Hankook Tire Worldwide Co., Ltd. and Subsidiaries

Consolidated Financial Statements December 31, 2016

Hankook Tire Worldwide Co., Ltd. and Subsidiaries Index

December 31, 2016 and 2015

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Board of Directors and Shareholders of Hankook Tire Worldwide Co., Ltd.

We have audited the accompanying consolidated financial statements of Hankook Tire Worldwide Co., Ltd. and its subsidiaries (collectively referred to as the "Group") which comprise the consolidated statement of financial position as at December 31, 2016, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies and other explanatory information.

Management's Responsibilities for the Financial Statements

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

Auditor's Responsibilities

Our responsibility is to express an opinion on the consolidated financial statements based on our audit. We conducted our audit in accordance with Korean Standards on Auditing. Those standards require that we comply with ethical requirements, and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's 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 auditor considers 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 significant 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 accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of Hankook Tire Worldwide Co., Ltd. and its subsidiaries as at December 31, 2016, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Korean IFRS.

Other Matters

The consolidated financial statements of Hankook Tire Worldwide Co., Ltd. and its subsidiaries for the year ended December 31, 2015, were audited by another auditor who expressed an unmodified opinion on those statements on March 17, 2016.

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

Seoul, Korea March 16, 2017

This report is effective as of March 16, 2017, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Hankook Tire Worldwide Co., Ltd. and Subsidiaries Consolidated Statements of Financial Position December 31, 2016 and 2015

(in thousands of Korean won)	Notes	2016	2015
Assets			
Current assets			
Cash and cash equivalents		₩ 225,653,912	2 ₩ 124,995,571
Short-term financial assets		247,500,000	269,000,000
Available-for-sale financial assets	4,6	2,104,938	-
Trade receivables	4,5	148,091,298	27,696,954
Other receivables	4,5	58,826,475	41,092,584
Derivative financial assets	4,8	2,309,748	
Other current assets	9	6,121,630	18,312
Inventories	31	44,489,406	
Non-current assets		735,097,407	462,803,421
Long-term financial assets		4,000	-
Financial assets designated at fair value through profit and loss	4,7	20,072,360	
Other non-current receivables	4,5	740,074	
Property, plant and equipment	11	150,772,224	
Investment properties	12	26,699,838	
Intangible assets	13	34,265,093	
Investments in associates	10	2,094,243,538	
Available-for-sale financial assets	4,6	30,889,109	
Net defined benefit assets	16	4,057,715	
Other non-current assets	9	650,018	
		2,362,393,969	-
Total assets		₩ 3,097,491,376	-
Liabilities			
Current liabilities			
Trade payables	4	₩ 39,761,046	5 ₩ -
Other payables	4,14	31,839,829	14,379,623
Current tax liabilities		17,468,226	
Derivative financial liabilities	4,8		2,677,567
Other current liabilities	15	7,608,758	1,329,732
Borrowings	4,32	29,537,824	-
		126,215,683	
Non-current liabilities			
Other non-current payables	4,14	6,888,342	2 -
Net defined benefit liabilities	16	76,930	-
Deferred tax liabilities	26	91,598,029	78,577,114
Other non-current liabilities	15	1,998,606	222,739
Provisions	17	1,334,016	-
		101,895,923	78,799,853
Total liabilities		228,111,606	100,289,037
Equity			
Share capital	1,18	46,510,087	46,510,087
Other paid-in capital	19	1,285,765,464	1,286,905,972
Retained earnings	20	1,489,859,004	
Other components of equity	21	(18,699,940	
Equity attributable to owners of the Parent Company		2,803,434,615	
Non-controlling interest		65,945,155	
Total equity Total liabilities and equity		2,869,379,770 ₩ 3,097,491,370	
i otal liabilities alla equity		vv 3,091,491,370	vv 2,000,933,001

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

Hankook Tire Worldwide Co., Ltd. and Subsidiaries

Consolidated Statements of Comprehensive Income

Years Ended December 31, 2016 and 2015

(in thousands of Korean won)	Notes		2016		2015
Sales and share of profit or loss of associates accounted for using the equity method	30	₩	690,029,633	₩	223,646,645
Costs of sales	23		346,086,829		_
Gross profit		-	343,942,804		223,646,645
Selling and administrative expenses	22,23		82,365,849		42,086,347
Operating profit	•		261,576,955		181,560,298
Finance income	24		17,689,258		11,340,659
Finance costs	24		5,808,457		1,660,601
Other non-operating income	25		45,195,921		5,535,930
Other non-operating expense	25		16,745,231		8,700,681
Profit before income tax			301,908,446		188,075,605
Income tax expense	26		32,451,507		15,372,458
Profit for the period		₩	269,456,939	₩	172,703,147
Other comprehensive income Items that will not be reclassified to profit or loss					
Remeasurements of net defined benefit assets			177,770		212,437
Remeasurements of net defined benefit assets of associates			(76,588)		(3,969,978)
Items that may be subsequently reclassified to profit or loss					
Changes in the fair value of available-for-sale financial assets	4,21		8,891		2,563,480
Share of other comprehensive income of associates	21		3,989,739		7,528,723
Other comprehensive income for the period, net of tax			4,099,812		6,334,662
Total comprehensive income for the period		₩	273,556,751	₩	179,037,809
Profit is attributable to:					
Owners of the Parent Company			261,535,602		172,703,147
Non-controlling interest			7,921,337		-
Total comprehensive income for the period is attributable to	:				
Owners of the Parent Company			265,439,684		179,037,809
Non-controlling interest			8,117,067		-
Earnings per share					
Basic and diluted earnings per share	33	₩	2,852	₩	1,883

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

				Attributable	to o	wners of the Pare	ent Co	ompany						
								Other compor	nents	of equity				
(in thousands of Korean won)	Notes	Share capital	9	Share premium		Retained earnings	fa avai	nanges in the air value of ilable-for-sale ancial assets	S	hare of other emprehensive income of associates		controling terests		Total
Balance at January 1, 2015	140103	₩ 46.510.08		1,286,905,972	₩	1,114,488,258	₩	(1,051,129)	₩	(31,738,507)	₩		₩	2,415,114,681
Transactions with owners		10,010,00		1,200,000,072		1,111,100,200		(1,001,120)		(01,100,001)				2,110,111,001
Annual dividends	20		_	_		(27,508,526)		_		_		_		(27,508,526)
Total transactions with owners					_	(27,508,526)								(27,508,526)
Total comprehensive income for the period			_		_	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		_					_	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Profit for the period			-	-		172,703,147		-		-		-		172,703,147
Remeasurements of net defined benefit assets of associates			-	-		(3,969,978)		-		-		-		(3,969,978)
Changes in the fair value of available-for-sale financial assets	10		-	-		=		2,563,480		=		-		2,563,480
Share of other comprehensive income of associates			-	-		-		-		7,528,723		-		7,528,723
Remeasurements of net defined benefit assets			<u> </u>	-	_	212,437		-						212,437
			<u> </u>	-	_	168,945,606		2,563,480		7,528,723				179,037,809
Balance at December 31, 2015		₩ 46,510,08	37 ₩	1,286,905,972	₩	1,255,925,338	₩	1,512,351	₩	(24,209,784)	₩		₩	2,566,643,964
Balance at January 1, 2016		₩ 46,510,08	37 ₩	1,286,905,972	₩	1,255,925,338	₩	1,512,351	₩	(24,209,784)	₩	-	₩	2,566,643,964
Transactions with owners														
Annual dividends	20		-	-		(27,508,525)		-		-		-		(27,508,525)
Business combination			-	-		-		-		-		65,294,631		65,294,631
Equity transactions within consolidated group				(1,140,508)				<u>-</u>				(7,466,543)		(8,607,051)
Total transactions with owners				(1,140,508)		(27,508,525)		<u> </u>		<u> </u>		57,828,088		29,179,055
Total comprehensive income for the period														
Profit for the period			-	-		261,535,602		-		-		7,921,337		269,456,939
Remeasurements of net defined benefit assets of associates			-	-		(76,588)		-		-		-		(76,588)
Changes in the fair value of available-for-sale financial assets			-	-		-		7,754		-		1,137		8,891
Share of other comprehensive income of associates	10		-	-		=		-		3,989,739		-		3,989,739
Remeasurements of net defined benefit assets				-	_	(16,823)		<u>-</u>		-		194,593		177,770
			<u> </u>	-	_	261,442,191		7,754		3,989,739		8,117,067	_	273,556,751
Balance at December 31, 2016		₩ 46,510,08	7 ₩	1,285,765,464	₩	1,489,859,004	₩	1,520,105	₩	(20,220,045)	₩	65,945,155	₩	2,869,379,770

Hankook Tire Worldwide Co., Ltd. and Subsidiaries

Consolidated Statements of Cash Flows

Years Ended December 31, 2016 and 2015

(in thousands of Korean won)	Notes	2016	2015
Cash flows from operating activities			
Cash generated from operations			
Profit for the period		₩ 269,456,939	₩ 172,703,147
Adjustments	27	(168,646,444)	(138,448,200)
Changes in operating assets and liabilities	27	(13,508,766)	(9,618,404)
		87,301,729	24,636,543
Interest received		8,610,380	12,784,050
Interest paid		(356,656)	-
Dividend received		12,476,793	14,379,238
Income taxes paid		(22,196,650)	(9,903,558)
Net cash inflow from operating activities		85,835,596	41,896,273
Cash flows from investing activities			
Proceeds from sale of short-term financial assets		426,107,259	-
Proceeds from sale of long-term financial assets		4,000	-
Repayments of short-term loans		92,220,274	-
Proceeds from sale of available-for-sale financial assets	6	2,467,094	1,892
Proceeds from sale of property, plant and equipment	11	-	2,195
Proceeds from sale of intangible assets	13	115,909	13,853
Increase in cash due to change in the scope of consolidation	35	12,909,630	-
Payments for short-term financial assets		(354,500,000)	(89,000,000)
Increase in short-term loans		(56,996,920)	-
Payments for financial assets at fair value through profit and loss	7	(20,000,000)	-
Payments for available-for-sale financial assets	6	(10,180,000)	-
Payments for property, plant and equipment	11	(10,968,488)	(204,134)
Payments for intangible assets	13	(1,160,591)	(923,033)
Payments for investments in associates	10	-	(10,645,873)
Cash outflow from derivative transactions		(5,145,883)	(434,000)
Net cash inflow (outflow) from investing activities		74,872,284	(101,189,100)
Cash flows from financing activities			
Repayments of short-term borrowings	32	(19,935,275)	-
Dividends paid	20	(27,508,525)	(27,508,167)
Payments for non-controlling interests	35	(8,607,050)	-
Dividends paid to non-controlling interests		(4,410,921)	-
Net cash outflow from financing activities		(60,461,771)	(27,508,167)
Net increase (decrease) in cash and cash equivalents		100,246,109	(86,800,994)
Cash and cash equivalents at the beginning of the financial year		124,995,571	211,798,689
Effects of exchange rate changes on cash and cash equivalents		412,232	(2,122)
Cash and cash equivalents at the end of the year		₩ 225,653,912	₩ 124,995,573

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

1. General Information

General information of Hankook Tire Worldwide Co., Ltd. (the Parent Company) that is a controlling company in accordance with Korean IFRS 1110 *Consolidated Financial Statements* and its subsidiaries (collectively referred to as the "Group") is as follows:

The Parent Company was incorporated in May 1941 to manufacture and sell tires, tubes and alloy wheels. In December, 1968, the Parent Company was listed on the Korea Exchange. On April 25, 2012, the Board of Directors resolved to spin-off the tire business unit and the investment business unit separately; the former engages in manufacturing, processing and distribution of tires, tubes and parts; the latter engages in the subsidiary management and real estate rental business. Following the approval of the shareholders' meeting on July 27, 2012, the spin-off has been implemented on September 1, 2012 and the Group changed its name from Hankook Tire Co., Ltd. to Hankook Tire Worldwide Co., Ltd.

