

POSCO DAEWOO Corporation and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2016 and 2017
with the independent auditors' report

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Independent auditors' report

The Shareholders and Board of Directors POSCO DAEWOO Corporation

We have audited the accompanying consolidated financial statements of POSCO DAEWOO Corporation (the "Company") and its subsidiaries (collectively, the "Group"), which comprise the consolidated statements of financial position as at December 31, 2016 and 2017, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, presented in Korean won, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

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

Auditors' responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the Republic of Korea. Those standards require that we comply with ethical requirements and plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

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

Opinion

In our opinion, the consolidated financial statements referred to above, presented in Korean won, present fairly, in all material respects, the financial position of the Group as at December 31, 2016 and 2017, and its financial performance and cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.



March 2, 2018

This audit report is effective as of March 2, 2018, the independent auditors' report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditors' report date to the time this audit report is used. Such events and circumstances could significantly affect the accompanying financial statements and may result in modifications to this report.

POSCO DAEWOO Corporation and its subsidiaries

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

“The accompanying financial statements, including all footnotes and disclosures, have been prepared by, and are the responsibility of, the Company.”

Kim, Young-Sang
Chief Executive Officer
POSCO DAEWOO Corporation

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

	Notes	Korean won in millions		U.S dollar in thousands
		2016	2017	(Note 2) 2017
Assets				
Current assets				
Cash and cash equivalents	4,29,30	₩ 173,709	₩ 178,490	\$ 166,595
Trade and other receivables	5,29,30	3,483,692	3,533,602	3,298,116
Other current financial assets	6,29,30	32,534	6,638	6,196
Derivative financial assets	18,29,30	41,067	51,067	47,664
Current tax asset		5,721	5,537	5,168
Other current assets	7	177,675	163,371	152,484
Inventories	8	766,575	1,108,833	1,034,938
		<u>4,680,973</u>	<u>5,047,538</u>	<u>4,711,161</u>
Non-current assets				
Trade and other receivables	5,29,30	407,474	357,315	333,503
Other non-current financial assets	6,29,30	108,692	94,316	88,031
Investments in associates	9	446,992	372,979	348,123
Property, plant and equipment	10	666,087	1,324,846	1,236,556
Intangible assets	11	1,662,856	1,625,226	1,516,918
Investment properties	12	161,004	157,631	147,126
Severance benefit assets	16	-	8,224	7,676
Other non-current assets	7	7	3,530	3,295
Deferred tax assets	27	151,551	178,381	166,493
Current tax assets		3,146	-	-
		<u>3,607,809</u>	<u>4,122,448</u>	<u>3,847,721</u>
Total assets		<u>₩ 8,288,782</u>	<u>₩ 9,169,986</u>	<u>\$ 8,558,882</u>
Liabilities				
Current liabilities				
Trade and other payables	13,29,30	₩ 1,808,416	₩ 1,870,530	\$ 1,745,875
Borrowings	14,29,30	1,879,023	2,333,424	2,177,920
Current portion of bonds	14,29,30	294,733	463,736	432,832
Derivative financial liabilities	18,29,30	71,803	43,454	40,558
Other current liabilities	15	203,653	178,844	166,926
Current tax liabilities		47,056	47,920	44,727
		<u>4,304,684</u>	<u>4,937,908</u>	<u>4,608,838</u>
Non-current liabilities				
Trade and other payables	13,29,30	28,313	22,032	20,564
Borrowings	14,29,30	592,244	501,434	468,018
Bonds	14,29,30	759,477	734,200	685,272
Other non-current liabilities	15	1,635	45,049	42,047
Severance benefit liabilities	16	6,012	3,291	3,071
Provisions	17	88,458	63,962	59,699
Deferred tax liabilities	27	4,307	9,634	8,992
		<u>1,480,446</u>	<u>1,379,602</u>	<u>1,287,663</u>
Total liabilities		<u>5,785,130</u>	<u>6,317,510</u>	<u>5,896,501</u>

(Continued)

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

	Notes	Korean won in millions		U.S dollar in thousands
		2016	2017	(Note 2) 2017
Equity				
Equity attributable to owners of the parent				
Issued capital	19	₩ 569,381	₩ 616,876	\$ 575,766
Capital surplus	19	333,161	553,439	516,557
Other components of equity	19	-	(6)	(6)
Accumulated other comprehensive income	6,20	88,463	(4,936)	(4,607)
Retained earnings	21	1,524,830	1,644,385	1,534,800
		2,515,835	2,809,758	2,622,510
Non-controlling interests		(12,183)	42,718	39,871
Total equity		2,503,652	2,852,476	2,662,381
Total liabilities and equity		₩ 8,288,782	₩ 9,169,986	\$ 8,558,882

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

POSCO DAEWOO Corporation and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2016 and 2017

	Notes	Korean won in millions		U.S dollar in thousands
		2016	2017	(Note 2) 2017
Sales	3	₩ 16,492,090	₩ 22,571,654	\$ 21,067,439
Cost of sales	22	(15,356,215)	(21,263,109)	(19,846,098)
Gross profit		1,135,875	1,308,545	1,221,341
Selling and administrative expenses	22,23	(817,736)	(907,231)	(846,772)
Operating profit		318,139	401,314	374,569
Share of profit in associates	9	60,214	60,384	56,360
Share of loss in associates	9	(22,282)	(28,925)	(26,997)
Finance income	24	1,084,379	892,930	833,424
Finance costs	24	(1,121,308)	(1,003,418)	(936,548)
Other income	25	21,030	50,321	46,968
Other expenses	25	(165,538)	(124,646)	(116,340)
Profit for the year before tax	3	174,634	247,960	231,436
Income tax expense	27	(52,421)	(81,142)	(75,735)
Profit for the year		₩ 122,213	₩ 166,818	\$ 155,701
Other comprehensive income for the year				
<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods:</i>	20			
Net loss on valuation of available-for-sale financial assets		(1,293)	(7,746)	(7,230)
Equity adjustments				
in equity method investments		5,116	(54,812)	(51,159)
Exchange differences on translation of foreign operations		14,744	(31,367)	(29,277)
<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods:</i>				
Re-measurement gain (loss) on defined benefit liabilities	16	(1,502)	612	571
Other comprehensive income (loss) for the year, net of tax		17,065	(93,313)	(87,095)
Total comprehensive income for the year, net of tax		₩ 139,278	₩ 73,505	\$ 68,606
Profit for the year attributable to:				
Owners of the parent		₩ 111,254	₩ 175,880	\$ 164,159
Non-controlling interests		10,959	(9,062)	(8,458)
		<u>₩ 122,213</u>	<u>₩ 166,818</u>	<u>\$ 155,701</u>
Total comprehensive income attributable to:				
Owners of the parent		₩ 130,367	₩ 83,093	\$ 77,555
Non-controlling interests		8,911	(9,588)	(8,949)
		<u>₩ 139,278</u>	<u>₩ 73,505</u>	<u>\$ 68,606</u>
Earnings per share for continuing operation				
(Korean won and U.S. dollar):				
Basic, profit for the year attributable to ordinary equity holders of the parent	28	₩ 977	₩ 1,444	\$ 1.35
Diluted, profit for the year attributable to ordinary holders of the parent	28	₩ 977	₩ 1,444	\$ 1.35

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

POSCO DAEWOO Corporation and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2016 and 2017

	Korean won in millions										U.S dollar in thousands (Note 2)
	Equity attributable to owners of the parent										
	Issued Capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings	Subtotal	Non-controlling interest	Total	Total	Total	
As at January 1, 2016	₩ 569,381	₩ 333,161	₩ (664)	₩ 67,848	₩ 1,472,016	₩ 2,441,742	₩ (20,564)	₩ 2,421,188	₩ 2,259,836	₩ 2,259,836	
Profit for the year	-	-	-	-	111,254	111,254	10,959	122,213	114,069	114,069	
Net loss on valuation of available-for-sale financial assets	-	-	-	(1,293)	-	(1,293)	-	(1,293)	(1,207)	(1,207)	
Equity adjustments in equity method investments	-	-	-	5,116	-	5,116	-	5,116	4,775	4,775	
Exchange differences on translation of foreign operations	-	-	-	16,792	-	16,792	(2,048)	14,744	13,761	13,761	
Re-measurement loss on defined benefit liabilities	-	-	-	-	(1,502)	(1,502)	-	(1,502)	(1,402)	(1,402)	
Total comprehensive income	-	-	-	20,615	109,752	130,367	8,911	139,278	129,996	129,996	
Dividends	-	-	-	-	(56,938)	(56,938)	-	(56,938)	(53,144)	(53,144)	
Paid-in capital increase of subsidiary	-	-	-	-	-	-	919	919	858	858	
Disposal of subsidiaries	-	-	664	-	-	664	(1,459)	(795)	(742)	(742)	
As at December 31, 2016	₩ 569,381	₩ 333,161	₩ -	₩ 88,463	₩ 1,524,830	₩ 2,515,835	₩ (12,183)	₩ 2,503,652	₩ 2,336,804	₩ 2,336,804	
As at January 1, 2017	₩ 569,381	₩ 333,161	₩ -	₩ 88,463	₩ 1,524,830	₩ 2,515,835	₩ (12,183)	₩ 2,503,652	₩ 2,336,804	₩ 2,336,804	
Profit for the year	-	-	-	-	175,880	175,880	(9,062)	166,818	155,701	155,701	
Net loss on valuation of available-for-sale financial assets	-	-	-	(7,746)	-	(7,746)	-	(7,746)	(7,230)	(7,230)	
Equity adjustments in equity method investments	-	-	-	(54,812)	-	(54,812)	-	(54,812)	(51,159)	(51,159)	
Exchange differences on translation of foreign operations	-	-	-	(30,841)	-	(30,841)	(526)	(31,367)	(29,277)	(29,277)	
Re-measurement gain on defined benefit liabilities	-	-	-	-	612	612	-	612	571	571	
Total comprehensive income	-	-	-	(93,339)	176,482	83,093	(9,568)	73,505	68,606	68,606	
Issuance of capital stock due to business combination	47,495	-	-	-	-	47,495	-	47,495	47,495	47,495	
Acquisition of treasury stock	-	210,842	-	-	-	210,842	-	210,842	211,121	211,121	
Dividends	-	-	(6)	-	-	(6)	-	(6)	(6)	(6)	
Dividends of subsidiary	-	-	-	(56,937)	-	(56,937)	(213)	(58,070)	(53,143)	(53,143)	
Paid-in capital increase of subsidiary	-	29	-	-	-	29	5,360	5,389	5,030	5,030	
Paid-in capital decrease of subsidiary	-	(1,174)	-	-	-	(1,174)	(619)	(1,793)	(1,674)	(1,674)	
Changes in consolidated companies	-	10,581	(6)	-	-	10,581	59,981	70,562	66,842	66,842	
As at December 31, 2017	₩ 616,876	₩ 553,439	₩ (6)	₩ (4,939)	₩ 1,644,385	₩ 2,809,756	₩ 42,718	₩ 2,852,476	₩ 2,692,391	₩ 2,692,391	

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

POSCO DAEWOO Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2016 and 2017

	Korean won in millions		U.S dollar in thousands (Note 2)	
			2017	
	2016	2017		
Operating activities				
Profit for the year	₩ 122,213	₩ 166,818	\$ 155,701	
Non-cash adjustments to reconcile profit for the year				
Depreciation of property, plant and equipment	30,752	62,043	57,908	
Depreciation of investment properties	2,908	2,920	2,725	
Amortization of intangible assets	132,734	150,222	140,211	
Severance and retirement benefits	14,944	17,353	16,197	
Bad debt expenses	31,793	77,035	71,901	
Interest expenses	49,524	87,983	82,120	
Loss on impairment of tangible assets	26,794	1,130	1,055	
Loss on impairment of intangible assets	21,855	80,873	75,483	
Loss on impairment of available-for-sale financial assets	182	-	-	
Loss on disposal of available-for-sale financial assets	530	2,866	2,675	
Loss on disposal of associates	13,855	67	63	
Share of loss in associates	22,282	28,925	26,997	
Loss on disposal of property, plant and equipment	181	543	507	
Loss on disposal of intangible assets	-	98	91	
Loss on foreign currency translation	152,934	170,207	158,864	
Loss on settlement of derivatives	267,606	217,715	203,206	
Loss on valuation of derivatives	59,039	75,623	70,583	
Other bad debt expenses	28,344	1,389	1,296	
Income tax expense	52,421	81,142	75,735	
Loss on valuation of inventories	1,298	661	617	
Financial guarantee expense	9,061	7,434	6,939	
Contribution to provision for contingencies	32,592	25,619	23,912	
Contribution to provision for restoration	440	248	231	
Interest income	(35,074)	(31,019)	(28,952)	
Share of profit in associates	(60,212)	(60,384)	(56,360)	
Gain on disposal of available-for-sale financial assets	(13)	(110)	(103)	
Gain on disposal of associates	(890)	(2,300)	(2,147)	
Dividends income	(446)	(456)	(426)	
Gain on foreign currency translation	(134,646)	(154,698)	(144,389)	
Gain on settlement of derivatives	(252,906)	(189,223)	(176,613)	
Gain on valuation of derivatives	(71,915)	(90,878)	(84,822)	
Reversal of other allowance for doubtful accounts	(482)	(464)	(433)	
Gain on disposal of property, plant and equipment	(538)	(1,612)	(1,505)	
Gain on disposal of intangible assets	(83)	-	-	
Reversal of loss on valuation of inventories	(2,734)	(7,720)	(7,206)	
Financial guarantee income	(299)	(209)	(195)	
Gain on disposal of disposal groups classified as held for sale	-	(465)	(434)	
Reversal of provision	-	(438)	(409)	
Loss on impairment of associates	-	2,791	2,605	

(Continued)

POSCO DAEWOO Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2016 and 2017 (cont'd)

	Korean won in millions		U.S dollar in thousands (Note 2)
	2016	2017	2017
Working capital adjustments:			
Trade receivables	₩ (241,030)	₩ 153,021	\$ 142,823
Other current receivables	(29,725)	5,151	4,808
Other current assets	(81,052)	14,781	13,796
Inventories	5,695	(109,741)	(102,428)
Derivative financial assets	25,226	(49,635)	(46,327)
Other non-current receivables	-	620	579
Trade payables	564,018	(236,420)	(220,665)
Other current payables	(40,100)	39,650	37,008
Other current liabilities	120,892	(17,646)	(16,470)
Other non-current payables	59,926	(4,217)	(3,936)
Other non-current liabilities	1	(1,486)	(1,387)
Payment of severance benefit	(2,359)	(576)	(538)
Contribution to plan assets	(24,995)	(26,800)	(25,014)
Provision for restoration	-	(2,082)	(1,943)
Interest received	33,061	26,236	24,488
Dividends received	67,105	44,203	41,257
Interest paid	(62,778)	(88,082)	(82,212)
Income tax paid	(115,104)	(83,810)	(78,225)
Net cash flows provided by operating activities	792,825	382,239	356,762
Investing activities			
Decrease in long-term other receivables	-	37	36
Increase in long-term other receivables	(15,193)	(23,065)	(21,528)
Increase in short-term loans receivable	(567)	(683)	(637)
Decrease in long-term loans receivable	1,506	59,206	55,260
Increase in long-term loans receivable	-	(38,100)	(35,561)
Decrease (increase) in short-term financial instruments	(8,508)	33,457	31,227
Increase in long-term financial instruments	-	(11)	(10)
Decrease in long-term financial instruments	6	5	5
Proceeds from disposal of available-for-sale financial assets	773	3,816	3,562
Decrease (increase) in guarantee deposits	(19)	213	199
Decrease in long-term guarantee deposits	-	616	575
Increase in long-term guarantee deposits	(1,558)	(6,829)	(6,374)
Proceeds from disposal of property, plant and equipment	2,081	1,623	1,515
Proceeds from disposal of intangible assets	200	201	188
Acquisition of available-for-sale financial assets	(1,779)	(299)	(277)
Acquisition of associates	-	(24,024)	(22,423)
Acquisition of property, plant and equipment	(95,554)	(72,773)	(67,923)
Acquisition of intangible assets	(64,227)	(103,359)	(96,471)
Capital lease receivables	-	104	97
Proceeds from disposal of associates	-	30,857	28,801
Proceeds from disposal of disposal groups classified as held for sale	-	717	669
Changes in affiliated companies	-	(122,689)	(114,513)
Increase of net cash flows due to business combination	-	29,377	27,419
Net cash flows used in investing activities	(182,839)	(231,603)	(216,164)

(Continued)

POSCO DAEWOO Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2016 and 2017 (cont'd)

	Korean won in millions		U.S dollar in thousands (Note 2)
	2016	2017	2017
Financing activities			
Decrease in short-term borrowings	(338,366)	(273,388)	(255,169)
Proceeds from long-term borrowings	52,634	281,184	262,445
Repayment of long-term borrowings	(114,772)	(152,203)	(142,060)
Issuance of bonds	149,483	338,150	315,616
Paid-in capital increase of subsidiaries	919	5,389	5,030
Disposal of subsidiaries	3,970	-	-
Dividends paid	(56,938)	(56,938)	(53,144)
Redemption of bonds	(350,000)	(284,044)	(265,114)
Payment of financial lease liabilities	(8,417)	(2,599)	(2,426)
Dividends of subsidiary	-	(213)	(199)
Acquisition of treasury stock	-	(6)	(6)
Paid-in capital decrease of subsidiary	-	(1,793)	(1,674)
Net cash flows used in financing activities	(661,487)	(146,461)	(136,701)
Net increase (decrease) in cash and cash equivalents	(51,501)	4,175	3,897
Cash and cash equivalents at January 1	224,658	173,709	162,133
Net foreign exchange difference	552	605	565
Cash and cash equivalents at December 31	₩ 173,709	₩ 178,489	\$ 166,595

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

POSCO DAEWOO Corporation and its subsidiaries
Notes to the consolidated financial statements
December 31, 2016 and 2017

1. Corporate information

The organization and business of POSCO DAEWOO Corporation (the "Company") and the consolidated subsidiaries, which consist of 32 foreign subsidiaries and 1 domestic subsidiary (collectively referred to as the "Group"), are described below.

1.1 The parent company

The Company was incorporated on December 27, 2000 as a result of a spin-off of the trading segment of Daewoo Corporation. The Company changed its name from Daewoo International Corporation to POSCO DAEWOO Corporation in accordance with the resolution approved at the general shareholders' meeting held on March 14, 2016.

The Company is engaged in various business activities, such as export services, export agency services, intermediary trading, manufacturing, distribution, natural resource development and lease service. The primary products sold by the Company include various industrial grade steel, metals, chemicals, automobile parts, machinery, ships, plants, electronics, special materials, grain and petroleum.

The Company listed its shares on the Korea Exchange on March 23, 2001. The Company's capital stock as at December 31, 2017 amounts to ₩616,876 million as a result of shares issued for the merger with the steel business segment of POSCO P&S. POSCO, the Company's largest shareholder, owns 62.90% equity interest in the Company.

1.2 Consolidated subsidiaries

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

Subsidiaries	Business	Number of shares	Country of domicile	Equity ownership (%)	
				2016	2017
POSCO DAEWOO America Corp.	Trading	555,000	USA	100	100
POSCO DAEWOO Deutschland GmbH	Trading	-	Germany	100	100
POSCO DAEWOO Japan Corp.	Trading	9,600	Japan	100	100
POSCO DAEWOO Singapore Pte Ltd.	Trading	3,500,000	Singapore	100	100
POSCO DAEWOO China Co.,Ltd.	Trading	-	China	100	100
POSCO DAEWOO Italia S.R.L.	Trading	-	Italy	100	100
DAEWOO Textile LLC	Cotton spinning	-	Uzbekistan	100	100
POSCO DAEWOO Australia Holdings Pty. Ltd.(*1)	Natural resource development	119,676,667	Australia	100	100
POSCO DAEWOO Mexico S.A. de C.V.	Trading	53,078	Mexico	100	100
POSCO DAEWOO Shanghai Co.,Ltd.	Trading	-	China	100	100
POSCO DAEWOO Malaysia Sdn Bhd	Trading	6,091,002	Malaysia	100	100
POSCO DAEWOO India Pvt.,Ltd.	Trading	8,940,000	India	100	100
DAEWOO Int'l Guangzhou Corp.	Trading	-	China	100	100
DAEWOO AAPC Corp.	Steel manufacturing	5,000	USA	100	100
Brasil Saopaulo Steel Processing Center	Steel manufacturing	-	Brazil	51	51
PT. Bio Inti Agrindo	Natural resource development	381,429	Indonesia	85	85
POSCO DAEWOO Waigaoqiao Shanghai Co., Ltd.	Trading	-	China	100	100
POSCO DAEWOO Vietnam Co., Ltd.	Trading	-	Vietnam	100	100
POSCO DAEWOO E&P Canada Corp.	Natural resource development	1,519	Canada	100	100
POSCO DAEWOO Myanmar Corp.	Trading	493,240	Myanmar	100	100
DAEWOO Power And Infra(PTY) Ltd.	Service	-	RSA	100	100
POSCO DAEWOO Power(PNGPOM) Ltd.	Service	16,791,045	Papua New Guinea	100	100
DAEWOO Precious Resourcecs Co.,Ltd.	Natural resource development	4,200	Myanmar	70	70
DAEWOO Power PNG Ltd.	Service	36,239,782	Papua New Guinea	100	100
POSCO-GULF SFC L.L.C.(*2)	Steel manufacturing	217,231	UAE	-	98
Pohang Scrap Recycling Distribution Center Co., Ltd. (*2)	Steel manufacturing	1,521,979	Korea	-	51
POSCO South East Asia Pte. Ltd.(*2)	Trading	1,020,000	Singapore	-	100
Golden Lace DAEWOO Company Limited.(*3)	Grain crop/Wholesales	60,000	Myanmar	-	60
POSCO DAEWOO Ukraine, LLC.(*3)	Grain procurement	-	Ukraine	-	100
DAEWOO Global Development Pte. Ltd.(*4)	Hotel	44,379,098	Singapore	-	55
DAEWOO Amara Co.,Ltd. (*4)	Hotel	680,000	Myanmar	30	85
KIS Devonian Canada Corp. (*5)	Natural resource development	122,675,170	Canada	85	100
LA SRDC (*6)	Steel manufacturing	135,000	USA	-	86
Kwanika Copper Corp.(*7)	Natural resource development	8,200,000	Canada	-	35

POSCO DAEWOO Corporation and its subsidiaries
Notes to the consolidated financial statements
December 31, 2016 and 2017

1.2 Consolidated subsidiaries (cont'd)

(*1) POSCO DAEWOO Australia Holdings Pty. Ltd. is the holding company that has 100% ownership interests in POSCO DAEWOO Narrabri Investment Pty. Ltd. and POSCO DAEWOO Australia Pty. Ltd.

(*2) The entity was newly classified as a subsidiary due to the merger of the iron and steel business sector of POSCO P&S during the current year.

(*3) It was newly established during the current year.

(*4) It was reclassified from an associate to a subsidiary due to an increase in the shareholding ratio during the current year.

(*5) It was newly included during the current year.

(*6) The entity was newly classified as an associate due to the merger of the iron and steel business sector of POSCO P&S and then reclassified as a subsidiary due to an increase in the shareholding ratio during the current year.

