Equipment, Net

(a) Property, plant and equipment as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

(in millions of Won)

		2018					2017				
		Acquisition cost	Accumulated depreciation	Accumulated impairment	Government grants	Book value	Acquisition cost	Accumulated depreciation	Accumulated impairment	Government grants	Book value
Land	₩	1,458,632	-	-	-	1,458,632	1,474,993	-	-	-	1,474,993
Buildings		6,078,950	(3,868,189)	(11,332)	-	2,199,429	6,030,099	(3,685,001)	(10,699)	-	2,334,399
Structures		4,936,474	(2,679,134)	(13,241)	-	2,244,099	4,880,792	(2,519,411)	(9,373)	-	2,352,008
Machinery and equipment		38,000,342	(24,892,883)	(195,992)	-	12,911,467	37,370,140	(23,803,414)	(129,388)	-	13,437,338
Vehicles		205,582	(198,242)	-	-	7,340	203,522	(196,475)	-	-	7,047
Tools		201,564	(177,700)	-	-	23,864	192,138	(171,023)	-	-	21,115
Furniture and fixtures		259,885	(223,247)	(351)	-	36,287	251,722	(220,328)	(344)	-	31,050
Finance lease assets		169,094	(26,293)	-	-	142,801	88,046	(15,941)	-	-	72,105
Construction-in-progress		1,982,037	-	(846,401)	(5,221)	1,130,415	1,836,350	-	-	(5,135)	1,831,215
	₩	53,292,560	(32,065,688)	(1,067,317)	(5,221)	20,154,334	52,327,802	(30,611,593)	(149,804)	(5,135)	21,561,270

(b) Changes in the carrying amount of property, plant and equipment for the years ended December 31, 2018 and 2017 were as follows:

1) For the year ended December 31, 2018

(in millions of Won)

		Beginning	Acquisitions	Disposals	Depreciation	Impairment(*1,2)	Others(*3)	Ending
Land	₩	1,474,993	-	(9,763)	-	-	(6,598)	1,458,632
Buildings		2,334,399	11,743	(10,586)	(207,946)	(633)	72,452	2,199,429
Structures		2,352,008	9,837	(1,469)	(187,572)	(3,868)	75,163	2,244,099
Machinery and equipment		13,437,338	64,645	(47,128)	(1,677,476)	(88,642)	1,222,730	12,911,467
Vehicles		7,047	412	-	(5,197)	-	5,078	7,340
Tools		21,115	6,076	(3)	(10,785)	-	7,461	23,864
Furniture and fixtures		31,050	1,708	(39)	(8,231)	(7)	11,806	36,287
Finance lease assets		72,105	81,048	-	(10,352)	-	-	142,801
Construction-in-progress		1,831,215	1,608,023	-	-	(846,401)	(1,462,422)	1,130,415
	₩	21,561,270	1,783,492	(68,988)	(2,107,559)	(939,551)	(74,330)	20,154,334

(*1) During 2018, the Company evaluated future economic performance of its Synthetic Natural Gas (SNG) facility that was still in trial run stage. Considering the continuous decline in LNG price, increase in coal prices and the need for additional capital investment in the SNG facility, the Company concluded that the profitability for the SNG facility is unlikely to be sustainable and decided to terminate the operation of SNG facility as of December 31, 2018. The property, plant and equipment in the SNG facility are primarily comprised of machinery and equipment, among which assets with a carrying value of ₩180,238 million are expected to be re-used in other facilities of the Company therefore no impairment test was conducted. For the remaining assets impairment test was performed by estimating the recoverable amount of each individual assets. For the assets which are determined to be technically obsolete and therefore sale is unlikely, recoverable amount represents expected scrap value less cost of disposal.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

For the assets for which sale is probable, the recoverable amount is determined based on fair value less cost of disposal. Fair value was measured using cost approach, which is based on estimated the current cost to purchase or replace the asset less applicable depreciation and obsolescence. Specifically, the Company used indirect cost approach to estimate the replacement cost for a new asset by applying asset specific inflation factors to the asset's historical cost. Then the Company estimates and deducts depreciation for physical deterioration. Depreciation factors are applied primarily based on estimated useful life of the asset and declining balance depreciation method. The fair value measurement of assets in SNG facility is considered to be level 3 because significant inputs used in the estimate, such as asset specific inflation factors and estimated useful lives, are unobservable.

As a result of the impairment test, the Company recognized an impairment loss of ₩877,764 million in connection with the property, plant and equipment in the SNG facility.

- (*2) The Company has recognized an impairment loss amounting to ₩61,787 million since recoverable amount on Strip Casting facilities and others is less than its carrying amount for the period ended December 31, 2018.
- (*3) Represents assets transferred from construction-in-progress to intangible assets and other property, plant and equipment, assets transferred to investment properties, and others.

2) For the year ended December 31, 2017

<i>(in millions of Won)</i>	Beginning	Acquisitions	Disposals	Depreciation	Impairment(*1)	Others(*2)	Ending
Land	₩ 1,472,419	-	(4,970)	-	-	7,544	1,474,993
Buildings	2,451,009	2,324	(4,129)	(217,381)	-	102,576	2,334,399
Structures	2,464,391	5,712	(1,876)	(188,449)	(29)	72,259	2,352,008
Machinery and equipment	13,577,042	71,692	(77,575)	(1,649,668)	(17,619)	1,533,466	13,437,338
Vehicles	11,316	521	-	(7,117)	-	2,327	7,047
Tools	23,244	3,891	(8)	(11,289)	(3)	5,280	21,115
Furniture and fixtures	33,890	3,793	(29)	(9,063)	-	2,459	31,050
Finance lease assets	77,848	-	-	(5,743)	-	-	72,105
Construction-in-progress	2,146,250	1,513,388	-	-	-	(1,828,423)	1,831,215
	₩ 22,257,409	1,601,321	(88,587)	(2,088,710)	(17,651)	(102,512)	21,561,270

- (*1) The Company has recognized impairment losses since recoverable amount on Fe powder factory and ULPC facilities were less than their carrying amount for the year ended December 31, 2017.
- (*2) Represents assets transferred from construction-in-progress to intangible assets and other property, plant and equipment, assets transferred from investment properties, and others.

- (c) Borrowing costs capitalized and the capitalized interest rate for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>	2018	2017
Weighted average expenditure	₩ 444,586	740,490
Borrowing costs capitalized	15,736	24,706
Capitalization rate	3.54%	3.34%

POSCO

Notes to the Separate Financial Statements, Continued As of December 31, 2018

14. Intangible Assets, Net

(a) Intangible assets as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018				2017			
		Acquisition cost	Accumulated amortization	Accumulated impairment	Book value	Acquisition cost	Accumulated amortization	Accumulated impairment	Book value
Intellectual property rights	₩	45,423	(21,046)	-	24,377	40,995	(16,818)	-	24,177
Membership		76,806	-	(3,623)	73,183	51,276	-	(2,999)	48,277
Development expense		399,001	(307,243)	-	91,758	348,326	(273,521)	-	74,805
Port facilities usage rights		725,151	(419,441)	-	305,710	706,480	(396,441)	-	310,039
Construction-in-progress		58,561	-	-	58,561	55,292	-	-	55,292
Other intangible assets		362,493	(259,028)	(11,832)	91,633	285,010	(257,704)	(11,822)	15,484
	₩	<u>1,667,435</u>	<u>(1,006,758)</u>	<u>(15,455)</u>	<u>645,222</u>	<u>1,487,379</u>	<u>(944,484)</u>	<u>(14,821)</u>	<u>528,074</u>

(b) Changes in the carrying amount of intangible assets for the years ended December 31, 2018 and 2017 were as follows:

1) For the year ended December 31, 2018

(in millions of Won)

		Beginning	Acquisitions	Disposals	Amortization	Impairment(*2)	Transfer(*3)	Ending
Intellectual property rights	₩	24,177	-	(401)	(5,041)	-	5,642	24,377
Membership(*1)		48,277	26,869	(573)	-	(1,007)	(383)	73,183
Development expense		74,805	1,901	-	(33,997)	-	49,049	91,758
Port facilities usage rights		310,039	-	-	(23,001)	-	18,672	305,710
Construction-in-progress		55,292	59,257	-	-	-	(55,988)	58,561
Other intangible assets		15,484	75,676	-	(7,062)	(10)	7,545	91,633
	₩	<u>528,074</u>	<u>163,703</u>	<u>(974)</u>	<u>(69,101)</u>	<u>(1,017)</u>	<u>24,537</u>	<u>645,222</u>

(*1) Economic useful life of membership is indefinite.

(*2) The Company has recognized impairment losses on some other intangible assets since the recoverable amounts were less than carrying amounts.

(*3) Represents assets transferred from construction-in-progress to intangible assets and assets transferred from property, plant and equipment, and others.

2) For the year ended December 31, 2017

(in millions of Won)

		Beginning	Acquisitions	Disposals	Amortization	Impairment(*2)	Transfer(*3)	Ending
Intellectual property rights	₩	22,671	-	(447)	(4,339)	-	6,292	24,177
Membership(*1)		48,512	-	(235)	-	-	-	48,277
Development expense		102,785	2,021	-	(61,037)	-	31,036	74,805
Port facilities usage rights		257,348	-	-	(19,990)	-	72,681	310,039
Construction-in-progress		52,925	62,200	-	-	-	(59,833)	55,292
Other intangible assets		24,649	1,573	(2)	(6,237)	(11,822)	7,323	15,484
	₩	<u>508,890</u>	<u>65,794</u>	<u>(684)</u>	<u>(91,603)</u>	<u>(11,822)</u>	<u>57,499</u>	<u>528,074</u>

(*1) Economic useful life of membership is indefinite.

(*2) The Company has recognized impairment losses on some other intangible assets since the recoverable amounts were less than carrying amounts.