Through the multiple capital increases, transfers of convertible notes and the spin-off, the authorized number of the Group's ordinary shares are 250 million with a par value of \$500 per share as at December, 31 2016. The share capital of the Group is \$46,510,087 thousand (ordinary shares: 93,020,173 thousand) and the Group's shareholders as at December 31, 2016 and 2015, are as follows:

	201	16	20	15
	Number of shares	Percentage of ownership (%)	Number of shares	Percentage of ownership (%)
Yang Rai Cho	21,942,693	23.6	21,942,693	23.6
Hyun Shick Cho	17,974,870	19.3	17,974,870	19.3
Hyun Bum Cho	17,959,178	19.3	17,959,178	19.3
Treasury shares	1,325,089	1.4	1,325,089	1.4
Others	33,818,343	36.4	33,818,343	36.4
	93,020,173	100.0	93,020,173	100.0

1.1 Consolidated Subsidiaries and Change in the Scope in Consolidation

Details of the consolidated subsidiaries as at December 31, 2016 and 2015, are as follows:

	•	terest held by p (%)	Closing month	Main business
Name of entity	2016	2015		
Atlas BX Co., Ltd.	74.9	31.1	December	Manufacturing and sales of storage batteries and dry cells
Atlas BX Motorsports Co., Ltd. ¹	74.9	31.1	December	Management of racing team and agency of advertisement

¹ Atlas BX Co., Ltd. holds 100% of equity interests of the entity as at December 31, 2016 and 2015.

In 2016, Atlas BX Co., Ltd., which was classified as an associate as at December 31, 2015, acquired its treasury shares by tender offer. Consequently, the Group acquired control over Atlas BX Co., Ltd. and its subsidiaries as at March 31, 2016, and classified them as the Group's subsidiaries.

Summarized financial information for consolidated subsidiaries as at the end of the reporting periods, is as follows:

(in thousands of Korean won)			20	16		
	Assets	Liabilities	Equity	Sales	Profit for the period	Total comprehensive income (loss)
Atlas BX Co., Ltd	₩ 333,714,140	₩ 113,761,652	₩ 219,952,488	₩ 554,361,989	₩ 50,687,988	₩ 51,432,952
Atlas BX Motorsports Co., Ltd.	422,157	145,548	276,609	1,202,795	20,716	20,716

2. Significant Accounting Policies

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

2.1 Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

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

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

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

2.2 Changes in Accounting Policies and Disclosures

(a) New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2016. The adoption of these amendments did not have any impact on the current period or any prior period and is not likely to affect future periods.

- Disclosure Initiative Amendments to Korean IFRS 1001 Presentation of Financial Statements
- Korean IFRS 1011 Construction Contract, Korean IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets and Interpretation 2115 Arrangements for Property Construction
- Agriculture: Bearer Plants Amendments to Korean IFRS 1016 Property, Plant and Equipment, and Korean IFRS 1041 Agriculture
- Clarification of Acceptable methods of Depreciation and Amortization Amendments to Korean IFRS 1016 Property, Plant and Equipment, and Korean IFRS 1038 Intangible assets
- Investment entities: Applying the Consolidation Exception Amendments to Korean IFRS 1110 Consolidated Financial Statements, Korean IFRS 1028 Investments in Associates and Joint Ventures, and Korean IFRS 1112 Disclosures of Interests in Other Entities
- Accounting for Acquisitions of Interests in Joint Operations Amendments to Korean IFRS 1111 Joint Arrangements
- Annual Improvements to Korean IFRS 2012-2014 Cycle
- (b) New standards and interpretations not yet adopted by the Group

Certain new accounting standards and interpretations that have been published that are not mandatory for December 31, 2016 reporting periods and have not been early adopted by the Group are set out below.

- Amendments to Korean IFRS 1007 Statement of Cash Flows

Amendments to Korean IFRS 1007 *Statement of Cash flows* requires to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash flows. This amendment will be effective for annual periods beginning on or after January 1, 2017, with early adoption permitted. The Group does not expect the amendments to have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1012 Income Tax

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

the requirements on recognition of deferred tax assets for unrealized losses, to address diversity in practice. This amendment will be effective for annual periods beginning on or after January 1, 2017, with early adoption permitted. The Group does not expect the amendments to have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1102 Share-based Payment

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

- Korean IFRS 1109 Financial Instruments

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

- Korean IFRS 1115 Revenue from Contracts with Customers

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

The new standard is based on the principle that revenue is recognized when control of a good or service transfers to a customer – so the notion of control replaces the existing notion of risks and rewards. A new five-step process must be applied before revenue from contract with customer can be recognized:

- · Identify contracts with customers
- · Identify the separate performance obligation
- · Determine the transaction price of the contract
- Allocate the transaction price to each of the separate performance obligations, and
- · Recognize the revenue as each performance obligation is satisfied.

As at December 31, 2016, the Group neither prepared for internal management process nor began to adjust accounting system in relation to implementation of Korean IFRS 1115. Also, the Group did not analyze the financial effects of applying the standard. The Group plans to analyze the financial effects of applying the standard and disclose the result of the analysis in the notes on the financial statements as at September 30, 2017.

2.3 Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110 *Consolidated Financial Statements*.

(a) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The acquisition method of accounting is used to account for business combinations by the Group. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquired entity on an acquisition-by-acquisition basis either at fair value or at the non-controlling interest's proportionate share of the acquired entity's net identifiable assets. All other non-controlling interests are measured at fair values, unless otherwise required by other standards. Acquisition-related costs are expensed as incurred.

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recoded as goodwill. If those amounts are less than the fair value of the net identifiable assets of the business acquired, the difference is recognized directly in the profit or loss as a bargain purchase.

Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

(b) Associates

Associates are entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. If there is objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment

loss.

(c) Joint Arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. Interests in joint ventures are accounted for using the equity method, after initially being recognized at cost in the consolidated statement of financial position.

2.4 Foreign Currency Translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities classified as available-for-sale financial assets are recognized in other comprehensive income.

2.5 Financial Assets

(a) Classification and measurement

The Group classifies its financial assets into the following categories: financial assets at fair value through profit or loss ("FVTPL"), available-for-sale ("AFS") financial assets, loans and receivables, and held-to-maturity financial assets. Regular way purchases and sales of financial assets are recognized on trade-date, the date on which the Group commits to purchase or sell the asset.

For hybrid (combined) instruments, the Group is unable to measure an embedded derivative separately from its host contract; therefore, the entire hybrid (combined) contract is classified as at fair value through profit or loss. The Group designated financial assets, securitized derivatives, as at fair value through profit or loss.

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss. Available-for-sale financial assets and financial assets at fair value through profit or loss are subsequently carried at fair value. And, loans and receivables and held-to-maturity investments are subsequently carried at amortized cost using the effective interest method.

Gains or losses arising from changes in the fair value of financial assets at fair value through profit or loss are recognized in profit or loss within other income or other expenses. Gains or losses arising from changes in the available-for-sale financial assets are recognized in other comprehensive income, and amounts are reclassified to profit or loss when the associated assets are sold or impaired.

(b) Impairment

The Group assesses at the end of each reporting period whether there is objective evidence that a financial asset or a group of financial assets is impaired. A financial asset or a group of financial assets is impaired and impairment losses are incurred only if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or a group of financial assets that can be reliably estimated.

Impairment of loans and receivables is presented as a deduction in an allowance account, and that of other financial assets is directly deducted from their carrying amount. The Group writes off financial assets when the assets are determined to be no longer recoverable.

The Group considers that there is objective evidence of impairment if significant financial difficulties of the debtor, or delinquency in interest or principal payments for more than certain periods is indicated. Moreover, in the case of equity investments classified as available-for-sale, a significant decline in the fair value of the security below its cost by more than certain percentage, or prolonged decline for more than certain periods is considered an objective evidence of impairment.

(c) Derecognition

If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as "borrowings" in the statement of financial position.

(d) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated statements of financial position where there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and

must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

2.6 Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'other non-operating income (expenses)' or 'finance income (costs)' based on the nature of transactions.

2.7 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the moving-weighted average method.

2.8 Property, Plant and Equipment

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

Depreciation of all property, plant and equipment, except for land, is calculated using the straightline method to allocate their cost or revalued amounts, net of their residual values, over their estimated useful lives as follows:

Buildings	20 - 40 years
Structures	10 - 40
Machinery	10
Vehicles	4 - 5
Equipment	4 - 5
Tools, furniture and fixtures	5

Useful lives

The assets' depreciation method, residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

2.9 Intangible Assets

Intangible assets are initially recognized at its historical cost, and carried at cost less accumulated amortization and accumulated impairment losses.

Membership rights that have an indefinite useful life are not subject to amortization because there is no foreseeable limit to the period over which the assets are expected to be utilized. The Group amortizes intangible assets with a limited useful life using the straight-line method over the following periods:

Useful lives

Industrial property rights
Other intangible assets

5 - 10 years

4 - 10

2.10 Investment Property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. An investment property is measured after initial measurement at depreciated cost (less any accumulated impairment losses). After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. The Group depreciates investment properties, except for land, using the straight-line method over their useful lives for 40 years.

2.11 Impairment of Non-financial Assets

Intangible assets that have an indefinite useful life are not subject to amortization and are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired. Other assets are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

2.12 Financial Liabilities

(a) Classification and measurement

The Group's financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not a designated as hedging instruments and an embedded derivative that is consolidated are also classified as held for trading.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings', and 'other financial liabilities' in the statement of financial position.

(b) Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified.

2.13 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively.

The tax expense is measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. The Group recognizes current income tax on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis.

2.14 Employee Benefits

(a) Post-employment benefits

The Group has both defined contribution and defined benefit plans.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income.

Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

(b) Other long-term employee benefits

Certain entities within the Group provide long-term employee benefits that are entitled to employees with service period for ten years and above. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Group recognizes service cost, net interest on other long-term employee benefits and remeasurements as profit or loss for the year. These liabilities are valued annually by an independent qualified actuary.

2.15 Revenue Recognition

Revenue is measured at the fair value of the consideration received or receivable for the sale of goods or rendering of services arising from the normal course of the business. Amounts disclosed as revenue are net of value added taxes, returns, rebates and discounts and after elimination of inter-company transactions.

The Group recognizes revenue when the amount of revenue can be reliably measured, it is probable that future economic benefits will flow to the Group and when specific criteria have been met for each of the Group's activities as described below. The Group bases its estimate on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

(a) Sale of goods

The Group manufactures and sells storage batteries and dry cells. Sales related to storage batteries business are recognized when control of the products has transferred, being when the products are delivered to the wholesaler.

(b) Rendering of services

Revenue from rendering of services is recognized based on percentage of completion. The percentage of completion is measured on the basis of direct costs incurred to date relative to the estimated total costs.

(c) Royalty income

Royalty income is recognized on an accrual basis in accordance with the substance of the relevant agreements.

(d) Interest income

Interest income is recognized using the effective interest method according to the time passed. When a loan and receivable is impaired, the Group reduces the carrying amount to its recoverable amount and continues unwinding the discount as interest income. Interest income on impaired loans and receivables is recognized using the original effective interest rate.

(e) Dividend income

Dividend income is recognized when the right to receive payment is established.

(f) Rental income

Rental income from investment properties is recognized using the straight-line method over the period of rent.

2.16 Provisions

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

2.17 Operating Segments

Information of each operating segment is reported in a manner consistent with the internal business segment reporting provided to the chief operating decision-maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the Management Committee that makes strategic decisions.

2.18 Approval of Issuance of the Financial Statements

The consolidated financial statements 2016 were approved for issue by the Board of Directors on March 16, 2017 and are subject to change with the approval of shareholders at their Annual General Meeting.

2.19 Reclassification of Prior Year Financial Statement

Certain amounts in the financial statements as of and for the year ended December 31, 2015, have been reclassified to conform to the December 31, 2016 financial statement presentation. These reclassifications have no effect on previously reported net income or equity.

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

(a) Income taxes

The Group's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain(Note 26).