(*7) The entity was reclassified from a subsidiary to an associate due to a decrease in the shareholding ratio during the current year.

1.3 Summarized financial information of the Company and its subsidiaries

Summarized financial information of the Company and its subsidiaries for the year ended December 31, 2017 is as follows (Korean won in millions):

	Assets		Liabilities		Equity		Sales		Net profit (loss)	
POSCO DAEWOO America Corp.	₩	397,865	₩	344,705	₩	53,160	₩	1,354,784	₩	2,593
POSCO DAEWOO Deutschland GmbH		226,873		213,296		13,577		527,376		1,123
POSCO DAEWOO Japan Corp.		187,541		180,053		7,488		734,141		388
POSCO DAEWOO Singapore Pte Ltd.		173,283		169,202		4,081		1,435,960		63
POSCO DAEWOO China Co.,Ltd.		34,659		22,563		12,096		332,246		(3,728)
POSCO DAEWOO Italia S.R.L.		153,270		146,566		6,704		461,988		1,710
DAEWOO Textile LLC		98,795		43,822		54,973		158,712		358
POSCO DAEWOO Australia Holdings Pty. Ltd.(*1)		116,326		9,529		106,797		35,664		8,163
POSCO DAEWOO Mexico S.A. de C.V.		80,802		71,240		9,562		250,216		858
POSCO DAEWOO Shanghai Co.,Ltd.		77,176		69,604		7,572		172,236		1,077
POSCO DAEWOO Malaysia Sdn Bhd		36,196		33,123		3,073		295,865		152
POSCO DAEWOO India Pvt.,Ltd.		108,234		101,415		6,819		703,233		3,413
DAEWOO Int'l Guangzhou Corp.		1,345		3,455		(2,110)		-		-
DAEWOO AAPC Corp.		-		-		-		-		-
Brasil Saopaulo Steel Processing Center		24,411		60,681		(36,270)		226		(5,323)
PT. Bio Inti Agrindo		198,794		170,420		28,374		15,227		(3,119)
POSCO DAEWOO Waigaoqiao Shanghai Co., Ltd.		1,226		2,070		(844)		35,919		(867)
POSCO DAEWOO Vietnam Co., Ltd.		27,789		23,862		3,927		151,154		271
POSCO DAEWOO E&P Canada Corp.		16,207		18,626		(2,419)		3,596		(8,275)
POSCO DAEWOO Myanmar Corp.		3,617		182		3,435		11,282		(1,447)
DAEWOO Power And Infra(PTY) Ltd.		320		269		51		183		(70)
POSCO DAEWOO Power(Pngpom) Ltd.		14,428		6,406		8,022		26,854		4,272
DAEWOO Precious Resourcecs Co.,Ltd.		6,536		-		6,536		-		-
DAEWOO Power PNG Ltd.		76,292		62,575		13,717		19,962		3,631
POSCO-GULF SFC L.L.C.(*2)		14,673		2,278		12,395		2,560		(2,694)
Pohang Scrap Recycling Distribution Center Co., Ltd. (*2)		18,341		428		17,913		3,787		273
POSCO South East Asia Pte. Ltd.(*2)		6,349		8,717		(2,368)		16,744		(628)
Golden Lace DAEWOO Company Limited.(*3)		10,929		517		10,412		821		(348)
POSCO DAEWOO Ukraine, LLC.(*3)		39		1		38		-		(67)
DAEWOO Global Development Pte. Ltd.(*4)		332,027		247,822		84,205		278		572
DAEWOO Amara Co.,Ltd. (*4)		355,096		287,153		67,943		5,043		(10,342)
KIS Devonian Canada Corp. (*5)		47,697		1,142		46,555		-		-
LA SRDC (*6)		1,705		1,364		341		2,446		49
	₩	<u>2,848,841</u>	₩	<u>2,303,086</u>	₩	<u>545,755</u>	₩	<u>6,758,503</u>	₩	<u>(7,942)</u>
U.S dollar in thousands (Note 2)	\$	<u>2,658,989</u>	\$	<u>2,149,604</u>	\$	<u>509,385</u>	\$	<u>6,308,104</u>	\$	<u>(7,413)</u>

1.3 Summarized financial information of the Company and its subsidiaries (cont'd)

(*1) POSCO DAEWOO Australia Holdings Pty. Ltd. is the holding company that has 100% ownership interests in POSCO DAEWOO Narrabri Investment Pty. Ltd. and POSCO DAEWOO Australia Pty. Ltd.

(*2) The entity was newly classified as a subsidiary due to the merger of the iron and steel business sector of POSCO P&S during the current year.

(*3) It was newly established during the current year.

(*4) It was reclassified from an associate to a subsidiary due to an increase in the shareholding ratio during the current year.

(*5) It was newly included during the current year.

(*6) The entity was newly classified as an associate due to the merger of the iron and steel business sector of POSCO P&S and then reclassified as a subsidiary due to an increase in the shareholding ratio during the current year.

The financial information of DAEWOO AAPC Corp. is not presented as they are not material to the Group's consolidated financial statements.

2. Basis of preparation and summary of significant accounting policies

2.1 Basis of preparation

The Group prepares statutory financial statements in the Korean language in accordance with Korean International Financial Reporting Standards (KIFRS) enacted by the *Act on External Audit of Stock Companies*. The accompanying consolidated financial statements have been translated into English from the Korean language financial statements. In the event of any differences in interpreting the financial statements or the independent auditors' report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail.

The consolidated financial statements have been prepared on a historical cost basis, except for derivative financial instruments and available-for-sale financial assets that have been measured at fair value. The carrying values of recognized assets and liabilities that are designated as hedged items in fair value hedges that would otherwise be carried at amortized cost are adjusted to record changes in the fair values attributable to the risks that are being hedged in effective hedge relationships. The consolidated financial statements are presented in Korean won (KRW) and all values are rounded to the nearest million, except when otherwise indicated.

2.1.1 Financial statements translation

The accompanying 2017 consolidated financial statements are expressed in Korean won, and solely for convenience of the reader, have been translated into United States dollars at the rate of ₩1,071.4 to US\$ 1, the year-end exchange rate on December 31, 2017. Such translation should not be construed as a representation that the Korean won amount can actually be converted into United States dollars at the exchange rate used for the purpose of such translation.

2.1.2 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Group and its subsidiaries as at December 31, 2017. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee, if and only if, the Group has:

- Power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee)
- Exposure, or rights, to variable returns from its involvement with the investee, and
- The ability to use its power over the investee to affect its returns

2.1.2 Basis of consolidation (cont'd)

When the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- The contractual arrangement with the other vote holders of the investee
- Rights arising from other contractual arrangements
- The Group's voting rights and potential voting rights

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the statement of comprehensive income from the date the Group gains control until the date the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If the Group loses control over a subsidiary, it derecognizes the related assets (including goodwill), liabilities, non-controlling interest and other components of equity while any resultant gain or loss is recognized in profit or loss. Any investment is recognized at fair value.

2.2 Summary of significant accounting policies

2.2.1 Business combinations

Business combinations are accounted for using the acquisition method, unless it is a combination involving entities or businesses under common control. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. Acquisition-related costs incurred are expensed and included in administrative expenses.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss. For each business combination, the acquirer measures the non-controlling interest in the acquiree at the proportionate share of the acquiree's identifiable net assets.

2.2.2 Investment in an associate and joint ventures

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

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

2.2.2 Investment in an associate and joint ventures (cont'd)

The Group's investments in its associate and joint venture are accounted for using the equity method. Under the equity method, the investment in an associate or a joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the associate or joint venture since the acquisition date. Goodwill relating to the associate or joint venture is included in the carrying amount of the investment and is neither amortized nor individually tested for impairment.

The statement of comprehensive income reflects the Group's share of the results of operations of the associate or joint venture. Any change in OCI of those investees is presented as part of the Group's OCI. In addition, when there has been a change recognized directly in the equity of the associate or joint venture, the Group recognizes its share of any changes, when applicable, in the statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the associate or joint venture are eliminated to the extent of the interest in the associate or joint venture.

The aggregate of the Group's share of profit or loss of an associate and a joint venture is shown on the face of the statement of comprehensive income outside operating profit and represents profit or loss after tax and non-controlling interests in the subsidiaries of the associate or joint venture.

The financial statements of the associate or joint venture are prepared for the same reporting period as the Group. When necessary, adjustments are made to bring the accounting policies in line with those of the Group.

After application of the equity method, the Group determines whether it is necessary to recognize an impairment loss on its investment in its associate or joint venture. At each reporting date, the Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, then recognizes the loss as other expenses in the statement of comprehensive income.

Upon loss of significant influence over the associate or joint control over the joint venture, the Group measures and recognizes any retained investment at its fair value. Any difference between the carrying amount of the associate or joint venture upon loss of significant influence or joint control and the fair value of the retained investment and proceeds from disposal is recognized in profit or loss.

2.2.3 Goodwill

Goodwill is initially measured at cost, being the excess of the consideration transferred and the amount recognized for non-controlling interest over the net identifiable assets acquired and liabilities assumed of the consolidated subsidiaries. After initial recognition, goodwill is measured at cost less any accumulated impairment losses.

For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units. Goodwill is tested for impairment annually and when circumstances indicate that the carrying value may be impaired. Impairment is determined for goodwill by assessing the recoverable amount of each cash-generating unit (or group of cash-generating units) to which the goodwill relates. Where the recoverable amount of the cash generating unit is less than their carrying amount, an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods. Where goodwill forms part of a cash-generating unit and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on disposal of the operation.

2.2.4 Current versus non-current classification

The Group presents assets and liabilities in the statement of financial position based on current/non-current classification.

An asset is current when it is:

- Expected to be realized or intended to be sold or consumed in the normal operating cycle
- Held primarily for the purpose of short-term trading
- Expected to be realized within twelve months after the reporting period, or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period

All other assets are classified as non-current.

A liability is current when:

- It is expected to be settled in the normal operating cycle
- It is held primarily for the purpose of short-term trading
- It is due to be settled within twelve months after the reporting period, or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period

The Group classifies all other liabilities as non-current.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.2.5 Fair value measurement

The Group measures financial instruments such as derivatives at fair value at each balance sheet date. Fair value related disclosures for financial instruments and non-financial assets that are measured at fair value or where fair values are disclosed, are summarized in the following notes:

	<u>Notes</u>
Disclosure for valuation methods, significant estimates and assumptions	2,6,29 and 30
Quantitative disclosures of fair value measurement hierarchy	30
Investment properties	12
Financial instruments (including those carried at amortized cost)	6,29 and 30

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- In the principal market for the asset or liability, or
- In the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the Group.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

2.2.5 Fair value measurement (cont'd)

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognized in the financial statements at fair value on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, the Group has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

2.2.6 Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable excluding taxes or duty. Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Group and the revenue can be reliably measured. The specific recognition criteria described below must also be met before revenue is recognized.

When the collectability of an amount already included in revenue becomes uncertain, the uncollectible amount or the amount in respect of which recovery has ceased to be probable is recognized as an expense, rather than as an adjustment of the amount of revenue originally recognized.

2.2.6.1 Sale of goods

Revenue from the sale of goods is recognized when the significant risks and rewards of ownership of the goods have passed to the buyer. Revenue received from transactions where the Group acts as an agent without assuming the risks and rewards of ownership of the goods is recognized on a net basis.

2.2.6.2 Rendering of services

Revenue from the rendering of services is recognized by reference to the stage of completion when the amount of revenue can be measured reliably, the stage of completion of the transaction can be measured reliably and the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue is recognized only to the extent of the expenses recognized that are recoverable.

2.2.6.3 Interest income

For all financial instruments measured at amortized cost and interest-bearing financial assets classified as available-for-sale (AFS), interest income is recorded using the effective interest rate (EIR). The EIR is the rate that exactly discounts the estimated future cash receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset. Interest income is included in finance income in profit or loss.

2.2.6.4 Dividends

Dividends income is recognized when the Group's right to receive the payment is established.

2.2.7 Cash and cash equivalents

Cash and cash equivalents in the statement of financial position comprise cash at banks and on hand and short-term deposits with an original maturity of three months or less.

2.2.8 Financial assets

All financial assets are recognized initially at fair value plus transactions costs, except in the case of financial assets recorded at fair value through profit or loss. Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognized on the trade date, i.e., the date that the Group commits to purchase or sell the asset.

Financial assets are classified as financial assets at fair value through profit or loss, loans and receivables, held-to-maturity investments and AFS financial assets. The Group determines the classification of its financial assets at initial recognition.

2.2.8.1 Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Derivatives are also classified as held for trading. Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with changes in fair value recognized in finance costs in the consolidated statement of comprehensive income. Transaction costs attributable to the acquisition of the financial asset at fair value through profit or loss are charged to current operation.

2.2.8.2 Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturities are classified as held-to-maturity when the Group has the positive intention and ability to hold it to maturity. After initial measurement, held-to-maturity investments are measured at amortized cost using the EIR, less impairment. The EIR amortization is included in finance income in the consolidated statement of comprehensive income. The losses arising from impairment are recognized in the consolidated statement of comprehensive income in finance costs.

2.2.8.3 Available-for-sale (AFS) financial assets

AFS financial assets include equity investments and debt securities. Equity investments classified as AFS are those, which are neither classified as held for trading nor designated at fair value through profit or loss. Debt securities in this category are those which are intended to be held for an indefinite period of time and which may be sold in response to needs for liquidity or in response to changes in the market conditions. After initial measurement, AFS financial assets are subsequently measured at fair value with unrealized gains or losses recognized as other comprehensive income (OCI) until the investment is derecognized, at which time the cumulative gain or loss is recognized in other income, or the investment is determined to be impaired, when the cumulative loss is reclassified from the OCI to the profit or loss in other expenses.

2.2.8.4 Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, such financial assets are subsequently measured at amortized cost using EIR, less impairment. The EIR amortization is included in finance income in the consolidated statement of comprehensive income.

2.2.8.5 Impairment of financial assets

The Group assesses, at each reporting date, whether there is any objective evidence that a financial asset or a group of financial assets is impaired excluding financial assets at fair value through profit or loss. A financial asset or a group of financial assets is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more events that has occurred after the initial recognition of the asset (an incurred 'loss event') and that loss event has an impact on the estimated future cash flows of the financial asset or the group of financial assets that can be reliably estimated. In the case of equity investments classified as AFS, objective evidence includes a significant or prolonged decline in the fair value of the investment below its cost.

2.2.8.5 Impairment of financial assets (cont'd)

For financial assets carried at amortized cost, the Group first assesses whether impairment exists individually for financial assets that are individually significant, or collectively for financial assets that are not individually significant. Evidence of impairment includes the Group's historical loss experience for receivables with similar credit risk characteristics, increased number of delayed payments and significant change of national or local economic conditions that correlate with defaults on the receivables.

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

The carrying amount of the asset is reduced directly, except for loans and receivables. The carrying amount of loans and receivables is reduced through use of an allowance account. If the loans and receivables have been extinguished, the loans and receivables are written off and offset against the related allowance account.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed to the extent that the asset's carrying amount does not exceed what the amortized cost would have been had impairment loss not been recognized. However, impairment losses recognized in profit or loss for an investment in an equity instrument classified as AFS is not reversed through profit or loss.

2.2.8.6 Derecognition

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the Group's consolidated statement of financial position) when:

- The rights to receive cash flows from the asset have expired, or
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership.

When it retains substantially all of the risks and rewards of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognize a financial liability for the consideration received.

2.2.9 Inventories

Inventories are valued at the lower of cost and net realizable value, with cost being determined using the first-in, first-out method, except for materials in-transit which are stated at cost by the specific identification method. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale.

2.2.10 Non-current assets held for sale and discontinued operations

The Group classifies non-current assets and disposal groups classified as held for sale or for distribution to equity holders of the parent if their carrying amounts will be recovered principally through a sale or distribution rather than through continuing use. Such non-current assets and disposal groups classified as held for sale or as held for distribution are measured at the lower of their carrying amount and fair value less costs to sell or to distribute. Costs to sell are the incremental costs directly attributable to the sales, excluding the finance costs and income tax expense.

The criteria for held for sale classification is regarded as met only when the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition. Actions required to complete the sale should indicate that it is unlikely that significant changes to the sale will be made or that the sale will be withdrawn. Management must be committed to the sale expected within one year from the date of the classification.

2.2.10 Non-current assets held for sale and discontinued operations (cont'd)

Property, plant and equipment and intangible assets are not depreciated or amortized once classified as held for sale or as held for distribution. Assets and liabilities classified as held for sale or for distribution are presented separately as current items in the statement of financial position.

A disposal group qualifies as discontinued operation if it is a component of an entity that either has been disposed of, or is classified as held for sale, and:

- Represents a separate major line of business or geographical area of operations
- Is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area of operations, or
- Is a subsidiary acquired exclusively with a view to resale

Discontinued operations are excluded from the results of continuing operations and are presented as a single amount as profit or loss after tax from discontinued operations in the statement of comprehensive income.

2.2.11 Property, plant and equipment

Property, plant and equipment is stated at cost, net of accumulated depreciation and/or accumulated impairment losses, if any. 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. The present value of the expected cost for the decommissioning of the asset after its use is included in the cost of the respective asset if the recognition criteria for a provision are met.

Subsequent cost is recognized in the carrying amount of the item of property, plant and equipment, if the following recognition criteria are met:

- It is probable that future economic benefits associated with the item will flow to the Group, and
- Cost can be measured reliably.

The carrying amount of the replaced part is expensed, and the expenditures related to repair and maintenance are reflected in current operation as incurred.

Depreciation is computed using the straight-line method over the estimated useful life of the assets as follows:

	<u>Useful life (years)</u>
Buildings	40 ~ 50
Structures	8 ~ 30
Machinery	4 ~ 25
Others	4 ~ 5

The assets' residual values, useful lives and methods of depreciation are reviewed at each financial year end, and adjusted prospectively, if appropriate.

2.2.12 Investment properties

Property held to earn rental income or for capital appreciation is classified as investment properties. Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are stated at cost, net of accumulated depreciation and/or accumulated impairment losses.

Subsequent cost is recognized in the carrying amount of the item of property, plant and equipment, if the following recognition criteria are met:

- It is probable that future economic benefits associated with the item will flow to the Group, and
- Cost can be measured reliably

2.2.12 Investment properties (cont'd)

The carrying amount of the replaced part is expensed, and the expenditures related to repair and maintenance are reflected in current operations as incurred.

Depreciation of investment properties other than land is calculated on a straight-line basis. The useful lives and depreciation method of investment properties are the same as those of property, plant and equipment. The assets' residual values, useful lives and methods of depreciation are reviewed at each financial year end, and adjusted prospectively, if appropriate.

2.2.13 Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses. The cost of an internally generated intangible asset is the sum of expenditure incurred from the date when the intangible assets first meet the recognition criteria.

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite lives except for mining rights are amortized using the straight-line method over the useful life of 5~10 years. Memberships are not amortized as their useful life is deemed to be indefinite.

The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at each financial year end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortization period or method, as appropriate, and are treated as changes in accounting estimates.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

2.2.14 Exploration and evaluation assets, development assets, and mining rights

The Group engages in the development of natural resources either by entering into contracts for sharing the extracted natural resources or by acquiring interests in the related projects. Expenditures related to natural resources are recognized as exploration and evaluation assets, development assets or mining rights. The nature of these intangible assets is as follows:

2.2.14.1 Exploration and evaluation assets

Exploration and evaluation assets consist of expenditures for topographical studies, geophysical studies and drilling and appraisal of oil fields. These assets are reclassified into development assets when the reserves are proven successful.

2.2.14.2 Development assets

Development assets consist of expenditures for fields, construction of production facilities, and others. These development assets are reclassified as mining rights at the inception of the commercial production.

2.2.14.3 Mining rights

Mining rights (production fields) consist of expenditure for improving productivity, oil reservoir management for prediction of oil output and production optimization, and increasing the return rate from crude oil. Mining rights are amortized using the unit of production method.

2.2.15 Impairment of non-financial assets

The Group assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, the Group estimates the asset's recoverable amount. 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.

An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs to sell and its value in use and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. Impairment losses are recognized in profit or loss. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the consolidated statement of comprehensive income.

2.2.16 Leases

The determination of whether an arrangement is (or contains) a lease is based on the substance of the arrangement at the inception date. The arrangement is assessed for (i) whether fulfilment of the arrangement is dependent on the use of a specific asset or assets or (ii) the arrangement conveys a right to use the asset or assets, even if that right is not explicitly specified in an arrangement.

2.2.16.1 Group as a lessee

Finance leases that transfer substantially all the risks and benefits incidental to ownership of the leased item to the Group, are capitalized at the commencement of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. Lease payments are apportioned between finance charges and reduction of the lease liability so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are recognized in finance costs in the consolidated statement of comprehensive income.

A leased asset is depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term.

Operating lease payments are recognized as an expense in the consolidated statement of comprehensive income on a straight-line basis over the lease term.

2.2.16.2 Group as a lessor

Leases in which the Group does not transfer substantially all the risks and benefits of ownership of an asset are classified as operating leases. Initial direct costs incurred in negotiating an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned.

2.2.17 Foreign currency translation

The Group's consolidated financial statements are presented in Korean won, which is also the parent company's functional currency. Each entity in the Group determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency.

Transactions in foreign currencies are initially recorded by the entities at their respective functional currency spot rates at the date the transaction first qualifies for recognition. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange at the reporting date. All differences are taken to the profit or loss with the exception of all monetary items that are designated as part of the hedge of the Group's net investment of a foreign operation.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined.

On consolidation the assets and liabilities of foreign operations are translated into Korean won at the rate of exchange prevailing at the reporting date and their profit or loss and OCI are translated at the average exchange rates for the period. The exchange differences arising on the translation are recognized in OCI. On disposal of a foreign operation, the component of OCI relating to that particular foreign operation is recognized in profit or loss.

2.2.18 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective assets. Any investment income on the temporary investment of those borrowings is deducted from borrowing costs. All other borrowing costs are expensed in the period they occur.

2.2.19 Government grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with.

When the grant relates to an expense item, it is recognized as income by reducing the related costs on a systemic basis over the periods that the related costs, for which it is intended to compensate, are expensed. When the grant relates to an asset, it is presented in the statement of financial position by deducting the grant in arriving at the carrying amount of the asset. It is recognized in profit or loss over the life of depreciable asset as a reduced depreciation expenses.

2.2.20 Financial liabilities and equity instruments

Issued debt instrument and equity instrument are classified as either financial liability or equity in accordance with the substance of the contractual arrangement.

2.2.20.1 Equity instruments

An equity instruments is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities.

2.2.20.2 Financial guarantee contracts

Financial guarantee contracts issued by the Group are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. Financial guarantee contracts are recognized initially as a liability at fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequently, the liability is measured at the higher of the amount determined in accordance with KIFRS 1037 *Provisions, Contingent liabilities and Contingent Assets* and the amount initially recognized less cumulative amortization recognized in accordance with KIFRS 1018 *Revenue*.

2.2.20.3 Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss includes financial liabilities held for trading and financial liabilities designated upon initial recognition at fair value through profit or loss. Financial liabilities are classified as held for trading if they are acquired for the purpose of selling in the near term. Gains or losses on liabilities held for trading are recognized in profit or loss.

2.2.20.4 Other financial liabilities

Other financial liabilities are recognized initially at fair value less directly attributable transaction costs. After initial recognition, other financial liabilities are subsequently measured at amortized cost using the EIR method.