(*3) Represents assets transferred from construction-in-progress to intangible assets and assets transferred from property, plant and equipment, and others.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

15. Other Assets

Other current assets and other long-term assets as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Current			
Advance payments	₩	4,157	7,156
Prepaid expenses		19,385	20,751
	₩	<u>23,542</u>	<u>27,907</u>
Non-current			
Long-term prepaid expenses	₩	5,089	5,395
Others(*1)		53,184	92,424
	₩	<u>58,273</u>	<u>97,819</u>

(*1) As of December 31, 2018 and 2017, the Company recognized tax assets amounting to ₩50,112 million and ₩88,633 million, respectively, based on the Company's best estimate of the tax amounts to be refunded when the result of the Company's appeal in connection with the additional income tax payment in prior years tax audits are finalized.

16. Borrowings

(a) Borrowings as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Short-term borrowings			
Short-term borrowings	₩	476,612	383,976
Current portion of long-term borrowings		375	2,715
Current portion of debentures		350,000	849,644
Less: Current portion of discount on debentures issued		(125)	(628)
	₩	<u>826,862</u>	<u>1,235,707</u>
Long-term borrowings			
Long-term borrowings	₩	1,141	1,468
Debentures		3,456,367	2,672,327
Less: Discount on debentures issued		(13,400)	(8,278)
	₩	<u>3,444,108</u>	<u>2,665,517</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Short-term borrowings as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	Lenders	Issuance date	Maturity date	Annual interest rate (%)	2018	2017
Short-term borrowings	Korea Development Bank	2018.12.11	2019.05.11	2.26	300,000	300,000
Transfers of account receivables that do not qualify for derecognition	-	-	-	-	176,612	83,976
					<u>₩ 476,612</u>	<u>383,976</u>

(c) Current portion of long-term borrowings as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	Lenders	Issuance date	Maturity date	Annual interest rate (%)	2018	2017
Borrowings	Woori Bank	2011.04.28	2019.03.15	1.75	₩ 375	2,715
Debentures	Domestic debentures 307-1	2016.05.03	2019.05.03	1.76	349,875	469,736
Foreign debentures	-	-	-	-	-	379,280
					<u>₩ 350,250</u>	<u>851,731</u>

(d) Long-term borrowings excluding current portion, as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	Lenders	Issuance date	Maturity date	Annual interest rate (%)	2018	2017
Borrowings	-	-	-	-	₩ -	375
Foreign borrowings	KOREA ENERGY AGENCY	2007.12.27~ 2008.12.29	2022.12.29	3 year Government bond	1,141	1,093
Debentures	Domestic debentures 304-2 and others	2011.11.28~ 2018.07.05	2020.10.04~ 2023.10.04	1.88~4.12	1,177,704	1,028,258
Foreign debentures	Japan Yen private bond and others	2010.10.28~ 2018.08.01	2020.10.28~ 2023.08.01	2.70~5.25	2,265,263	1,635,791
					<u>₩ 3,444,108</u>	<u>2,665,517</u>

17. Other Payables

Other payables as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Current			
Accounts payable	₩	590,424	460,427
Accrued expenses		434,379	379,797
Dividend payable		2,764	4,671
Finance lease liabilities		10,116	6,003
Withholdings		35,050	11,637
	₩	<u>1,072,733</u>	<u>862,535</u>
Non-current			
Long-term accrued expenses	₩	10,964	9,625
Finance lease liabilities		131,646	65,500
Long-term withholdings		1,733	3,356
	₩	<u>144,343</u>	<u>78,481</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

18. Other Financial Liabilities

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

(in millions of Won)

		2018	2017
Current			
Derivative liabilities	₩	-	9,632
Financial guarantee liabilities		12,638	13,532
	₩	<u>12,638</u>	<u>23,164</u>
Non-current			
Derivative liabilities	₩	34,743	74,834
Financial guarantee liabilities		45,193	54,342
	₩	<u>79,936</u>	<u>129,176</u>

19. Provisions

(a) Provisions as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

(in millions of Won)

		2018		2017	
		Current	Non-current	Current	Non-current
Provision for bonus payments(*1,2)	₩	9,786	26,963	5,893	-
Provision for restoration(*3)		9,379	20,324	12,273	17,198
Provision for legal contingencies and claims(*4)		-	46,432	-	2,052
	₩	19,165	93,719	18,166	19,250

(*1) Represents the provision for bonuses limited to 67% of annual salaries for executives.

(*2) The Company estimated the present value of estimated future cash payments about the long-term service reward, based on actuarial measurement and has recognized ₩ 29,126 million of provisions.

(*3) Due to contamination of land near the Company's magnesium smelting plant located in Gangneung province and others, the Company recognized present values of estimated costs for recovery as provisions for restoration as of December 31, 2018. In order to determine the estimated costs, the Company has assumed that it would use all of technologies and materials available for now to recover the land. In addition, the Company has applied discount rates of 2.28%~2.37% to assess present value of these costs.

(*4) The Company has recognized provisions for certain litigations and other contingencies for the year ended December 31, 2018.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Changes in provisions for the years ended December 31, 2018 and 2017 were as follows:

1) For the year ended December 31, 2018

(in millions of Won)

	<u>Beginning</u>	<u>Increase</u>	<u>Utilization</u>	<u>Ending</u>
Provision for bonus payments	₩ 5,893	45,827	(14,971)	36,749
Provision for restoration	29,471	9,097	(8,865)	29,703
Provision for legal contingencies and claims	2,052	44,380	-	46,432
	<u>₩ 37,416</u>	<u>99,304</u>	<u>(23,836)</u>	<u>112,884</u>

2) For the year ended December 31, 2017

(in millions of Won)

	<u>Beginning</u>	<u>Increase</u>	<u>Reversal</u>	<u>Utilization</u>	<u>Ending</u>
Provision for bonus payments	₩ 3,985	22,300	-	(20,392)	5,893
Provision for restoration	37,178	822	-	(8,529)	29,471
Provision for legal contingencies and claims	2,497	-	(419)	(26)	2,052
	<u>₩ 43,660</u>	<u>23,122</u>	<u>(419)</u>	<u>(28,947)</u>	<u>37,416</u>

20. Employee Benefits

(a) Defined contribution plans

The expense related to post-employment benefit plans under defined contribution plans for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

	<u>2018</u>	<u>2017</u>
Expense related to post-employment benefit plans under defined contribution plans	₩ 31,324	26,227

(b) Defined benefit plans

1) The amounts recognized in relation to net defined benefit liabilities in the statements of financial position as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	<u>2018</u>	<u>2017</u>
Present value of funded obligations	₩ 1,265,675	1,108,876
Fair value of plan assets	(1,264,812)	(1,108,833)
Net defined benefit liabilities	<u>₩ 863</u>	<u>43</u>

POSCO

Notes to the Separate Financial Statements, Continued As of December 31, 2018

- 2) Changes in present value of defined benefit obligations for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Defined benefit obligation at the beginning of period	₩	1,108,876	1,065,255
Current service costs		111,033	115,113
Interest costs		33,757	19,468
Remeasurement :		132,868	25,425
- Gain from change in financial assumptions		113,977	(53,949)
- Loss (gain) from change in demographic assumptions		-	19,428
- Loss from change in others		18,891	59,946
Amount transferred from associate		241	-
Benefits paid		(121,100)	(116,385)
Defined benefit obligation at the end of period	₩	<u>1,265,675</u>	<u>1,108,876</u>

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

<i>(in millions of Won)</i>		2018	2017
Fair value of plan assets at the beginning of period	₩	1,108,833	1,146,876
Interest on plan assets		33,756	31,697
Remeasurement of plan assets		(13,416)	(11,643)
Contributions to plan assets		240,440	49,963
Benefits paid		(104,801)	(108,060)
Fair value of plan assets at the end of period	₩	<u>1,264,812</u>	<u>1,108,833</u>

The Company expects to make an estimated contribution of ₩241,000 million to the defined benefit plan assets in 2019.

- 4) The fair value of plan assets as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Debt instruments	₩	511,406	352,413
Deposits		748,230	747,590
Others		5,176	8,830
	₩	<u>1,264,812</u>	<u>1,108,833</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- 5) The amounts recognized in the statements of comprehensive income for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

	2018	2017
Current service costs	₩ 111,033	115,113
Net interest costs(*1)	1	(12,229)
	<u>₩ 111,034</u>	<u>102,884</u>

- (*1) The actual return on plan assets amounted to ₩20,340 million and ₩20,054 million for the years ended December 31, 2018 and 2017, respectively.

The above expenses by function were as follows:

(in millions of Won)

	2018	2017
Cost of sales	₩ 83,615	74,040
Selling and administrative expenses	26,367	27,974
Others	1,052	870
	<u>₩ 111,034</u>	<u>102,884</u>

- 6) Remeasurements of defined benefit plans, net of tax recognized in other comprehensive income (loss) for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

	2018	2017
Beginning	₩ (182,571)	(162,784)
Remeasurements of defined benefit plans	(146,284)	(37,068)
Tax effects	40,228	17,281
Ending	<u>₩ (288,627)</u>	<u>(182,571)</u>

- 7) The principal actuarial assumptions as of December 31, 2018 and 2017 are as follows:

	2018	2017
Discount rate	2.60%	3.10%
Expected future increases in salaries(*1)	4.60%	3.72%

- (*1) The expected future increases in salaries are based on the average salary increase rate for the past five years.

All assumptions are reviewed at the end of the reporting period. Additionally, the total estimated defined benefit obligation includes actuarial assumptions associated with the long-term characteristics of the defined benefit plan.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- 8) Reasonably possible changes at the reporting date to one of the relevant actuarial assumption, holding the other assumptions constant, would have affected the defined benefit obligation by the amounts shown below:

(in millions of Won)

		1% Increase		1% Decrease	
		Amount	Percentage (%)	Amount	Percentage (%)
Discount rate	₩	(86,515)	(6.8)	102,558	8.1
Expected future increases in salaries		104,279	8.2	(89,498)	(7.1)

- 9) As of December 31, 2018 the maturity of the expected benefit payments are as follows:

(in millions of Won)		Within 1 year	1 year - 5 years	5 years - 10 years	10 years - 20 years	After 20 years	Total
Benefits to be paid	₩	41,423	437,842	535,142	343,227	174,488	1,532,122

The maturity analysis of the defined benefit obligation were nominal amounts of defined benefit obligations using expected remaining period of service of employees.