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the *Tax System For Recirculation of Corporate Income*, the Group is liable to pay additional income tax calculated based on the tax laws. The new tax system is effective for three years from 2015. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

(b) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period(Note 4).

(c) Net defined benefit liability

The present value of net defined benefit liability depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate(Note 16).

4. Financial Risk Management

(a) Capital Management

The Group manages its capital to ensure that entities under the Group will be able to continue while maximizing the return to shareholders through the optimization of its debt and equity balance. The Group's overall strategy remains unchanged from that of the prior periods. The Group utilizes the debt ratio as capital management index which is the total liabilities divided by the total equity. Total liabilities and total equity are based on the amounts stated in the financial statements. The Group is not subject to any externally imposed capital requirements.

The debt ratio as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015
Total liabilities	₩	228,111,607	₩	100,289,037
Total equity		2,869,379,770		2,566,643,964
Debt ratio		7.9%		3.9%

- (b) The accounting policies and methods (including recognition, measurement, and related gain and loss recognition) adopted to the Group's financial assets, financial liabilities and equity at the end of the reporting period are detailed in Note 2.
- (c) Categorizations of financial assets and liabilities as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)			2016		2015
		Book amount		Во	ok amount
Financial assets:					
Derivatives designated as a hedging instrument	Derivative financial assets	₩	2,309,748	₩	-
AFS financial assets	AFS financial assets		32,994,047		22,561,651
Financial assets at FVTPL	Financial assets at FVTPL		20,072,360		-
Loans and receivables	Cash and cash equivalents		225,653,912		124,995,571
	Short-term financial assets		247,500,000		269,000,000
	Trade receivables		148,091,298		27,696,954
	Other receivables		58,826,475		41,092,585
	Other non-current receivables		740,074		57,053,800
		₩	736,187,914	₩	542,400,561

(in thousands of Korean won)			2016 ook amount	2015 Book amount		
		Б.	ok amount	Бо	ok amount	
Financial liabilities:						
Derivatives designated as a hedging instrument	Derivative financial liabilities	₩	-	₩	2,677,568	
Financial liabilities at amortized cost	Trade payables		39,761,046		-	
	Other payables		31,839,829		14,379,622	
	Borrowings		29,537,824		-	
	Other non-current payables		6,888,342		-	
		₩	108,027,041	₩	17,057,190	

Net gains or losses on each category of financial instruments for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016	2015
Derivatives designated as a hedging instrument		
Gains or losses on foreign exchange forward contracts valuation	₩ 2,309,748	₩ (5,067,941)
Gains or losses on foreign exchange forward contracts transaction	(2,468,315)	(4,688)
AFS financial assets		
Gains or losses on valuation (other comprehensive income)	8,891	2,563,480
Gains or losses on disposal	2,467,093	1,892
Impairment(reversal)	364	(1,554,088)
Dividend income	6,983	1,863
Financial assets at FVTPL		
Gains or losses on valuation/disposal	137,619	-
Loans and receivables		
Interest income	9,551,496	11,178,415
Gains or losses on foreign currency transaction	(3,749,208)	55,962
Gains on foreign currency translation	2,305,553	3,230,998
Loss on disposal of trade receivables	(44)	-
Impairment loss	501	-
Financial liabilities measured at amortized cost		
Gains or losses on foreign currency transaction	4,697,826	(2,628)
Loss on foreign currency translation	(1,999,414)	(661)
Total	13,269,093	10,402,604

(d) Financial risk management

1) Purpose of financial risk management

The Group is exposed to various risks related to its financial instruments, such as market risk (currency risk, fair value interest rate risk, and price risk), credit risk, liquidity risk and cash flow interest rate risk. The finance department of the Group manages operations, organizes the approach to financial market and controls the financial risks related to operations of the Group through internal risk reports which analyze the scope and degree of each risk factor.

The Group uses derivative financial instruments to hedge these risks. The use of derivatives is decided in the observance of the Group's polices approved by the Board of Directors. They provide the documented principles of currency risk, interest rate risk, credit risk, use of derivatives/non-derivatives and excessive liquidity investments. The audit committee constantly oversees the observance of the policies and the degree of risk exposure. The Group does not trade the financial instruments including derivatives for the purpose of speculation.

The finance department of the Group report the details quarterly to Foreign Exchange Risk Management Committee that monitors whether the Group continues to comply with the risk management policies and the current risk management system works appropriately for the risks that the Group is exposed to.

2) Market risk

The Group's activities mainly exposed to financial risks of changes in currency and interest rates. The Group makes various derivative contracts to manage the interest rate risk and foreign currency rate risk.

a) Foreign currency risk management

The Group is exposed to foreign exchange risk arising from foreign currency transactions. Currency exposures are managed within approved policy parameters by utilizing currency forward contracts.

The sensitivity analysis includes outstanding monetary items denominated in foreign currencies, and foreign exchange translations are adjusted based on assumption that Korean won has weakened/strengthened by 10% at the end of the reporting period.

The table below summarizes the impact of Korean won on the Group's pre-tax profit for the period. The analysis is based on the assumption that the foreign exchange rate based on Korean won has increased by 10% with all other variables held constant.

(in thousands of Korean won)		2016	2015		
USD	₩	3,299,378 ₩	109,697		
CNY		429,217	61,530		
EUR		1,031,843	(2,084)		
Others		988,976	(759)		

Details of unsettled currency forward contracts as at December 31, 2016 and 2015, are as follows:

				2016			
(in thousands of Korean won, and thousands of CNY)	Contract date	Maturity date	Contract amount in foreign currency	Contract rate	Strike amount	Fair value	Gain on valuation
Citi Bank	2016.05.24	2017.05.24	CNY 316,000	176.30	₩ 55,710,800	₩ 53,401,052	₩ 2,309,748
				2015			_
(in thousands of Korean won, and thousands of USD and CNY)	Contract date	Maturity date	Contract amount in foreign currency	Contract rate	Strike amount	Fair value	Loss on valuation
Deutsche Bank AG	2013.05.27	2016.05.26	CNY 136,000	176.82	₩ 24,047,520	₩ 25,424,670	₩ (1,377,150)
Deutsche Bank AG	2013.05.28	2016.05.29	CNY 180,000	176.63	31,793,400	33,620,321	(1,826,921)
Standard Chartered	2015.03.03	2016.03.02	USD 30,000	1,111.50	33,345,000	35,208,871	(1,863,871)
					₩ 89,185,920	₩ 94,253,862	₩ (5,067,942)

b) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from the Group's investing and financing activities will fluctuate because of changes in market interest rate. In order to minimizing uncertainty caused by fluctuations in interest rates and minimizing finance costs, the Group monitors a fluctuation of domestic and foreign interest rates and establishes alternatives.

c) Other price risks

The Group is exposed to equity price risks arising from its equity investments. Equity investments are held for strategic rather than trading purposes. The Group does not actively trade these investments.

The table below summarizes the impact of increases/decreases of fair value of AFS financial assets on the Group's other comprehensive income. The analysis is based on the assumption that the equity index has increased/decreased by 5% with all other variables held constant.

(in thousands of Korean won)	December 3	31, 2016	December 31, 201	
AFS financial assets	₩	47,077	₩	15,686

The price sensitivity of the Group indicated no significant change comparing to the year ended December 31, 2015.

3) Credit risk management

Credit risk refers to risk of financial losses to the Group when the counterpart defaults on the obligations of the contracts. The Group has adopted a policy of only dealing with creditworthy counterparties and obtaining sufficient collateral, where appropriate, as a means of mitigating the risk of financial loss from defaults. The Group only deals with the customers rated higher than investment grade by the independent credit rating agencies. If those grades are not available, customers' credit is evaluated upon their other financial information, sales figures and other factors posted publicly. The Group regularly monitors customers' credit ratings, checks on the credit risk exposure and readjusts deposit or aggregate amount of transactions. The aggregate risks are allocated to total portfolio of approved customers for diversification effect that are reviewed and approved annually by Foreign Exchange Risk Management Committee.

Credit ratings of trade receivables are evaluated constantly and credit guarantee contracts are made, if necessary. The maximum exposure to credit risk is not disclosed as the book amount of financial assets exposed to credit risk are the best presentation of the maximum exposure to credit risk except for below financial guarantee contracts.

(in thousands of Korean won)		2016		2015	
Financial guarantee contracts ¹	₩	64,794,480	₩	217,154,480	

¹The maximum exposure of financial guarantee contracts is the largest amount to the extent of payment guarantee limit that the Group should make payment when the guarantee is claimed.

4) Liquidity risk management

(in thousands of

Financial guarantee

contracts

217,154,480

₩ 234,211,671 ₩

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

a) Details of liquidity and interest rate risk

The table below discloses remaining contractual maturity of non-derivative financial liabilities and net settled derivative financial liabilities in detail. The table below is prepared based on undiscounted cash flow of financial liabilities. Contractual maturity is based on the earliest day when the payment can be claimed to the Group.

Korean won)	2016										
		Between	Between								
	Within a year	1 to 2 years	2 to 5 years	Over 5 years	Total	Book value					
Trade payables Other payables Borrowings Other non-current payables Financial guarantee contracts	₩ 39,761,046 31,839,829 29,537,824 64,794,480 ₩ 165,933,179	6,888,342 - -	₩ - - - - - -	- - -	₩ 39,761,046 ₩ 31,839,829 29,537,824 6,888,342 64,794,480 ₩ 172,821,521 ₩	31,839,829 29,537,824 6,888,342					
(in thousands of Korean won)			;	2015	772,021,021	100,021,041					
	Within a year	Between 1 to 2 years	Between 2 to 5 years	Over 5 years	Total	Book value					
	within a year	r to 2 years	2 to 5 years	Over 5 years	Total	DOOK Value					
Other payables	₩ 14,379,623	₩ -	₩ -	₩ - +	∀ 14,379,623 ₩	14,379,623					
Derivative financial liabilities	2,677,568	-	-	-	2,677,568	2,677,568					

Amounts relating to floating interest rate instrument, included in the above table, (non-derivative financial assets and liabilities) may change their value if their interest rates are different from the interest rates finalized at the end of the reporting period. The Group expects to compensate the obligations with cash that will be collected from the operating cash flow and maturity of financial assets.

217,154,480

₩ 234,211,671 ₩

17,057,191

- (d) Fair value of financial instruments
- 1) Financial assets and liabilities measured at amortized cost whose carrying amount is a reasonable approximation of fair value are excluded from the fair value disclosures.
- 2) Financial assets or liabilities that should have been subsequently measured at fair value did not disclose their fair value information as the fair value cannot be estimated reliably. The related financial assets and liabilities' nature and carry amount are as follows:

(in thousands of Korean won) 2016 2015

AFS financial assets Unlisted stock¹ \forall 231,579 \forall 220,081

The financial assets and liabilities stated above have not been derecognized or sold for the current period.

3) Valuation methods and assumptions applied in fair value measurement

Items that are measured at fair value or for which the fair value is disclosed are categorized by the fair value hierarchy levels, and the defined levels are as follows:

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

¹ The unlisted securities stated in the table are measured at historical cost because they are issued by small and medium enterprises so that the required information for valuation techniques is not available or cannot be reliably estimated.

Fair value hierarchy classifications of the financial instruments that are measured at fair value or its fair value is disclosed as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016								
		Level 1		Level 2		Level 3			Total
AFS financial assets									
Marketable equity instruments	₩	941,540	₩	-	₩		-	₩	941,540
Nonmarketable debt instruments		-		31,820,927			-		31,820,927
Financial assets at FVTPL									
Derivative-linked securities		-		20,072,360			-		20,072,360
Derivative instruments									
Currency forward assets		-		2,309,748			-		2,309,748
	₩	941,540	₩	54,203,035	₩			₩	55,144,575
(in thousands of Korean won)				20)15				
		Level 1		Level 2		Level 3			Total
AFS financial assets									
Marketable equity instruments	₩	313,715	₩	-	₩		-	₩	313,715

22,027,855

(2,677,568)

19,350,287

22,027,855

(2,677,568)

19,664,002

₩

There were no transfers between levels 1 and 2 during 2016 and 2015.