2.2.20.5 Derecognition

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires.

2.2.21 Severance benefits

The Group operates a defined benefit pension plan, which requires contributions to be made to a separately administered fund.

The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Re-measurements, comprising of actuarial gains and losses, the effect of the asset ceiling, excluding net interest and the return on plan assets (excluding net interest), are recognized immediately in the statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Re-measurements are not reclassified to profit or loss in subsequent periods.

Past service costs are recognized in profit or loss on the earlier of:

- The date of the plan amendment or curtailment, and
- The date that the Group recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The Group recognizes the following changes in the net defined benefit obligation under cost of sales, and selling and administrative expenses in profit or loss (by function).

- Service costs comprising current service costs, past-service costs, gains and losses on curtailments and non-routine settlements
- Net interest expense or income

2.2.22 Taxes

2.2.22.1 Current income tax

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, by the reporting date, in the countries where the Group operates and generates taxable income.

2.2.22.2 Deferred tax

Deferred tax is provided using the liability method on temporary differences at the reporting date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- When the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future

Deferred tax assets are recognized for all deductible temporary differences, carry forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized except:

- When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in OCI or directly in equity.

Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Tax benefits acquired as part of a business combination, but not satisfying the criteria for separate recognition at that date, would be recognized subsequently if new information about facts and circumstances changed. The adjustments would either be treated as a reduction to goodwill (as long as it does not exceed goodwill) if it was incurred during the measurement period or in profit or loss.

2.2.22.3 Recognition of current and deferred tax

Current and deferred tax are recognized as income or an expense and included in profit or loss for the period, except to the extent that the tax arises from (a) a transaction or event which is recognized, in the same or a different period, outside profit or loss, either in OCI or directly in equity; or (b) a business combination. In case of a business combination, the Group recognizes deferred tax assets or liabilities relating to temporary differences arising in a business combination. Consequently, those deferred tax assets and liabilities affect the amount of goodwill or the bargain purchase gain.

2.2.23 Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that 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. When it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation or the amount of the obligation cannot be measured with sufficient reliability, a contingent liability is disclosed, but not recognized.

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 the Group expects some or all of a provision to be reimbursed, the reimbursement is recognized as a separate asset but only when the reimbursement is virtually certain.

2.2.24 Derivatives

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value at the reporting date, and changes therein are recognized in profit or loss. For the purpose of hedge accounting, hedges are classified as fair value hedges when hedging the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment.

At the inception of a hedge relationship, the Group formally designates and documents the hedge relationship to which the Group wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge. The documentation includes identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged and how the entity will assess the effectiveness of changes in the hedging instrument's fair value in offsetting the exposure to changes in the hedged item's fair value or cash flows attributable to the hedged risk.

Such hedges are expected to be highly effective in achieving offsetting changes in fair value or cash flows and are assessed on an ongoing basis to determine that they actually have been highly effective throughout the financial reporting periods for which they were designated.

2.2.24.1 Fair value hedges

Under a fair value hedge, the change in the fair value of a hedging derivative is recognized in profit or loss and the change in the fair value of the hedged item attributable to the risk hedged is recorded as a part of the carrying value of the hedged item and is also recognized in profit or loss.

When the hedging instrument expires or is sold, terminated or exercised, hedge no longer meets the criteria for hedge accounting or the entity revokes the designation of hedge relationship, the hedge accounting is discontinued prospectively.

2.2.24.2 Embedded derivatives

Embedded derivatives are separated from the host contract and accounted for separately only if the following criteria have been met: (a) the economic characteristics and risks of the embedded derivatives are not closely related to those of the host contract, and (b) the host contract is not measured at fair value through profit or loss.

2.3 Significant accounting judgments, estimates and assumptions

The preparation of the Group's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

Other disclosures relating to the Group's exposure to risks and uncertainties are disclosed in Note 29, which includes:

- Capital management
- Financial instruments risk management
- Sensitivity analysis disclosures

The key assumptions concerning the future and other key sources of estimation and uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

2.3.1 Impairment of non-financial assets

The Group assesses at the end of each reporting period whether there is any indication that non-financial assets may be impaired. If any indication exists, the Group estimates the asset's recoverable amount. Goodwill and intangible assets with indefinite useful lives are tested for impairment annually. To estimate the value in use, management estimates future cash flows from the assets or CGU and determines the discount rate appropriate for the future cash flow.

2.3.2 Pension benefits

The present value of the defined benefit obligation is determined using actuarial valuations. An actuarial valuation involves making various assumptions. It includes the determination of the discount rate, future salary growth rate and mortality rates. Due to the complexity of the valuation, the underlying assumptions and its long term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. All assumptions are reviewed at each reporting date.

2.3.3 Fair value of financial instruments

Where the fair value of financial assets and financial liabilities recorded in the statement of financial position cannot be derived from active markets, they are determined using valuation techniques including the discounted cash flow model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. The judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

2.4 New and amended standards and interpretations

The Group applied for the first time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2017. The nature and the impact of each new standard and amendment are described below:

Amendments to KIFRS 1007 *Statement of Cash Flows: Disclosure Initiative*

The amendments require entities to provide disclosure of changes in their liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes (such as foreign exchange gains or losses). The Group has provided the information for both the current and the comparative period in Note 29.

2.4 New and amended standards and interpretations (cont'd)

Amendments to KIFRS 1012 *Income Taxes: Recognition of Deferred Tax Assets for Unrealised Losses*

The amendments clarify that an entity needs to consider whether tax law restricts the sources of taxable profits against which it may make deductions on the reversal of deductible temporary difference related to unrealized losses. Furthermore, the amendments provide guidance on how an entity should determine future taxable profits and explain the circumstances in which taxable profit may include the recovery of some assets for more than their carrying amount. However, their application has no effect on the Group's financial statements as the Group has no deductible temporary differences or assets that are in the scope of the amendments.

Amendments to KIFRS 1112 *Disclosure of Interests in Other Entities: Clarification of the scope of disclosure requirements in KIFRS 1112*

The amendments clarify that the disclosure requirements in KIFRS 1112, other than those in paragraphs B10–B16, apply to an entity's interest in a subsidiary, a joint venture or an associate (or a portion of its interest in a joint venture or an associate) that is classified (or included in a disposal group that is classified) as held for sale. The amendments do not have any impact on the Group's financial statements.

2.5 Standards issued but not yet effective

The standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below.

KIFRS 2122 *Foreign Currency Transactions and Prepaid Payment or Receipts in Advance Consideration*

The Interpretation clarifies that, in determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to prepaid payment or receipts in advance consideration, the date of the transaction is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the prepaid payment or receipts in advance consideration. If there are multiple prepaid payment or receipts in advance, then the entity must determine the transaction date for each prepaid payment or receipts in advance consideration.

The Interpretation is effective for annual periods beginning on or after January 1, 2018. Early application of interpretation is permitted. However, since the Group's current practice is in line with the Interpretation, the Group does not expect any significant effect on its financial statements.

KIFRS 1109 *Financial Instruments*

In September 2015, The KASB issued the final version of KIFRS 1109 Financial Instruments that replaces KIFRS 1039 Financial Instruments: Recognition and Measurement and all previous versions of KIFRS 1109. KIFRS 1109 brings together all three aspects of the accounting for financial instruments project: classification and measurement, impairment and hedge accounting. KIFRS 1109 is effective for annual periods beginning on or after January 1, 2018, with early application permitted. The Group plans to adopt the new standard on the required effective date.

Under the standard, retrospective application is required, but providing comparative information is not compulsory for certain cases such as classification and measurement of financial instruments, and impairment. For hedge accounting, the requirements are generally applied prospectively, with some limited exceptions such as accounting for time value of options.

The main features of the standard include: a business model for the managing financial assets; classification and measurement of financial assets based on contractual cash flow characteristics of financial assets; an impairment model for financial instruments based on expected credit losses; the hedged item that meet the requirements of hedge accounting, increases in hedging instruments, or changes in the evaluation method for hedge effectiveness.

The effective implementation of the standard will likely require analyses on financial effects, establishment of accounting policies, development of an accounting system, and stabilization of the system. The effect on the financial statements for the first-time adoption of the standard may differ depending on the selection and judgment of accounting policies in accordance with the standard, as well as the Group's financial instruments and economic conditions during the period.

2.5 Standards issued but not yet effective (cont'd)

The Group is preparing for its internal control procedures, or the accounting system related to the adoption of KIFRS 1109, and will analyze the financial impact of KIFRS 1109 on its consolidated financial statements. General impacts on the Group's consolidated financial statements upon the adoption of the standard are as follows;

(i) Classification and measurement of financial assets

KIFRS 1109 requires financial instruments to be classified as financial instruments subsequently measured at amortized cost, fair value through other comprehensive income (FVOCI), or fair value through profit or loss (FVTPL), on the basis of the holder's business model and instrument's contractual cash flow characteristics as shown below. Hybrid contracts with hosts that are assets, are classified in their entirety instead of bifurcating the embedded derivatives.

Objective of the business model	Characteristics of contractual cash flows	
	Composed solely of principal and interest	Others
Collecting contractual cash flows	Subsequently measured at amortized cost	FVTPL
Collecting contractual cash flows and selling	FVOCI	
Selling or other purposes	FVTPL	

According to KIFRS 1109, an entity may make an irrevocable election to present in other comprehensive income changes in the fair value of an investment in an equity instrument that is not held for trading. Items of comprehensive income are not subsequently recycled to profit or loss.

According to KIFRS 1109, a financial asset whose contractual terms do not give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding, or a debt instrument that is held for trading, or an equity instrument that is not designated as a financial asset measured at FVOCI, are measured at FVTPL.

As of the end of the reporting period, equity instruments classified as available-for-sale financial instruments are presented in Note 6. In accordance with KIFRS 1109, the Company has elected to measure the investments at FVOCI and FVTPL. As of the initial application date (January 1, 2018), retained earnings will increase by ₩10,946 million (\$10,217 thousand) due to the change in classification.

(ii) Classification and measurement of financial liabilities

Under KIFRS 1109, changes in the fair value of a financial liability designated as measured at FVTPL that arise from changes in the liability's credit risk are presented in other comprehensive income, instead of profit or loss. The changes in the liability's credit risk are recognized in profit or loss if the changes create or enlarge an accounting mismatch had it been presented in other comprehensive income.

Some of the changes in the fair value of financial liabilities designated as at FVTPL, which were recognized in profit or loss under the current KIFRS 1039, are presented in other comprehensive income; therefore, gains and losses on valuation of financial liabilities may decrease.

(iii) Impairment: financial assets and contract assets

Under KIFRS 1039, impairment losses are recognized when there is objective evidence of impairment based on the incurred loss model. However, under KIFRS 1109, impairment losses are recognized on debt instruments, lease receivables, contract assets, loan commitment, and financial guarantee contracts that were accounted for at amortized cost, or FVOCI, based on the expected credit loss (ECL) impairment model.

KIFRS 1109 outlines a three-stage model for 12-month expected credit losses, or lifetime expected credit losses based on changes in credit risk since initial recognition of financial assets. As a result, credit losses can be recognized earlier than the current KIFRS 1039

2.5 Standards issued but not yet effective (cont'd)

Classification (*1)		Loss allowance
Stage 1	Credit risk on a financial instrument has not increased significantly since initial recognition. (*2)	12-month ECL: Expected credit losses that result from default events that are possible within 12 months after the reporting date
Stage 2	Credit risk on a financial instrument has increased significantly since initial recognition.	Lifetime ECL: Expected credit losses that result from all possible default events over the expected life of the financial instrument
Stage 3	Credit-impaired	

(*1) For trade receivables or contract assets that arise from transactions within the scope of KIFRS 1115 *Revenue from Contracts with Customers* and that do not contain a significant financing component, loss allowance is measured at an amount equal to lifetime expected credit losses. If the trade receivables or contract assets contain a significant financial component, a policy election may be made such that the loss allowance is measured at an amount equal to lifetime expected credit losses. Also, for lease receivables, a policy election may be made such that the loss allowance is measured at an amount equal to lifetime expected credit losses.

(*2) Low credit risk at the reporting date may be deemed as no significant increase in credit risk.

Under KIFRS 1109, the cumulative changes in lifetime expected credit losses since initial recognition are recognized as loss allowance for a financial asset that is considered credit-impaired at initial recognition.

Trade and other receivables and available-for-sale financial assets designated as measured at amortized cost as of December 31, 2017 are described in Note 5.

For trade receivables, which contain a significant financing component, the Group measures the loss allowance at an amount equal to lifetime expected credit losses. If the Group applies a practical expedient under which low credit risk at the reporting date may be deemed as no significant increase in credit risk, the loss allowance will increase by ₩3,130 million (\$2,921 thousand) and the retained earnings will decrease by ₩2,311 million (\$2,157 thousand) as of January 1, 2018.

(iv) Hedge accounting

KIFRS 1109 applies mechanics of hedge accounting (fair value hedge accounting, cash flow hedge, foreign operations net investment hedge) specified in the current KIFRS 1039. However, the Group changed from the complex and rule-based hedge accounting requirements of KIFRS 1039 to the principle-based approach which focuses on the risk management activities. Requirements for application of hedge accounting are relaxed by enlarging items designated as hedges and hedging instruments, evaluating the high risk avoidance effects, and eliminating the quantitative criteria (80 ~ 125%).

Upon application of hedge accounting of KIFRS 1109, some transactions that do not meet the criteria for hedge accounting of the current KIFRS 1039 may be accounted for using the hedge accounting; therefore, volatility in profit or loss may be reduced.

Details of the assets, liabilities and firm commitment contracts for which the Group applies hedge accounting as of December 31, 2017 are described in Note 18.

The Group can elect to continue to apply the current KIFRS 1039 hedge accounting requirements upon initial application of KIFRS 1109.

2.5 Standards issued but not yet effective (cont'd)

KIFRS 1115 Revenue from Contracts with Customers

KIFRS 1115 Revenue from Contracts with Customers, which was enacted on November 6, 2015, is effective for annual periods beginning on or after January 1, 2018, with early application permitted. The new standard will supersede the following KIFRS: KIFRS 1018 *Revenue*, K-IFRS 1011 *Construction Contracts*, K-IFRS 2031 *Revenue-Barter Transactions Involving Advertising Services*, K-IFRS 2113 *Customer Loyalty Programmes*, KIFRS 2115 *Agreements for the Construction of Real Estate*, and K-IFRS 2118 *Transfers of Assets from Customers*. The Group plans to apply K-IFRS 1115 beginning on or after January 1, 2018 and the cumulative effect of the first application will be applied on the first application date, January 1, 2018, as an appropriation of retained earnings.

The current KIFRS 1018 provides the criteria for the recognition of revenue relating to: sale of goods, rendering of services, interest, royalties, dividends and construction contracts; however, under the new KIFRS 1115, revenue is recognized by applying a five-stage revenue recognition model (① Identify a contract with a customer. → ② Identify the performance obligations in the contract. → ③ Determine the transaction price → ④ Allocate the transaction price to the separate performance obligations in the contract. → ⑤ Recognize revenue when the entity satisfies a performance obligation) to its all contracts with customers.

(1) Determination of the transaction price

The transaction price is the amount of consideration in a contract to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer. The transaction price is an estimation of what the Company expects to receive in the future, not the amount promised in a contract with a customer. If the consideration promised in a contract with a customer includes variable amounts such as discount, price concessions, incentives or others, the transaction price is consisted of fixed amounts and variable amounts. The variable amount is an estimation value: higher amount of expected value or highly possible amount.

Upon application of KIFRS 1115, the Group estimates the variable consideration using the method that better predicts the amount of consideration to be received. The Group recognizes revenue by including the variable consideration in the transaction price only to the extent that it is highly probable that a significant reversal in the cumulative revenue recognized will not occur.

(2) Allocation of the transaction price to the performance obligations in the contract

In case of a term-base sales contract, numbers of performance obligations can be identified in a single contract. In such cases, the transaction price should be allocated to each performance obligation and revenue should be recognized for each performance obligation performed. Where a contract has multiple performance obligations, the transaction price will be allocated to the performance obligations in the contract by reference to their relative standalone selling prices. The standalone selling price is the price at which an entity would sell a promised good or service separately to a customer. If a standalone selling price is not directly observable, an entity shall estimate the standalone selling price. Suitable methods for estimating the standalone selling price of a good or service include, but are not limited to, the following:

Method	Contents
Adjusted market assessment approach	Evaluating the market in which an entity sells goods or services, and estimating the price that a customer in that market would be willing to pay for those goods or services.
Expected cost plus a margin approach	Forecasting its expected costs of satisfying a performance obligation and then adding an appropriate margin for that good or service.
Residual approach	Estimating the stand-alone selling price by reference to the total transaction price less the sum of the observable stand-alone selling prices of other goods or services promised in the contract.

2.5 Standards issued but not yet effective (cont'd)

In the application of KIFRS 1115, performance obligation is identified from (1) sales of goods and (2) transportation services from trading with customer. The Group plans to recognize the revenue on the transaction prices allocated to each performance obligation by applying expected cost plus a margin approach for the estimated costs when the obligation is performed. If performance obligation is separated, retained earnings will decrease by ₩410 million (\$383 thousand) as at January 1, 2018, the initial application date.

(3) Performance obligation satisfied over time: customized equipment.

In accordance with KIFRS 1115, the percentage of completion (POC) method is applied for revenue recognition if an entity does not have an alternative use of the assets manufactured to perform the obligation and the entity has the enforceable right to payment for performance completed. As a result of analyzing the terms and conditions of the contract for equipment manufactured after order, the Company does not have the enforceable right to payment for performance completed. If the percentage of completion is not applied, retained earnings will decrease by ₩448 million (\$418 thousand) as at January 1, 2018.

The Group's accounting policies may change until the end of the first quarter of 2018 on which the financial statements after the initial application date are disclosed for the first time. Accordingly, the financial impact based on the accounting standard above may differ from the financial information after the initial application date included in the financial statements for the first quarter of 2018.

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

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

KIFRS 1116 Leases

KIFRS 1116 was issued in January 2016 and it replaces KIFRS 1017 *Leases*, KIFRS 2104 *Determining whether an Arrangement contains a Lease*, KIFRS 2015 *Operating Leases-Incentives* and KIFRS 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*. KIFRS 1116 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model similar to the accounting for finance leases under KIFRS 1017. The standard includes two recognition exemptions for lessees – leases of 'low-value' assets (e.g., personal computers) and short-term leases (i.e., leases with a lease term of 12 months or less). At the commencement date of a lease, a lessee will recognize a liability to make lease payments (i.e., the lease liability) and an asset representing the right to use the underlying asset during the lease term (i.e., the right-of-use asset). Lessees will be required to separately recognize the interest expense on the lease liability and the depreciation expense on the right-of-use asset.

Lessees will be also required to remeasure the lease liability upon the occurrence of certain events (e.g., a change in the lease term, a change in future lease payments resulting from a change in an index or rate used to determine those payments). The lessee will generally recognize the amount of the remeasurement of the lease liability as an adjustment to the right-of-use asset.

Lessor accounting under KIFRS 1116 is substantially unchanged from today's accounting under KIFRS 1017. Lessors will continue to classify all leases using the same classification principle as in KIFRS 1017 and distinguish between two types of leases: operating and finance leases.

KIFRS 1116 also requires lessees and lessors to make more extensive disclosures than under KIFRS 1017. KIFRS 1116 is effective for annual periods beginning on or after January 1, 2019. Early application is permitted, but not before an entity applies KIFRS 1115. A lessee can choose to apply the standard using either a full retrospective or a modified retrospective approach. The standard's transition provisions permit certain reliefs.

2.5 Standards issued but not yet effective (cont'd)

Amendments to KIFRS 1040 *Transfers of Investment Property*

The amendments clarify when an entity should transfer property, including property under construction or development into, or out of investment property. The amendments state that a change in use occurs when the property meets, or ceases to meet, the definition of investment property and there is evidence of the change in use. A mere change in management's intentions for the use of a property does not provide evidence of a change in use. Entities should apply the amendments prospectively to changes in use that occur on or after the beginning of the annual reporting period in which the entity first applies the amendments. An entity should reassess the classification of property held at that date and, if applicable, reclassify property to reflect the conditions that exist at that date. Retrospective application in accordance with KIFRS 1008 is only permitted if it is possible without the use of hindsight. These amendments are effective for annual periods beginning on or after January 1, 2018. Early application of the amendments is permitted and must be disclosed. The Group will apply these amendments on the required effective date.

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

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

On adoption, entities are required to apply the amendments without restating prior periods, but retrospective application is permitted if elected for all three amendments and other criteria are met. The amendments are effective for annual periods beginning on or after 1 January 2018, with early application permitted. The Group expects that the amendments would not have an impact on its financial statements.

2.6 Date of authorization for issue

The consolidated financial statements of the Group for the year ended December 31, 2017 were authorized at the meeting of the Group's Board of Directors held on January 26, 2018 and are scheduled to be approved at the Group's general shareholders' meeting to be held on March 12, 2018.

3. Segment information

3.1 Operating segment

For management purposes, the Group has three reportable operating segments (trading, natural resource development and others). Accounting policies of each segment are the same as those of the Group mentioned in Note 2.

The financial performance and financial position of each segment for the year ended December 31, 2017 are as follows:

	Korean won in millions					U. S. dollar in
	Trading	Natural resource development	Others	Consolidation adjustment	Total	thousands (Note 2)
Sales:						
Total sales	₩ 26,800,337	₩ 615,937	₩ 234,166	₩ -	₩ 27,650,440	\$ 25,807,766
Inter-segment sales	(4,988,521)	-	(90,265)	-	(5,078,786)	(4,740,327)
Net sales	₩ 21,811,816	₩ 615,937	₩ 143,901	₩ -	₩ 22,571,654	\$ 21,067,439
Profit(loss) for the year before tax	₩ 73,168	₩ 147,167	₩ (1,752)	₩ 29,378	₩ 247,960	\$ 231,436
Total asset	₩ 6,605,703	₩ 3,069,569	₩ 1,154,531	₩ (1,843,735)	₩ 8,986,068	\$ 8,387,221
Total liabilities	₩ 5,136,075	₩ 608,998	₩ 721,326	₩ (1,404,380)	₩ 5,062,019	\$ 4,724,678

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3.2 Adjustments and eliminations

Current taxes, deferred taxes and certain financial assets and financial liabilities are not allocated to individual segments as they are accounted for at the enterprise level.