21. Other Liabilities

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

(in millions of Won)

		2018	2017
Current			
Advances received	₩	9,902	27,358
Withholdings		25,034	25,556
Unearned revenue		19,870	1,488
	₩	<u>54,806</u>	<u>54,402</u>
Non-current			
Unearned revenue	₩	15,264	14,292

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

22. Financial Instruments

(a) Classification and fair value of financial instruments

- 1) The carrying amount and the fair values of financial assets and financial liabilities by fair value hierarchy as of December 31, 2018 and 2017 are as follows:

① December 31, 2018

(in millions of Won)

(in millions of Won)

			Fair value			
	Book value		Level 1	Level 2	Level 3	Total
Financial assets						
Fair value through profit or loss						
Derivate assets	₩ 1,265	-		1,265	-	1,265
Short-term financial instruments	5,776,407	-		5,776,407	-	5,776,407
Debt securities	8,050	-		-	8,050	8,050
Other securities	61,701	-		-	61,701	61,701
Other receivables	2,000	-		-	2,000	2,000
Fair value through other comprehensive income						
Equity securities	1,104,092	874,772		-	229,320	1,104,092
Debt securities	1,638	-		-	1,638	1,638
Financial assets measured at amortized cost(*1)						
Cash and cash Equivalents	259,219	-		-	-	-
Trade accounts and notes receivable	3,967,091	-		-	-	-
Other receivables	158,256	-		-	-	-
Deposit instruments	1,248,747	-		-	-	-
	₩ 12,588,466		874,772	5,777,672	302,709	6,955,153
Financial liabilities						
Fair value through profit or loss						
Derivative liabilities	₩ 34,743	-		34,743	-	34,743
Financial liabilities measured at amortized cost(*1)						
Trade accounts and notes payable	1,106,226	-		-	-	-
Borrowings	4,270,970	-		4,398,178	-	4,398,178
Financial guarantee liabilities	57,831	-		-	-	-
Others	1,206,529	-		-	-	-
	₩ 6,676,299		-	4,432,921	-	4,432,921

(*1) Fair value of financial assets and liabilities measured at amortized cost except borrowings approximates carrying amounts.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

② December 31, 2017

(in millions of Won)

	Book value	Fair value			Total
		Level 1	Level 2	Level 3	
Financial assets					
Available-for-sale financial assets	₩ 1,395,589	1,096,288	-	299,301	1,395,589
Loans and receivables(*1)					
Cash and cash Equivalents	332,405	-	-	-	-
Trade accounts and notes receivable	3,874,929	-	-	-	-
Loans and other receivables	5,984,127	-	-	-	-
	₩ 11,587,050	1,096,288	-	299,301	1,395,589
Financial liabilities					
Financial liabilities at fair value through profit or loss					
Derivative liabilities	₩ 84,466	-	84,466	-	84,466
Financial liabilities measured at amortized cost(*1)					
Trade accounts and notes payable	1,025,027	-	-	-	-
Borrowings	3,901,224	-	4,041,204	-	4,041,204
Financial guarantee liabilities	67,874	-	-	-	-
Others	932,405	-	-	-	-
	₩ 6,010,996	-	4,125,670	-	4,125,670

(*1) Fair value of financial assets and liabilities measured at amortized cost except borrowings approximates carrying amounts.

2) Financial assets and financial liabilities classified as fair value hierarchy Level 2

Fair values of financial instruments are calculated based on the derivatives instrument valuation model such as market approach method and discounted cash flow method. Inputs of the financial instrument valuation model include interest rate, exchange rate, spot price of underlying assets, volatility and others. It may change depending on the type of derivatives and the nature of the underlying assets.

3) Financial assets and financial liabilities classified as fair value hierarchy Level 3

① Value measurement method and significant but not observable inputs for the financial assets classified as fair value hierarchy Level 3 as of December 31, 2018 are as follows:

(in millions of Won)

	Fair value	Valuation technique	Inputs	Range of inputs	Effect on fair value assessment
					with unobservable input
Financial assets	₩ 182,993	Discounted cash flows	Discount rate	10.20%	As discount rate increases, fair value decreases
at fair value	119,716	Asset value approach	-	-	-

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- ② Sensitivity analysis of financial assets and financial liabilities classified as Level 3 of fair value hierarchy

If other inputs remain constant as of December 31, 2018 and one of the significant but not observable input is changed, the effect on fair value measurement is as follows:

<i>(in millions of Won)</i>			Favorable changes	Unfavorable changes
	Input variable			
Financial assets at fair value	Fluctuation 0.5 % of discount rate	₩	12,883	11,775

- ③ Changes in fair value of financial assets and financial liabilities classified as Level 3 for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Beginning	₩	299,301	204,080
Acquisition		-	166,407
Gain or loss on valuation of financial assets		2,257	(10,346)
Other comprehensive income (loss)		37,598	32,532
Impairment		-	(91,898)
Disposal and others		(36,447)	(1,474)
Ending	₩	<u>302,709</u>	<u>299,301</u>

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Notes to the Separate Financial Statements, Continued

As of December 31, 2018

- 4) Financial liabilities were recognized in connection with financial guarantee contracts as of December 31, 2018. The details of the amount of guarantees provided are as follows:

(in millions of Won)

Guarantee beneficiary	Financial institution	Guarantee limit		Guarantee amount	
		Foreign currency	Won equivalent	Foreign currency	Won equivalent
POSCO Maharashtra Steel Private Limited	Export-Import Bank of Korea	USD 180,000,000	201,258	36,000,000	40,251
	HSBC	USD 80,000,000	89,448	16,000,000	17,890
	DBS	USD 100,000,000	111,810	20,000,000	22,362
	SCB	USD 66,853,000	74,748	40,397,800	45,169
	ING	USD 50,000,000	55,905	50,000,000	55,905
POSCO ASSAN TST STEEL INDUSTRY	Citi	USD 30,000,000	33,543	6,000,000	6,708
	SMBC	USD 62,527,500	69,912	56,274,750	62,921
	ING	USD 60,000,000	67,086	54,000,000	60,377
	BNP	USD 24,000,000	26,834	21,600,000	24,151
	BOC	USD 50,000,000	55,905	50,000,000	55,905
POSCO Asia Co., Ltd.	Credit Agricole	USD 50,000,000	55,905	50,000,000	55,905
	SMBC	USD 40,000,000	44,724	40,000,000	44,724
	CITI BANAMEX	USD 40,000,000	44,724	40,000,000	44,724
	BOA	USD 30,000,000	33,543	30,000,000	33,543
	BTMU	USD 30,000,000	33,543	30,000,000	33,543
POSCO SS VINA Co., Ltd.	ING	USD 20,000,000	22,362	20,000,000	22,362
	Export-Import Bank of Korea	USD 249,951,050	279,470	193,722,717	216,601
	BOA	USD 40,000,000	44,724	30,976,000	34,634
	BTMU	USD 40,000,000	44,724	30,976,000	34,634
	DBS	USD 24,400,000	27,282	18,895,360	21,127
POSCO-VIETNAM Co., Ltd.	BTMU	USD 26,000,000	29,071	26,000,000	29,071
	SMBC	USD 50,000,000	55,905	50,000,000	55,905
	Credit Agricole	USD 40,000,000	44,724	40,000,000	44,724
	Citi	USD 20,000,000	22,362	20,000,000	22,362
	MIZUHO	USD 20,000,000	22,362	20,000,000	22,362
PT. KRAKATAU POSCO	Export-Import Bank of Korea	USD 567,000,000	633,963	462,337,014	516,939
	SMBC	USD 140,000,000	156,534	114,331,913	127,835
	BTMU	USD 119,000,000	133,054	95,613,913	106,906
	SCB	USD 107,800,000	120,531	88,459,913	98,906
	MIZUHO	USD 105,000,000	117,400	84,365,217	94,329
	Credit Suisse AG	USD 91,000,000	101,747	73,116,522	81,752
	HSBC	USD 91,000,000	101,747	73,116,522	81,752
	ANZ	USD 73,500,000	82,180	60,900,609	68,093
	BOA	USD 35,000,000	39,134	28,121,739	31,443
	The Tokyo Star Bank, Ltd	USD 21,000,000	23,480	16,873,043	18,866
POSCO COATED STEEL (THAILAND) CO., LTD.	The Great & Co.	THB 5,501,000,000	188,959	5,501,000,000	188,959
	SMBC	USD 15,000,000	16,772	15,000,000	16,772
	Export-Import Bank of Korea	USD 182,000,000	203,494	171,344,336	191,580
	Santander	USD 47,600,000	53,222	44,322,524	49,557
	BNP	USD 47,600,000	53,222	44,322,524	49,557
	MIZUHO	USD 47,600,000	53,222	44,322,524	49,557
	Credit Agricole	USD 20,000,000	22,362	18,622,913	20,822
	SOCIETE GENERALE	USD 20,000,000	22,362	18,622,913	20,822
	KfW	USD 20,000,000	22,362	18,622,913	20,822
	BBVA Seoul	USD 17,600,000	19,678	16,388,154	18,324
LLP POSUK Titanium CSP - Compania Siderurgica do Pecem	ING	USD 17,600,000	19,678	16,388,154	18,324
	BNDES	BRL 464,060,000	133,686	462,554,370	133,253
	SMBC	EUR 46,000,000	58,841	46,000,000	58,841
		USD 3,209,031,550	3,588,018	2,496,035,987	2,790,818
		EUR 46,000,000	58,841	46,000,000	58,841
		THB 5,501,000,000	188,959	5,501,000,000	188,959
		BRL 464,060,000	133,686	462,554,370	133,253
Nickel Mining Company SAS					

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- 5) Finance income and costs by category of financial instrument for the years ended December 31, 2018 and 2017 were as follows:

① For the year ended December 31, 2018

(in millions of Won)

	Finance income and costs						Other comprehensive income (loss)
	Interest income (expense)	Dividend income(*1)	Gain and loss on foreign currency	Gain and loss on disposal	Gain and loss on valuation	Others	
Financial assets at fair value through profit or loss	₩ 131,903	-	-	1,199	3,522	-	136,624
Financial assets at fair value through other comprehensive income	-	76,829	-	-	-	-	76,829
Financial assets measured at amortized cost	27,769	-	12,660	-	-	-	40,429
Financial liabilities at fair value through profit or loss	-	-	-	11,420	40,090	-	51,510
Financial liabilities measured at amortized cost	(143,233)	-	(129,124)	-	-	7,860	(264,497)
	₩ 16,439	76,829	(116,464)	12,619	43,612	7,860	40,895
							(131,646)

- (*1) Finance income in the statement of comprehensive income includes the dividends from subsidiaries, associates and joint ventures of ₩130,719 million for the year ended December 31, 2018.