313,715 ₩

Nonmarketable debt

Currency forward liabilities

instruments

Derivative instruments

5. Trade and Other Receivables

Details of trade and other receivables as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016							
	Gre	oss amount		Provision for pairment	Net amount			
Current								
Trade receivables	₩	148,132,562	₩	(41,264)	₩	148,091,298		
Other receivables								
Non-trade receivables		672,485		-		672,485		
Accrued income		3,395,341		-		3,395,341		
Short-term loans		54,758,649		-		54,758,649		
	₩	58,826,475	₩	-	₩	58,826,475		
Non-current								
Long-term loans	₩	6,366	₩	-	₩	6,366		
Leasehold deposits provided		733,708		-		733,708		
	₩	740,074	₩	-	₩	740,074		

(in thousands of Korean won)	2015								
	Less: Provision for								
	Gro	oss amount	impair	ment		Net amount			
Current									
Trade receivables	₩	27,696,954	₩	-	₩	27,696,954			
Other receivables									
Non-trade receivables		4,473,805		-		4,473,805			
Accrued income		1,458,779		-		1,458,779			
Short-term loans		35,160,000		<u> </u>		35,160,000			
	₩	41,092,584	₩	-	₩	41,092,584			
Non-current									
Long-term loans	₩	57,053,800	₩	-	₩	57,053,800			
Leasehold deposits provided		<u>-</u>				_			
	₩	57,053,800	₩	-	₩	57,053,800			

Trade receivables and other receivables above are classified as loan and receivables, and measured at amortized cost. The Company considers a change of credit grade about trade receivables from starting date for granting credit to the statements of financial position date to judge recoverability of trade receivables and others.

The aging analysis of trade and other receivables as at December 31, 2016 and 2015, is as follows:

(in thousands of Korean won)			20	016		
	Up to 3 months	Up to 3 months	3 to 6 months	6 to 12 months	Over 1 year	Total
Receivables not past due:					-	
Trade receivables	₩ 120,988,699	₩ -	₩ -	₩ -	₩ - ₩	₩ 120,988,699
Non-trade receivables	59,566,549	-	-	-	-	59,566,549
	₩ 180,555,248	- ₩	₩ -	₩ -	₩ - ₩	∀ 180,555,248
Past due but not impaired :						
Trade receivables Non-trade receivables	₩ -	₩ 24,469,046	₩ 704,239	₩ 1,161,614 -	₩ 767,700 ₩	√ 27,102,599
	₩ -	₩ 24,469,046	₩ 704,239	₩ 1,161,614	₩ 767,700 \	∀ 27,102,599
Impaired :						
Trade receivables Non-trade	₩	₩ 926	₩ -	₩ 18,777	₩ 21,561	∀ 41,264
receivables		·			-	
	₩ -	₩ 926	₩ -	₩ 18,777	₩ 21,561 [\]	[∀] 41,264
	₩ 180,555,248	₩ 24,469,972	₩ 704,239	₩ 1,180,391	₩ 789,261	[₩] 207,699,111

(in thousands of										
Korean won)	2015									
	Up to	Up to	3 to	6 to	Over					
	3 months	3 months	6 months	12 months	1 year	Total				
Receivables not past due:										
Trade receivables Non-trade	₩ 27,696,954	₩ -	₩ -	₩ -	₩	- ₩ 27,696,954				
receivables	98,146,384		-	-		98,146,384				
	₩ 125,843,338	₩ -	₩ -	₩ -	₩	- ₩ 125,843,338				
Past due but not impaired :										
Trade receivables Non-trade	₩ -	₩ -	₩ -	₩ -	₩	- ₩ -				
receivables	-	-	-	-						
	₩ -	₩ -	₩ -	₩ -	₩	- ₩ -				
Impaired :										
Trade receivables Non-trade	₩ -	₩ -	₩ -	₩ -	₩	- ₩ -				
receivables	-	-	-	-		-				
	₩ -	₩ -	₩ -	₩ -	₩	- ₩ -				
	₩ 125,843,338	₩ -	₩ -	₩ -	₩	- ₩ 125,843,338				

Movements on the provision for impairment of trade and other receivables for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2	2016	2015	
Beginning balance	₩	-	₩	-
Reversal of impairment loss		(501)		-
Change in the scope of consolidation		41,765		-
Ending balance	₩	41,264	₩	-

The Company considers a change of credit grade about trade receivables from starting date for granting credit to the statements of financial position date to judge recoverability of trade receivables and others. Since the Group has many customers that are not interconnected with each other, concentration risk in trade receivables is limited.

6. AFS Financial Assets

Details of available-for-sales financial assets as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016	2015			
Equity instruments						
Marketable equity instruments	₩	941,540	₩	313,715		
Nonmarketable equity instruments		231,579		220,081		
		1,173,119		533,796		
Debt instruments						
Government bonds		22,104,427		22,027,855		
Hybrid capital securities(Consol bond)		9,716,500		-		
	₩	31,820,927	₩	22,561,651		
		32,994,046		22,561,651		

Changes in equity instruments for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)						20 ⁻	16					
		eginning palance	Valuation		Reversal of impairment		Disposals		Change in the scope of consolidation		Ending balance	
Marketable equity instruments Nonmarketable	₩	313,715	₩	398,657	₩	364	₩	- (2)	₩	228,804	₩	941,540 231,579
equity instruments	₩	220,081 533,796	₩	398,657	₩	364	₩	(2)	₩	11,500 240,304	₩	1,173,119

(in thousands of Korean won)	2015												
	Beginn	ing balance	,	Valuation	End	ing balance							
Marketable equity instruments	₩	338,595	₩	(24,880)	₩	313,715							
Nonmarketable equity instruments		220,081				220,081							
	₩	558,676	₩	(24,880)	₩	533,796							

Changes in debt instruments for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016												
		eginning balance	Ad	equisition	Va	aluation	End	ing balance					
Government bonds	₩	22,027,855	₩	-	₩	76,572	₩	22,104,427					
Hybrid capital securities(Consol bond)		-		10,180,000		(463,500)		9,716,500					
	₩	22,027,855	₩	10,180,000	₩	(386,928)	₩	31,820,927					

(in thousands of Korean won)		2015	2015							
		eginning balance	In	Impairment Valuation				ing balance		
Government bonds	₩	20,175,163	₩	(1,554,088)	₩	3,406,780	₩	22,027,855		

7. Financial Assets at Fair Value through Profit or Loss

Financial assets at fair value through profit or loss as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)

2016

2015

Derivative-linked securities

₩ 20,072,360 ₩ --

Changes in financial assets at fair value through profit or loss for the periods ended December 31, 2016 and 2015, are as follows:

 (in thousands of Korean won)

 Beginning balance
 Acquisition
 Valuation
 Ending balance

 Derivative-linked securities
 ₩
 ₩
 20,000,000
 ₩
 72,360
 ₩
 20,072,360

Changes in the fair value through profit or loss at fair value through profit or loss are presented in the statement of profit or loss under "Financial income and finance costs" (Note 24).

8. Derivative Financial Instruments

Details of derivative financial instruments as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won) Fair value hedges		20	16		2015					
		Assets	Liabilities		Assets		L	iabilities		
Currency forward	₩	2,309,748	₩	_	₩	-	₩	2,677,568		

Gain (loss) from derivative financial instruments for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		20′	16		2015						
		l (loss) on Iluation	Gain (loss) on transaction			in (loss) on aluation	on Gain (loss) transactio				
Fair value hedges											
Currency forward	₩	2,309,748	₩	(2,468,315)	₩	(5,067,941)	₩	(4,688)			

9. Other Assets

(in thousands of

Details of other assets as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		201	16		2015					
	Current			n-current		Current	Non-current			
Advance payments	₩	3,009,319	₩	-	₩	5,000	₩	-		
Prepaid expenses		426,083		-		13,312		-		
Prepaid value added tax		2,686,228		-		-		-		
Others		-		650,018		_		650,018		
	₩	6,121,630	₩	650,018	₩	18,31	₩	650,018		

10. Investments in Subsidiaries and Associates

Details of the Group's investments in associates as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)					2016			
	Location	Closing month	Number of shares	Percentage of ownership (%)	Acquisition cost	Book amount	Main business	
Hankook Tire Co., Ltd.	Korea	December	31,174,527	25.2	₩ 1,627,655,750	₩ 2,085,009,481	Manufacturing and sales of the tires, tubes and alloy wheels	
EmFrontier, Inc.	Korea	December	1,333,334	40.0	2,778,102	9,234,057	Managing e-business and providing service of integrated system	
					₩ 1,630,433,852	₩ 2,094,243,538	•	
(in thousands of Korean won)					2015			
	Location	Closing month	Number of shares	Percentage of ownership (%)	Acquisition cost	Book amount	Main business	
Hankook Tire Co., Ltd.	Korea	December	31,174,527	25.2	₩ 1,627,655,750	₩ 1,913,030,518	Manufacturing and sales of the tires, tubes and alloy wheels	
EmFrontier, Inc.	Korea	December	1,333,334	40.0	2,778,102	7,992,153	Managing e-business and providing service of integrated system	
Atlas BX Co., Ltd¹	Korea	December	2,848,685	31.1	12,229,979	137,744,281	Manufacturing and sales of storage batteries and dry cells	
					₩ 1,642,663,831	₩ 2,058,766,952		

¹In 2016, Atlas BX Co., Ltd., which was classified as an associate as at December 31, 2015, acquired its treasury shares by tender offer. The Group's effective percentage of ownership on Atlas BX Co., Ltd., increased after such event. Consequently, the Group acquired control over Atlas BX Co., Ltd. and its subsidiaries, and classified them as the Group's subsidiaries.

Details of share of profit or loss of associates accounted for using the equity method for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)								2016						
	Beg	inning balance	of ac	loss associates counted for ng the equity method		Dividend		Retained earnings		Others		Disposal	En	ding balance
Hankook Tire Co., Ltd. Atlas BX Co., Ltd. ¹	₩	1,913,030,518 137,744,281	₩	186,531,683 4,793,446	₩	(12,469,811) (1,994,080)	₩	(1,709,149) (13,327)	₩	(373,760) 2,591	₩	- (140,532,911)	₩	2,085,009,481
EmFrontier, Inc.		7,992,153		1,292,378		-		(54,582)		4,108		-		9,234,057
	₩	2,058,766,952	₩	192,617,507	₩	(14,461,875)	₩	(1,777,058)	₩	(367,061)	₩	(140,532,911)	₩	2,094,243,538

¹ Gains on disposal amounting to ₩ 2,769,690 thousand related to reclassification of Atlas BX Co., Ltd. to subsidiaries are recognized in profit or loss.