Reconciliation of assets is as follows:

	Korean won in millions	U. S. dollar in thousands (Note 2)
	2017	2017
Segment operating assets	₩ 8,986,068	\$ 8,387,221
Current tax assets	5,537	5,168
Deferred tax assets	178,381	166,493
Total assets	<u>₩ 9,169,986</u>	<u>\$ 8,558,882</u>

Reconciliation of liabilities is as follows:

	Korean won in millions	U. S. dollar in thousands (Note 2)
	2017	2017
Segment operating liabilities	₩ 5,062,019	\$ 4,724,678
Current tax liabilities	47,920	44,727
Deferred tax liabilities	9,634	8,992
Current portion of bonds	463,737	432,832
Non-current bonds	734,200	685,272
Total liabilities	<u>₩ 6,317,510</u>	<u>\$ 5,896,501</u>

3.3 Geographic information

Sales by geographic area are based on the geographical location of the market and customers. Sales for the year ended December 31, 2017 by geographic area are as follows:

	Korean won in millions					U. S. dollar in thousands (Note 2)	
	Domestic	Asia (excluding China)	China	North America	Others	Total	Total
Sales:							
Total sales	₩ 3,644,009	₩ 9,471,976	₩ 3,923,857	₩ 2,707,234	₩ 7,903,364	₩ 27,650,440	\$ 25,807,766
Inter-segment sales	(344,047)	(2,336,054)	(292,503)	(1,020,232)	(1,085,950)	(5,078,786)	(4,740,327)
Net sales	<u>₩ 3,299,962</u>	<u>₩ 7,135,922</u>	<u>₩ 3,631,354</u>	<u>₩ 1,687,002</u>	<u>₩ 6,817,414</u>	<u>₩ 22,571,654</u>	<u>\$ 21,067,439</u>

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4. Cash and cash equivalents

Cash and cash equivalents as at December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Cash	₩ 1,751	₩ 1,265	\$ 1,181
Savings account and checking account	159,302	165,769	154,722
Other cash equivalents	12,656	11,456	10,692
	₩ 173,709	₩ 178,490	\$ 166,595

5. Trade and other receivables

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

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Current:			
Trade receivables	₩ 3,456,772	₩ 3,486,934	\$ 3,254,559
Allowance for doubtful accounts	(93,338)	(74,497)	(69,532)
Other receivables	142,402	87,571	81,735
Allowance for doubtful accounts	(73,232)	(20,141)	(18,799)
Accrued income	148	366	342
Short-term guarantee deposits	534	555	518
Short-term loans receivable	943	1,594	1,488
Allowance for doubtful accounts	(16)	(16)	(15)
Current portion of long-term loans receivable	49,479	51,236	47,820
	3,483,692	3,533,602	3,298,116
Non-current:			
Long-term trade receivables	5,450	101,852	95,064
Allowance for doubtful accounts	-	(90,458)	(84,430)
Long-term loans receivable	359,971	286,785	267,673
Long-term other receivables	40,709	58,220	54,340
Allowance for doubtful accounts	(5,893)	(14,567)	(13,596)
Long-term guarantee deposits	7,237	15,483	14,452
	407,474	357,315	333,503
	₩ 3,891,166	₩ 3,890,917	\$ 3,631,619

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5.1 Allowance for doubtful accounts

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

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Beginning balance	₩ 53,231	₩ 93,338	\$ 87,118
Increase due to business combination	-	38,943	36,348
Bad debt expenses	31,793	77,035	71,901
Write-off	(3,368)	(36,746)	(34,297)
Foreign exchange translation loss(profit)	11,682	(7,615)	(7,108)
Ending balance	₩ 93,338	₩ 164,955	\$ 153,962

5.2 Financial assets transferred but not derecognized

As at December 31, 2017, trade receivables transferred with a book value amounting to ₩474,714 million (\$443,078 thousand) are not derecognized. Cash received through factoring of such receivables is accounted for as short-term borrowings.

The Group factored the above trade receivables to financial institutions with recourse. The Group retains the risks of ownership arising from credit risk such as default of debtors. The fair values of the above receivables transferred and the related borrowings are not significantly different from their book values.

6. Other financial assets

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

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Deposits in financial institutions	₩ 32,534	₩ 6,638	\$ 6,196

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

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Deposits in financial institutions	₩ 15	₩ 21	\$ 20
Available-for-sale financial assets	108,677	93,600	87,362
Held-to-maturity investments	-	695	649
	₩ 108,692	₩ 94,316	\$ 88,031

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6. Other financial assets (cont'd)

Available-for-sale financial assets as at December 31, 2016 and 2017 are as follows:

	Korean won in millions						U. S. dollar in thousands (Note 2)
	2016		2017			2017	
	Book value	Number of shares	Equity owner- ship (%)	Acquisition cost	Fair value or net asset value	Book value	Book value
Marketable securities:							
Maruichi Steel Tube Ltd.	₩ 4,734	120,000	0.12	₩ 2,933	₩ 3,758	₩ 3,758	\$ 3,508
TK-Chemical Co., Ltd.	15,360	8,000,000	8.80	14,818	15,641	15,641	14,599
IQ Power Licensing AG	526	5,119,129	1.90	679	386	386	360
	20,620			18,430	19,785	19,785	18,467
Non-marketable securities:							
The Korea Economic Daily	974	178,881	0.96	1,952	2,102	974	909
Erae-automotive system Co., Ltd.	26,725	917,760	7.70	4,589	8,906	8,906	8,312
Erae AMS Co.,Ltd.	-	917,760	7.70	4,589	8,906	8,906	8,312
Hanil Daewoo Cement Mfg Co., Ltd.	-	300,000	15.00	1,500	(1,538)	-	-
CES Co., Ltd.	600	156,000	5.34	600	132	600	560
Central Corporation	10,157	100,474	10.89	1,859	9,683	9,683	9,038
Korea Investment Private Placement KEXIM Carbon Credit Special Asset Fund No. 1	103	-	2.13	263	106	106	99
Hanmi ADM Co., Ltd.	1,000	10,000	16.67	1,000	1,629	1,000	934
Miju Steel Mfg Co., Ltd.	-	909,391	1.49	182	(337)	-	-
DAEWOO Display Corp	-	39,403	6.72	-	422	-	-
S&S Metal Co., Ltd.	1,000	26,390	8.47	1,000	454	1,000	934
KG Power (M) Sdn. Bhd.	-	1,457,847	6.69	45	-	-	-
IQ Power Asia Corp.	-	735,976	14.18	4,053	161	-	-
DAEWOO (M) SDN. BHD.	-	-	-	48	-	-	-
Shinpoong Daewoo Pharma Co., Ltd.	343	-	3.42	343	351	343	320
CJ Philippines INC.	349	109,200	10.00	349	2,966	349	326
K.K.KOREA KAMCHATKA CO.LIMITED	-	328	10.00	-	-	-	-
POSCO-Malaysia Sdn. Bhd.	7,577	24,128,000	13.63	7,905	(1,278)	7,577	7,072
Dongjin Vietnam Co., Ltd.	803	20,000	10.00	803	-	803	749
POSCO ASSAN TST STEEL INDUSTRY A.S.	15,460	24,096,526	10.00	15,460	(5,178)	15,460	14,430
DAEWOO EL SALVADOR S.A. DE C.V.	-	31,262	88.00	3,021	-	-	-
Erae Automotive Systems Mexico	478	-	19.00	478	818	478	446
POSCO-ITPC S.P.A	781	-	10.00	781	971	781	729
Hunchun Pohang Hyundai International Logistics Complex Development Co., Ltd.	10,732	-	10.00	10,732	8,896	10,732	10,017
TES MI S.R.O.	523	-	3.00	523	-	523	488
JILIN KDAC Co., LTD.	176	-	7.00	176	-	176	164
POSCO Agricultural Products Export Fund	300	-	10.00	600	554	600	560
ZYLE DAEWOO Motor Sales Corp.	2	401	-	2	-	2	2
DW Development Co. Ltd-Engineering & Construction (Common Share)	1	70	-	1	-	1	1

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6. Other financial assets (cont'd)

	Korean won in millions						U. S. dollar in thousands (Note 2)					
	2016			2017			2017					
	Book value	Number of shares	Equity owner- ship (%)	Acquisition cost	Fair value or net asset value	Book value	Book value					
DW Development Co. Ltd-Engineering & Construction (Preferred Share)	₩	1	70	-	₩	1	₩	1	\$	1		
N.I.CO.,LTD.	-	-	50.00	3,099	-	-	-	-	-	-		
Korea Dic & Mold Industry Cooperative	-	-	-	1	-	-	1	1	1	1		
Korea Speciality Contractor Finanical Cooperative	-	-	-	101	-	-	101	101	94	94		
Others				4,738	5,244		4,712	4,399	4,399	4,399		
				88,057	70,795	43,970	73,815	68,895	68,895	68,895		
	₩			108,677	₩	89,225	₩	63,755	₩	93,600	\$	87,362

Investments in marketable securities, Maruichi Steel Tube Ltd., TK-Chemical Co., Ltd. and IQ Power Licensing AG were stated at fair market value as at December 31, 2017. Investments in Erae Automotive Systems Co., Ltd., Erae AMS Co., Ltd and Central Corporation were stated at fair value amounting to ₩9,704 (\$9,057) and ₩96,378 (\$89,955) per share, respectively, by using the discounted cash flow method under the income approach. Investment in Korea Investment Private Placement KEXIM Carbon Credit Special Asset Fund No. 1 was valued at net asset value (NAV) as at December 31, 2017. The resulting unrealized gains arising from fair value adjustments on available-for-sale financial assets amounting to ₩17,656 million (\$16,479 thousand) were recorded in accumulated other comprehensive income, net of deferred income tax effect (liability) of ₩4,273 million (\$3,988 thousand).

Available-for-sales financial assets other than marketable securities and investment in Erae Automotive Systems Co., Ltd., Erae AMS Co., Ltd., Central Corporation and Korea Investment Private Placement KEXIM Carbon Credit Special Asset Fund No. 1 are recorded at cost as these securities do not have quoted market prices in an active market and the fair value of those securities could not be measured reliably.

6.1 Restricted deposits

As at December 31, 2017 and 2016, deposits in financial institutions amounting to ₩25,471 million (\$23,774 thousand) and ₩17,084 million (\$15,912 thousand) are restricted in use in accordance with relevant financial agreements, respectively.

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7. Other assets

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Other current assets:			
Advance payments	₩ 181,712	₩ 157,176	\$ 146,702
Allowance for doubtful accounts	(5,147)	(2,546)	(2,376)
Prepaid expenses	4,424	11,627	10,852
Allowance for doubtful accounts	(3,314)	(2,886)	(2,694)
	<u>177,675</u>	<u>163,371</u>	<u>152,484</u>
Other non-current assets:			
Long-term prepaid expenses	7	3,530	3,295
	<u>₩ 177,682</u>	<u>₩ 166,901</u>	<u>\$ 155,778</u>

8. Inventories

Inventories as at December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Merchandise	₩ 531,235	₩ 714,521	\$ 666,904
Valuation allowance	(10,500)	(4,293)	(4,007)
Finished goods	6,149	26,197	24,451
Valuation allowance	-	(1,727)	(1,612)
Semifinished goods	-	19,928	18,600
Valuation allowance	-	(502)	(469)
Work-in-process	2,574	3,947	3,684
Raw materials	11,474	60,320	56,300
Valuation allowance	-	(1,049)	(979)
Toll processed goods	-	1,328	1,239
Supplies	1,748	4,772	4,454
Materials-in-transit	223,895	285,391	266,373
	<u>₩ 766,575</u>	<u>₩ 1,108,833</u>	<u>\$ 1,034,938</u>

The loss on valuation of inventories and the reversal of loss on valuation of inventories, which were recorded as costs of sales in 2017, amounted to ₩661 million (\$617 thousand) and ₩7,720 million (\$7,206 thousand), respectively. The loss on valuation of inventories and the reversal of loss on valuation of inventories, which were recorded as costs of sales in 2016, amounted to ₩1,298 million (\$1,211 thousand) and ₩2,734 million (\$2,552 thousand), respectively.

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9. Investments in associates

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

	Korean won in millions							U. S. dollar in				
	2016		Number of shares	Equity ownership (%)	2017		thousands					
	Book value	Acquisition cost			Proportionate net asset value	Book value	(Note 2)					
							2017					
							Book value					
Shanghai Lansheng Daewoo Corp.	₩	1,904	-	49.00	₩	4,828	₩	1,498	₩	1,401	\$	1,308
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.		2,035	-	49.00		299		1,699		1,699		1,586
Korea LNG Ltd.		56,737	2,400	20.00		-		35,837		35,837		33,449
General Medicines Co., Ltd.		6,895	9,702	33.00		736		8,466		8,372		7,814
POSCO IJPC		2,823	5,603,939	20.00		8,056		3,052		2,738		2,556
DMSA/AMSA(*1)(*3)		69,149	-	4.00		257,062		56,731		56,749		52,967
POSCO Mexico Processing Center Holding LLC(*1)		11,513	-	19.64		14,004		14,456		13,315		12,428
POSCO ESDC Ltd.		1,373	-	20.00		757		1,501		1,501		1,401
KG Power (M) Sdn. Bhd.		-	3,000,000	20.00		1,062		(1,179)		-		-
Global Komsco Daewoo LLC		916	-	35.00		4,445		1,597		1,577		1,472
South-East Asia Gas Pipeline Company Ltd.		216,787	50,082	25.04		150,779		197,855		197,859		184,673
Blue Ocean Recovery PEF No. 1		37,656	333	27.52		33,300		19,620		19,620		18,312
Korea Siberia Wood Cjsc		-	1,000	50.00		3,472		(1,887)		-		-
VNS-Daewoo Co., Ltd.		1,847	-	40.00		4,228		1,641		1,641		1,532
SPH Co., Ltd.		272	100,000	50.00		500		171		171		160
PT. Batutua Tembaga Raya		22,327	128,285	22.00		14,785		13,980		21,721		20,272
Yulchon Mexico S.A. De C.V.(*1)		868	18,267,000	10.00		1,349		1,035		1,035		966
HyunSon Engineering & Construction(*1)		54	-	4.90		97		34		34		32
Sebang Steel(*4)		-	49	49.00		484		292		473		441
Kwanika Copper Corp.(*6)		-	8,200,000	35.00		7,173		6,980		7,236		6,754
Daewoo Global Development Pte. Ltd.(*5)		13,836	-	-		-		-		-		-
La Srdc(*4)(*5)		-	-	-		145		-		-		-
		446,992				507,561		363,379		372,979		348,123
Government grants (*2)		-				(10,986)		-		-		-
	₩	446,992			₩	496,575	₩	363,379	₩	372,979	\$	348,123

(*1) These securities are classified as investments in associates even though the Group's equity ownership is below 20%, as the Group is able to exercise significant influence on the investee.

(*2) Differences between the nominal amount and the fair value of the borrowings related to the acquisition of interest in DMSA/AMSA were measured at initial recognition.

(*3) The Company invested in the Ambatovy Nickel Project (DMSA / ASMA) in Madagascar through Korea Ambatovy Consortium (KAC), which is composed of Korea Resources Corporation (KORES) and STX Co., Ltd. As the withdrawal from KAC was approved at the Company's Board of Directors' meeting on July 28, 2016, the Company has officially notified the withdrawal from KAC to participating companies including KORES in written form, and also requested KAC to resolve all legal issues. The Company also requested for arbitration to Korean Commercial Arbitration Board on November 4, 2016, in connection with the withdrawal notice, settlement of shares, compensation for damages and others. Sherritt International Corp., the operator, has partially transferred the shares in the project Sumitomo and Ambatovy Holdings Limited in November 2017. KAC retains rights and obligation including call options for ownership interest in the newly incorporated entity. The Company's legal relationship with KAC may change depending on the results of arbitration.

(*4) The entity was newly classified as an associate due to the spin-off and merger of the iron and steel business sector of POSCP P&S.

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9. Investments in associates (cont'd)

(*5) It was reclassified from an associate to a subsidiary due to a decrease in the shareholding ratio during the current year.

(*6) It was reclassified from a subsidiary to an associate due to a decrease in the shareholding ratio during the current year. The Company changed its name from Daewoo Minerals Canada Corp. to Kwanika Copper Corp.

Changes in the carrying amount of associates for the years ended 2016 and 2017 are as follows (Korean won in millions):

	2016									
	Beginning balance	Business combination	Acquisition and Transfer	Disposal	Share of the associate's profit (loss)	Impairment	Dividends	Others	Ending balance	
Shanghai Lansheng Daewoo Corp.	₩ 2,284	₩ -	₩ -	₩ -	₩ (220)	₩ -	₩ -	₩ (160)	₩ 1,904	
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	2,249	-	-	-	(123)	-	-	(91)	2,035	
Korea LNG Ltd.	51,547	-	-	-	6,392	-	(6,342)	5,140	56,737	
General Medicines Co., Ltd.	5,634	-	-	-	1,953	-	(470)	(222)	6,895	
POSCO IJPC	1,553	-	-	-	1,171	-	-	99	2,823	
DMSA/AMSA	64,125	-	24,624	-	(20,756)	-	-	1,156	69,149	
POSCO Mexico Processing Center Holding LLC	9,633	-	-	-	917	-	-	963	11,513	
POSCO ESDC Ltd.	1,266	-	-	-	121	-	-	(14)	1,373	
POSCO-AAPC	4,633	-	-	(4,691)	251	-	-	(193)	-	
Global Komsco Daewoo LLC	441	-	-	-	442	-	-	33	916	
South-East Asia Gas Pipeline Company Ltd.	223,060	-	-	-	46,856	-	(59,717)	6,588	216,787	
Blue Ocean Recovery PEF No. 1	37,341	-	-	-	643	-	-	(328)	37,656	
VNS-Daewoo Co., Ltd.	2,584	-	-	-	(761)	-	-	24	1,847	
SPH Co., Ltd.	375	-	-	-	(103)	-	-	-	272	
PT. Batutua Tembaga Raya	14,986	-	-	-	-	-	-	7,341	22,327	
Yulchon Mexico S.A. De C.V.	1,326	-	-	-	(297)	-	-	(161)	868	
HyunSon Engineering & Construction	85	-	-	-	(21)	-	-	(10)	54	
Daewoo Global Development Pte. Ltd	11,936	-	-	-	1,466	-	-	434	13,836	
	₩ 435,058	₩ -	₩ 24,624	₩ (4,691)	₩ 37,931	₩ -	₩ (66,529)	₩ 20,599	₩ 446,992	

	2017									
	Beginning balance	Business combination	Acquisition and Transfer	Disposal	Share of the associate's profit (loss)	Impairment	Dividends	Others(*1)	Ending balance	
Shanghai Lansheng Daewoo Corp.	₩ 1,904	₩ -	₩ -	₩ -	₩ (401)	₩ -	₩ -	₩ (102)	₩ 1,401	
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	2,035	-	-	-	(229)	-	-	(107)	1,699	
Korea LNG Ltd.	56,737	-	-	-	6,489	-	(6,439)	(20,950)	35,837	
General Medicines Co., Ltd.	6,895	-	-	-	4,097	-	(441)	(2,179)	8,372	
POSCO IJPC	2,823	-	-	-	298	-	-	(383)	2,738	
DMSA/AMSA	69,149	-	14,388	-	(19,062)	-	-	(7,726)	56,749	
POSCO Mexico Processing Center Holding LLC	11,513	-	-	(1,299)	2,120	-	-	981	13,315	
POSCO ESDC Ltd.	1,373	-	-	-	114	-	-	14	1,501	
Global Komsco Daewoo LLC	916	-	-	-	806	-	-	(145)	1,577	
South-East Asia Gas Pipeline Company Ltd.	216,787	-	-	-	42,896	-	(37,016)	(24,808)	197,859	
Blue Ocean Recovery PEF No. 1	37,656	-	-	-	(8,411)	-	-	(9,625)	19,620	
VNS-Daewoo Co., Ltd.	1,847	-	-	-	(1)	-	-	(205)	1,641	
SPH Co., Ltd.	272	-	-	-	(101)	-	-	-	171	
PT. Batutua Tembaga Raya	22,327	-	-	-	3,309	(2,791)	-	(1,124)	21,721	
Yulchon Mexico S.A. De C.V.	868	-	-	-	249	-	-	(82)	1,035	
HyunSon Engineering & Construction	54	-	-	-	(13)	-	-	(7)	34	
Kwanika Copper Corp.(*4)	-	-	7,173	-	(29)	-	-	92	7,236	
Sebang Steel(*2)	-	484	-	-	5	-	-	(16)	473	
LA SRDC(*2)(*3)	-	145	-	(132)	(23)	-	-	10	-	
Daewoo Global Development Pte. Ltd(*3)	13,836	-	16,851	(29,792)	(654)	-	-	(241)	-	
	₩ 446,992	₩ 629	₩ 38,412	₩ (31,223)	₩ 31,459	₩ (2,791)	₩ (43,896)	₩ (66,603)	₩ 372,979	

U. S. dollars in thousands (Note 2)

	\$ 417,204	\$ 587	\$ 35,852	\$ (29,142)	\$ 29,363	\$ (2,605)	\$ (40,971)	\$ (62,165)	\$ 348,123
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(*1) This is an increase in amounts due to equity changes in equity method based on the changes in the investee's accumulated other comprehensive income.

(*2) The entity was newly classified as an associate due to the merger of the iron and steel business sector of POSCO P&S during the current year.

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9. Investments in associates (cont'd)

(*3) It was reclassified from an associate to a subsidiary due to an increase in the shareholding ratio during the current year.

(*4) It was reclassified from a subsidiary to an associate due to a decrease in the shareholding ratio during the current year. The Company changed its name from Daewoo Minerals Canada Corp. to Kwanika Copper Corp.