② For the year ended December 31, 2017

(in millions of Won)

	Finance income and costs						Other comprehensive income (loss)
	Interest income (expense)	Dividend income(*1)	Gain and loss on foreign currency	Gain and loss on disposal	Impairment loss	Others	
Financial assets at fair value through profit or loss	₩ -	-	-	-	-	(80,959)	(80,959)
Available-for-sale financial assets	55	35,223	-	421,559	(94,350)	-	362,487
Loans and receivables	94,083	-	(158,090)	-	-	(2,745)	(66,752)
Financial liabilities at fair value through profit or loss	-	-	-	-	-	(84,466)	(84,466)
Financial liabilities measured at amortized cost	(116,558)	-	330,525	-	-	9,524	223,491
	₩ (22,420)	35,223	172,435	421,559	(94,350)	(158,646)	353,801
							(50,850)

- (*1) Finance income in the statement of comprehensive income includes the dividends from subsidiaries, associates and joint ventures of ₩122,684 million for the year ended December 31, 2017.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Credit risk

1) Credit risk exposure

The carrying amount of financial assets represents the Company's maximum exposure to credit risk. The maximum exposure to credit risk as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Cash and cash equivalents	₩	259,219	332,405
Derivative assets		1,265	-
Short-term financial instrument		5,776,407	5,155,702
Debt securities		9,688	-
Other securities		61,701	-
Available-for-sale financial assets		-	10,805
Other receivables		160,256	162,313
Trade accounts and notes receivable		3,967,091	3,874,929
Bank deposit		1,248,747	666,112
	₩	<u>11,484,374</u>	<u>10,202,266</u>

The Company provided financial guarantee for the repayment of loans of subsidiaries, associates, and joint ventures. As of December 31, 2018 and 2017, the maximum exposure to credit risk caused by financial guarantee amounted to ₩3,171,871 million and ₩3,497,038 million, respectively.

2) Impairment losses on financial assets

The Company assesses the expected credit loss on trade accounts and notes receivable, and other receivables by estimating the default rates based on the following three years of credit loss experience and overdue conditions. The Company assesses the credit loss individually for credit-impaired assets and some other receivables.

① Allowance for doubtful accounts as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Trade accounts and notes receivable	₩	22,575	19,941
Other accounts receivable		5,584	11,970
Loans		11,265	7,968
	₩	<u>39,424</u>	<u>39,879</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- ② Impairment losses on financial assets for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Bad debt expenses	₩	3,661	18,133
Impairment loss on available-for-sale securities		-	94,350

- ③ The aging and allowance for doubtful accounts of trade accounts and notes receivable as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018		2017	
		Trade accounts and notes receivable	Allowance for doubtful accounts	Trade accounts and notes receivable	Allowance for doubtful accounts
Not due	₩	3,786,143	1,291	3,809,914	705
Over due less than 1 month		186,676	4,607	47,566	1,193
1 month - 3 months		153	5	4,525	160
3 months - 12 months		791	23	14,630	911
Over 12 months		24,857	16,649	23,794	16,972
	₩	<u>3,998,620</u>	<u>22,575</u>	<u>3,900,429</u>	<u>19,941</u>

- ④ The aging and allowance for doubtful accounts of loans and other account receivable as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018		2017	
		Loans and other account receivable	Allowance for doubtful accounts	Loans and other account receivable	Allowance for doubtful accounts
Not due	₩	140,271	8,327	121,311	8,057
Over due less than 1 month		106	-	8,495	-
1 month - 3 months		163	-	90	-
3 months - 12 months		2,950	2,950	479	45
Over 12 months		5,635	5,572	26,505	11,836
	₩	<u>149,125</u>	<u>16,849</u>	<u>156,880</u>	<u>19,938</u>

- ⑤ Changes in the allowance for doubtful accounts for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Beginning	₩	39,879	21,228
Initial application of K-IFRS No. 1109		70	-
Bad debt expenses		3,661	18,133
Others		(4,186)	518
Ending	₩	<u>39,424</u>	<u>39,879</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(c) Liquidity risk

Contractual maturities for non-derivative financial liabilities, including estimated interest, are as follows:

(in millions of Won)

	Book value	Contractual cash flow	Within 3 months	3 months - 6 months	6 months - 1 year	1 year - 5 years	After 5 years
Trade accounts and notes payable	₩ 1,106,226	1,106,226	1,106,226	-	-	-	-
Borrowings	4,270,970	4,632,052	160,311	700,302	28,597	3,742,842	-
Financial guarantee liabilities(*1)	57,831	3,171,871	3,171,871	-	-	-	-
Other financial liabilities	1,241,272	1,276,348	1,023,197	6,141	47,304	176,350	23,356
	₩ 6,676,299	10,186,497	5,461,605	706,443	75,901	3,919,192	23,356

(*1) For issued financial guarantee contracts, the maximum amount of the guarantee is allocated to the earliest period in which the guarantee could be called.

(d) Currency risk

1) The Company has exposure to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of the changes in foreign exchange rates. The exposure to currency risk as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018		2017	
		Assets	Liabilities	Assets	Liabilities
USD	₩	982,856	2,742,712	892,188	1,892,720
JPY		18,809	170,291	127,956	530,150
CNY		351,550	891	316,243	371
INR		427,151	-	395,585	-
Others		260,553	7,856	267,270	60,552
	₩	2,040,919	2,921,750	1,999,242	2,483,793

2) As of December 31, 2018 and 2017, provided that functional currency against foreign currencies other than functional currency hypothetically strengthens or weakens by 10%, the changes in gain or loss for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

		2018		2017	
		10% increase	10% decrease	10% increase	10% decrease
USD	₩	(175,986)	175,986	(100,053)	100,053
JPY		(15,148)	15,148	(40,219)	40,219
CNY		35,066	(35,066)	31,587	(31,587)
INR		42,715	(42,715)	39,559	(39,559)

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(e) Interest rate risk

- 1) The carrying amount of interest-bearing financial instruments as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

		2018	2017
Fixed rate			
Financial assets	₩	7,312,049	6,179,401
Financial liabilities		(4,411,216)	(3,968,544)
	₩	<u>2,900,833</u>	<u>2,210,857</u>
Variable rate			
Financial liabilities	₩	(1,516)	(4,183)

- 2) Sensitivity analysis on the cash flows of financial instruments with variable interest rate

The Company's interest rate risk mainly arises from borrowings with variable interest rate. As of December 31, 2018 and 2017, provided that other factors remain the same and the interest rate of borrowings with floating rates increases or decreases by 1%, the changes in interest expense for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

(in millions of Won)		2018		2017	
		1% increase	1% decrease	1% increase	1% decrease
Variable rate					
financial instruments	₩	(15)	15	(42)	42

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

23. Share Capital and Capital Surplus

(a) Share capital as of December 31, 2018 and 2017 are as follows:

<i>(in Won, except per share information)</i>		2018	2017
Authorized shares		200,000,000	200,000,000
Par value	₩	5,000	5,000
Issued shares(*1)		87,186,835	87,186,835
Shared capital(*2)	₩	482,403,125,000	482,403,125,000

(*1) As of December 31, 2018, total shares of ADRs of 36,860,288 are equivalent to 9,215,072 of common stock.

(*2) As of December 31, 2018, the difference between the ending balance of common stock and the par value of issued common stock is ₩46,469 million due to retirement of 9,293,790 treasury stocks.

(b) The changes in issued common stock for the years ended December 31, 2018 and 2017 were as follows:

<i>(Share)</i>	2018			2017		
	Issued shares	Treasury shares	Number of outstanding shares	Issued shares	Treasury shares	Number of outstanding shares
Beginning	87,186,835	(7,187,231)	79,999,604	87,186,835	(7,189,170)	79,997,665
Disposal of treasury shares	-	1,528	1,528	-	1,939	1,939
Ending	87,186,835	(7,185,703)	80,001,132	87,186,835	(7,187,231)	79,999,604

(c) Capital surplus as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>	2018	2017
Share premium	₩ 463,825	463,825
Gain on disposal of treasury shares	784,047	783,914
Loss from merger	(91,310)	(91,310)
Loss on disposal of hybrid bonds	(1,787)	-
	₩ 1,154,775	1,156,429

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

24. Hybrid Bonds

(a) Hybrid bonds classified as equity as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>	Date of issue	Date of maturity	Rate of interest (%)		2018	2017
Hybrid bond 1-1(*1)	-	-	-	₩	-	800,000
Hybrid bond 1-2(*2)	2013-06-13	2043-06-13	4.60		200,000	200,000
Issuance cost					(616)	(3,081)
				₩	<u>199,384</u>	<u>996,919</u>

(*1) During the year ended December 31, 2018, the Company exercised call option of the hybrid bond.