(in thousands of														
Korean won)								2015						
					Sha	re of profit or								
						loss								
					of	associates								
					ac	counted for								
					usii	ng the equity				Retained				
	Beg	inning balance	Α	cquisition		method		Dividend		earnings		Others	En	ding balance
Hankook Tire Co.,														
Ltd.	₩	1,779,535,603	₩	8,296,341	₩	133,256,052	₩	(12,385,158)	₩	(3,584,583)	₩	7,912,263	₩	1,913,030,518
Atlas BX Co., Ltd		123,163,976		-		17,013,892		(1,994,080)		(434,295)		(5,212)		137,744,281
EmFrontier, Inc.		4,099,408		2,349,531		1,691,342		<u>-</u>		(152,899)		4,771		7,992,153
	₩	1,906,798,987	₩	10,645,872	₩	151,961,286	₩	(14,379,238)	₩	(4,171,777)	₩	7,911,822	₩	2,058,766,952

Summarized financial information for those associates that are material to the Group and received dividends from the associates for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016									
	Hanko	Hankook Tire Co., Ltd.								
Assets	₩	9,621,973,239 ₩	66,665,155							
Liabilities		3,660,493,919	43,579,816							
Equity		5,961,479,320	23,085,339							
Sales		6,621,762,292	109,432,871							
Profit for the period		879,090,216	3,229,313							
Total comprehensive income		870,233,474	3,103,851							
Dividend received		12,469,811	-							

(in thousands of Korean won)	2015								
	Hankook Tire Co., Ltd.	EmFrontier, Inc.	Atlas BX Co., Ltd						
Assets	₩ 9,496,138,131	₩ 49,664,881	₩ 542,875,810						
Liabilities	4,355,349,929	29,683,393	100,440,032						
Equity	5,140,788,202	19,981,488	442,435,778						
Sales	6,428,172,502	119,485,365	542,420,353						
Profit for the period	656,504,240	4,337,049	54,648,767						
Total comprehensive income	673,856,097	3,964,528	53,029,064						
Dividend received	12,385,158	-	1,994,080						

As at December 31, 2016 and 2015, the fair values of marketable investments in associates is as follows:

(in thousands of Korean won)	2016		2015
Hankook Tire Co., Ltd.	₩ 1,808,122,566	8 ₩	1,466,761,495
Atlas BX Co., Ltd			116,653,651

11. Property, Plant and Equipment

Details of property, plant and equipment as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016										
	Acc	uisition cost		Accumulated depreciation		Accumulated impairment loss		Book amount			
Land	₩	42,424,322	₩	-	₩	-	₩	42,424,322			
Buildings		79,684,296	(35,355,030)		-		44,329,266			
Structures		5,416,267		(3,798,811)		-		1,617,456			
Machinery and equipment		130,076,563	(81,829,551)		-		48,247,012			
Vehicles		1,421,909		(1,238,911)		-		182,998			
Supplies		7,730,414		(6,105,696)		-		1,624,718			
Tools, furniture and fixtures		29,726,005	(20,848,458)		-		8,877,547			
Construction in progress		3,770,793		-		(301,888)		3,468,905			
	₩	300,250,569	₩ (1	49,176,457)	₩	(301,888)	₩	150,772,224			

(in thousands of Korean won)	2015										
	Acquisition cost			Accumulated depreciation		Accumulated impairment loss		Book amount			
Land	₩	10,546,728	₩	-	₩	-	₩	10,546,728			
Buildings		29,442,483		(11,418,199)		-		18,024,284			
Structures		521,000		(177,231)		-		343,769			
Vehicles		683,026		(683,024)		-		2			
Supplies		725,227		(521,718)		-		203,509			
Construction in progress		301,888		-		(301,888)		-			
	₩	42,220,352	₩	(12,800,172)	₩	(301,888)	₩	29,118,292			

Changes in property, plant and equipment for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)								2016						
		pening net ok amount	Α	cquisition	I	Disposal	De	preciation		Transfer		ange in the scope of nsolidation		losing net ook amount
Land	₩	10,546,728	₩	-	₩	-	₩	-	₩	(1,913,249)	₩	33,790,843	₩	42,424,322
Buildings		18,024,284		1,655,189		-		(2,492,908)		(143,648)		27,286,349		44,329,266
Structures Machinery and		343,769		25,800		-		(177,180)		-		1,425,067		1,617,456
equipment		-		6,308,407		(123,079)		(6,157,210)		-		48,218,894		48,247,012
Vehicles		2		912		(1)		(89,602)		-		271,687		182,998
Supplies		203,509		328,406		(192)		(630,361)		48,589		1,674,767		1,624,718
Tools, furniture and fixtures Construction in		-		1,605,736		(42)		(1,883,953)		2,197,354		6,958,452		8,877,547
progress				1,538,727						(2,225,854)		4,156,032		3,468,905
	₩	29,118,292	₩	11,463,177	₩	(123,314)	₩ (11,431,214)	₩	(2,036,808)	₩	123,782,091	₩	150,772,224
(in thousands of Korean won)								2015						
		pening net ook amount	A	acquisition		Disposal	In	npairment	D	epreciation		Transfer		Closing net bok amount
Land	₩	10,548,829	₩	-	₩	(2,101)	₩	-	₩	-	₩	-	₩	10,546,728
Buildings		18,889,878		-		-				(1,004,594)		139,000		18,024,284
Structures		300,408		-		-		-		(16,024)		59,385		343,769
Vehicles		34,237		-		-		-		(34,235)		-		2
Supplies Construction in		206,961		23,200		(1)		-		(68,585)		41,934		203,509
progress		361,273		180,934				(301,888)				(240,319)		
	₩	30,341,586	₩	204,134	₩	(2.102)	₩	(301,888)	₩	(1,123,438)	₩		₩	29,118,292

Depreciation expenses of property, plant and equipment for the periods ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016	2015			
Cost of sales	₩	9,672,362	₩	-		
Selling and administrative expenses		1,758,852		1,123,438		
	₩	11,431,214	₩	1,123,438		

12. Investment Properties

Details of investment properties as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016								
	Acquisition cost			ccumulated epreciation	Book amount				
Land	₩	17,575,899	₩	-	₩	17,575,899			
Buildings		24,238,440		(15,114,501)		9,123,939			
	₩	41,814,339	₩	(15,114,501)	₩	26,699,838			
(in thousands of Korean won)				2015					
	Acquisition cost			ecumulated epreciation	Book amount				
Land	₩	15,662,650	₩	-	₩	15,662,650			
Buildings		23,403,620		(13,532,090)		9,871,530			
	₩	39,066,270	₩	(13,532,090)	₩	25,534,180			

Changes in investment properties for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016										
	Begin	ning balance	De	preciation		Transfer	Er	ding balance			
Land	₩	15,662,650	₩	-	₩	1,913,249	₩	17,575,899			
Buildings		9,871,530		(842,651)		95,060		9,123,939			
	₩	25,534,180	₩	(842,651)	₩	2,008,309	₩	26,699,838			

(in thousands of Korean won)	2015									
	Begin	ning balance		Depreciation	Ending balance					
Land	₩	15,662,650	₩	-	₩	15,662,650				
Buildings		11,041,711		(1,170,181)		9,871,530				
	₩	26,704,361	₩	(1,170,181)	₩	25,534,180				

Details of income and expenditure recognized from investment properties for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015		
Rental sales	₩	4,520,940	₩	4,530,229		
Rental income		2,293,089		2,223,899		
Expenditure for operating activities		2,637,583		2,634,052		

Fair value of investment properties as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016				
Book amount	₩	26,699,838	₩	25,534,180		
Fair value		109,444,757		99,952,434		

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

13. Intangible Assets

Intangible assets as at December 31, 2016 and 2015, consist of:

(in thousands of Korean won)		2016									
	Acqu	uisition cost		accumulated amortization	Book amount						
Industrial rights	₩	4,886,869	₩	(2,477,089)	₩	2,409,780					
Membership rights		7,403,784		(444,486)		6,959,298					
Other intangible assets		31,396,933		(7,974,794)		23,422,139					
Construction in progress		1,473,876				1,473,876					
	₩	45,161,462	₩	(10,896,369)	₩	34,265,093					

(in thousands of Korean won)		2015							
	Acqu	uisition cost	-	Accumulated amortization	ı	Book amount			
Industrial rights	₩	2,388,031	₩	(1,621,624)	₩	766,407			
Membership rights		5,307,996		-		5,307,996			
Other intangible assets		-		-		-			
Construction in progress		2,902,253		<u>-</u>		2,902,253			
	₩	10,598,280	₩	(1,621,624)	₩	8,976,656			

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Changes in intangible assets for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of				20	116			
Korean won)	Beginning balance	Acquisition	Disposal	Amortization	Impairment	Transfer	Change in the scope of consolidation	Ending balance
Industrial rights Membership rights Other intangible assets Construction in progress	₩ 766,407 5,307,996 - 2,902,253 ₩ 8,976,656	₩ 219,179 - 593,338 316,787 ₩ 1,129,304	₩ - (150,000) - - - ₩ (150,000)	₩ (516,860) - (5,523,155) - ₩ (6,040,015)	₩ - (30,667) - - ₩ (30,667)	₩ 1,745,164 - 28,500 (1,745,164) ₩ 28,500	₩ 195,890 1,831,969 28,323,456 - ₩ 30,351,315	₩ 2,409,780 6,959,298 23,422,139 1,473,876 ₩ 34,265,093
(in thousands of Korean won)	Beginning balance	Acquisition		20	15	,,,,,	Transfer ¹	Ending balance
Industrial rights Membership rights Construction in progress	₩ 881,21 5,541,88 ₩ 6,423,10	4 - 923,03 		,853)	322,335) ₩ - - 322,335) ₩	(233,888)	₩ 207,526 - 1,993,073 ₩ 2,200,599	₩ 766,407 5,307,996 2,902,253 ₩ 8,976,656

 $^{^{1}}$ The carrying amount of prepaid payments transferred to the intangible assets, amounts to \pm 2,200,599 million.

Amortization expenses of intangible assets for the periods ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016		2015
Cost of sales	₩	246,684	₩	-
Selling and administrative expenses(included research and development costs)		5,793,331		322,335
	₩	6,040,015	₩	322,335

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

14. Other Payables

Details of other payables as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		20	16			201	15	
		Current	No	on-current		Current	Non-current	
Non-trade payables	₩	23,992,391	₩	-	₩	5,214,914	₩	-
Accrued expenses		5,429,703		-		132,776		-
Dividend payables		65,873		-		65,873		-
Leasehold deposit received		2,351,862		6,888,342		8,966,060		-
	₩	31,839,829	₩	6,888,342	₩	14,379,623	₩	-

15. Other Liabilities

Details of current and non-current other liabilities as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016				2015			
		Current	Non	-current		Current	Nor	n-current	
Withholdings	₩	3,988,698	₩	-	₩	1,329,732	₩	-	
Other long-term employee benefits		-		-		-		222,739	
Advance received		3,537,792		-		-		-	
Emission obligation		82,268		1,998,606		<u> </u>		_	
	₩	7,608,758	₩		₩	1,329,732	₩	222,739	

Changes in other long-term employee benefits for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)					201	6			
		ginning alance	Prof	it or loss	Payme	ent	Change in the scope of consolidation		Ending balance
Other long-term employee benefits	₩	222,740	₩	383,725	₩ (274,	896)	₩ 1,667,0)37 ₩	1,998,606
(in thousands of Korean won)					201	5			
		Beginning balance	9	Profit o	r loss		Payment	Endin	g balance
Other long-term employee benefits	₩	169	,026	₩	70,223	₩	(16,509)	₩	222,740

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

16. Post-employment Benefits

The Group operates a defined benefit pension plans for its employees with eligibility requirements. By applying the three-month average salary in the final work period service that the employee has been provided at the time of retirement, the employee has received a lump-sum payment under the scheme. Under the system, the Company is exposed to the risk of the investment risk, interest rate risk and wage risk.

The most recent actuarial assessment of plan assets and defined benefit obligation was performed on December 31, 2016, by Mirae Asset Daewoo Co., Ltd. Present value of the defined benefit obligation, its related current service cost and past service cost have been measured by the projected unit credit method.