Details of unrealized gain or loss from intercompany transactions reflected in share of profit in associates are as follows:

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Shanghai Lansheng Daewoo Corp.	₩ 14	₩ -	\$ -
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	-	-	-
General Medicines Co., Ltd.	(22)	(27)	(25)
Global Komsco Daewoo LLC	(8)	(15)	(14)
POSCO IJPC	(8)	16	15
POSCO Mexico Processing Center Holding. LLC.	(328)	80	75
VNS-Daewoo Co., Ltd.	277	-	-
DMSA/AMSA	43	(24)	(22)
PT. Batutua Tembaga Raya	-	(65)	(61)
Sebang Steel	-	(19)	(18)
	₩ (32)	₩ (54)	\$ (50)

The summarized financial information of major associates as at and for the year ended December 31, 2017 are as follows (Korean won in millions):

	Korea LNG Ltd.	DMSA/AMSA	South-East Asia Gas Pipeline Co.,Ltd.
Current assets	₩ 670	₩ 566,227	₩ 382,857
Non-current assets	178,598	5,019,944	1,529,085
Current liabilities	3	323,820	978,577
Non-current liabilities	83	3,844,086	143,206
Sales	34,640	630,229	445,682
Net profit (loss)	32,446	(475,958)	171,303
Other comprehensive income(loss)	(102,868)	-	-
Total comprehensive income(loss)	(70,422)	(475,958)	171,303
Dividend received from associates	6,439	-	37,016

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9. Investments in associates (cont'd)

The summarized financial information of other associates as at and for the year ended December 31, 2017 are as follows (Korean won in millions):

	Total assets	Total liabilities	Sales	Net profit (loss)
Shanghai Lansheng Daewoo Corp.	₩ 3,201	₩ 146	₩ 4,247	₩ (819)
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	47,910	44,444	89,743	(468)
Korea LNG Ltd.	179,269	86	34,640	32,446
General Medicines Co., Ltd.	39,342	13,686	57,590	12,499
POSCO IJPC	62,537	47,276	101,605	1,411
DMSA/AMSA	5,586,171	4,167,905	630,229	(475,958)
POSCO Mexico Processing Center Holding LLC	390,013	316,406	650,373	10,389
POSCO ESDC Ltd.	9,028	1,525	15,332	571
KG Power(M) Sdn. Bhd.	6,541	12,434	-	-
Global Komsco Daewoo LLC	34,033	29,470	26,325	2,346
South-East Asia Gas Pipeline Co., Ltd.	1,911,942	1,121,783	445,682	171,303
Blue Ocean Recovery PEF No. 1	311,129	188,512	445,238	(3,345)
Korea Siberia Wood CJSC	1,428	5,202	1,239	(101)
VNS-Daewoo Co., Ltd.	4,314	212	2,719	(1)
SPH Co., Ltd.	195,058	194,715	-	(201)
PT. Batutua Tembaga Raya	336,085	272,542	195,520	49,091
Yulchon Mexico S.A. De C.V.	26,151	15,800	6,159	2,492
HyunSon Engineering & Construction	867	168	-	(264)
Kwanika Copper Corp.	20,050	108	-	(101)
Sebang Steel	17,586	16,990	55,547	(11)

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10. Property, plant and equipment

Property, plant and equipment as at December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
	Acquisition cost	₩ 969,705	₩ 1,820,511
Accumulated depreciation	(301,130)	(469,541)	(438,250)
Accumulated impairment loss	(2,288)	(25,011)	(23,344)
Government grants	(200)	(1,113)	(1,039)
Book value	₩ 666,087	₩ 1,324,846	\$ 1,236,556

Changes in the acquisition cost of property, plant and equipment for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016						
	Beginning balance	Business combination	Acquisition	Disposals	Change in scope of consolidation	Transfer and others	Ending balance
Land	₩ 16,661	₩ -	₩ 41	₩ -	₩ -	₩ 1,912	₩ 18,614
Buildings	128,935	-	4	(186)	(14,006)	11,998	126,745
Machinery	598,195	-	2,292	(1,622)	(76,022)	17,169	540,012
Others	64,986	-	4,214	(3,712)	(2,287)	(1,756)	61,445
Construction-in-progress	147,578	-	89,042	(264)	-	(13,467)	222,889
	₩ 956,355	₩ -	₩ 95,593	₩ (5,784)	₩ (92,315)	₩ 15,856	₩ 969,705
	2017						
	Beginning balance	Business combination	Acquisition	Disposals	Change in scope of consolidation	Transfer and others	Ending balance
Land	₩ 18,614	₩ 127,616	₩ 845	₩ -	₩ -	₩ 991	₩ 148,066
Buildings	126,745	124,015	880	-	273,574	13,600	538,814
Machinery	540,012	222,013	9,234	(6,696)	5,666	15,265	785,494
Plants for product	-	-	-	-	-	70,031	70,031
Others	61,445	69,793	6,570	(4,912)	26,288	16,101	175,285
Construction-in-progress	222,889	3,527	55,744	-	-	(179,339)	102,821
	₩ 969,705	₩ 546,964	₩ 73,273	₩ (11,608)	₩ 305,528	₩ (63,351)	₩ 1,820,511
U. S. dollars in thousands (Note 2)	\$ 905,082	\$ 510,513	\$ 68,390	\$ (10,834)	\$ 285,167	\$ (59,129)	\$ 1,699,189

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

Changes in accumulated depreciation of property, plant and equipment for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016						
	Beginning balance	Business combination	Depreciation	Disposals	Change in scope of consolidation	Transfer and others	Ending balance
Buildings	₩ 34,592	₩ -	₩ 1,942	₩ (85)	₩ (6,943)	₩ 2,539	₩ 32,045
Machinery	258,035	-	18,247	(696)	(56,237)	8,904	228,253
Others	37,808	-	10,655	(3,279)	(1,260)	(3,092)	40,832
	<u>₩ 330,435</u>	<u>₩ -</u>	<u>₩ 30,844</u>	<u>₩ (4,060)</u>	<u>₩ (64,440)</u>	<u>₩ 8,351</u>	<u>₩ 301,130</u>
2017							
	Beginning balance	Business combination	Depreciation	Disposals	Change in scope of consolidation	Transfer and others	Ending balance
Buildings	₩ 32,045	₩ 20,922	₩ 5,739	₩ -	₩ 443	₩ (1,647)	₩ 57,502
Machinery	228,253	82,735	32,102	(2,083)	831	(17,322)	324,516
Plants for product	-	-	4,830	-	-	(314)	4,516
Others	40,832	32,929	20,419	(4,160)	614	(7,627)	83,007
	<u>₩ 301,130</u>	<u>₩ 136,586</u>	<u>₩ 63,090</u>	<u>₩ (6,243)</u>	<u>₩ 1,888</u>	<u>₩ (26,910)</u>	<u>₩ 469,541</u>
U. S. dollars in thousands (Note 2)	<u>\$ 281,062</u>	<u>\$ 127,484</u>	<u>\$ 58,886</u>	<u>\$ (5,827)</u>	<u>\$ 1,762</u>	<u>\$ (25,117)</u>	<u>\$ 438,250</u>

Changes in accumulated impairment loss of property, plant and equipment for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016						
	Beginning balance	Business combination	Impairment	Disposals	Change in scope of consolidation	Others	Ending balance
Buildings	₩ -	₩ -	₩ 7,539	₩ -	₩ (6,268)	₩ 143	₩ 1,414
Machinery	-	-	18,343	-	(17,557)	88	874
Others	-	-	912	-	(912)	-	-
	<u>₩ -</u>	<u>₩ -</u>	<u>₩ 26,794</u>	<u>₩ -</u>	<u>₩ (24,737)</u>	<u>₩ 231</u>	<u>₩ 2,288</u>
2017							
	Beginning balance	Business combination	Impairment	Disposals	Change in scope of consolidation	Others	Ending balance
Buildings	₩ 1,414	₩ 14,905	₩ 850	₩ -	₩ (999)	₩ -	₩ 16,170
Machinery	874	11,375	195	(4,535)	(308)	-	7,601
Others	-	1,488	85	(263)	(70)	-	1,240
	<u>₩ 2,288</u>	<u>₩ 27,768</u>	<u>₩ 1,130</u>	<u>₩ (4,798)</u>	<u>₩ (1,377)</u>	<u>₩ -</u>	<u>₩ 25,011</u>
U. S. dollars in thousands (Note 2)	<u>\$ 2,136</u>	<u>\$ 25,917</u>	<u>\$ 1,055</u>	<u>\$ (4,477)</u>	<u>\$ (1,285)</u>	<u>\$ -</u>	<u>\$ 23,344</u>

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

Changes in government grants of property, plant and equipment for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016				
	Beginning balance	Business combination	Depreciation	Change in scope of consolidation	Ending balance
Machinery	₩ 15	₩ -	₩ -	₩ (15)	₩ -
Others	292	-	(92)	-	200
	₩ 307	₩ -	₩ (92)	₩ (15)	₩ 200

	2017				
	Beginning balance	Business combination	Depreciation	Change in scope of consolidation	Ending balance
Machinery	₩ -	₩ 37	₩ (11)	₩ -	₩ 26
Others	200	1,923	(1,036)	-	1,087
	₩ 200	₩ 1,960	₩ (1,047)	₩ -	₩ 1,113
U. S. dollar in thousands (Note 2)	\$ 187	\$ 1,829	\$ (977)	\$ -	\$ 1,039

Property, plant and equipment pledged as collateral as at December 31, 2016 and 2017 are as follows (Korean won in millions and U.S. dollar in thousands):

Provider	Pledged assets	Creditor	2016		2017	
POSCO DAEWOO Corporation	Land	Korea Development Bank	KRW	-	KRW	79,000
	Buildings		KRW	-	KRW	50,000
DAEWOO Textile LLC	Machinery	Hamkor Bank and others	USD	9,813	USD	1,775
	Buildings		USD	11,250	USD	10,016

11. Intangible assets

Changes in the net book value of intangible assets for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016								
	Beginning balance	Business combination	Acquisition	Disposal and Transfer	Amortization	Impairment	Change in scope of consolidation	Others	Ending balance
Goodwill	₩ 13,968	₩ -	₩ -	₩ -	₩ -	₩ (779)	₩ -	₩ -	₩ 13,189
Industrial proprietary rights	1,886	-	684	-	(539)	(936)	-	(315)	780
Mining rights	1,559,508	-	16,808	-	(130,452)	(15,850)	-	38,938	1,468,952
Exploration and evaluation assets	152,263	-	45,524	-	(2)	(3,290)	-	(31,108)	163,387
Development assets	3,048	-	10,558	-	-	-	-	(9,156)	4,450
Membership	10,459	-	51	(117)	(7)	(1,000)	-	(3)	9,383
Software	3,495	-	41	-	(1,734)	-	-	913	2,715
	₩ 1,744,627	₩ -	₩ 73,666	₩ (117)	₩ (132,734)	₩ (21,855)	₩ -	₩ (731)	₩ 1,662,856

	2017								
	Beginning balance	Business combination	Acquisition	Disposal and Transfer	Amortization	Impairment	Change in scope of consolidation	Others	Ending balance
Goodwill	₩ 13,189	₩ -	₩ -	₩ -	₩ -	₩ (779)	₩ -	₩ (1)	₩ 12,409
Industrial proprietary rights	780	1	457	-	(375)	(489)	-	698	1,561
Mining rights	1,468,952	-	3,445	-	(146,408)	(22,605)	46,573	17,433	1,367,390
Exploration and evaluation assets	163,387	-	99,883	-	-	(56,730)	(1,046)	1,573	207,067
Development assets	4,450	-	1,463	-	-	(489)	-	(583)	4,841
Membership	9,383	4,173	464	(569)	(396)	(270)	14,006	36	26,827
Software	2,715	3,524	536	-	(3,043)	-	-	1,399	5,131
	₩ 1,662,856	₩ 7,698	₩ 106,248	₩ (569)	₩ (150,222)	₩ (80,873)	₩ 59,533	₩ 20,555	₩ 1,625,226
U. S. dollar in thousands (Note 2)	\$ 1,552,040	\$ 7,185	\$ 99,167	\$ (531)	\$ (140,211)	\$ (75,483)	\$ 55,566	\$ 19,185	\$ 1,516,918

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11.1 Joint operation

Mining rights and machinery include the Group's proportionate share of the jointly controlled assets. As at December 31, 2017, the list of significant joint operations is as follows:

	Activities	Equity interest (%)	Location
Myanmar A-1/A-3 area	Development and production for gas area	51.00	Myanmar
Offshore midstream	Gas transmission facilities	51.00	Myanmar

12. Investment properties

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Acquisition cost	₩ 168,031	₩ 167,632	\$ 156,461
Accumulated depreciation	(7,027)	(10,001)	(9,335)
Book value	₩ 161,004	₩ 157,631	\$ 147,126

Changes in the acquisition cost of investment properties for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016				Ending balance
	Beginning balance	Business combination	Acquisition	Others	
Land	₩ 51,703	₩ -	₩ -	₩ -	₩ 51,703
Building	116,328	-	-	-	116,328
	₩ 168,031	₩ -	₩ -	₩ -	₩ 168,031
	2017				Ending balance
	Beginning balance	Business combination	Acquisition	Others	
Land	₩ 51,703	₩ 881	₩ -	₩ (1,335)	₩ 51,249
Building	116,328	3,030	5	(3,001)	116,362
Structure	-	21	-	-	21
	₩ 168,031	₩ 3,932	₩ 5	₩ (4,336)	₩ 167,632
U. S. dollar in thousands (Note 2)	\$ 156,833	\$ 3,670	\$ 5	\$ (4,047)	\$ 156,461

Changes in the accumulated depreciation on investment properties for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016				Ending balance
	Beginning balance	Business combination	Depreciation	Others	
Building	₩ 4,119	₩ -	₩ 2,908	₩ -	₩ 7,027

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12. Investment properties (cont'd)

	2017				Ending balance
	Beginning balance	Business combination	Depreciation	Others	
Building	₩ 7,027	₩ 258	₩ 2,919	₩ (207)	₩ 9,997
Structure	-	3	1	-	4
	₩ 7,027	₩ 261	₩ 2,920	₩ (207)	₩ 10,001
U. S. dollar in thousands (Note 2)	\$ 6,559	\$ 244	\$ 2,725	\$ (193)	\$ 9,335

The fair value of investment properties amounted to ₩172,420 million (\$160,930 thousand) and ₩170,285 million (\$140,906 thousand) as at December 31, 2017 and 2016, respectively.

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Rental income	₩ 4,587	₩ 6,042	\$ 5,639
Rental expense	(3,321)	(2,819)	(2,631)
	₩ 1,266	₩ 3,223	\$ 3,008

12.1 Joint arrangement

The Group owns POSCO Tower Songdo, located in Yeonsu-gu, Incheon, in form of a joint arrangement. As at the end of reporting period, the Group owns 60% of the real estate, which is classified as property, plant and equipment and investment properties. The Group classifies these joint arrangements as joint operations. Rental income and expense from the joint operations are recognized as income and expense in proportion to the Group's shares.

13. Trade and other payables

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Current:			
Trade payables	₩ 1,614,551	₩ 1,586,274	\$ 1,480,562
Other payables	176,258	235,615	219,913
Accrued expenses	17,545	47,804	44,618
Guarantee deposits received	62	837	782
	1,808,416	1,870,530	1,745,875
Non-current:			
Long-term other payables	4,671	1,231	1,149
Long-term accrued expenses	58	832	777
Long-term guarantee deposits received	2,052	2,908	2,714
Financial guarantee liabilities	21,532	17,061	15,924
	28,313	22,032	20,564
	₩ 1,836,729	₩ 1,892,562	\$ 1,766,439

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14. Borrowings

Borrowings as at December 31, 2016 and 2017 are as follows:

	Creditor	Annual interest rates as at Dec. 31, 2017	The longest maturity	Korean won in millions		U. S. dollar in thousands (Note 2)
				2016	2017	2017
Current borrowings:						
Short-term borrowings:						
Banker's usance and others	Woori Bank and others	6M Libor +0.3%~1.3% and others	-	₩ 1,401,759	₩ 1,520,180	\$ 1,418,872
Subsidiaries' borrowings				373,799	385,960	360,239
				<u>1,775,558</u>	<u>1,906,140</u>	<u>1,779,111</u>
Current-portion of long-term borrowings:						
Work-out debt from creditor council	AKA Bank	-	-	6,456	-	-
Energy special account financing loan	Korea Energy Agency	3 year government bond yield -2.25% and others	2018.12.31	5,930	5,601	5,228
Forgivable borrowings	Korea Energy Agency	3 year government bond yield -2.25% and others	2018.12.31	25,760	30,968	28,904
Others	Kookmin Bank and others	3M Libor +1.0% and others	2018.12.31	32,267	190,338	177,653
Subsidiaries' borrowings				34,432	201,486	188,059
Less: present value discount				(1,380)	(1,109)	(1,035)
				<u>103,465</u>	<u>427,284</u>	<u>398,809</u>
				<u>1,879,023</u>	<u>2,333,424</u>	<u>2,177,920</u>
Non-current borrowings:						
Korean won denominated borrowings:						
Energy special account financing loan	Korea Energy Agency	3 year government bond yield -2.25% and others	2027.12.15	10,779	7,862	7,338
Forgivable borrowings	Korea Energy Agency	-	-	2,358	-	-
Other borrowings	Korea Rural Community Corporation and others	2.00% and others	2032.12.28	27,500	145,750	136,037
				<u>40,637</u>	<u>153,612</u>	<u>143,375</u>
Foreign-currency denominated borrowings:						
Energy special account financing loan	Korea Energy Agency	3 year government bond yield -2.25% and others	2027.12.15	31,352	23,121	21,580
Forgivable borrowings	Korea Energy Agency	3 year government bond yield -2.25% and others	Undecided	182,449	122,245	114,099
Other foreign currency borrowings	Korea EXIM Bank	3M Libor+1.60%	2020.12.21	205,445	74,998	70,000
Subsidiaries' borrowings				135,435	128,881	120,292
				<u>554,681</u>	<u>349,245</u>	<u>325,971</u>
				<u>595,318</u>	<u>502,857</u>	<u>469,346</u>
Less: present value discount				(3,074)	(1,423)	(1,328)
				<u>592,244</u>	<u>501,434</u>	<u>468,018</u>
				<u>₩ 2,471,267</u>	<u>₩ 2,834,858</u>	<u>\$ 2,645,938</u>

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14. Borrowings (cont'd)

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

	Annual interest rates as at Dec. 31, 2017	Maturity	Korean won in millions		U. S. dollar in thousands (Note 2)
			2016	2017	2017
Current-portion of bonds:					
8-2nd unsecured bond	3.09%	2018.03.08	₩ -	₩ 150,000	\$ 140,004
10-1st unsecured bond	-	-	180,000	-	-
11th privately placed bond	3M Libor + 0.9%	2018.10.16	-	214,280	200,000
12th privately placed bond	-	-	115,175	-	-
14th unsecured bond	3.50%	2018.06.12	-	100,000	93,336
			295,175	464,280	433,340
Less: present value discount on bonds			(442)	(544)	(508)
			294,733	463,736	432,832
Non-current bonds:					
8-2nd unsecured bond	-	-	150,000	-	-
10-2nd unsecured bond	3.26%	2019.07.02	220,000	220,000	205,339
11th privately placed bond	-	-	241,700	-	-
13th public offered bond	2.02%	2019.07.14	150,000	150,000	140,004
14th unsecured bond	-	-	-	-	-
15th unsecured bond	2.53%	2019.07.08	-	30,000	28,001
16-1st unsecured bond	2.26%	2020.07.17	-	130,000	121,337
16-2nd unsecured bond	2.69%	2022.07.17	-	70,000	65,335
17th unsecured bond	3M SGD SOR + 85bp	2019.10.25	-	136,107	127,036
			761,700	736,107	687,052
Less: present value discount on bonds			(2,223)	(1,907)	(1,780)
			759,477	734,200	685,272
			₩ 1,054,210	₩ 1,197,936	\$ 1,118,104

15. Other liabilities

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Current:			
Advance received	₩ 177,750	₩ 137,976	\$ 128,782
Income received in advance	-	538	502
Withholdings	25,903	40,330	37,642
	203,653	178,844	166,926
Non-current:			
Long-term withholdings	1,635	37,694	35,182
Other non-current liabilities	-	7,355	6,865
	1,635	45,049	42,047
	₩ 205,288	₩ 223,893	\$ 208,973

16. Severance and retirement benefit liability

The Group operates a defined benefit pension plan for its employees and uses the projected unit credit method in the actuarial valuation of plan assets and the defined benefit obligation.

16.1 Principal assumptions used in actuarial valuation

	2016	2017
Discount rate (%)	2.54%	2.87~3.40%
Future salary growth rate (%)	5.00%	3.00~5.23%
Expected retirement rate (%)	8.50%	3.09~9.14%

16.2 Sensitivity analysis

16.2.1 Discount rate

	1% point decrease	1% point increase
Impact on the defined benefit obligation	₩ 13,156	₩ (11,241)
Rate of change	9.92%	(8.47%)

16.2.2 Future salary growth rate

	1% point decrease	1% point increase
Impact on the defined benefit obligation	₩ (11,223)	₩ 12,865
Rate of change	(8.46%)	9.70%

16.3 Net benefit expense recognized in profit or loss

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Current service cost	₩ 14,393	₩ 16,906	\$ 15,779
Net interest cost	551	447	418
	₩ 14,944	₩ 17,353	\$ 16,197

16.4 Amounts recognized in the statement of financial position

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Present value of defined benefit obligation	₩ 88,804	₩ 134,246	\$ 125,300
Fair value of plan assets	(82,792)	(139,179)	(129,905)
Severance benefit liabilities	₩ 6,012	₩ 3,291	\$ 3,071
Severance benefit assets	₩ -	₩ (8,224)	\$ (7,676)

16.5 Changes in the present value of the defined benefit obligation

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Beginning balance	₩ 84,436	₩ 88,804	\$ 82,886
Current service cost	14,393	16,906	15,779
Interest cost	2,020	3,028	2,827
Benefits paid	(14,421)	(6,229)	(5,814)
Re-measurement gain (loss) in OCI:			
Actuarial changes arising from changes in demographic assumptions	-	(1,894)	308
Actuarial changes arising from changes in financial assumptions	(244)	330	(1,805)
Others	2,413	(1,934)	(271)
Transfer from related parties	17	33,483	31,252
Others	190	148	138
Ending balance	₩ 88,804	₩ 134,246	\$ 125,300

16.6 Changes in the fair value of plan assets

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Beginning balance	₩ 68,169	₩ 82,792	\$ 77,276
Contribution by employer	24,995	26,800	25,014
Interest income	1,469	2,581	2,409
Benefits paid	(12,062)	(5,653)	(5,276)
Re-measurement gain (loss) in OCI:			
Actuarial changes arising from changes in financial assumptions	204	(1,070)	(999)
Transfer from related parties	17	-	-
Increase due to business combination	-	33,729	31,481
Ending balance	₩ 82,792	₩ 139,179	\$ 129,905

16.7 Re-measurement gain (loss) in OCI

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Re-measurement of defined benefit obligation	₩ (2,169)	₩ 1,894	\$ 1,768
Re-measurement of plan assets	204	(1,070)	(999)
	(1,965)	824	769
Income tax effect	463	(212)	(198)
Other comprehensive income	₩ (1,502)	₩ 612	\$ 571

16.8 Analysis of defined benefit plans on future cash flows

The estimated contribution for the fiscal year ending December 31, 2017 amounted to ₩6,569 million. The maturity analysis of the Group's un-discounted pension benefit payments at the end of the reporting period is as follows:

	Korean won in millions				
	Less than 1 year	1 year to 2 years	2 years to 5 years	Over 5 years	Total
Amount to be paid	₩ 6,199	₩ 7,940	₩ 31,667	₩ 245,400	₩ 291,206

The weighted average maturity of the defined benefit obligations of the Group is 8.54~12.33 years.

17. Provisions

Provisions as at December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Provision for contingencies (see Note 18)	₩ 76,932	₩ 32,085	\$ 29,947
Provision for restoration	11,526	31,877	29,752
	₩ 88,458	₩ 63,962	\$ 59,699

Changes in provisions for the year ended December 31, 2017 are as follows:

	Korean won in millions			U. S. dollar in thousands (Note 2)
	Provision for contingencies	Provision for restoration	Total	Total
Beginning balance	₩ 76,932	₩ 11,526	₩ 88,458	\$ 82,563
Business combination	178	-	178	166
Contribution	25,619	248	248	231
Used	-	(2,082)	23,537	21,968
Transfer	(66,089)	22,456	(43,633)	(40,725)
Foreign currency translation	(4,555)	(271)	(4,826)	(4,504)
Ending balance	₩ 32,085	₩ 31,877	₩ 63,962	\$ 59,699

18. Commitments and contingencies

18.1 Provision for contingencies

Changes in provision for contingencies for the year ended December 31, 2017 are as follows (Korean won in millions):

	Provision							Principal debt amount
	Beginning balance	Business combination	Increase	Transfer	Foreign currency translation	Ending balance		
Creditors of Daewoo Corp.	₩ 28,268	₩ -	₩ 810	₩ -	₩ (2,789)	₩ 26,289	₩ 239,384	
Legal proceedings provision	3,323	51	4,061	-	(1,766)	5,669	-	
Provisions for construction warranties	-	127	-	-	-	127	-	
Other onerous contracts provision(*1)	45,341	-	20,748	(66,089)	-	-	-	
	<u>₩ 76,932</u>	<u>₩ 178</u>	<u>₩ 25,619</u>	<u>₩ (66,089)</u>	<u>₩ (4,555)</u>	<u>₩ 32,085</u>	<u>₩ 239,384</u>	
U.S. dollar in thousands (Note 2)	\$ 71,805	\$ 166	\$ 23,912	\$ (61,685)	\$ (4,251)	\$ 29,947	\$ 223,431	

(*1) In accordance with the joint investment agreement between the Company and Devonian Private Equity Fund ("Devonian PEF"), Devonian PEF has a put option to sell its interest in Canada Baptiste Project to the Company with the minimum guaranteed return of 6.5% per annum for 6 months from 4 years after the execution of investments. As at December 31, 2017, Devonian PEF exercised the put option of ₩112,644 million. The Company acquired 100% shares in KIS Devonian Canada, the SPC located in Canada, in which Devonian PEF had 100% ownership interest.