(*2) Details of hybrid bonds as of December 31, 2018 are as follows:

	Hybrid bond 1-2
Maturity date	30 years (The Company has a right to extend the maturity date)
Interest rate	Issue date ~ 2023-06-12 : 4.60% Reset every 10 years as follows; · After 10 years : return on government bond (10 years) + 1.40% · After 10 years : additionally + 0.25% according to Step-up clauses · After 30 years : additionally + 0.75%
Interest payments condition	Quarterly (Optional deferral of interest payment is available to the Company)
Others	The Company can call the hybrid bond at year 10 and interest payment date afterwards

The hybrid bond holders' preference in the event of liquidation is higher than the common stock holders, but lower than other creditors. The interest accumulated but not paid on the hybrid bonds as of December 31, 2018 amounts to ₩479 million.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

25. Reserves

(a) Reserves as of December 31, 2018 and 2017 are as follows:

<i>(in millions of Won)</i>		2018	2017
Changes in fair value of equity investments			
at fair value through other comprehensive income	₩	(207,191)	-
Changes in unrealized fair value			
of available-for-sale investments		-	233,390
	₩	<u>(207,191)</u>	<u>233,390</u>

(b) Changes in fair value of equity investments at fair value through other comprehensive income and changes in unrealized fair value of available-for-sale investments for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Beginning balance	₩	233,390	284,240
Effect of accounting changes		(321,654)	-
Changes in fair value of equity investments		(176,756)	261,078
Reclassification to profit or loss upon disposal		12,719	(408,497)
Impairment of available-for-sale investments		-	94,350
Tax effects		45,110	2,219
Ending balance	₩	<u>(207,191)</u>	<u>233,390</u>

26. Treasury Shares

Based on the Board of Director's resolution, the Company holds treasury shares for the business purposes including price stabilization. The changes in treasury shares for the years ended December 31, 2018 and 2017 were as follows:

<i>(shares, in millions of Won)</i>	2018		2017	
	Number of shares	Amount	Number of shares	Amount
Beginning	7,187,231	₩ 1,533,054	7,189,170	₩ 1,533,468
Disposal of treasury shares	(1,528)	(326)	(1,939)	(414)
Ending	<u>7,185,703</u>	₩ <u>1,532,728</u>	<u>7,187,231</u>	₩ <u>1,533,054</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

27. Retained Earnings

(a) Retained earnings as of December 31, 2018 and 2017 are summarized as follows:

(in millions of Won)

	2018	2017
Legal reserve	₩ 241,202	241,202
Reserve for business rationalization	918,300	918,300
Reserve for research and manpower development	136,667	376,667
Appropriated retained earnings for business expansion	41,510,500	39,510,500
Appropriated retained earnings for dividends	944,103	947,673
Unappropriated retained earnings	1,424,687	2,611,026
	<u>₩ 45,175,459</u>	<u>44,605,368</u>

(b) Statements of appropriation of retained earnings as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	2018	2017
Retained earnings before appropriation		
Unappropriated retained earnings		
carried over from prior year	₩ 574,597	488,721
Cumulative effect of accounting changes	320,720	-
Remeasurements of defined benefit plans	(106,057)	(19,787)
Loss on disposal of equity securities	(12,719)	-
Interests of hybrid bonds	(24,443)	(43,600)
Interim dividends	(400,003)	(359,993)
(Dividends (ratio) per share		
₩5,000 (100%) in 2018		
₩4,500 (90%) in 2017)		
Profit for the period	1,072,592	2,545,685
	<u>1,424,687</u>	<u>2,611,026</u>
Transfer from discretionary reserve		
Reserve for research and manpower development	136,667	240,000
Appropriated retained earnings for dividends	531,861	3,570
	<u>668,528</u>	<u>243,570</u>
Appropriation of retained earnings		
Dividends	400,006	279,999
(Dividends (ratio) per share		
₩5,000 (100%) in 2018		
₩3,500 (70%) in 2017)		
Appropriated retained earnings		
for business expansion	1,100,000	2,000,000
	<u>1,500,006</u>	<u>2,279,999</u>
Unappropriated retained earnings carried forward to subsequent year	<u>₩ 593,209</u>	<u>574,597</u>

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Notes to the Separate Financial Statements, Continued
As of December 31, 2018

28. Revenue

- (a) Details of revenue disaggregated by types of revenue and timing of revenue recognition for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Types of revenue			
Sales of steel product	₩	29,676,951	28,321,004
Transportation services		707,829	-
Others		274,645	232,811
	₩	<u>30,659,425</u>	<u>28,553,815</u>
Timing of revenue recognition			
Revenue recognized at a point in time	₩	29,890,627	28,499,796
Revenue recognized over time		768,798	54,019
	₩	<u>30,659,425</u>	<u>28,553,815</u>

- (b) Details of contract assets and liabilities from contracts with customers as of December 31, 2018 and January 1, 2018, the initial application date of K-IFRS No. 1115 "Revenue from Contracts with Customers" and K-IFRS No. 1109 "Financial Instruments", are as follows:

<i>(in millions of Won)</i>		2018	The date of initial application (January 1, 2018)
Receivables			
Account receivables	₩	3,967,091	3,874,859
Contract assets			
Account receivables		8,954	5,559
Contract liabilities			
Advance received		9,902	27,358
Unearned income		34,480	30,735

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

29. Selling and Administrative Expenses

(a) Other administrative expenses

Other administrative expenses for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

		2018	2017
Wages and salaries	₩	237,356	219,965
Expenses related to post-employment benefits		28,652	33,170
Other employee benefits		56,563	43,222
Travel		12,112	12,475
Depreciation		17,804	16,800
Amortization		30,527	58,878
Rental		61,933	53,537
Repairs		15,060	7,370
Advertising		88,859	104,210
Research & development		74,820	103,818
Service fees		181,104	165,197
Supplies expenses		3,207	4,573
Vehicles maintenance		5,072	6,186
Industry association fee		5,495	5,439
Training		21,966	19,157
Conference		5,866	4,898
Others		34,767	33,268
	₩	<u>881,163</u>	<u>892,163</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Selling expenses

Selling expenses for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Freight and custody expenses(*1)	₩	123,652	785,480
Operating expenses for distribution center		9,715	9,737
Sales commissions		85,044	111,661
Sales advertising		4,738	3,662
Sales promotion		5,430	5,311
Sample		1,102	1,000
Sales insurance premium		4,326	5,646
	₩	<u>234,007</u>	<u>922,497</u>

(*1) During the year ended December 31, 2018, the Company recognized the freight expenses included in selling expenses incurred for the delivery of transportation services identified as a separate performance obligations in cost of sales.

30. Research and Development Expenditures Recognized as Expenses

Research and development expenditures recognized as expenses for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Selling and administrative expenses	₩	74,820	103,818
Cost of sales		410,350	355,204
	₩	<u>485,170</u>	<u>459,022</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

31. Finance Income and Costs

Details of finance income and costs for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

		2018	2017
Finance income			
Interest income(*1)	₩	159,672	94,138
Dividend income		207,548	157,907
Gain on foreign currency transactions		174,569	203,512
Gain on foreign currency translations		20,892	256,199
Gain on valuation of derivatives		41,355	-
Gain on derivative transactions		11,420	-
Gain on disposals of available-for-sale investments		-	422,380
Gain on valuation of financial assets at fair value through profit or loss		3,139	-
Others		11,345	9,556
	₩	<u>629,940</u>	<u>1,143,692</u>
Finance costs			
Interest expenses	₩	143,233	116,558
Loss on foreign currency transactions		220,149	216,182
Loss on foreign currency translations		91,776	71,094
Loss on valuation of derivatives		-	165,425
Impairment loss on available-for-sale investments		-	94,350
Others		3,168	3,598
	₩	<u>458,326</u>	<u>667,207</u>

(*1) Interest income calculated using the effective interest method for the years ended December 31, 2018 and 2017 were ₩27,769 million and ₩18,342 million, respectively.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

32. Other Non-Operating Income and Expenses

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

(in millions of Won)

		2018	2017
Other non-operating income			
Gain on disposals of property, plant and equipment	₩	47,941	26,284
Gain on disposals of intangible assests		99,378	24,542
Reversal of impairment loss on investment in subsidiaries, associates and joint ventures		56,420	225,860
Premium income		11,960	4,593
Others(*1,2)		90,844	154,796
	₩	<u>306,543</u>	<u>436,075</u>
Other non-operating expenses			
Loss on disposals of property, plant and equipment	₩	120,570	140,987
Impairment loss on property, plant and equipment		940,595	17,651
Impairment loss on intangible assets		1,293	11,822
Impairment loss on investment in subsidiaries, associates and joint ventures		787,999	173,284
Impairment loss on assets held for sale		7,788	21,873
Donations		42,016	42,084
Transfer of provisions		44,585	299
Others(*3)		110,713	38,037
	₩	<u>2,055,559</u>	<u>446,037</u>

(*1) During the year ended December 31, 2018, the Company recognized ₩55,306 million of tax refund without corporate tax due to the consequences of appeal to tax tribunal against tax investigation as non-operating income.

(*2) The Company has recognized the refund of VAT amounting to ₩133,103 million as non-operating income in 2017, based on the result of the tax amounts to be refunded when the result of the Company's appeal in connection with the additional income tax payment in prior years tax audits for rectification were finalized.

(*3) During the year ended December 31, 2018, the Company recognized ₩52,997 million of additional taxes imposed on value added tax related to imported LNG as non-operating expense.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

33. Expenses by Nature

Expenses that are recorded by nature as cost of sales, selling and administrative expenses and other non-operating expenses in the statements of comprehensive income for the years ended December 31, 2018 and 2017 were as follows (excluding finance costs and income tax expenses):

<i>(in millions of Won)</i>		2018	2017
Changes in inventories(*1)	₩	(295,619)	(407,701)
Raw materials and consumables used		17,418,153	16,838,874
Employee benefits expenses(*3)		1,819,797	1,635,553
Outsourced processing cost		2,443,089	2,138,917
Depreciation(*2)		2,111,870	2,092,603
Amortization		69,101	91,603
Electricity and water expenses		624,819	655,781
Service fees		269,393	241,634
Rental		83,842	74,363
Advertising		88,859	104,210
Freight and custody expenses		859,092	785,480
Sales commissions		85,044	111,661
Loss on disposals of property, plant and equipment		120,570	140,987
Impairment loss on property, plant and equipment		940,595	17,651
Impairment loss on investments in subsidiaries, associates and joint ventures		787,999	173,284
Other expenses		1,482,328	1,416,734
	₩	<u>28,908,932</u>	<u>26,111,634</u>

(*1) Changes in inventories are the changes in products, semi-finished products and by-products.