Details of net defined benefit liabilities recognized in the statements of financial position as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015
Present value of defined benefit obligations	₩	56,764,154	₩	15,583,429
Fair value of plan assets		(60,744,939)		(17,051,460)
Net defined benefit liabilities		76,930		
Net defined benefit assets	₩	(4,057,715)	₩	(1,468,031)

The significant actuarial assumptions used in defined benefit obligations assessment as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016	2015
Discount rate	3.5%	3.4%
Expected salary growth rate	6.2%	7.0%

Movements in the defined benefit obligations and the fair value of plan assets for the periods ended December 31, 2016 and 2015, are as follows:

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

(in thousands of Korean won)				2016			
		value of defined it obligations		air value of lan assets		Total	
Beginning balance	₩	15,583,429	₩	(17,051,460)	₩	(1,468,031)	
Current service cost		8,512,145		-		8,512,145	
Interest expense (income)		1,505,039		(1,348,850)		156,189	
		10,017,184		(1,348,850)		8,668,334	
Remeasurements:							
Return on plan assets (excluding amounts included in net interest)		-		295,027		295,027	
Actuarial loss (gain) from change in demographic assumptions		(57,285)		-		(57,285)	
Actuarial loss (gain) from change in financial assumptions		(278,589)		-		(278,589)	
Actuarial loss (gain) from experience adjustments		(193,678)				(193,678)	
		(529,552)		295,027		(234,525)	
Employers' contributions		-		(8,000,000)		(8,000,000)	
Benefits payments		(3,515,462)		1,962,443		(1,553,019)	
Others		461,854		(4,648,859)		(4,187,005)	
Change in the scope of consolidation		34,746,701		(31,953,240)		2,793,461	
Ending balance	₩	56,764,154	₩	(60,744,939)	₩	(3,980,785)	
(in thousands of Korean won)				2015			
		value of defined it obligations		air value of lan assets		Total	
Beginning balance	₩	9,722,134	₩	(10,367,263)	₩	(645,129)	
Current service cost							
Interest expense (income)		2,697,837				2,697,837	
		350,864		(344,144)		6,720	
Remeasurements:		3,048,701		(344,144)		2,704,557	
Return on plan assets (excluding amounts included in net interest)		-		125,568		125,568	
Actuarial loss from change in demographic assumptions		155,498		-		155,498	
Actuarial loss from change in financial assumptions		426,272		-		426,272	
Actuarial gain from experience adjustments		(987,596)		_		(987,596)	
· ,		(405,826)		125,568		(280,258)	
Employer's contributions		-		(6,800,000)		(6,800,000)	
, , , , , , , , , , , , , , , , , , , ,						,	
Benefits payments		(1,240,239)		416,601		(823,638)	
Benefits payments Others		(1,240,239) 4,458,659		416,601 (82,222)		(823,638) 4,376,437	

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

When all other assumptions held constant, in the case that significant actuarial assumptions vary within a reasonable range, the effects on the defined benefit obligations are as follows:

(in thousands of Korean won)	2016					
		Increase		Decrease		
1% change of discount rate	₩	(5,044,126)	₩	6,020,291		
1% change of salary growth rate		5,852,589		(5,011,590)		
(in thousands of Korean won)		201	5			
		Increase		Decrease		
1% change of discount rate	₩	(1,237,793)	₩	1,486,951		
1% change of salary growth rate		1,468,348		(1,246,595)		

Amounts recognized in the statements of comprehensive income regarding defined benefit pension plans for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015	
Current service cost	₩	8,512,145	₩	2,697,837	
Interest cost		156,189		6,720	
	₩	8,668,334	₩	2,704,557	

Plan assets as at December 31, 2016 and 2015, consist of:

(in thousands of Korean won)	20	16	2015		
	Amount	Composition	Amount	Composition	
Debt instruments	11,323,077	18.6%	17,050,312	100.0%	
Deposits	1,960,934	3.2%	-	0.0%	
Cash and cash equivalents	47,460,928	78.2%	1,148	0.0%	
	60,744,939	100.0%	17,051,460	100.0%	

The Group reviews the funding level on an annual basis and has a policy of eliminating deficit from the fund. Expected contributions to post-employment benefit plans for the year ending December 31, 2017, are $\mbox{$W$}$ 2,969,924 thousand.

The expected maturity analysis of undiscounted pension benefits as at December 31, 2016 and 2015, is as follows:

(in thousands of Korean won)	Le	ess than 1 year	Ве	tween 1-2 years	Between 2- 5 years		O	ver 5 years	Total
Pension benefits	₩	1.661.791	₩	2.025.417	₩	7.803.173	₩	226.481.941 ₩	237 972 322

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

The weighted average duration of the defined benefit obligation is 13.4 years.

Recognized expense related to the defined contribution plan for the year ended December 31, 2016, is \W 315,252 million.

17. Provisions

The Group's provisions are provisions for product warranties as at the end of the reporting period. Changes in provisions for the year ended December 31, 2016 are as follows:

(in thousands of Korean won)	2016											
	Beginning balance		Pro	ofit or loss	Payment	s	nge in the cope of solidation		Ending balance			
Provisions for product warranties	₩	-	₩	1,221,463	₩ (1,009,718)	₩	1,122,271	₩	1,334,016			

18. Share Capital

Details of share capital as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016	2015		
Authorized (shares)		250,000,000		250,000,000	
Par value	₩	500	₩	500	
Outstanding (shares):					
Ordinary share		93,020,173		93,020,173	
Share capital: Ordinary share	₩	46,510,086,500	₩	46,510,086,500	

19. Other Paid-in-Capital

Details of other paid-in-capital as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015
Share premium	₩	1,302,628,300	₩	1,302,628,300
Treasury shares		(11,092,609)		(11,092,609)
Other capital surplus		(5,770,227)		(4,629,719)
	₩	1,285,765,464	₩	1,286,905,972

As at December 31, 2016, the Group holds 1,325,089 ordinary shares as treasury shares, to stabilize the market price of its shares, and records treasury share as other paid-in capital. Further appropriation of them is not determined.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

20. Retained Earnings and Dividends

Retained earnings as at December 31, 2016 and 2015, consist of:

(in thousands of Korean won)	2016			2015		
Legal reserve:						
Surplus reserve ¹	₩	16,509,158	₩	13,758,306		
		16,509,158		13,758,306		
Discretionary reserve:						
Reserve for revaluation ²		443,289,239		443,289,239		
Dividend equalization reserve		60,000,000		60,000,000		
Director's retirement bonus reserve		93,918,000		93,918,000		
Voluntary reserve		110,000,000		110,000,000		
		707,207,239		707,207,239		
Unappropriated retained earnings		766,142,607		534,959,793		
	₩	1,489,859,004	₩	1,255,925,338		

¹ The Commercial Law of the Republic of Korea requires the Group to appropriate a portion of retained earnings as a legal reserve in an amount equal to a minimum of 10% of its cash dividends, until such reserve equals 50% of its share capital. The reserve is not available for the payment of cash dividends but may be transferred to ordinary share or used to offset accumulated deficit, if any, through a resolution of shareholders.

Changes in retained earnings for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015
Beginning balance	₩	1,255,925,338	₩	1,114,488,258
Profit for the period		261,535,602		172,703,147
Dividend payments		(27,508,525)		(27,508,526)
Remeasurements of net defined benefit assets		(16,823)		212,437
Remeasurements of net defined benefit assets of associates		(76,588)		(3,969,978)
Ending balance	₩	1,489,859,004	₩	1,255,925,338
Remeasurements of net defined benefit assets Remeasurements of net defined benefit assets of associates	₩	(16,823) (76,588)	₩	212,437 (3,969,978)

² According to the past assets revaluation law, the Group conducted assets revaluation and appropriated revaluation gains for revaluation reserve. This revaluation surplus is not allowed to use as financial resources of dividends, but it is allowed to use only for capitalization or preservation of losses.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Details of dividend payments as at December 31, 2016 and 2015, are as follows:

	2016			2015
Outstanding shares issued (shares)		93,020,173		93,020,173
Treasury shares		1,325,089		1,325,088
Dividend shares		91,695,084		91,695,085
Dividend per share	₩	300	₩	300
Total dividend	₩	27,508,525,200	₩	27,508,525,500

Dividend distribution to the Group's shareholders amounted to \forall 27,508,525 thousand (2015: \forall 27,508,526 thousand) for the year ended December 31, 2015, was paid in April 2016.

21. Other Components of Equity

Changes in the fair value of AFS financial assets for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016									
	E	Beginning balance		ncrease crease)¹		assified to fit or loss	End	ding balance		
Changes in the fair value of available- for-sale financial assets	₩	1,512,351	₩	7,754	₩	-	₩	1,520,105		
Share of other comprehensive income of associates		(24,209,784)		4,645,984		(656,246)		(20,220,046)		
	₩	(22,697,433)	₩	4,653,738	₩	(656,246)	₩	(18,699,941)		

¹Amount of tax effect and allocated to non-controlling interests are deducted.

(in thousands of Korean won)	2015									
		Beginning balance	Increase (Decrease) ¹		Reclassified to profit or loss		End	ding balance		
Changes in the fair value of available- for-sale financial assets Share of other comprehensive income of associates	₩	(1,051,129) (31,738,507)	₩	2,563,480 7,528,723	₩	-	₩	1,512,351 (24,209,784)		
UI associates	₩	(32,789,636)	₩	10,092,203	₩	_	₩	(22,697,433)		

¹Amount of tax effect is deducted.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

22. Selling and Administrative Expenses

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

(in thousands of Korean won)		2016	2015
Salaries	₩	29,149,318	₩ 17,397,097
Post-employment benefits		5,235,192	2,704,557
Employee benefits		2,775,100	2,402,130
Training expenses		1,609,590	1,350,167
Travel expenses		1,629,934	711,068
Vehicles maintenance expenses		136,987	55,162
Insurance		239,209	202,375
Taxes and dues		1,037,489	1,034,155
Entertainment expenses		637,604	424,625
Supplies expenses		1,016,443	183,648
Publication expenses		418,793	384,162
Communication expenses		169,000	132,637
Impairment loss(reversal of allowance for doubtful accounts)		(501)	-
Repairs expenses		402,522	400,256
Conference expenses		41,844	30,357
Service fees		6,817,345	6,564,614
Rental expenses		600,525	-
Depreciation of investment properties		842,651	1,170,181
Depreciation of property, plant and equipment		1,407,335	1,123,438
Amortization of intangible assets		5,769,429	322,335
Travel and transportation expenses		710,201	-
Service expenses		627,542	492,877
Export expenses		10,742,987	-
Advertisement		4,392,147	3,614,145
Foreign market development expenses		149,436	-
Sales damage expenses		1,221,463	-
Test expenses		111,487	-
Sample expenses		37,970	-
Research and development expenses		2,956,579	-
Other expenses		631,259	537,253
	₩	82,365,849	₩ 42,086,347

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

23. Breakdown of Expenses by Nature

Expenses by nature for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016	2015		
Changes in inventories	₩	6,603,246	₩	-	
Raw materials used		265,403,196		-	
Salaries		60,543,547		17,397,097	
Post-employment benefits		8,983,586		2,704,557	
Employee benefits		8,388,810		2,402,130	
Power expenses		9,003,390		-	
Fuel expenses		1,213,827		-	
Depreciation of investment property		842,651		1,170,181	
Depreciation of property, plant and equipment		11,431,214		1,123,438	
Amortization of intangible assets		6,040,015		322,335	
Supplies expenses		3,923,625		183,648	
Repairs expenses		2,431,203		400,256	
Service fees		16,337,579		6,564,614	
Export expenses		10,742,987		-	
Foreign market development expenses		149,436		-	
Research and development expenses		118,247		-	
Others		16,296,119		9,818,091	
Total cost of sales, and selling and administrative expenses	₩	428,452,678	₩	42,086,347	

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

24. Finance Income and Finance Costs

Details of financial income and finance costs for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016	2015		
Finance income					
Interest income	₩	9,884,689	₩	11,178,415	
Gains on foreign currency transaction		4,787,626		160,351	
Gains on foreign currency translation		412,231		1	
Gains on disposal of AFS financial assets		2,467,093		1,892	
Gains on valuation and disposal of financial assets at FVTPL		137,619		-	
	₩	17,689,258	₩	11,340,659	
Finance costs					
Interest expense	₩	333,193	₩	-	
Losses on foreign currency transaction		3,669,501		104,390	
Losses on foreign currency translation		1,806,083		2,123	
Impairment loss(reversal) on AFS financial assets		(364)		1,554,088	
Gains on disposal of trade receivables		44		-	
	₩	5,808,457	₩	1,660,601	

25. Other Non-operating Income and Expenses

Details of other non-operating income and expenses for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016		2015
Other non-operating income				
Dividend income	₩	5,223	₩	-
Gains on foreign currency transaction		7,995,283		4,371
Gains on foreign currency translation		4,140,169		3,233,120
Gains on valuation of foreign exchange forward contracts		2,309,748		-
Rental income		2,293,089		2,223,899
Gains on disposal of property, plant and equipment		-		93
Gains on disposal of associates		2,769,690		-
Gains as a bargain purchase		22,557,990		-
Miscellaneous income		3,124,728		74,447
	₩	45,195,920	₩	5,535,930