18.1.1 Contingent liabilities carried over from Daewoo Corporation prior to the spin-off

On July 22, 2000, the shareholders of Daewoo Corporation approved the spin-off of two business segments which were established as separate entities, Daewoo International Corporation and Daewoo Engineering & Construction Co., Ltd. ("Daewoo E&C"), with the former representing the international trading division and the latter representing the construction division. Certain creditors approved the spin-off while others disapproved. A portion of Daewoo Corporation's liabilities were transferred to the Company and to Daewoo E&C, which resulted in the Company becoming a primary debtor or guarantor for such transferred liabilities.

Regarding the probable claims on liabilities from both consenting and dissenting creditors, the Group estimated ₩26,289 million (\$24,537 thousand) as the amount of provision on the basis of the settlement agreement with some creditors and other information.

The above total amount of provision for contingencies related to creditors of Daewoo Corporation was proportionately allocated between the Company and Daewoo E&C.

In May 2002, Industrial Development Bank of India ("IDBI"), a creditor of Daewoo Motors India Ltd. ("DMIL"), to which Daewoo Corporation provided a payment guarantee, filed a petition with the court of Delhi/Mumbai against DMIL to exercise its rights to dispose of DMIL's assets for settlement of the related obligations. Accordingly, the Group estimated the probable loss of the pending petition above and reflected the amount in provisions for contingencies as at December 31, 2017.

Further, Daewoo Corporation filed for bankruptcy with the Seoul Central District Court on May 25, 2006 and received the adjudication of bankruptcy on June 16, 2006. As at May 25, 2017, the bankruptcy was over.

18.1.2 Provision for litigation and others

The Group recognized probable outflow of resources amounting to ₩5,669 million (\$5,291 thousand) as provision for contingencies in connection with lawsuits.

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18.2 Pending litigations

As at the reporting date, the Group is a defendant in pending lawsuits involving 44 claims (domestic: 11 claims and overseas: 33 claims). The total amount of the lawsuits, except one case that the outcome of the pending litigation cannot be reasonably estimated, is ₩9,903 million, USD 22,228 thousand, EUR 2,747 thousand, INR 4,518,694 thousand, CAD 79,000 thousand, PKR 124,775 thousand and BRL 12,167 thousand.

The Group is involved in 34 pending lawsuits as a plaintiff as at December 31, 2017.

The ultimate outcome of these lawsuits could not be determined. Therefore, the Group has not recognized potential liabilities that may arise as a result of the above litigations as at December 31, 2017 in the financial statements other than lawsuits for which provision for contingencies is recognized.

18.3 Credit facilities

As at December 31, 2017, the Group has letter of credit facilities ("L/C") with Woori Bank and others, document against acceptance facilities ("D/A") and other trading facilities as follows (U.S. dollar in thousands and Korean won in millions):

	Bank		Credit line amount		Outstanding balance
Local L/C	Woori Bank and others	USD	309,635	USD	251,887
L/C	Woori Bank and others	USD	1,493,000	USD	1,256,124
D/A	Woori Bank and others	USD	1,878,754	USD	653,918
Credit line in foreign currency	Woori Bank and others	USD	531,000	USD	413,067
P-Bond and others	Woori Bank and others	USD	590,596	USD	308,914
Overdraft and others	Woori Bank and others	KWD	7,000	KWD	-

18.4 Collateral

The Group has pledged 33 blank promissory notes, 21 blank checks and notes in aggregate of JPY 816,453 thousand as collateral to Korea Energy Agency and others for the contract performance guarantees and other purposes as at December 31, 2017.

18.5 Derivatives

The Group entered into currency forwards contracts and commodity futures contracts with financial institutions to hedge against foreign exchange risks and inventory price risks, and details on the maximum credit line amounts are as follows (U.S. dollar in thousands and Korean won in millions):

Contract	Bank	Derivative credit lines		Details
Currency forwards	Woori Bank	USD	15,000	Limit of loss
	Kookmin Bank	KRW	33,600	Limit of loss
	Suhyup Bank	KRW	10,000	Limit of loss
	Citibank Korea	USD	50,000	Limit of risk transaction
	SC Bank Korea	USD	120,000	Limit of transaction
	UOB(*1)	USD	200,000	Limit of transaction
	Deutsch Bank	USD	13,000	Limit of risk transaction
	Credit Agricole	USD	50,000	Limit of risk transaction
	KEB Hana Bank(*1)	USD	30,000	Limit of loss
	ANZ Bank	USD	10,000	Limit of risk transaction
	Societe Generale	USD	42,000	Limit of risk transaction
	SMBC	USD	200,000	Limit of transaction
	Industrial & Commercial Bank of China	USD	50,000	Limit of risk transaction
	Korea Development Bank	KRW	30,000	Limit of risk transaction
	ING Bank	USD	34,000	Limit of risk transaction
	Mizuho Bank	USD	20,000	Limit of loss

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18.5 Derivatives (cont'd)

Contract	Bank	Derivative credit lines		Details
Commodity futures	Triland	USD	5,000	Limit of loss
		USD	5,000	Limit of transaction
	Mitsui Bussan	USD	15,000	Limit of loss
		USD	15,000	Limit of transaction
	Toyota	USD	13,000	Limit of loss
		USD	13,000	Limit of transaction
	Societe Generale	USD	20,000	Limit of loss
		USD	20,000	Limit of transaction
	BOCI	USD	15,000	Limit of loss
		USD	15,000	Limit of transaction
	CMS	USD	5,000	Limit of transaction
		USD	3,000	Limit of loss
	Daishin Securities(*2)	USD	5,000	Limit of loss

(*1) Includes limit of transaction on currency swap contracts.

(*2) Includes limit of transaction on currency futures contracts.

Details of unsettled contracts for currency forwards, commodity futures and currency swap contract are as follows (U.S. dollar and Singapore dollar in thousands, Korean won in millions):

18.5.1 Currency forwards

Currency unit	Unsettled contractual amount		Accumulated valuation gain (loss)
	Long position	Short position	
USD	₩ 47,356	₩ 552,226	₩ 9,006
EUR	3,264	619,043	(3,921)
JPY	7,131	15,754	(2)
CNY	1,908	16,039	(76)
AED	116	-	-
THB	14	14	-
SGD	-	7,846	(47)
CAD	256	115,042	(2,053)
GBP	4,048	44,576	9
AUD	504	5,107	(73)
			₩ 2,843
U. S. dollar in thousands (Note 2)			\$ 2,654

18.5.2 Commodity futures

Commodity	Unsettled contractual amount		Accumulated valuation gain (loss)
	Long position	Short position	
Aluminum	₩ 34,498	₩ 113,586	₩ (3,868)
Copper	79,353	129,894	(1,434)
Nickel	36,291	74,128	(4,690)
Tin	1,250	27,891	(743)
Naphtha	2,547	2,509	(1)
Propane	10,580	13,054	641
Fuel oil	1,148	-	17
			₩ (10,078)
U. S. dollar in thousands (Note 2)			\$ (9,406)

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18.5.3 Currency swap

Bank	Unsettled contractual amount				Expiration date	Interest swap	Valuation gain (loss)
	Payment	Receipt					
UOB	USD	75,000	SGD	102,000	Oct. 25, 2019	Pay 3M US\$ Libor+1.15% Receive 3M SGD SOR+0.85%	₩ 858
Credit Agricole	USD	50,000	SGD	68,000	Oct. 25, 2019	Pay 3M US\$ Libor+1.15% Receive 3M SGD SOR+0.85%	584
							<u>₩ 1,442</u>
U. S. dollar in thousands (Note 2)							<u>\$ 1,346</u>

Changes in the book value of derivative financial assets (liabilities) for the year ended December 31, 2017 are as follows:

	Korean won in millions					
	Beginning balance	Business combination	Settlement	Valuation gain	Valuation loss	Ending balance
Currency forwards	₩ 10,103	₩ (1,554)	₩ (8,407)	₩ 9,295	₩ (6,594)	₩ 2,843
Commodity futures	10,508	-	(10,508)	14,669	(24,747)	(10,078)
Currency futures	4	-	(4)	-	-	-
Currency swap	(41,933)	-	41,933	1,442	-	1,442
Firm commitment contracts	(6,313)	-	(1,873)	64,756	(43,164)	13,406
Others	(3,105)	-	3,507	716	(1,118)	-
	<u>₩ (30,736)</u>	<u>₩ (1,554)</u>	<u>₩ 24,648</u>	<u>₩ 90,878</u>	<u>₩ (75,623)</u>	<u>₩ 7,613</u>
U. S. dollar in thousands (Note 2)	\$ (28,688)	\$ (1,450)	\$ 23,005	\$ 84,822	\$ (70,583)	\$ 7,106

The Group uses commodity futures and other financial instruments to hedge its commodity price risks and other risks attributable to firm sales or purchase contracts. The Group applies fair value hedge accounting under which the firm sales or purchase contracts (the firm commitment contract) are designated as the hedged item with commodity futures and others as hedging instruments.

The firm commitment contracts in connection with commodity futures and others were valued at fair value. As a result of such valuation, the resulting unrealized gains and losses on valuation were recorded as firm commitment contracts assets and liabilities, respectively.

For the year ended December 31, 2017, settled firm commitment contracts amounting to ₩9,538 million (\$8,902 thousand) and ₩11,411 million (\$10,651 thousand) were deducted from sales and cost of sales, respectively.

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18.6 Guarantee obligations

Guarantees provided by the Group to certain creditors on behalf of associates/debtors as at December 31, 2017 are as follows:

Debtor	Creditor	Limit amount		Outstanding balance		Year of expiration
		Foreign currency amounts (in thousands)	Korean won equivalent (in millions)	Foreign currency amounts (in thousands)	Korean won equivalent (in millions)	
Sherritt International Corporation	Korea Exim bank	USD 21,818	₩ 23,376	USD 5,178	₩ 5,548	2023
Ambatovy project investments Ltd.	Korea Exim bank	USD 65,455	70,128	USD 23,147	24,800	2019
Global Komsco Daewoo POSCO Assan TST Steel Industry	Industrial & Commercial Bank of China	USD 8,225	8,812	USD 8,225	8,812	2019
	ING and others	USD 14,653	15,699	USD 14,653	15,699	2020
		USD 8,225	₩ 15,699	USD 8,225	₩ 8,812	

Principal debtors listed above are related parties of the Group, excluding Sherritt International Corp. and Ambatovy Project Investments Ltd. (see Note 31).

Investments in DMSA and AMSA (book value: ₩56,749 million) have been pledged as collateral to creditors in connection with the above payment guarantees.

18.7 Other commitments

18.7.1 Daewoo Global Development Pte. Ltd.

In accordance with the Shareholders' Agreement and the Put Option Agreement between the Company and other shareholders of Daewoo Global Development Pte Ltd. ("DGDP"), the financial investor of DGDP or any successor of the financial investor (collectively, "FI") has a put option to sell its equity interest in DGDP and its subordinated loan to DGDP to other shareholders until 3 years and 9 months from the first capital contribution date. The guaranteed return on the put option is 5.25% per annum on the equity interest and 10% per annum on the subordinated loan. If FI exercises its put option, the Company and the shareholders are to purchase the equity interest and the subordinated loan in proportion to its equity ownership. Other shareholders except the Company may decline to purchase the equity interest and the subordinated loan. FI has exercised put option for the stocks during the current year. The exercise price of the put option is ₩27,037 million (\$25,235 thousand) out of which ₩20,278 million (\$18,927 thousand) is acquired by the Company. There is no subordinated bond. The Company has acquired the stocks in October 2017.

In accordance with the stand-by loan agreement between the Company and other shareholders of DGDP, the Company and other shareholders except FI should provide subordinated loan jointly in case that DGDP would suffer from lack of fund for redemption of borrowings from FI and related interests. In addition, interests in DGDP of the Company and other shareholders except FI have been pledged as collateral to FI in connection with those borrowings. As at December 31, 2017, the outstanding borrowings amounts to ₩182,138, million (\$170,000 thousand) and the borrowing limit is ₩182,138 million (\$ 170,000 thousand).

In accordance with the cash deficiency support agreement entered into between DGDP's shareholders (except FI), if the principal of DGDP's borrowings from POSCO Asia Co., Ltd. cannot be repaid, the shareholders should supplement the fund with subordinated loans based on the shareholding ratio on the repayment day. As at December 31, 2017, the balance of the borrowings is ₩10,703 million (\$ 9,990 thousand) and the borrowing limit is ₩29,137 million (\$ 27,195 thousand).

DGDP has pledged stocks and deposit of ₩167 million of DAEWOO Amara Co., Ltd. held for the borrowings from FI and bonds of ₩160,710 million for KDB-DWS Lotus Pte. Ltd as collateral.

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18.7.2 DAEWOO Amara Co., Ltd.

Deposits of ₩25,090 million for the borrowings of DAEWOO Amara Co., Ltd. from KDB-DWS Lotus Pte. Ltd. and Performance Security and Advance Payment Security provided by POSCO Engineering & Construction Co., Ltd. and Myanmar POSCO Engineering & Construction Co., Ltd. are pledged as collateral. The balance of borrowings as at December 31, 2017 is ₩254,018 million (\$237,090 thousand).

18.7.3 SPH Co., Ltd.

In 2014, the Company and POSCO Engineering & Construction Co., Ltd. established a 50-50 joint venture, SPH Co., Ltd. ("SPH"), for the construction and the lease of company housing. In accordance with the loan agreement between SPH and its creditors, the Company and POSCO Engineering & Construction Co., Ltd. should provide subordinated loan jointly in case that SPH would suffer from lack of funds for redemption of borrowings from its creditors and related interests. As at December 31, 2017, the outstanding borrowings amount to ₩99,000 million (\$92,402 thousand) and the borrowing limit is ₩140,000 million (\$ 130,670 thousand).

18.7.4 Commitments to supplement funds for Korea Ambatovy Consortium (KAC)

The Company invested in the Ambatovy Nickel Project (DMSA / ASMA) in Madagascar through Korea Ambatovy Consortium (KAC), which is composed of Korea Resource Corporation (KORES) and STX Co., Ltd. As the withdrawal from KAC was approved at the Company's Board of Directors' meeting on July 28, 2016, the Company has officially notified the withdrawal from KAC to participating companies including KORES, and also requested KAC to resolve all legal issues. The Company also requested for arbitration to Korean Commercial Arbitration Board on November 4, 2016, in connection with the withdrawal notice, settlement of shares, compensation for damages and others.

Sherritt International Corp., the operator, has partially transferred the shares in the project Sumitomo and Ambatovy Holdings Limited in November 2017. KAC retains rights and obligation including call options for ownership interest in the newly incorporated entity. The Company's legal relationship with KAC may change depending on the results of arbitration.

18.7.5 Environmental restoration expenses of Peru's mining lot 8.

The Company, entities related to the mining lot and operator have entered into a contract with regards to the ratio of paying for environmental restoration expenses. However, as the expenses are expected to increase, the operator has rejected to pay for the expenses. Currently, the due diligence is ongoing for the calculation of environmental restoration expenses. The Company and the entities related to the mining lot claimed arbitration against the operator for the violation of the contract.

19. Issued capital and capital surplus

Issued capital as at December 31, 2017 is as follows (Korean won in millions, Korean won for Par Value amount):

	Number of shares authorized	Number of shares issued	Par value	Issued capital	Paid-in capital in excess of par value (capital surplus)
Ordinary shares	500,000,000	123,375,149	₩ 5,000	₩ 616,876	₩ 518,848
U. S. dollar in thousands (Note 2)				\$ 575,766	\$ 484,271

The number of total shares has increased due to new issuance (number of shares issued: 9,498,858) as a result of the merger of a business sector spun off from POSCO P&S.

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19. Issued capital and capital surplus (cont'd)

Capital surplus as at December 31, 2016 and 2017 is as follows:

	Korean won in millions		U. S. dollar in
	2016	2017	thousands (Note 2)
Paid-in capital in excess of par value(*1)	₩ 333,145	₩ 518,848	\$ 484,271
Other capital surplus(*2)	16	34,591	32,286
	₩ 333,161	₩ 553,439	\$ 516,557

(*1) Paid-in capital in excess of par value has increased due to new issuance (issue price: ₩24,550) as a result of the merger of a business sector spun off from POSCO P&S.

(*2) ₩25,139 million (\$ 23,464 thousand), the difference in consideration transferred of ₩233,197 million (\$ 217,656 thousand) from the merger and the carrying amount of net assets acquired of ₩258,336 million (\$ 241,120 thousand), was accounted for as other capital surplus.

20. Other components of equity and accumulated other comprehensive income

Other components of equity as at December 31, 2016 and 2017 are as follows (Korean won in millions):

	Korean won in millions		U. S. dollar in
	2016	2017	thousands (Note 2)
Treasury stock (*1)	₩ -	₩ (6)	\$ (6)

(*1) The Company has acquired 258 odd lots in shares from the merger of the iron and steel business sector spun off from POSCO P&S for the year ended December 31, 2017.

Accumulated other comprehensive income as at December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in
	2016	2017	thousands (Note 2)
Gain on valuation of available-for-sale financial assets	₩ 21,129	₩ 13,383	\$ 12,491
Gains or losses on valuation of equity method investments	162,421	172,848	161,329
Change in equity adjustment in equity method investments	(104,771)	(170,010)	(158,680)
Cumulative exchange differences on translations of foreign operations	9,684	(21,157)	(19,747)
	₩ 88,463	₩ (4,936)	\$ (4,607)

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21. Dividends

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Dividends per share (Korean won and U.S. dollar) (dividend ratio) (A)	₩ 500 (10%)	₩ 500(10%)	\$ 467(10%)
Number of shares (B)	113,876,291	123,374,891	123,374,891
Dividends (A x B)	₩ 56,938	₩ 61,687	\$ 57,576

22. Expenses disclosed by the nature

Expenses disclosed by the nature of expense (cost of sales and selling and administrative expense) for the years ended December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Cost of goods sold	₩ 15,196,794	₩ 20,917,299	\$ 19,523,333
Material costs	86,915	106,852	99,731
Changes in inventories	4,607	(45)	(42)
Employee salaries	179,661	204,494	190,866
Depreciation of property, plant and equipment	30,752	62,043	57,908
Amortization of intangible asset	132,734	150,222	140,211
Depreciation of investment properties	2,908	2,920	2,725
Others	539,580	726,555	678,138
	₩ 16,173,951	₩ 22,170,340	\$ 20,692,870

23. Selling and administrative expenses

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Salaries	₩ 150,140	₩ 168,706	\$ 157,463
Severance benefit	14,944	15,448	14,419
Employee benefits	33,982	34,640	32,332
Travel	10,305	10,849	10,126
Communication	5,043	5,695	5,315
Utilities	775	1,220	1,139
Taxes and dues	11,218	11,197	10,451
Rents	16,325	18,238	17,023
Depreciation	13,105	15,799	14,746
Amortization	4,416	5,522	5,154
Repairs	555	928	866
Insurance	27,030	31,645	29,536
Entertainment	1,822	1,871	1,746
Advertising	1,091	1,259	1,175
Packaging	410	442	413
Freight	377,198	383,123	357,591
Shipping	37,636	35,113	32,773
Commissions	68,287	74,172	69,229
Operating lease	29	-	-
Bad debt expenses	31,793	77,035	71,901

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23. Selling and administrative expenses (cont'd)

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Supplies	1,146	1,653	1,543
Car maintenance	2,180	2,260	2,109
Printing	374	415	387
Training	1,597	2,189	2,043
Research and development	1,344	2,594	2,421
Sales promotion	2,716	3,491	3,258
Exhibition	119	107	100
Samples	199	191	178
Miscellaneous expense	1,205	394	368
Conference	289	559	522
Others	463	915	854
Recovery of provisions	-	(439)	(410)
	<u>₩ 817,736</u>	<u>₩ 907,231</u>	<u>\$ 846,772</u>

24. Finance income and costs

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Interest income	₩ 35,074	₩ 31,019	\$ 28,952
Financial guarantee income	299	209	195
Dividends income	446	456	426
Gain on foreign currency transactions	589,093	426,446	398,026
Gain on foreign currency translation	134,646	154,699	144,390
Gain on valuation of derivatives	71,915	90,878	84,822
Gain on settlement of derivatives	252,906	189,223	176,613
	<u>₩ 1,084,379</u>	<u>₩ 892,930</u>	<u>\$ 833,424</u>

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Interest expenses	₩ 49,524	₩ 87,983	\$ 82,120
Financial guarantee expense	9,061	7,434	6,939
Loss on foreign currency transactions	566,127	412,105	384,641
Loss on foreign currency translation	152,934	170,206	158,863
Loss on valuation of derivatives	59,039	75,623	70,583
Loss on settlement of derivatives	267,606	217,715	203,206
Loss on disposal of trade accounts receivable	17,017	32,352	30,196
	<u>₩ 1,121,308</u>	<u>₩ 1,003,418</u>	<u>\$ 936,548</u>

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Interest income on cash equivalents	₩ 2,007	₩ 1,936	\$ 1,807
Other interest income	33,067	29,083	27,145
	<u>₩ 35,074</u>	<u>₩ 31,019</u>	<u>\$ 28,952</u>

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24. Finance income and costs (cont'd)

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Interest on borrowings and bonds	₩ 53,128	₩ 95,306	\$ 88,955
Less: capitalization of borrowing costs	(3,604)	(7,323)	(6,835)
	₩ 49,524	₩ 87,983	\$ 82,120

25. Other income and expenses

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Gain on disposal of property, plant and equipment	₩ 538	₩ 1,612	\$ 1,505
Gain on disposal of intangible assets	83	-	-
Gain on disposal of available-for-sale financial assets	13	110	103
Gain on disposal of disposal groups classified as held for sale	-	465	434
Reversal of other allowance for doubtful accounts	488	464	433
Gain on disposal of associates	890	2,300	2,147
Miscellaneous income	19,018	45,370	42,346
	₩ 21,030	₩ 50,321	\$ 46,968

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

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Loss on disposal of subsidiaries	₩ 13,637	₩ -	\$ -
Contribution to provisions for restoration	440	248	231
Other bad debt expenses	28,344	1,389	1,296
Loss on disposal of property, plant and equipment	181	543	507
Loss on impairment of property, plant and equipment	26,794	1,130	1,055
Loss on disposal of intangible assets	-	98	91
Loss on impairment of intangible assets	21,855	80,873	75,483
Donations	1,327	954	891
Contribution to provision for contingencies	32,592	25,619	23,912
Loss on disposal of available-for-sale financial assets	530	2,866	2,675
Loss on impairment of available-for-sale financial assets	182	-	-
Loss on disposal of investment in associates	218	67	63
Loss on impairment of investment in associates	-	2,791	2,605
Miscellaneous expenses	39,438	8,068	7,531
	₩ 165,538	₩ 124,646	\$ 116,340