(*2) Includes depreciation of investment property.

(*3) The details of employee benefits expenses for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Wages and salaries	₩	1,675,814	1,492,354
Expenses related to post-employment benefits		143,983	143,199
	₩	<u>1,819,797</u>	<u>1,635,553</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

34. Income Taxes

(a) Income tax expense for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>	2018	2017
Current income taxes(*1)	₩ 1,170,211	531,666
Deferred income taxes	(94,224)	257,930
Items credited directly to equity	86,320	19,460
Income tax expense	₩ 1,162,307	809,056

(*1) Refund (additional payment) of income taxes when filing a final corporation tax return credited (charged) directly to current income taxes.

(b) The income taxes credited (charged) directly to equity for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>	2018	2017
Changes in fair value of equity investments		
at fair value through other comprehensive income	₩ 45,110	2,219
Remeasurements of defined benefit plans	40,228	17,281
Gain on disposal of treasury shares	(50)	(40)
Loss on disposal of hybrid bond	678	-
Unappropriated retained earnings	354	-
	₩ 86,320	19,460

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- (c) The calculated income tax expense based on statutory rates compared to the actual amount of taxes recorded by the Company for the years ended December 31, 2018 and 2017 were as follows:

<i>(in millions of Won)</i>		2018	2017
Profit before income tax expense	₩	2,234,899	3,354,741
Income tax expense computed at statutory rate		604,235	811,385
Adjustments:			
Tax credit		(27,257)	(30,069)
Additional Income tax expense for prior years (Over provisions from prior years)		31,999	(25,245)
Tax effect from tax audit		91,028	-
Investment in subsidiaries, associates and joint ventures		233,891	(24,050)
Tax effect due to permanent differences		(14,129)	(44,064)
Deficit not recognized in the past		-	(32,305)
Effect of tax rate change		-	150,554
Others(*1)		242,540	2,850
		<u>558,072</u>	<u>(2,329)</u>
Income tax expense	₩	<u>1,162,307</u>	<u>809,056</u>
Effective tax rate (%)		52.0%	24.1%

(*1) Includes the effect of undeductible impairment loss related to Synthetic Natural Gas (SNG) facility.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(d) The movements in deferred tax assets (liabilities) for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

	2018			2017		
	December 31, 2017	Increase (decrease)	December 31, 2018	December 31, 2016	Increase (decrease)	December 31, 2017
Deferred income tax due to temporary differences						
Reserve for special repairs	₩ (11,778)	391	(11,387)	(10,707)	(1,071)	(11,778)
Reserve for technology developments	(37,583)	37,583	-	(91,153)	53,570	(37,583)
PPE - Depreciation	(10,524)	8,530	(1,994)	(17,793)	7,269	(10,524)
Impairment loss(*1)	334,186	(119,473)	214,713	350,453	(16,267)	334,186
Prepaid expenses	19,950	(2,773)	17,177	19,658	292	19,950
PPE - Revaluation	(1,823,520)	(49,800)	(1,873,320)	(1,517,978)	(305,542)	(1,823,520)
Gain or loss on foreign currency translation	(29,227)	4,597	(24,630)	10,797	(40,024)	(29,227)
Defined benefit obligations	294,112	45,349	339,461	239,377	54,735	294,112
Plan assets	(304,920)	(42,894)	(347,814)	(269,257)	(35,663)	(304,920)
Accrued revenue	(3,554)	(573)	(4,127)	(2,586)	(968)	(3,554)
Others(*1)	288,844	20,968	309,812	228,593	60,251	288,844
	(1,284,014)	(98,095)	(1,382,109)	(1,060,596)	(223,418)	(1,284,014)
Deferred tax from deficit and tax credit						
Deficit carried over	28,200	(13,831)	14,369	-	28,200	28,200
Tax credit carry-forward	-	-	-	82,212	(82,212)	-
	28,200	(13,831)	14,369	82,212	(54,012)	28,200
Deferred income taxes recognized directly to equity						
Net changes in fair value of equity investments at fair value through other comprehensive income(*1)	(87,332)	165,922	78,590	(89,551)	2,219	(87,332)
Remeasurements of defined benefit plans	69,250	40,228	109,478	51,969	17,281	69,250
	(18,082)	206,150	188,068	(37,582)	19,500	(18,082)
₩	(1,273,896)	94,224	(1,179,672)	(1,015,966)	(257,930)	(1,273,896)

(*1) These changes includes the cumulative impact of initial application of K-IFRS No. 1115 and K-IFRS No. 1109.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(e) Deferred tax assets (liabilities) as of December 31, 2018 and 2017 are as follows:

(in millions of Won)

	2018			2017		
	Assets	Liabilities	Net	Assets	Liabilities	Net
Deferred income tax due to temporary differences						
Reserve for special repairs	₩ -	(11,387)	(11,387)	-	(11,778)	(11,778)
Reserve for technology developments	-	-	-	-	(37,583)	(37,583)
PPE - Depreciation	19,114	(21,108)	(1,994)	19,594	(30,118)	(10,524)
Impairment loss	214,713	-	214,713	334,186	-	334,186
Prepaid expenses	17,177	-	17,177	19,950	-	19,950
PPE - Revaluation	-	(1,873,320)	(1,873,320)	-	(1,823,520)	(1,823,520)
Gain or loss on foreign currency translation	120,861	(145,491)	(24,630)	113,051	(142,278)	(29,227)
Defined benefit obligations	339,461	-	339,461	294,112	-	294,112
Plan assets	-	(347,814)	(347,814)	-	(304,920)	(304,920)
Accrued revenue	-	(4,127)	(4,127)	-	(3,554)	(3,554)
Others	350,430	(40,618)	309,812	328,209	(39,365)	288,844
	<u>1,061,756</u>	<u>(2,443,865)</u>	<u>(1,382,109)</u>	<u>1,109,102</u>	<u>(2,393,116)</u>	<u>(1,284,014)</u>
Deferred tax from deficit and tax credit						
Deficit carried over	14,369	-	14,369	28,200	-	28,200
Deferred income taxes recognized directly to equity						
Net changes in fair value of equity investments at fair value through other comprehensive income	167,795	(89,205)	78,590	60,640	(147,972)	(87,332)
Remeasurements of defined benefit plans	109,478	-	109,478	69,250	-	69,250
	<u>277,273</u>	<u>(89,205)</u>	<u>188,068</u>	<u>129,890</u>	<u>(147,972)</u>	<u>(18,082)</u>
₩	<u>1,353,398</u>	<u>(2,533,070)</u>	<u>(1,179,672)</u>	<u>1,267,192</u>	<u>(2,541,088)</u>	<u>(1,273,896)</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

35. Earnings per Share

Basic and diluted earnings per share for the years ended December 31, 2018 and 2017 were as follows:

<i>(in Won, except per share information)</i>		2018	2017
Profit for the period	₩	1,072,591,562,885	2,545,685,288,495
Interests of hybrid bonds, net of tax		(17,720,986,299)	(33,048,799,997)
Weighted-average number of common shares outstanding(*1)		80,000,606	79,998,600
Basic and diluted earnings per share	₩	13,186	31,409

(*1) The weighted-average number of common shares used to calculate basic and diluted earnings per share are as follows:

<i>(in share)</i>	2018	2017
Total number of common shares issued	87,186,835	87,186,835
Weighted-average number of treasury shares	(7,186,229)	(7,188,235)
Weighted-average number of common shares outstanding	80,000,606	79,998,600

Since there were no potential shares of common stock which had dilutive effects as of December 31, 2018 and 2017, diluted earnings per share is equal to basic earnings per share.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

36. Related Party Transactions

(a) Significant transactions with related companies for the years ended December 31, 2018 and 2017 were as follows:

1) For the year ended December 31, 2018

(in millions of Won)

	Sales and others(*1)		Purchase and others(*2)			
	Sales	Others	Purchase of material	Purchase of fixed assets	Outsourced processing cost	Others
Subsidiaries(*3)						
POSCO ENGINEERING & CONSTRUCTION CO., LTD. ₩	7,827	97	-	322,924	47	36,428
POSCO COATED & COLOR STEEL Co., Ltd.	476,105	2,725	-	-	9,211	1,434
POSCO ICT(*4)	2,624	7,479	-	341,472	34,376	196,252
eNtoB Corporation	12	60	377,198	27,508	390	31,455
POSCO CHEMTECH	417,957	35,762	531,452	21,730	319,868	2,802
POSCO ENERGY CO., LTD.	206,638	1,445	-	-	-	-
POSCO DAEWOO Corporation	5,835,226	42,888	690,345	-	57,624	4,318
POSCO Thainox Public Company Limited	299,450	5,335	10,115	-	-	71
POSCO America Corporation	336,366	-	-	-	-	2,486
POSCO Canada Ltd.	-	2,155	300,982	-	-	-
POSCO Asia Co., Ltd.	1,857,665	253	536,280	650	2,449	6,524
Qingdao Pohang Stainless Steel Co., Ltd.	188,252	7	-	-	-	34
POSCO JAPAN Co., Ltd.	1,353,313	6	25,773	4,204	-	5,411
POSCO-VIETNAM Co., Ltd.	273,573	156	-	-	-	8
POSCO MEXICO S.A. DE C.V.	299,276	17	-	-	-	35
POSCO Maharashtra Steel Private Limited	563,618	584	-	-	-	156
POSCO(Suzhou) Automotive Processing Center Co., Ltd.	196,095	-	2,616	-	-	5
Others(*5)	1,158,122	44,098	456,804	31,787	264,060	140,869
	<u>13,472,119</u>	<u>143,067</u>	<u>2,931,565</u>	<u>750,275</u>	<u>688,025</u>	<u>428,288</u>
Associates and joint ventures(*3)						
POSCO PLANTEC Co., Ltd.	10,904	240	3,166	215,023	24,192	10,257
SNNC	5,105	4,108	558,425	-	-	80
POSCO-SAMSUNG-Slovakia Processing Center	61,981	-	-	-	-	-
Roy Hill Holdings Pty Ltd	-	-	810,196	-	-	-
Others	14,199	54,747	64,335	-	-	6
	<u>92,189</u>	<u>59,095</u>	<u>1,436,122</u>	<u>215,023</u>	<u>24,192</u>	<u>10,343</u>
₩	<u>13,564,308</u>	<u>202,162</u>	<u>4,367,687</u>	<u>965,298</u>	<u>712,217</u>	<u>438,631</u>

(*1) Sales and others are mainly consist of sales of steel products to subsidiaries, associates and joint ventures.