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26. Impairment of financial instruments

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

	Korean won in millions		U. S. dollar in
	2016	2017	thousands (Note 2)
Bad debt expenses	₩ 31,793	₩ 77,035	\$ 71,901
Other bad debt expenses	24,731	2,939	2,743
Less: reversal of allowance for doubtful accounts	(476)	(263)	(245)
Loss on impairment of available-for-sale financial assets	182	-	-
	₩ 56,230	₩ 79,711	\$ 74,399

27. Income taxes

The major components of income tax expenses for the years ended December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in
	2016	2017	thousands (Note 2)
Current income taxes	₩ 88,185	₩ 75,733	\$ 70,686
Changes in deferred income tax arising from temporary differences	(22,943)	(14,931)	(13,936)
Changes in deferred income tax arising from tax credit carryforwards	(2,667)	672	627
Income tax charged directly to equity	(10,154)	19,668	18,357
Income tax expense	₩ 52,421	₩ 81,142	\$ 75,735

The reconciliation between income tax expense at the effective income tax rates of the Group and accounting profit before income tax at the Korea statutory tax rate for the years ended December 31, 2016 and 2017 is as follows:

	Korean won in millions		U. S. dollar in
	2016	2017	thousands (Note 2)
Accounting profit before income tax	₩ 174,633	₩ 247,960	\$ 231,436
Tax at the statutory income tax rate	41,799	59,545	55,577
Adjustments:			
Non-taxable income	(6)	(6,646)	(6,203)
Non-deductible expenses	2,884	5,479	5,114
Tax credits	(1,626)	(2,334)	(2,178)
Others	9,370	25,098	23,425
Income tax expense	₩ 52,421	₩ 81,142	\$ 75,735
Effective income tax rates	30.02%	32.72%	32.72%

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27. Income taxes (cont'd)

Income tax charged directly to equity for the years ended December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Gain on valuation of available-for-sale financial assets	₩ 412	₩ 2,473	\$ 2,308
Re-measurement loss (gain) on defined benefit liabilities	463	(211)	(197)
Other comprehensive income arising from investments in associates	(7,866)	15,272	14,254
Exchange differences on translations of foreign operations	(3,163)	2,134	1,992
	₩ (10,154)	₩ 19,668	\$ 18,357

Changes in deferred income tax assets and liabilities for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016				
	Beginning balance	Business combination	Recognized in profit or loss	Recognized directly to equity	Ending balance
Valuation of derivatives	₩ (5,012)	₩ -	₩ 4,762	₩ -	₩ (250)
Loss on impairment of investments	10,558	-	452	-	11,010
Investment in subsidiaries and associates	35,315	-	(6,413)	(11,029)	17,873
Provisions for severance liability	16,855	-	69	463	17,387
Severance insurance deposits	(13,270)	-	(244)	-	(13,514)
Debt restructuring	(4,067)	-	(52)	-	(4,119)
Extraordinary loss	16,943	-	5,447	-	22,390
Allowance for doubtful accounts	16,469	-	17,909	-	34,378
Depreciation	16,363	-	10,058	-	26,421
Capitalized borrowing costs	(29,151)	-	3,681	-	(25,470)
Accrued expenses	16,648	-	1,573	-	18,221
Conversion of debt to equity	1,812	-	-	-	1,812
Foreign currency translation	934	-	(231)	-	703
Gain on valuation of available-for-sale financial assets	(7,158)	-	-	412	(6,746)
Financial guarantee liabilities	4,244	-	1,797	-	6,041
Borrowings with low interest rates	1,865	-	(2,961)	-	(1,096)
Forgivable borrowings	2,965	-	(371)	-	2,594
Others	37,352	-	(2,379)	-	34,973
	119,665	-	33,097	(10,154)	142,608
Tax credit carryforwards	1,969	-	2,667	-	4,636
	₩ 121,634	₩ -	₩ 35,764	₩ (10,154)	₩ 147,244

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27. Income taxes (cont'd)

	2017				
	Beginning balance	Business combination	Recognized in profit or loss	Recognized directly to equity	Ending balance
Valuation of derivatives	₩ (250)	₩ -	₩ (904)	₩ -	₩ (1,154)
Loss on impairment of investments	11,010	666	8,342	-	20,018
Investment in subsidiaries and associates	17,873	-	17,489	17,406	52,768
Provisions for severance liability	17,387	7,377	1,671	(211)	26,224
Severance insurance deposits	(13,514)	(6,976)	(5,403)	-	(25,893)
Debt restructuring	(4,119)	-	124	-	(3,995)
Extraordinary loss	22,390	-	(20,583)	-	1,807
Allowance for doubtful accounts	34,378	6,154	(3,161)	-	37,371
Depreciation	26,421	(4,642)	4,057	-	25,836
Capitalized borrowing costs	(25,470)	-	913	-	(24,557)
Accrued expenses	18,221	24	(3,015)	-	15,230
Conversion of debt to equity	1,812	-	(1,812)	-	-
Foreign currency translation	703	-	(22)	-	681
Gain on valuation of available-for-sale financial assets	(6,746)	-	-	2,473	(4,273)
Financial guarantee liabilities	6,041	-	(1,412)	-	4,629
Borrowings with low interest rates	(1,096)	-	483	-	(613)
Forgivable borrowings	2,594	-	(8,707)	-	(6,113)
Others	34,973	4,641	7,203	-	46,817
	142,608	7,244	(4,737)	19,668	164,783
Tax credit carryforwards	4,636	-	(672)	-	3,964
	₩ 147,244	₩ 7,244	₩ (5,409)	₩ 19,668	₩ 168,747
U. S. dollar in thousands (Note 2)	\$ 137,432	\$ 6,761	\$ (5,049)	\$ 18,357	\$ 157,501

28. Earnings per share

Basic earnings per share for the years ended December 31, 2016 and 2017 are calculated as follows (Korean won in millions, except for per share amounts):

	Korean won in millions		U. S. dollar in thousands
	2016	2017	(Note 2) 2017
Profit for the year attributable to ordinary equity holders of the parent	₩ 111,254	₩ 175,880	\$ 164,159
Weighted average number of common shares outstanding	113,876,291	121,839,512	121,839,512
Basic earnings per share (Korean won and U.S. dollar)	₩ 977	₩ 1,444	\$ 1.35

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28. Earnings per share (cont'd)

Details of weighted average number of ordinary shares outstanding for the years ended December 31, 2016 and 2017 are as follows:

	2016		
	Number of outstanding shares	Number of days outstanding	Weighted number of shares
Beginning balance	113,876,291	366/366	113,876,291
2017			
	Number of outstanding shares	Number of days outstanding	Weighted number of shares
Beginning balance	113,876,291	365/365	113,876,291
Issuance of capital stock due to business combination	9,498,858	306/365	7,963,426
Acquisition of treasury stock	(258)	290/365	(205)
	<u>123,374,891</u>		<u>121,839,512</u>

Diluted earnings per share for the years ended December 31, 2016 and 2017 are the same as basic earnings per share as the Company does not have any dilutive potential shares.

29. Financial instruments

29.1 Capital risk management

The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios in order to support its business and maximize shareholder value. To maintain or adjust the capital structure, the Group may adjust the dividend payment to shareholders.

The Group monitors capital using a gearing ratio, which is net borrowings divided by total equity. The Group includes within net borrowings, interest bearing borrowings and bonds, less cash and cash equivalents, excluding discontinued operations.

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Total borrowings (A)	₩ 3,525,477	₩ 4,032,794	\$ 3,764,042
Cash and cash equivalents (B)	(173,709)	(178,490)	(166,595)
Net borrowings (A-B)	₩ 3,351,768	₩ 3,854,304	\$ 3,597,447
Total equity (D)	₩ 2,503,652	₩ 2,852,476	\$ 2,662,381
Gearing ratio ((A-B)/D)	134%	135%	135%

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29.2 Financial instruments by category

Financial assets by category as at December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016			
	Financial asset at fair value through profit or loss	Loans and receivables	Available-for-sale financial assets	Total
Cash and cash equivalents	₩ -	₩ 173,709	₩ -	₩ 173,709
Trade and other receivables	-	3,483,692	-	3,483,692
Other current financial assets	-	32,534	-	32,534
Derivative financial assets	41,067	-	-	41,067
Non-current trade and other receivables	-	407,474	-	407,474
Other non-current financial assets	-	15	108,677	108,692
	₩ 41,067	₩ 4,097,424	₩ 108,677	₩ 4,247,168

	2017			
	Financial asset at fair value through profit or loss	Loans and receivables	Available-for-sale financial assets	Total
Cash and cash equivalents	₩ -	₩ 178,490	₩ -	₩ 178,490
Trade and other receivables	-	3,533,602	-	3,533,602
Other current financial assets	-	6,638	-	6,638
Derivative financial assets	51,067	-	-	51,067
Non-current trade and other receivables	-	357,315	-	357,315
Other non-current financial assets	-	716	93,600	94,316
	₩ 51,067	₩ 4,076,761	₩ 93,600	₩ 4,221,428

U. S. dollar in thousands (Note 2)	\$ 47,664	\$ 3,805,078	\$ 87,363	\$ 3,940,105
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Financial liabilities by category as at December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016		
	Financial liabilities at fair value through profit or loss	Financial liabilities carried at amortized cost	Total
Trade and other payables	₩ -	₩ 1,808,416	₩ 1,808,416
Borrowings	-	1,879,023	1,879,023
Current-portion of bonds	-	294,733	294,733
Derivative financial liabilities	71,804	-	71,804
Non-current trade and other payables	-	28,313	28,313
Long-term borrowings	-	592,243	592,243
Bonds	-	759,477	759,477
	₩ 71,804	₩ 5,362,205	₩ 5,434,009

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29.2 Financial instruments by category (cont'd)

	2017		
	Financial liabilities at fair value through profit or loss	Financial liabilities carried at amortized cost	Total
Trade and other payables	₩ -	₩ 1,870,530	₩ 1,870,530
Borrowings	-	2,333,424	2,333,424
Current-portion of bonds	-	463,736	463,736
Derivative financial liabilities	43,454	-	43,454
Non-current trade and other payables	-	22,032	22,032
Long-term borrowings	-	501,434	501,434
Bonds	-	734,200	734,200
	₩ 43,454	₩ 5,925,356	₩ 5,968,810
U. S. dollar in thousands (Note 2)	\$ 40,558	\$ 5,530,481	\$ 5,571,039

Profit or loss by category of financial instruments for the years ended December 31, 2016 and 2017 are as follows (Korean won in millions):

	2016					
	Financial asset at fair value through profit or loss	Loans and receivables	Available-for-sale financial assets	Financial liabilities at fair value through profit or loss	Financial liabilities carried at amortized cost	Total
Selling and administrative expenses:						
Bad debt expenses	₩ -	₩ (31,793)	₩ -	₩ -	₩ -	₩ (31,793)
Other income (expenses):						
Other bad debt expenses	-	(24,731)	-	-	-	(24,731)
Reversal of allowance for doubtful account	-	476	-	-	-	476
Gain on disposal of available-for-sale financial assets	-	-	13	-	-	13
Loss on disposal of available-for-sale financial assets	-	-	(530)	-	-	(530)
Loss on impairment of available-for-sale financial assets	-	-	(182)	-	-	(182)
Finance income (costs):						
Interest income	-	35,074	-	-	-	35,074
Interest expenses	-	-	-	-	(49,524)	(49,524)
Dividend income	-	-	446	-	-	446
Gain (loss) on foreign currency translation	-	116,232	-	-	(134,520)	(18,288)
Gain (loss) on valuation of derivative financial instruments	71,915	-	-	(59,039)	-	12,876
Gain (loss) on settlement of derivatives	252,906	-	-	(267,606)	-	(14,700)
Loss on disposal of trade receivables	-	(17,017)	-	-	-	(17,017)
Other comprehensive income	-	-	(1,705)	-	-	(1,705)
	₩ 324,821	₩ 78,241	₩ (1,958)	₩ (326,645)	₩ (184,044)	₩ (109,585)

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29.2 Financial instruments by category (cont'd)

	2017						
	Financial asset at fair value through profit or loss	Loans and receivables	Available-for- sale financial assets	Financial liabilities at fair value through profit or loss	Financial liabilities carried at amortized cost	Total	
Selling and administrative expenses:							
Bad debt expenses	₩ -	₩ (77,035)	₩ -	₩ -	₩ -	₩ -	₩ (77,035)
Other income (expenses):							
Other bad debt expenses	-	(2,939)	-	-	-	-	(2,939)
Reversal of allowance for doubtful account	-	263	-	-	-	-	263
Gain on disposal of available-for-sale financial assets	-	-	110	-	-	-	110
Loss on disposal of available-for-sale financial assets	-	-	(2,866)	-	-	-	(2,866)
Finance income (costs):							
Interest income	-	31,019	-	-	-	-	31,019
Interest expenses	-	-	-	-	87,983	-	87,983
Dividend income	-	-	455	-	-	-	455
Gain (loss) on foreign currency translation	-	154,699	-	-	(170,206)	-	(15,507)
Gain (loss) on valuation of derivative financial instruments	90,878	-	-	(75,623)	-	-	15,255
Gain (loss) on settlement of derivatives	189,223	-	-	(217,715)	-	-	(28,492)
Loss on disposal of trade receivables	-	(32,352)	-	-	-	-	(32,352)
Other comprehensive income	-	-	(10,219)	-	-	-	(10,219)
	<u>₩ 280,101</u>	<u>₩ 73,655</u>	<u>₩ (12,520)</u>	<u>₩ (293,338)</u>	<u>₩ (82,223)</u>	<u>₩ -</u>	<u>₩ (34,325)</u>
U. S. dollar in thousands (Note 2)	<u>\$ 261,435</u>	<u>\$ 68,746</u>	<u>\$ (11,686)</u>	<u>\$ (273,789)</u>	<u>\$ (76,744)</u>	<u>\$ -</u>	<u>\$ (32,038)</u>

29.3 Financial risk management

The Group is exposed to market risk (foreign currency risk and interest rate risk), credit risk, and liquidity risk. The primary purpose of Group's financial risk management is to detect potential risk which could decrease the Group's profit and to eliminate, reduce and hedge such risk to an acceptable level. The Group uses derivative financial instruments for hedging special risk such as foreign currency risk. Financial risk management policy of the Group has been consistent with the policy of prior years.

29.3.1 Market risk

Market risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market prices. Market prices comprise three types of risk: foreign currency risk, interest rate risk and other price risk.

29.3.1.1 Foreign currency risk

The Group is exposed to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. As at December 31, 2016 and 2017, significant monetary assets and liabilities denominated in foreign currencies, other than functional currencies are as follows:

	Korean won in millions				U. S. dollar in thousands (Note 2)	
	2016		2017		2017	
	Asset	Liability	Asset	Liability	Asset	Liability
USD	₩ 3,593,381	₩ 3,441,720	₩ 2,968,111	₩ 3,407,804	\$ 2,770,311	\$ 3,180,702
JPY	35,659	25,840	38,013	25,419	35,480	23,725
EUR	448,631	314,911	535,553	239,969	499,863	223,977

Effects of fluctuation in foreign exchange rates on the Group's functional currency by 10% on profit for the year ended December 31, 2017 are as follows (Korean won in millions):

	Increase by 10%	Decrease by 10%
USD	₩ (43,969)	₩ 43,969
JPY	1,259	(1,259)
EUR	29,558	(29,558)

29.3.1.2 Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's borrowings and bonds with floating interest rates.

As at December 31, 2017, with all other variables remaining constant, a change of 1% in the floating interest rate on borrowings will have an effect of ₩17,091 million (\$ 15,952 thousand) on the Group's profit for the year.

29.3.2 Credit risk

Credit risk is the risk that counterparties will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group's exposure to the credit risk relates to operating and financial activities.

29.3.2.1 Trade and other receivables

Customer credit risk is managed by each business unit subject to the Group's established policy, procedures and control relating to customer credit risk management. Credit quality of the customer is assessed based on an extensive credit rating scorecard and individual credit limits are defined in accordance with this assessment. Outstanding customer receivables are regularly monitored and any shipments to major customers are generally covered by letters of credit or other forms of credit insurance.

29.3.2.2 Other assets

Credit risks associated with the Group's other assets which consist of cash, short-term deposits and short-term and long-term loans arise from the default by the counterparties. Maximum exposure to credit risks will be the book value of the other assets. The Group deposits its surplus funds in Woori Bank and other financial institutions whose credit ratings are high, therefore, credit risk related to financial institutions is considered low.

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29.3.2.3 Maximum exposure to credit risk

As at December 31, 2016 and 2017, the maximum exposure to credit risk of the Group is as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Cash and cash equivalents	₩ 173,709	₩ 178,490	\$ 166,595
Trade and other receivables	3,483,692	3,533,602	3,298,116
Other current financial assets	32,534	6,638	6,196
Derivative financial assets	41,067	51,066	47,664
Non-current trade and other receivables	407,474	357,315	333,503
Other non-current financial assets	108,692	94,316	88,031
Financial guarantee contract	427,016	346,700	323,595
	<u>₩ 4,674,184</u>	<u>₩ 4,568,127</u>	<u>\$ 4,263,700</u>

Aging analysis of non-derivative financial instruments as at December 31, 2017 is as follows:

	Total	Not past due	Past due but not impaired				
			Within 30 days	30 days to 60 days	60 days to 90 days	90 days to 120 days	Over 120 days
Cash and cash equivalents	₩ 178,490	₩ 178,490	₩ -	₩ -	₩ -	₩ -	₩ -
Trade and other receivables	3,533,602	3,168,076	63,008	70,888	16,539	10,734	204,357
Other current financial assets	6,638	6,638	-	-	-	-	-
Non-current trade and other receivables	357,315	357,315	-	-	-	-	-
Other non-current financial assets	94,316	94,316	-	-	-	-	-
	<u>₩ 4,170,361</u>	<u>₩ 3,804,835</u>	<u>₩ 63,008</u>	<u>₩ 70,888</u>	<u>₩ 16,539</u>	<u>₩ 10,734</u>	<u>₩ 204,357</u>
U. S. dollar in thousands (Note 2)	<u>\$ 3,892,441</u>	<u>\$ 3,551,274</u>	<u>\$ 58,809</u>	<u>\$ 66,164</u>	<u>\$ 15,437</u>	<u>\$ 10,019</u>	<u>\$ 190,738</u>

29.3.3 Liquidity risk

The Group establishes short and long-term capital management plans and analyzes and reviews cash flow budgets against actual cash outflows in order to match the maturity of financial liabilities and financial assets. The Group believes that it has sufficient cash inflows from operating activities and financial assets to redeem financial liabilities that become due.

The aggregated maturities of financial liabilities outstanding as at December 31, 2017, excluding present value discount, are as follows (Korean won in millions):

	Within 1 year	1 year to 5 years	Over 5 years	Total
Trade and other payables	₩ 1,870,530	₩ 4,664	₩ 308	₩ 1,875,502
Derivative financial liabilities	43,454	-	-	43,454
Borrowings	2,609,020	314,876	277,964	3,201,860
Bonds	489,569	755,491	-	1,245,060
Financial guarantee liabilities	-	49,311	297,389	346,700
	<u>₩ 5,012,573</u>	<u>₩ 1,124,342</u>	<u>₩ 575,661</u>	<u>₩ 6,712,576</u>
U. S. dollar in thousands (Note 2)	<u>\$ 4,678,526</u>	<u>\$ 1,049,414</u>	<u>\$ 537,298</u>	<u>\$ 6,265,238</u>

(*1) The maximum amount of guarantees that can be borne by the Group as a result of the financial guarantee contracts at the end of the reporting period is explained in Note 18.

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29.3.4 Changes in liabilities from financial activities

Changes in liabilities from financial activities as at December 31, 2017 is as follows (Korean won in millions):

	2017						
	Beginning balance	Business combination	Cash flows from financial activities	Exchange rate changes	Transfer of current portion	Others	Ending balance
Short-term borrowings	₩ 1,879,023	₩ 642,167	₩ (273,388)	₩ (72,146)	₩ 251,800	₩ (94,032)	₩ 2,333,424
Liquid bond	294,733	-	(284,044)	(12,443)	474,210	(8,720)	463,736
Bond	592,243	8,299	128,982	(32,888)	(251,800)	56,598	501,434
Long-term borrowings	759,477	129,856	338,150	(20,237)	(474,210)	1,164	734,200
	<u>₩ 3,525,476</u>	<u>₩ 780,322</u>	<u>₩ (90,300)</u>	<u>₩ (137,714)</u>	<u>₩ -</u>	<u>₩ (44,990)</u>	<u>₩ 4,032,794</u>
U. S. dollar in thousands (Note 2)	<u>\$ 3,290,532</u>	<u>\$ 728,320</u>	<u>\$ (84,282)</u>	<u>\$ (128,536)</u>	<u>\$ -</u>	<u>\$ (41,992)</u>	<u>\$ 3,764,042</u>

29.4 Fair value of financial instruments

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

	Korean won in millions				U. S. dollar in thousands (Note 2)	
	2016		2017		2017	
	Book value	Fair value	Book value	Fair value	Book value	Fair value
<Financial assets>						
Financial assets carried at amortized cost:						
Cash and cash equivalents	₩ 173,709	₩ 173,709	₩ 178,490	₩ 178,490	\$ 166,595	\$ 166,595
Trade and other receivables	3,483,692	3,483,692	3,533,602	3,533,602	3,298,116	3,298,116
Other current financial assets	32,534	32,534	6,638	6,638	6,196	6,196
Non-current trade and other receivables	407,474	407,474	357,315	357,315	333,503	333,503
Other non-current financial assets	15	15	716	716	668	668
	<u>4,097,424</u>	<u>4,097,424</u>	<u>4,076,761</u>	<u>4,076,761</u>	<u>3,805,078</u>	<u>3,805,078</u>
Financial assets carried at fair value:						
Derivative financial assets	41,067	41,067	51,066	51,066	47,663	47,663
Available-for-sale financial assets(*)	57,605	57,605	47,385	47,385	44,227	44,227
	<u>98,672</u>	<u>98,672</u>	<u>98,451</u>	<u>98,451</u>	<u>91,890</u>	<u>91,890</u>
	<u>₩ 4,196,096</u>	<u>₩ 4,196,096</u>	<u>₩ 4,175,212</u>	<u>₩ 4,175,212</u>	<u>\$ 3,896,968</u>	<u>\$ 3,896,968</u>
<Financial liabilities>						
Financial liability carried at amortized cost:						
Trade and other payables	₩ 1,808,416	₩ 1,808,416	₩ 1,870,530	₩ 1,870,530	\$ 1,745,875	\$ 1,745,875
Current portion of borrowings	1,879,023	1,879,023	2,333,424	2,333,424	2,177,920	2,177,920
Current portion of bonds	294,733	298,112	463,736	465,138	432,832	434,140
Non-current trade and other payables	28,313	28,313	22,032	22,032	20,564	20,564
Borrowings	592,243	592,243	501,434	501,434	468,018	468,018
Bonds	759,477	772,589	734,200	739,607	685,272	690,318
	<u>5,362,205</u>	<u>5,378,696</u>	<u>5,925,356</u>	<u>5,932,165</u>	<u>5,530,480</u>	<u>5,536,835</u>
Financial liability carried at fair value:						
Derivative financial liabilities	71,804	71,804	43,454	43,454	40,558	40,558
	<u>₩ 5,434,009</u>	<u>₩ 5,450,500</u>	<u>₩ 5,968,810</u>	<u>₩ 5,968,810</u>	<u>\$ 5,571,038</u>	<u>\$ 5,577,393</u>

29.4 Fair value of financial instruments (cont'd)

(*) Excludes equity securities carried at cost as the fair value of those securities could not be measured reliably.

30. Fair value measurement

30.1 Fair value hierarchy

The Group uses the following hierarchy for determining and disclosing the fair value by valuation technique:

Level 1: Quoted (unadjusted) prices in active markets for identical assets or liabilities

Level 2: Other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly

Level 3: Techniques which use inputs that have a significant effect on the recorded fair value that are not based on observable market data.

The fair values of financial instruments by fair value hierarchy as at December 31, 2017 are as follows:

	Level 1	Level 2	Level 3	Total
Assets measured at fair value:				
Available-for-sale financial assets	₩ 19,785	₩ 17,917	₩ 9,683	₩ 47,385
Derivative financial assets	-	51,066	-	51,066
Assets for which fair values are disclosed:				
Cash and cash equivalents	-	178,490	-	178,490
Trade and other receivables	-	-	3,533,602	3,533,602
Other current financial assets	-	6,638	-	6,638
Non-current trade and other receivables	-	-	357,315	357,315
Other non-current financial assets	-	716	-	716
Investment properties	-	-	172,420	172,420
Liabilities measured at fair value:				
Derivative financial liabilities	-	43,454	-	43,454
Liabilities for which fair values are disclosed:				
Trade and other payables	-	-	1,870,530	1,870,530
Short-term borrowings	-	2,333,424	-	2,333,424
Current-portion of bonds	-	465,138	-	465,138
Non-current trade and other payables	-	-	22,032	22,032
Long-term borrowings	-	501,434	-	501,434
Bonds	-	739,607	-	739,607

The fair value of financial instruments that are traded in active markets at each reporting date is determined by reference to quoted market prices or dealer price quotations. These instruments are included in Level 1, mostly are classified into available-for-sale financial assets which are listed stocks.

For financial instruments not traded in an active market, the fair value is determined using appropriate valuation techniques. This valuation technique fully makes use of observable market information as possible and internal information at minimum. When every significant variable required for measuring fair value of the instrument is observable, the instrument is classified into Level 2.

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30.1 Fair value hierarchy (cont'd)

Such techniques may include using recent arm's length market transactions; reference to the current fair value of another instrument that is substantially the same; discounted cash flow analysis or other valuation models.

When one or more significant variable is not based on observable market information, the instrument is classified into Level 3.

Valuation techniques used to measure fair values of instruments are:

- Quoted prices or dealer price of similar instrument
- Present value discounted by forward exchange rate as of year-end is used for fair value of derivative instrument
- Discounted cash flow and other techniques are used for other instruments

A reasonable approximate value of fair value is used as book values of instruments which are classified into same category with trade and other receivables.

The Group used the interest rate for U.S. government treasury bills in determining the fair value of the derivative financial assets and liabilities valued at Level 2 hierarchy. Also, the Group used the risk-free interest rate of 2.26% and market risk premium of 9.58% in determining the fair value of available-for-sale financial assets valued at Level 3 hierarchy.

31. Related party transactions

Significant transactions with related parties for the years ended December 31, 2016 and 2017 and the related account balances outstanding as at December 31, 2016 and 2017 are summarized as follows (Korean won in millions):

	2016					
	Sales and others			Purchase and others		
	Sales	Others	Total	Purchase	Others	Total
Parent company:						
POSCO	₩ 182,436	₩ -	₩ 182,436	₩ 3,135,540	₩ 107,329	₩ 3,242,869
Associates:						
POSCO Mexico Processing Center Holding LLC	250,234	-	250,234	405	-	405
Daewoo Global Development Pte. Ltd.	2,327	-	2,327	-	-	-
SPH Co., Ltd.	50	-	50	-	-	-
PT. Batutua Tembaga Raya	-	-	-	15,964	-	15,964
POSCO-ESDC Ltd.	-	-	-	-	3,108	3,108
POSCO IJPC	42,826	-	42,826	-	-	-
Shanghai Lansheng Daewoo Corporation	15,375	-	15,375	-	791	791
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	157,951	-	157,951	2,616	-	2,616
General Medicines Co., Ltd.	5,909	470	6,379	-	-	-
Korea LNG Ltd.	-	6,342	6,342	-	-	-
DMSA/AMSA South-East Asia Gas Pipeline Company Limited	-	-	-	72,580	-	72,580
Global Komsco Daewoo LLC	-	87,657	87,657	-	-	-
VNS-Daewoo Co., Ltd.	-	-	-	9,825	-	9,825
	-	-	-	73	-	73

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31. Related party transactions (cont'd)

	2016					
	Sales and others			Purchase and others		
	Sales	Others	Total	Purchase	Others	Total
Others:						
POSCO ASIA CO., Ltd.	₩ 34,819	₩ -	₩ 34,819	₩ 491,949	₩ -	₩ 491,949
POSCO-Vietnam	53,341	-	53,341	44,111	-	44,111
POSCO-Thainox	48,076	-	48,076	44,134	-	44,134
POSCO Assan TST Steel Industry A.S.	264,968	-	264,968	7,263	-	7,263
POSCO-AAPC	38,850	-	38,850	62	-	62
POSCO C&C Co., Ltd.(*1)	85,231	-	85,231	98,970	19	98,989
POSCO America Corp.	45,792	-	45,792	27,730	-	27,730
Zhangjiagang Pohang Stainless Steel Co.,Ltd.	81,760	-	81,760	635	-	635
POSCO-Foshan Steel Processing Center Co.,Ltd	69,242	-	69,242	1,221	-	1,221
Companhia Siderurgica Do Pecem	63,782	-	63,782	-	-	-
POSCO-Malaysia Sdn.Bhd.	47,273	-	47,273	9,091	-	9,091
POSCO-ITPC	50,114	-	50,114	5,841	-	5,841
POSCO Energy Co., Ltd.	23,584	-	23,584	-	-	-
POSCO VST Co.,Ltd.	104,771	-	104,771	23,030	-	23,030
POSCO SS-VINA	4,283	-	4,283	-	-	-
PT. Krakatau POSCO	48	-	48	135,600	-	135,600
POSCO Maharashtra Steel Pvt. Ltd.	317,446	-	317,446	56,709	-	56,709
Other affiliates of POSCO	414,602	533	415,135	269,221	57,355	326,576
	₩ 2,405,090	₩ 95,002	₩ 2,500,092	₩ 4,452,570	₩ 168,602	₩ 4,621,172

	2017					
	Sales and others			Purchase and others		
	Sales	Others	Total	Purchase	Others	Total
Parent company:						
POSCO(*1)	₩ 790,912	₩ -	₩ 790,912	₩ 5,129,258	₩ 120,256	₩ 5,249,514
Associates:						
POSCO Mexico Processing Center Holding LLC	351,602	-	351,602	397	-	397
SPH Co., Ltd.	50	-	50	-	-	-
PT. Batutua Tembaga Raya	-	-	-	21,024	-	21,024
POSCO-ESDC Ltd.	-	-	-	-	4,186	4,186
POSCO IJPC	53,812	-	53,812	29	-	29
Shanghai Lansheng Daewoo Corporation	247	-	247	-	257	257
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	43,775	-	43,775	-	-	-
General Medicines Co., Ltd.	6,939	441	7,380	-	-	-
Korea LNG Ltd.	-	6,439	6,439	-	-	-
DMSA/AMSA	-	95	95	47,092	-	47,092
South-East Asia Gas Pipeline Company Limited	-	61,989	61,989	-	-	-

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31. Related party transactions (cont'd)

	2017					
	Sales and others			Purchase and others		
	Sales	Others	Total	Purchase	Others	Total
Global Komsco Daewoo LLC	₩ -	₩ -	₩ -	₩ 14,754	₩ -	₩ 14,754
Yulchon Mexico S.A. DE C.V.	893	-	893	-	-	-
Sebang Steel	474	-	474	19,362	-	19,362
Others						
POSCO Asia Co., Ltd.	70,391	-	70,391	657,683	250	657,933
POSCO-Vietnam	178,717	-	178,717	75,075	-	75,075
POSCO-Thainox	100,669	-	100,669	75,693	-	75,693
POSCO Assan TST Steel Industry A.S.	354,615	-	354,615	55,754	-	55,754
POSCO-AAPC	105,437	-	105,437	12,083	-	12,083
POSCO C&C Co., Ltd.	117,428	-	117,428	228,575	14	228,589
POSCO America Corp.	113,044	-	113,044	71,605	-	71,605
Zhangjiagang Pohang Stainless Steel Co.,Ltd.	137,485	-	137,485	426	-	426
POSCO-Foshan Steel Processing Center Co.,Ltd	61,978	-	61,978	713	-	713
Companhia Siderurgica Do Pecem	67,265	-	67,265	115,397	209	115,606
POSCO-Malaysia Sdn.Bhd.	60,246	-	60,246	10,075	-	10,075
POSCO-ITPC	80,903	-	80,903	2,668	-	2,668
POSCO Energy Co., Ltd.	24,638	-	24,638	-	-	-
POSCO VST Co.,Ltd.	133,802	-	133,802	38,320	-	38,320
POSCO SS-VINA	198,764	-	198,764	14,481	-	14,481
PT. Krakatau POSCO	-	-	-	243,175	-	243,175
POSCO Maharashtra Steel Pvt. Ltd.	756,998	-	756,998	175,354	-	175,354
Other affiliates of POSCO	762,193	21	762,214	232,280	63,579	295,859
	₩ 4,573,277	₩ 68,985	₩ 4,642,262	₩ 7,241,273	₩ 188,751	₩ 7,430,024
U. S. dollar in thousands (Note 2)	\$ 4,268,506	\$ 64,388	\$ 4,332,893	\$ 6,758,702	\$ 176,172	\$ 6,934,874

(*1) In addition to the above transactions, dividends paid to POSCO for the years ended December 31, 2017 and 2016 amounted to ₩34,341 million (\$32,052 thousand) and ₩34,341 million (\$32,052 thousand), respectively.

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31. Related party transactions (cont'd)

Significant balances outstanding with related parties as at December 31, 2016 and 2017 are summarized as follows (Korean won in millions):

	2016					
	Receivables and others(*1)			Payables and others		
	Trade receivables	Others	Total	Trade payables	Others	Total
Parent company:						
POSCO	₩ 1,203	₩ 63	₩ 1,266	₩ 196,326	₩ 5,206	₩ 201,532
Associates:						
POSCO Mexico Processing Center Holding LLC	86,868	-	86,868	25	-	25
Korea Siberia Wood CJSC	-	2,258	2,258	-	-	-
Daewoo Global Development Pte. Ltd.	-	4,834	4,834	-	-	-
SPH Co., Ltd.	-	-	-	-	-	-
PT. Batutua Tembaga Raya(*2)	-	32,070	32,070	2,293	-	2,293
POSCO-ESDC LTD.	-	-	-	-	73	73
POSCO IJPC	15,630	-	15,630	-	-	-
Shanghai Lansheng Daewoo Corporation	8,612	-	8,612	-	588	588
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	70,397	-	70,397	-	-	-
General Medicines Co., Ltd.	1,018	-	1,018	-	-	-
Korea LNG Ltd.	-	604	604	-	-	-
DMSA/AMSA(*2)	-	93,994	93,994	-	-	-
KG Power(M) Sdn. Bhd	2,408	332	2,740	2,579	-	2,579
South-east Asia Gas Pipeline Co Ltd(*2)	-	276,653	276,653	-	-	-
Global Komsco Daewoo LLC	-	598	598	-	74	74
Others:						
POSCO Asia Co.,Ltd.	216	-	216	182,660	-	182,660
POSCO-Vietnam	23,642	-	23,642	2,584	-	2,584
POSCO-Thainox	4,340	-	4,340	1,534	-	1,534
POSCO Assan TST Steel Industry A.S.	173,062	207	173,269	1,053	193	1,246
POSCO-AAPC	11,831	-	11,831	36	12	48
POSCO C&C Co., Ltd.	7,534	-	7,534	11,932	5	11,937
POSCO America Corp.	6,506	-	6,506	3,000	-	3,000
Zhangjiagang Pohang Stainless Steel Co., Ltd.	10,522	28	10,550	-	-	-
POSCO-Foshan Steel Processing Center Co., Ltd.	17,071	-	17,071	-	-	-
Companhia Siderurgica Do Pecem	13,472	-	13,472	-	-	-
POSCO-Malaysia Sdn.Bhd.	693	-	693	400	-	400
POSCO-ITPC	13,628	-	13,628	1,957	-	1,957
POSCO VST CO., LTD.	51,963	-	51,963	880	-	880
POSCO Maharashtra Steel Pvt. LTD.	127,116	-	127,116	9,509	-	9,509
POSCO Energy Co., Ltd.	3,398	-	3,398	-	12,934	12,934
POSCO SS-VINA	-	-	-	5,807	-	5,807
PT. Krakatau POSCO	-	-	-	5,474	-	5,474
Other affiliates of POSCO	116,455	2,594	119,049	6,434	3,940	10,374
	₩ 767,585	₩ 414,235	₩ 1,181,820	₩ 434,483	₩ 23,025	₩ 457,508
U. S. dollar in thousands (Note 2)	\$ 635,155	\$ 342,768	\$ 977,923	\$ 359,523	\$ 19,053	\$ 378,576

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31. Related party transactions (cont'd)

	2017					
	Receivables and others(*1)			Payables and others		
	Trade receivables	Others	Total	Trade payables	Others	Total
Parent company:						
POSCO	₩ 26,313	₩ 70	₩ 26,383	₩ 480,939	₩ 19,636	₩ 500,575
Associates:						
POSCO Mexico Processing Center Holding LLC	107,892	5	107,897	321	-	321
SPH Co., Ltd.	5	-	5	-	-	-
PT. Batutua Tembaga Raya	-	29,048	29,048	3	-	3
POSCO-ESDC LTD.	-	-	-	-	271	271
POSCO IJPC	11,790	-	11,790	-	-	-
Shanghai Lansheng Daewoo Corporation	95	-	95	-	319	319
Shanghai Waigaogiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	2,082	-	2,082	-	526	526
General Medicines Co., Ltd.	2,481	-	2,481	-	37	37
Korea LNG Ltd.	-	793	793	-	-	-
DMSA/AMSA(*2)	-	75,702	75,702	-	-	-
South-east Asia Gas Pipeline Co Ltd(*2)	-	229,880	229,880	-	-	-
Global Komsco Daewoo LLC	-	600	600	247	41	288
Yulchon Mexico S.A. DE C.V.	402	-	402	-	-	-
Sebang Steel	-	-	-	50	-	50
Others:						
POSCO ASIA Co.,Ltd.	7,348	-	7,348	200,002	10,736	210,738
POSCO-Vietnam	31,073	-	31,073	4,229	-	4,229
POSCO-Thainox	10,649	-	10,649	4,198	-	4,198
POSCO Assan TST Steel Industry A.S.	249,677	139	249,816	2,821	143	2,964
POSCO-AAPC	14,752	-	14,752	678	-	678
POSCO C&C Co., Ltd.	4,904	-	4,904	16,973	-	16,973
POSCO America Corp.	1,279	-	1,279	285	-	285
Zhangjiagang Pohang Stainless Steel Co., Ltd.	12,590	-	12,590	-	3,279	3,279
POSCO-Foshan Steel Processing Center Co., Ltd.	7,029	-	7,029	59	-	59
Companhia Siderurgica Do Pecem	27,205	13,353	40,558	-	-	-
POSCO-Malaysia Sdn.Bhd.	2,246	-	2,246	660	-	660
POSCO-ITPC	16,891	-	16,891	675	-	675
POSCO Energy Co., Ltd.	-	-	-	-	5,654	5,654
POSCO VST CO., LTD.	50,211	-	50,211	2,120	-	2,120
POSCO SS-VINA	135,058	-	135,058	1,665	-	1,665
PT. Krakatau POSCO	-	-	-	19,006	-	19,006
POSCO Maharashtra Steel Pvt. LTD.	78,927	-	78,927	20,327	-	20,327
Other affiliates of POSCO	187,285	12	187,297	11,922	35,661	47,584
	<u>₩ 988,184</u>	<u>₩ 349,602</u>	<u>₩ 1,337,786</u>	<u>₩ 767,180</u>	<u>₩ 76,303</u>	<u>₩ 843,484</u>
U. S. dollar in thousands (Note 2)	<u>\$ 922,330</u>	<u>\$ 326,304</u>	<u>\$ 1,248,634</u>	<u>\$ 716,054</u>	<u>\$ 71,218</u>	<u>\$ 787,273</u>

(*1) The allowance for doubtful accounts for the above receivables for the years ended December 31, 2017 and 2016 amounted to ₩6,732 million (\$6,283 thousand) and ₩2,331 million (\$2,176 thousand), respectively.

(*2) Other receivables from DMSA/AMSA, South-east Asia Gas Pipeline Company Limited ("SEAGP"), and PT. Batutua Tembaga Raya include loan investments in accordance with the relevant agreements. The changes in such loan investments during the year ended December 31, 2017 are as follows:

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31. Related party transactions (cont'd)

	Beginning balance	Increase(*)	Decrease	Debt-for-Equity Swap	Foreign exchange translation and others	Ending balance
DMSA/AMSA	₩ 90,638	₩ 2,956	₩ -	₩ (13,712)	₩ (10,169)	₩ 69,713
SEAGP	276,605	28,967	(46,252)	-	(29,440)	229,880
PT. Batutua Tembaga Raya	32,070	-	-	-	(3,022)	29,048
	₩ 399,313	₩ 31,923	₩ (46,252)	₩ (13,712)	₩ (42,631)	₩ 328,641
U. S. dollar in thousands (Note 2)	\$ 372,702	\$ 29,796	\$ (43,170)	\$ (12,798)	\$ (39,790)	\$ 306,740

(*)The amounts include capitalized interest.

31.1 Key management personnel compensation

Compensations for key management personnel for the years ended December 31, 2016 and 2017 are as follows:

	Korean won in millions		U. S. dollar in thousands (Note 2)
	2016	2017	2017
Salaries	₩ 11,991	₩ 16,605	\$ 15,498
Long-term employee benefits	-	1,651	1,541
Severance and retirement benefits	1,760	2,117	1,976
	₩ 13,751	₩ 20,373	\$ 19,015

31.2 Guarantees provided to related parties

Guarantees provided to related parties as at December 31, 2016 and 2017 are as follows (Korean won in millions):

	Limit amount		Outstanding balance	
	2016	2017	2016	2017
Associate:				
Global Komsco Daewoo LLC	₩ 11,103	₩ 8,812	₩ 9,940	₩ 8,812
Other related parties:				
POSCO Assan TST Steel Industry A.S.	17,708	15,699	17,708	15,699
	₩ 28,811	₩ 24,511	₩ 27,648	₩ 24,511
U. S. dollar in thousands (Note 2)	\$ 26,891	\$ 22,878	\$ 25,805	\$ 22,878

32. Business combination

32.1 POSCO P&S's steel and other business

In accordance with the resolution made by the Board of Directors on November 4, 2016, the Group merged with the steel business division of POSCO P&S CO., Ltd. on March 1, 2017. As a result of the combination of subsidiaries under common control of POSCO Co., Ltd., the assets and liabilities of the business sector of the merged company are recognized as book values.

The main features of the merger are as follows:

	Description of merger
Type of merger	Small-scale merger
Mergee	POSCO P&S's steel and other business divisions
Corporation after merger	POSCO DAEWOO Corporation
Date of merger	March 1, 2017
Date of merger registration	March 2, 2017
Ration of merger	POSCO DAEWOO Corporation : POSCO P&S = 1 : 0.4387662 (Split merger ratio)

32.1.1 Accounting for the merger

The assets and liabilities of the merged company are recognized as book values as at the merger date. The difference in the new issue price of shares after the merger and book values of net assets acquired was accounted for as capital surplus.

Book values of major assets and liabilities of POSCO P&S acquired from the merger are as follows (Korean won in millions):

	2017
Consideration transferred	
Newly issued shares	
(number of share issued: 9,498,858 / capital stock : ₩47,494 million)	₩ 233,197
	<u>233,197</u>
Assets and liabilities acquired	
Current assets	
Cash and cash equivalents	22,150
Trade and other receivables	473,569
Inventories	221,526
Other current assets	16,262
Non-current assets	
Trade and other receivables	3,156
Investment stocks	15,576
Tangible assets, intangible assets and investment properties	371,129
Deferred income tax assets	6,529
Other non-current assets	749
Defined benefit assets	357
Current liabilities	
Trade and other payables	(321,813)
Borrowings	(398,953)
Other current liabilities	(7,431)
Non-current liabilities	

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32.1.1 Accounting for the merger (cont'd)

	2017
Debt and borrowings	(138,106)
Other payables	(6,185)
Other non-current liabilities	(179)
	258,336
Difference (capital surplus)	(25,139)
	₩ 233,197
U. S. dollar in thousands (Note 2)	\$ 217,656

32.1.2 Business combination effect

If the business combination was established on January 1, 2017, the Company's sales would have been ₩21,437,971 million (\$ 20,009,307 thousand) and its current net profit would have been ₩141,321 million (\$131,903 thousand).

32.2 Daewoo Global Development Pte. Ltd.

The Group has acquired additional 18.28% shares in Daewoo Global Development Pte. Ltd. ("DGDP") and acquired control on October 10, 2017. As a result of the combination of subsidiaries under common control of POSCO Co., Ltd., the assets and liabilities of the business sector of the merged company are recognized as book values.

The assets and liabilities of the merged company are recognized as book values as at the merger date. The difference in the new issue price of shares after the merger and book values of net assets acquired was accounted for as capital surplus.

Book values of major assets, liabilities and non-controlling interests of DGDP acquired from the merger are as follows (Korean won in millions):

	2017
Consideration transferred	
Cash	₩ 16,811
	16,811
Value of DGDP stake held before business combination	32,533
	49,344
Assets and liabilities acquired	
Current assets	
Cash and cash equivalents	6,056
Trade and other receivables	266,173
Other current assets	823
Non-current assets	
Investment stocks	77,976
Current liabilities	
Borrowings	255,714
Other current liabilities	5,796
	89,519
Non-controlling interest	39,859
	49,660
Difference (capital surplus)	(316)
	₩ 49,344
U. S. dollar in thousands (Note 2)	\$ 46,056

32.3 KIS Devonian Canada Corp.

The Group acquired 100% shares in KIS Devonian Canada Corp., located in Canada. KIS Devonian Canada Corp. was included in the Company's subsidiaries, on December 14, 2017.

The fair values of identifiable assets and liabilities as at the acquisition date are as follows (Korean won in millions):

	2017
Assets	
Cash and cash equivalents	₩ 261
Intangible assets	46,342
Other assets	862
Liabilities	909
	46,556
Acquisition ratio	1
Acquisition net assets	46,556
Consideration acquired	46,556
Goodwill	-

33. Events after reporting period

The Group issued unsecured public bonds of ₩200,000 million for the financing of operating fund on March 2, 2018.