(*2) Purchases and others are mainly consist of subsidiaries' purchases of construction services and purchases of raw materials to manufacture steel products.

(*3) As of December 31, 2018, the Company provided guarantees to related parties (Note 22).

(*4) Others (purchase) mainly consist of service fees related to maintenance and repair of ERP System.

(*5) During the year ended December 31, 2018, the Company made loans of ₩2,950 million to Suncheon Eco Trans Co., Ltd., a subsidiary of the Company. As of December 31, 2018, corresponding amounts of those loans were recorded as allowance for doubtful accounts.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

2) For the year ended December 31, 2017

(in millions of Won)

	Sales and others		Purchase and others			
	Sales	Others	Purchase of material	Purchase of fixed assets	Outsourced processing cost	Others
Subsidiaries						
POSCO ENGINEERING & CONSTRUCTION CO., LTD. ₩	3,328	71	-	151,639	32	18,352
POSCO Processing&Service	298,589	1	113,628	4,595	8,309	404
POSCO COATED & COLOR STEEL Co., Ltd.	417,369	3,533	-	-	8,483	106
POSCO ICT	1,697	5,097	-	315,748	29,773	183,141
eNtoB Corporation	1	30	330,921	8,215	139	26,023
POSCO CHEMTECH	359,862	33,076	479,896	23,043	296,296	6,860
POSCO ENERGY CO., LTD.	179,966	1,456	-	-	-	2
POSCO DAEWOO Corporation	5,214,127	35,182	550,258	221	44,108	1,948
POSCO Thainox Public Company Limited	218,005	9,780	10,168	-	-	-
POSCO America Corporation	345,225	-	90	-	-	1,776
POSCO Canada Ltd.	439	690	278,915	-	-	-
POSCO Asia Co., Ltd.	1,949,354	1,454	365,025	337	1,625	4,982
Qingdao Pohang Stainless Steel Co., Ltd.	161,803	-	-	-	-	176
POSCO JAPAN Co., Ltd.	1,436,159	20	26,256	621	-	44,829
POSCO MEXICO S.A. DE C.V.	276,387	-	-	-	-	1,749
POSCO Maharashtra Steel Private Limited	467,206	-	-	-	-	65
POSCO(Suzhou) Automotive Processing Center Co., Ltd.	192,467	-	-	-	-	-
Others	1,145,123	10,058	262,828	25,271	240,687	118,577
	<u>12,667,107</u>	<u>100,448</u>	<u>2,417,985</u>	<u>529,690</u>	<u>629,452</u>	<u>408,990</u>
Associates and joint ventures						
POSCO PLANTEC Co., Ltd.	2,947	112	5,487	300,041	20,718	19,763
SNNC	6,734	712	554,151	-	-	4
POSCO-SAMSUNG-Slovakia Processing Center	52,779	-	-	-	-	-
Roy Hill Holdings Pty Ltd	-	-	697,096	-	-	-
CSP - Companhia Siderurgica do Pecem	7,384	-	159,501	-	-	-
Others	14,943	52,582	79,103	-	-	3
	<u>84,787</u>	<u>53,406</u>	<u>1,495,338</u>	<u>300,041</u>	<u>20,718</u>	<u>19,770</u>
₩	<u>12,751,894</u>	<u>153,854</u>	<u>3,913,323</u>	<u>829,731</u>	<u>650,170</u>	<u>428,760</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) The related account balances of significant transactions with related companies as of December 31, 2018 and 2017 are as follows:

1) December 31, 2018

(in millions of Won)

	Receivables			Payables			
	Trade accounts and notes receivable	Others	Total	Trade accounts and notes payable	Accounts payable	Others	Total
Subsidiaries							
POSCO ENGINEERING & CONSTRUCTION CO., LTD. ₩	57	5,181	5,238	-	52,775	438	53,213
POSCO COATED & COLOR STEEL Co., Ltd.	55,598	317	55,915	-	25	1,194	1,219
POSCO ICT	-	229	229	1,572	112,960	8,717	123,249
eNtoB Corporation	-	-	-	10,860	22,072	11	32,943
POSCO CHEMTECH	40,258	3,883	44,141	19,911	58,725	19,012	97,648
POSCO ENERGY CO., LTD.	22,163	1,700	23,863	-	-	1,425	1,425
POSCO DAEWOO Corporation	437,554	1,066	438,610	161	1,881	5,304	7,346
POSCO Thainox Public Company Limited	71,189	-	71,189	467	71	-	538
POSCO America Corporation	14,338	-	14,338	-	221	-	221
POSCO Asia Co., Ltd.	480,205	1,047	481,252	7,839	-	-	7,839
Qingdao Pohang Stainless Steel Co., Ltd.	52,037	-	52,037	-	-	-	-
POSCO MEXICO S.A. DE C.V.	101,179	218	101,397	-	-	-	-
POSCO Maharashtra Steel Private Limited	390,413	1,428	391,841	-	-	-	-
Others	379,950	54,407	434,357	33,183	36,591	85,745	155,519
	<u>2,044,941</u>	<u>69,466</u>	<u>2,114,407</u>	<u>73,993</u>	<u>285,321</u>	<u>121,846</u>	<u>481,160</u>
Associates and jointventures							
POSCO PLANTEC Co., Ltd.	249	10	259	3,275	34,803	-	38,078
SNNC	541	61	602	22,188	-	-	22,188
Others	918	910	1,828	23,214	76	-	23,290
	<u>1,708</u>	<u>981</u>	<u>2,689</u>	<u>48,677</u>	<u>34,879</u>	<u>-</u>	<u>83,556</u>
₩	<u>2,046,649</u>	<u>70,447</u>	<u>2,117,096</u>	<u>122,670</u>	<u>320,200</u>	<u>121,846</u>	<u>564,716</u>

2) December 31, 2017

(in millions of Won)

	Receivables			Payables			
	Trade accounts and notes receivable	Others	Total	Trade accounts and notes payable	Accounts payable	Others	Total
Subsidiaries							
POSCO ENGINEERING & CONSTRUCTION CO., LTD. ₩	2	2,908	2,910	-	21,965	674	22,639
POSCO COATED & COLOR STEEL Co., Ltd.	58,184	324	58,508	-	5	504	509
POSCO ICT	55	217	272	1,458	72,586	27,009	101,053
eNtoB Corporation	-	-	-	12,252	31,899	20	44,171
POSCO CHEMTECH	61,810	3,589	65,399	51,774	20,313	17,568	89,655
POSCO ENERGY CO., LTD.	33,239	1,673	34,912	-	-	1,425	1,425
POSCO DAEWOO Corporation	483,915	12,739	496,654	10,213	2,145	5,794	18,152
POSCO Thainox Public Company Limited	57,826	-	57,826	1,204	-	-	1,204
POSCO America Corporation	5,365	-	5,365	-	-	-	-
POSCO Asia Co., Ltd.	404,857	541	405,398	9,811	24	-	9,835
Qingdao Pohang Stainless Steel Co., Ltd.	31,693	-	31,693	-	-	-	-
POSCO MEXICO S.A. DE C.V.	55,695	530	56,225	-	-	-	-
POSCO Maharashtra Steel Private Limited	392,630	5,733	398,363	-	-	-	-
Others	384,385	49,403	433,788	15,038	59,575	31,118	105,731
	<u>1,969,656</u>	<u>77,657</u>	<u>2,047,313</u>	<u>101,750</u>	<u>208,512</u>	<u>84,112</u>	<u>394,374</u>
Associates and jointventures							
POSCO PLANTEC Co., Ltd.	1,946	9	1,955	3,842	15,723	-	19,565
SNNC	648	61	709	49,506	3	-	49,509
Others	8,350	904	9,254	824	-	-	824
	<u>10,944</u>	<u>974</u>	<u>11,918</u>	<u>54,172</u>	<u>15,726</u>	<u>-</u>	<u>69,898</u>
₩	<u>1,980,600</u>	<u>78,631</u>	<u>2,059,231</u>	<u>155,922</u>	<u>224,238</u>	<u>84,112</u>	<u>464,272</u>

(c) For the years ended December 31, 2018 and 2017, details of compensation to key management officers were as follows:

(in millions of Won)

		2018	2017
Short-term benefits	₩	44,931	45,489
Long-term benefits		6,485	4,368
Retirement benefits		12,308	14,593
	₩	<u>63,724</u>	<u>64,450</u>

Key management officers include directors (including non-standing directors), executive officials and fellow officials who have significant influence and responsibilities in the Company's business and operations.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

37. Commitments and Contingencies

(a) Contingent liabilities

Contingent liabilities may develop in a way not initially expected. Therefore, management continuously assesses contingent liabilities to determine whether an outflow of resources embodying economic benefits has become probable. If it becomes probable that an outflow of future economic benefits will be required for an item previously dealt with as a contingent liability, a provision is recognized in the financial statements of the period in which the change in probability occurs (except in the extremely rare circumstances where no reliable estimate can be made).

The management makes estimates and assumptions that affect disclosures of commitments and contingencies. All estimates and assumptions are based on the evaluation of current circumstances and appraisals with the supports of internal specialists or external consultants.

The management regularly analyzes current information about these matters and provides for probable contingent losses including the estimate of legal expense to resolve the matters. Internal and external lawyers are used for these assessments. In making the decision regarding the need for provisions, management considers whether the Company has an obligation as a result of a past event, whether it is probable that an outflow or cash or other resources embodying economic benefits will be required to settle the obligation and the ability to make a reliable estimate of the amount of obligation.

(b) Commitments

- 1) The Company entered into long-term contracts to purchase iron ore, coal, nickel and others. The contracts of iron ore and coal generally have terms of more than three years and the contracts of nickel have terms of more than one year. These contracts provide for periodic price adjustments based on the market price. As of December 31, 2018, 100 million tons of iron ore and 14 million tons of coal remained to be purchased under such long-term contracts.
- 2) The Company entered into an agreement with Tangguh Liquefied Natural Gas (LNG) Consortium in Indonesia to purchase 550 thousand tons of LNG annually for 20 years commencing in August 2005. The purchase price is subject to change, based on changes of the monthly standard oil price (JCC) and with a price ceiling.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

- 3) The Company entered into consecutive voyage charter (CVC) contract for the transportation of raw materials. As of December 31, 2018, there are 38 vessels under contract and the average remaining contract period is about 10 years. During the year ended December 31, 2018, the freight expenses related to the CVC contract is USD 668 million.
 - 4) As of December 31, 2018, the Company entered into commitments with KOREA ENERGY AGENCY for long-term foreign currency borrowing, which is limited up to the amount of USD 6.49 million. The borrowing is related to the exploration of gas hydrates in Western Fergana-Chinabad. The repayment of the borrowing depends on the success of the project. The Company is not liable for the repayment of full or part of the money borrowed if the respective project fail. The Company has agreed to pay a certain portion of its profits under certain conditions, as defined by the borrowing agreements. As of December 31, 2018, the ending balance of the borrowing amounts to USD 1.02 million.
 - 5) The Company has provided a supplemental funding agreement, as the largest shareholder, as requested from the creditors, including Norddeutsche Landesbank, for seamless funding to the construction of new power plant by POSCO ENERGY CO., LTD.
 - 6) The Company provides a supplementary fund of up to ~~₩~~9.8 billion to the Company's subsidiary, Busan E&E Co., Ltd., at the request of creditors such as the Korea Development Bank.
 - 7) The company provides a supplementary funding for the purpose of promoting the Suncheon Bay PRT business of Suncheon Eco Trans Co., Ltd., a subsidiary of the Company, at the request of creditors. On November 2018, creditors sued the company for subrogation based on a supplemental funding agreement. The company recognized the provision based on the estimate of the amount and the possibility of any outflows of resources due to the litigation.
- (c) As of December 31, 2018, the Company has provided three blank checks to KOREA ENERGY AGENCY as collateral for long-term foreign currency borrowings.
- (d) Litigation in progress

The Company is involved in 27 lawsuits, claim for employee right, and claim for subrogation of the Suncheon Bay PRT business aggregating to ~~₩~~75.2 billion as defendant as of December 31, 2018, which arise from the ordinary course of business. The Company has recognized provisions amounting to ~~₩~~8 billion for two of 27 lawsuits based on its reliable estimate of outflow of resources. However, the Company has not recognized any provisions for the other lawsuits and claims since the Company does not believe it has a present obligation as of December 31, 2018.

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

38. Statements of Cash Flows

(a) Changes in operating assets and liabilities for the years ended December 31, 2018 and 2017 were as follows:

(in millions of Won)

	2018	2017
Trade accounts and notes receivable, net	₩ (102,920)	(706,458)
Other accounts receivable	14,700	35,409
Inventories	(745,730)	(542,819)
Prepaid expenses	1,710	(4,326)
Other current assets	3,103	(511)
Long-term guarantee deposits	(22)	(145)
Other non-current assets	751	60
Trade accounts and notes payable	84,883	(54,063)
Other accounts payable	103,295	(10,525)
Accrued expenses	46,550	(6,412)
Advances received	(2,210)	21,108
Withholdings	(3,108)	(4,024)
Unearned revenue	4,270	(1,125)
Other current liabilities	47,670	(6,576)
Derivative liabilities	(9,632)	-
Payments of severance benefits	(121,100)	(116,385)
Plan assets	(135,639)	58,097
Other non-current liabilities	-	(19)
	₩ <u>(813,429)</u>	<u>(1,338,714)</u>

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Notes to the Separate Financial Statements, Continued As of December 31, 2018

(b) Changes in liabilities arising from financial activities for the years ended December 31, 2018 and 2017 were as follows:

1) December 31, 2018

(in millions of Won)

		Liabilities				
		Short-term borrowings	long-term borrowings	Dividend payable	Long-term financial liabilities	Derivatives that hedge long-term borrowings
Beginning	₩	383,976	3,517,248	4,671	86,377	84,466
Changes from financing cash flows		92,744	198,250	(706,351)	(14,937)	-
The effect of changes in foreign exchange rates		(108)	77,409	-	258	-
Changes in fair values		-	-	-	-	(50,988)
Other changes:						
Decrease in retained earnings		-	-	704,444	-	-
Amortization of discount on debentures issued		-	1,451	-	-	-
Increase in finance lease assets		-	-	-	81,048	-
Ending	₩	<u>476,612</u>	<u>3,794,358</u>	<u>2,764</u>	<u>152,746</u>	<u>33,478</u>

2) December 31, 2017

(in millions of Won)

		Liabilities				
		Short-term borrowings	long-term borrowings	Dividend payable	Long-term financial liabilities	Derivatives that hedge long-term borrowings
Beginning	₩	331,370	3,811,484	4,793	93,150	(70,613)
Changes from financing cash flows		54,242	(58,144)	(863,701)	(6,618)	-
The effect of changes in foreign exchange rates		(1,636)	(239,468)	-	(155)	-
Changes in fair values		-	-	-	-	155,079
Other changes:						
Decrease in retained earnings		-	-	863,579	-	-
Amortization of discount on debentures issued		-	3,376	-	-	-
Ending	₩	<u>383,976</u>	<u>3,517,248</u>	<u>4,671</u>	<u>86,377</u>	<u>84,466</u>

39. Events after the Reporting Period

Through the resolution of the board of directors on August 22, 2018, the Company decided to acquire POSCO Processing&Service, a subsidiary, and merged with POSCO Processing&Service on January 1, 2019 as a merger date. The purpose of the business combination is to promote management rationalization by streamlining fund management, streamlining operations of POSCO Processing&Service and subsidiaries, and enhancing shareholder value based on merger synergies. The Company delivered treasury shares to shareholders of POSCO Processing&Service rather than issuance of new shares at the date of the merger.

Notice to Readers

This report is annexed in relation to the audit of the separate financial statements as of December 31, 2018 and the review of internal accounting control system pursuant to Article 8-7 of the Act on External Audit for Joint-stock Companies of the Republic of Korea.

Independent Auditors' Review Report on Internal Accounting Control System

English Translation of a Report Originally Issued in Korean

To the President of
POSCO:

We have reviewed the accompanying Report on the Operational Status of Internal Accounting Control System ("IACS") of POSCO (the "Company") as of December 31, 2018. The Company's management is responsible for designing and maintaining effective IACS and for its assessment of the effectiveness of IACS. Our responsibility is to review management's assessment and issue a report based on our review. In the accompanying report of management's assessment of IACS, the Company's management stated: "Based on our assessment, we concluded that the Company's ICFR is designed and operated effectively as of December 31, 2018, in all material respects, in accordance with the 'Guidelines for Internal Control over Financial Reporting'."

We conducted our review in accordance with IACS Review Standards, issued by the Korean Institute of Certified Public Accountants. Those Standards require that we plan and perform the review to obtain assurance of a level less than that of an audit as to whether the Report on the Operational Status of Internal Accounting Control System is free of material misstatement. Our review consists principally of obtaining an understanding of the Company's IACS, inquiries of company personnel about the details of the report, and tracing to related documents we considered necessary in the circumstances. We have not performed an audit and, accordingly, we do not express an audit opinion.

A company's IACS is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Korean International Financial Reporting Standards. Because of its inherent limitations, however, IACS may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on our review, nothing has come to our attention that the Report on the Operational Status of Internal Accounting Control System as of December 31, 2018 is not prepared in all material respects, in accordance with IACS Framework issued by the Internal Accounting Control System Operation Committee.

This report applies to the Company's IACS in existence as of December 31, 2018. We did not review the Company's IACS subsequent to December 31, 2018. This report has been prepared for Korean regulatory purposes, pursuant to the Act on External Audit of Stock Companies, Etc. and may not be appropriate for other purposes or for other users.

KPMG Samjong Accounting Corp.

'Seoul, Korea
March 7, 2019

This report is annexed in relation to the audit of the separate financial statements as of December 31, 2018.

Report on the Operations of Internal Accounting Control System

English Translation of a Report Originally Issued in Korean

To the Shareholders, Board of Directors and Audit Committee of POSCO

We, as the Chief Executive Officer and the Internal Accounting Control Officer of the Company, assessed operating status of the Company' s Internal Control over Financial Reporting("ICFR") for the year ending December 31, 2018.

Design and operation of ICFR is the responsibility of the Company' s management, including the Chief Executive Officer and the Internal Accounting Control Officer (collectively, "We").

We evaluated whether the Company effectively designed and operated its ICFR to prevent and detect errors or frauds which may cause a misstatement in financial statements to ensure preparation and disclosure of reliable financial information.

We used the 'Guidelines for Internal Control over Financial Reporting' for evaluating design and operation of the Company' s ICFR, established by the Operating Committee of Internal Control over Financial Reporting in Korea (the "ICFR Committee").

Based on our assessment, we concluded that the Company' s ICFR is designed and operated effectively as of December 31, 2018 in all material respects, in accordance with the 'Guidelines for Internal Control over Financial Reporting' .

We certify that this report does not contain any untrue statement of a fact, or omit to state a fact necessary to be presented herein. We also certify that this report does not contain or present any statements which might cause material misunderstandings of the readers, and we have reviewed and verified this report with sufficient care.

January 28, 2019



Choi, Jeong-Woo, Chief Executive Officer



Chon Jung-Son, Internal Accounting Control Officer