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Other non-operating expenses				
Losses on foreign currency transaction	₩	8,164,790	₩	6,998
Losses on foreign currency translation		2,440,178		661
Losses on foreign exchange forward transaction		2,468,315		4,688
Losses on valuation of foreign exchange forward contracts		-		5,067,941
Losses on disposal of property, plant and equipment		123,311		1
Losses on disposal of property, plant and equipment		34,091		-
Impairment loss of property, plant and equipment		-		301,888
Impairment loss of intangible assets		30,667		233,888
Donation		3,143,784		3,011,400
Miscellaneous loss		340,095		73,216
	₩	16,745,231	₩	8,700,681

26. Tax Expense and Deferred Tax

Income tax expense for the periods ended December 31, 2016 and 2015, consists of:

(in thousands of Korean won)	2016			2015		
Current tax:						
Current tax on profits for the year	₩	22,672,703	₩	6,069,759		
Adjustments in respect of prior years		1,760,355				
Deferred tax:						
Origination and reversal of temporary differences		1,193,808		10,370,239		
Charged or credited directly to equity		6,824,641		(1,067,540)		
Income tax expense	₩	32,451,507	₩	15,372,458		

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the weighted average tax rate applicable to profits of the consolidated entities as follows:

(in thousands of Korean won)		2016	2015		
Profit before income tax expense	₩	301,908,446	₩	188,075,606	
Tax at domestic tax rates applicable to profits in the respective countries		70,810,672		45,052,296	
Tax effects of:					
Income not subject to tax		(250)		-	
Expenses not deductible for tax purposes		199,488		109,428	
Tax credit and tax cut		(320,798)		(343,713)	
Additional tax payment		1,760,355		-	

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Unrecognized changes in net assets of investments in subsidiaries and associates		(32,137,760)		(29,866,191)
Profit as a bargain purchase		(5,290,830)		-
Non-recycled corporate tax		1,530,232		-
Others		(4,099,602)		420,638
Adjustment in respect of prior years		(38,359,165)		(29,679,838)
Income tax expense	₩	32,451,507	₩	15,372,458

The tax effect relating to components of other comprehensive income (expenses) for the periods ended December 31, 2016 and 2015, is as follows:

(in thousands of Korean won)			2016		2015			
	Before tax		Tax effect	After tax	Before tax	Tax effect	After tax	
Remeasurements of net defined benefit plan	₩ 234,5	25 ₩	(56,755)	₩ 177,770	₩ 280,258	₩ (67,822)	₩ 212,436	
Remeasurements of net defined benefit plan of associates	(1,777,05	8)	1,700,470	(76,588)	(4,171,777)	201,798	(3,969,979)	
Change in the fair value of AFS securities	11,7	30	(2,839)	8,891	3,381,900	(818,420)	2,563,480	
Share of other comprehensive income of associates	(1,194,02	6)	5,183,765	3,989,739	7,911,819	(383,096)	7,528,723	
	(2,724,82	9)	6,824,641	4,099,812	7,402,200	(1,067,540)	6,334,660	

The aggregate current and deferred tax relating to items that are charged or credited directly to equity for the periods ended December 31, 2016 and 2015, is as follows:

(in thousands of Korean won)				2016						2015		
	В	Before tax	T	ax effect		After tax	В	efore tax	T	ax effect		After tax
Change in the fair value of AFS securities	₩	2,005,416	₩	(485,311)	₩	1,520,105	₩	1,995,186	₩	(482,835)	₩	1,512,351
Share of other comprehensive income of associates	((26,677,713)		6,457,668		(20,220,045)	((25,441,135)		1,231,351		(24,209,784)

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

The analysis of deferred tax assets and liabilities as at December 31, 2016 and 2015, is as follows:

(in thousands of Korean won)		2016		2015
Deferred tax assets				
Deferred tax asset to be recovered after more than 12 months	₩	6,162,845	₩	6,117,335
Deferred tax asset to be recovered within 12 months		13,768,784		664,586
		19,931,629		6,781,921
Deferred tax liabilities				
Deferred tax liability to be recovered after more than 12 months		63,719,960		63,860,800
Deferred tax liability to be recovered within 12 months		47,809,698		21,498,235
		111,529,658		85,359,035
Deferred tax assets (liabilities), net	₩	(91,598,029)	₩	(78,577,114)

The movement in deferred tax assets and liabilities for the periods ended December 31, 2016 and 2015, without taking into consideration the offsetting of balances within the same tax jurisdiction, is as follows:

(in thousands of Korean won)	2016					
	Beginning Statement of balance profit or loss		Other comprehensive income	Change in the scope of consolidation	Ending balance	
Deferred tax assets(liabilities)						
Unearned revenue	₩ (353,025)	₩ (54,064)	₩ -	₩ (414,583)	₩ (821,672)	
Other long-term employee benefits	53,903	39,076	-	114,144	207,123	
Accrued expenses	16,615	70,132	-	27,338	114,085	
Property, plant and equipment	2,235,530	895,150	-	(1,221,716)	1,908,964	
Post-employment benefits	(482,174)	727,233	(56,755)	327,428	515,732	
Derivative financial instruments	647,971	(663,214)	-	-	(15,243)	
Gains(loss) on foreign currency translation	(781,741)	781,741	-	-	-	
Financial assets at FVTPL	-	2,817	-	(20,328)	(17,511)	
Intangible assets	203,888	1,209,200	-	(11,859,202)	(10,446,114)	
Construction in progress	232,760	-	-	-	232,760	
AFS financial assets	3,391,255	(928,654)	(2,839)	271,723	2,731,485	
Advanced depreciation provision	(2,556,024)	-	-	-	(2,556,024)	
Valuation of foreign exchange forward contracts	-	11,647	-	21,263	32,910	
Impairment loss	-	-	-	281,686	281,686	
Annual leave provisions	-	97,769	-	388,405	486,174	
Stock dividend	-	-	-	307	307	
Provisions for product warranties	-	66,404	-	256,428	322,832	
Emission obligations	-	12,742	-	-	12,742	
Investment in subsidiaries and associates	(81,186,072)	(10,286,428)	6,884,235		(84,588,265)	
	₩ (78,577,114)	₩ (8,018,449)	₩ 6,824,641	₩ (11,827,107)	₩ (91,598,029)	

HANKOOK TIRE WORLDWIDE CO., LTD. and Subsidiaries Notes to the Consolidated Financial Statements

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(in thousands of Korean won)	2015								
	Begii	nning balance		atement of of offit or loss		Other nprehensive income	Enc	ding balance	
Deferred tax assets(liabilities)									
Unearned revenue	₩	(741,588)	₩	388,563	₩	-	₩	(353,025)	
Other long-term employee benefits		40,904		12,999		-		53,903	
Accrued expenses		34,570		(17,955)		-		16,615	
Property, plant and equipment		2,008,847		226,683		-		2,235,530	
Post-employment benefits		(221,316)		(193,035)		(67,823)		(482,174)	
Derivative financial instruments		654,691		(6,720)		-		647,971	
Gains(loss) on foreign currency translation		(477,359)		(304,382)		-		(781,741)	
Intangible assets		147,517		56,371		-		203,888	
Construction in progress		159,703		73,057		-		232,760	
AFS financial assets		7,799,936		(3,590,262)		(818,419)		3,391,255	
Advanced depreciation provision		(2,556,024)		-		-		(2,556,024)	
Investment in subsidiaries and associates		(75,056,756)		(5,948,018)		(181,298)		(81,186,072)	
	₩	(68,206,875)	₩	(9,302,699)	₩	(1,067,540)	₩	(78,577,114)	

Details of unrecognized deductible (taxable) temporary differences as deferred tax assets (liabilities) as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016	2015	Remarks
Interests in subsidiary	₩	1,165,191,376 ₩	1,165,191,376	No plan for disposal

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

27. Cash Flow from Operating Activities

Details of cash generated from operations for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016	2015		
Adjustments for:	₩	₩		
Income tax expense	32,451,507	15,372,458		
Losses on foreign currency translation	4,246,261	2,784		
Impairment loss on AFS financial assets	(364)	1,554,088		
Losses on foreign exchange forward transaction	2,468,315	4,688		
Losses on valuation of foreign exchange forward contracts	-	5,067,941		
Losses on disposal of property, plant and equipment	123,311	1		
Losses on disposal of intangible assets	34,091	-		
Impairment loss of property, plant and equipment	-	301,888		
Impairment loss of intangible assets	30,667	233,888		
Depreciation of investment properties	842,651	1,170,181		
Depreciation of property, plant and equipment	11,431,214	1,123,438		
Amortization of intangible assets	6,040,015	322,335		
Other long-term employee benefits	383,725	70,223		
Post-employment benefit	8,668,334	2,704,557		
Interest expense	333,193	-		
Sales damage expenses	1,221,463	-		
Miscellaneous losses	40,739	-		
Losses on valuation and disposal of inventory	342,610	-		
Losses on disposal of trade receivables	44	-		
Impairment loss(reversal of allowance for doubtful accounts)	(501)	-		
Interest income	(9,884,689)	(11,178,415)		
Dividend received	(6,983)	(1,863)		
Gains on foreign currency translation	(4,552,400)	(3,233,121)		
Gains on valuation of foreign exchange forward contracts	-	(93)		
Gains on disposal of AFS financial assets	(2,309,748)	-		
Gains on disposal of financial assets at fair value through profit or loss	(2,467,093)	(1,892)		
Gains on disposal of associates	(137,619)	-		
Gain on using equity method of accounting	(2,769,690)	-		
Profit as a bargain purchase.	(192,617,507)	(151,961,286)		
	₩ (168,646,444)	₩ (138,448,200)		

HANKOOK TIRE WORLDWIDE CO., LTD. and Subsidiaries Notes to the Consolidated Financial Statements December 31, 2016 and 2015

(in thousands of Korean won)		2016		2015
Changes in operating assets and liabilities:	₩		₩	
Increase in trade receivables		(21,053,585)		(2,202,245)
Decrease in non-trade receivables		274,665		167,398
Increase in advance payments		(2,333,766)		(5,000)
Increase(decrease) in prepaid expenses		372,915		(1,715)
Increase in prepaid V.A.T		(109,841)		-
Decrease in inventories		10,649,383		-
Increase in leasehold deposits provided		(569,670)		-
Increase in trade payables		6,671,960		-
Increase in non-trade payables		3,584,374		2,500,061
Decrease in advance received		(245,487)		-
Decrease in accrued expenses		(1,694,896)		(1,704,959)
Increase(decrease) in withholdings		1,496,648		(721,708)
Increase in rental deposits received		224,144		72,134
Decrease in provisions for product warranties		(1,009,718)		-
Increase in emission obligation		62,023		-
Decrease in defined benefit obligation		(3,515,462)		(1,240,239)
Increase in pension plan assets		(6,037,557)		(6,465,622)
Decrease in other long-term employee benefits liabilities		(274,896)		(16,509)
	₩	(13,508,766)	₩	(9,618,404)

The principal non-cash transaction for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016	2015		
Transfer of construction in progress to intangible assets	₩	1,745,164	₩	207,526	
Transfer of construction in progress to property, plant and equipment		2,225,854		240,319	
Transfer of advance payments to intangible assets		-		2,200,599	
Increase in non-trade payables in relation to acquisition of plant, property and equipment.		494,688		-	
Increase in non-trade payables in relation to acquisition of intangible assets		52,477		83,764	
Decrease in non-trade payables in relation to acquisition of intangible assets		83,764		-	

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

28. Related Party Transactions

Details of related parties as at December 31, 2016, are as follows:

Туре	Name of related parties
Individuals	Yang-Rai Cho, Hyun-Shick Cho, Hyun-Bum Cho
Subsidiaries	Atlas BX Co., Ltd., Atlas BX Motorsports Co., Ltd.
Associates	Hankook Tire Co., Ltd., EmFrontier, Inc.
Domestic subsidiaries of associates	Daehwa Engineering & Machinery Co., Ltd., MK Technology Corp., Hankook Donggeurami Partners Co., Ltd., HK Motors Co., Ltd. ¹ Hankook Tire America Corp., Hankook Tyre U.K. Ltd.,
	Jiangsu Hankook Tire Co., Ltd., Hankook Tire China Co., Ltd.,
	Shanghai Hankook Tire Sales Co., Ltd., Hankook Tire Netherlands B.V.,
	Hankook Tire Japan Corp., Hankook Tire Canada Corp.,
	Hankook Reifen Deutschland GmbH, Hankook Tire France SARL,
	Hankook Tire Italia S.R.L., Hankook Espana S.A.,
	Hankook Tyre Australia Pty., Ltd., Hankook Tire Hungary Ltd.,
	Hankook Tire Europe Holdings B.V, Hankook Tire Europe GmbH,
Overseas subsidiaries	Hankook Tire Budapest Kereskedelmi Kft, Hankook Tire DE Mexico, S.A. DE C.V.,
of associates	Chongqing Hankooktire Co., Ltd., Hankook Tire Rus LLC, PT. Hankooktire Indonesia, MK Mold (Jiaxing) Co., LTD,
	Hankook Tire Singapore PTE., Ltd., Hankook Tire Malaysia SDN.BHD.,
	Hankook Tire Sweden AB, Beijing Jielun Trading Company Co.,Ltd.,
	Hankook Tire Thailand Co.,Ltd., Hankook Lastikleri A.S.,
	Hankook Tire Polska Sp. z o.o., Hankook Tire de Colombia Ltda.,
	Hankook Tire America Holdings I, LLC, Hankook Tire America Holdings II, LLC, Hankook Tire Manufacturing Tenessee LP, Hankook Tire Ceska Republika s.r.o. MK Technology (CHONGQING) Mould Co., Ltd.,
	PT. EMFRONTIER ENS Indonesia, Emfrontier America Inc.
Domestic associate of associates	Hanon Systems Co., Ltd.
Other related parties ²	Shin-Yang Tourist Development, Shin-Yang World Leisure, FWS Investment Advisory, Daehwa Eng' & Machinery Jiaxing Co., Ltd., Anothen WTE Co., Ltd., H-2 WTE Co., Ltd., Anothen Geumsan Co., Ltd.

¹ Newly established by Hankook Tire Co., Ltd., an associate, and reclassified to the Group's related party for the year ended December 31, 2016.

² Although the entity is not the related party of the Group in accordance with Korean IFRS 1024, the entity belongs to a large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Transactions between the Group and related parties for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of			2016		
Korean won)	Name of entity	Selling and administrative Purchase Othe me of entity Sales ¹ expenses and others incom			
Associates	Hankook Tire Co., Ltd.	₩ 102,335,102	₩ 477,129	₩ -	₩ 1,015,892
	EmFrontier, Inc.	488	752,555	1,066,359	-
Domestic subsidiary of associates	HK Motors Co., Ltd.	-	187,769	23,500	-
Overseas subsidiaries of associates	Chongqing Hankooktire Co., Ltd. and others	-	204,913	-	2,230,108
Other related parties	Shin-Yang Tourist Development and others	-	2,084,369	-	5,814
		₩ 102,335,590	₩ 3,706,735	₩ 1,089,859	₩ 3,251,814

¹ Share of profit or loss of associates accounted for using the equity method is not included in sales.

(in thousands of			2015				
Korean won)	Name of entity		Sales ¹	ad	Selling and ministrative expenses		Other income
Associates	Hankook Tire Co., Ltd.	₩	69,305,707	₩	88,827	₩	1,016,162
	EmFrontier, Inc.		750		132,967		-
	Atlas BX Co., Ltd.		6,600		-		-
Domestic subsidiary of associates	MK Technology Corp.		250		23,705		-
Overseas subsidiaries of associates	Chongqing Hankooktire Co., Ltd. and others		-		146,301		3,382,574
Other related parties	Shin-Yang Tourist Development and others		-		1,916,535		5,814
		₩	69,313,307	₩	2,308,335	₩	4,404,550

¹ Share of profit or loss of associates accounted for using the equity method is not included in sales.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Outstanding balances of receivables and payables as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)					2016						
	Name of entity	re	Trade eceivables		Loans	re	Other ceivables	-	lon-trade payables	ı	Other payables
Associates	Hankook Tire Co., Ltd.	₩	46,512,414	₩	-	₩	-	₩	6,165	₩	1,859,096
	EmFrontier, Inc.		-		-		-		935,854		-
Domestic subsidiary of associates	Hankook Donggeurami Partners Co., Ltd.		-		-		-		44,392		-
Overseas subsidiaries of associates	Hankook Tire Netherlands B.V. and others		-		54,750,160		1,166,330		56,835		-
Other related parties	Shin-Yang Tourist Development and others		-		-		-		191,355		105,503
		₩	46,512,414	₩	54,750,160	₩	1,166,330	₩	1,234,601	₩	1,964,599
(in thousands of Korean won)					2015						
	Name of entity	re	Trade eceivables		Loans	re	Other ceivables	_	lon-trade payables	ı	Other payables
Associates	Hankook Tire Co., Ltd.	₩	27,696,191	₩	-	₩	4,376,436	₩	28,611	₩	1,834,952
	EmFrontier, Inc.		-		-		-		79,996		-
Overseas subsidiaries of associates	Chongqing Hankooktire Co., Ltd. and others		-		92,213,800		269,652		8,408		-
Other related parties	Shin-Yang Tourist Development and others		-		-		-		225,907		105,503

Loans to related parties for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Kor	rean won)				20	16			
			Beginning balance	Increase	Collection	Exchange differences	Transfer		Ending balance
Chongqing Hankooktire Co., Ltd.	Short-term loans	₩	35,160,000	₩ -	₩ (92,213,800)	₩ -	₩ 57,053,800	₩	_
	Long-term loans		57,053,800	-	-	-	(57,053,800)		-
Hankook Tire Netherlands B.V.	Short-term loans		-	56,996,920	-	(2,246,760)	-		54,750,160
		₩	92,213,800	₩ 56,996,920	₩ (92,213,800)	₩ (2,246,760)	₩ -	₩	54,750,160

₩ 27,696,191 ₩ 92,213,800 ₩

4,646,088 ₩

342,922 ₩

1,940,455

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

(in thousands of Korean won)				2015			
			Beginning balance		Exchange differences		Ending balance
Chongqing Hankooktire Co., Ltd.	Short-term loans	₩	32,976,000	₩	2,184,000	₩	35,160,000
	Long-term loans		56,004,680		1,049,120		57,053,800
		₩	88,980,680	₩	3,233,120	₩	92,213,800

The Group provides joint surety with Hankook Tire Co., Ltd. for the liabilities incurred before the spin-off. The remaining guarantees provided by the Group jointly and severally at the end of reporting periods are as follows:

(in thousands of Korean won and						
thousands of USD, HUF)	2	016		2	2015	
·	Foreign currency		rean won quivalent	Foreign currency		Korean won equivalent
USD	-	₩	-	130,000	₩	152,360,000
HUF ¹	15,881,000		64,794,480	15,881,000		64,794,480
		₩	64,794,480		₩	217,154,480

¹ The above guarantee amount includes direct suretyship provided to the Hungarian Government as follows:

Description

Summary of agreements	To certify that the Group should sincerely carry out the investment plan according to the investment contract; otherwise, the Group should return some or whole amount of the subsidy provided by the Hungarian Government.
Guarantee provided	HUF 15,881,000,000 + interest incurred
The term of guarantee	From October 31, 2005 to December 31, 2017

Also, outstanding credit facility agreements providing Hankook Tire Co., Ltd. jointly and severally as at December 31, 2016 and 2015, are as follows:

(in thousands of Korean won and thousands of USD)		2016			2015	
and and an edd)	Foreign currency	Ko	orean won quivalent	Foreign currency	1	Korean won equivalent
USD	70,000	₩	84,595,000	70,000	₩	82,040,000

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Compensations for key management personnel for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016			2015
Short-term benefits	₩	6,925,561	₩	3,501,077
Post-employment benefits		2,536,408		347,506
	₩	9,461,969	₩	3,848,583

Key management refers to the directors (registered and non-registered) and audit committee members who have significant authority and responsibility in respect to planning, operating and controlling of the Group's business activities.

29. Contingencies and Commitments

Details of commitments that the Group entered with financial institutions as at December 31, 2016 and 2015, are as follows:

(in thousands on Korean we thousands of CNY and the			2016				2015		
	,	Commit	Korean won Commitment amount equivalent		Commitment amount		Korean won unt equivalent		
Purchase card agreements	Shinhan Bank	KRW	20,000,000	₩	20,000,000	KRW	10,000,000	₩	10,000,000
Bank overdraft agreements	Woori Bank and others	KRW	7,000,000		7,000,000	KRW	5,000,000		5,000,000
Agreements to forward exchange contracts	Standard Chartered Bank Korea and others	USD	6,000		7,251,000	USD	30,000		35,160,000
		CNY	316,000		54,750,160	CNY	316,000		57,053,800
		EUR	2,000		2,535,200	-	-		-
Trade financing	Woori Bank and others	KRW	32,000,000		32,000,000	KRW	-		-
Letter of credit	KEB Hana Bank and others	USD	32,000		38,672,000	USD	-		-
Loans for working capital	Woori Bank and others	KRW	7,000,000		7,000,000	KRW	-		-
Export bill discounting	Woori Bank and others	USD	41,000		49,548,500	USD	-		-
		KRW	66,000,000	₩		KRW	15,000,000	₩	
		USD	79,000		218,756,860	USD	30,000		107,213,800
		CNY	316,000		210,750,860		316,000		107,213,000
		EUR	2,000			EUR	-		

As at December 31, 2016, the Group is named as a defendant in two legal actions amounting to \$\text{\psi}500,000\$ thousand arising from labor matters, and one legal action amounting to \$\text{\psi}180,000\$ thousand under appeal trial for the imposed fine. As at December 31, 2016, the Group cannot reasonably estimate the outcome of these cases and their impacts on the financial statements.

As at December 31, 2016, the Group entered into supply contracts to provide trademark license and supporting work with Hankook Tire Co., Ltd., a related party, and to be provided maintenance service for the Group's information system with EmFrontier, Inc., an associate.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

30. Operating Segment Information

Atlas BX Co., Ltd. was reclassified to subsidiaries during 2016. The Group had a single operating segment before the storage batteries business was added from business combination. Management has determined the operating segments based on the information reported to and reviewed by the Board of Directors that performs resource allocation and performance assessment. From a product perspective, management classifies the investment and storage batteries.

Profit or loss by each segment for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016 Storage batteries						
	Investment business		business		Total		
Total segment revenue	₩	268,453,944	₩	421,578,164	₩	690,032,108	
Inter-segment revenue		(2,475)		-		(2,475)	
Revenue from external customers		268,451,469		421,578,164		690,029,633	
Operating profit (loss)	₩	217,227,747	₩	44,349,208	₩	261,576,955	

The Group derives the following types of revenue:

(in thousands of Korean won)	2016			2015		
Sales of finished goods	₩	417,376,242	₩	-		
Sales of merchandise		3,833,851		-		
Service revenue		23,385,230		20,183,023		
Rental revenue		4,520,940		4,530,229		
Trademark right revenue		47,887,401		46,920,741		
Share of profit or loss of associates accounted for using the equity method		192,617,507		151,961,286		
Others		408,462		51,366		
	₩	690,029,633	₩	223,646,645		

Revenue from external customers broken down by location of the Group for the periods ended December 31, 2016 and 2015, are shown as follows:

(in thousands of Korean won)	2016	2015		
Korea (headquarter)	₩	690,029,633	₩	223,646,645

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Details of external customers, who contribute more than 10% of the Group's revenue for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)	2016	2015		
A Company	₩	288,866,785	₩	202,561,759

31. Inventories

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

(in thousands of Korean won)		2016
		7,000,000
Finished goods	₩	7,332,630
Merchandise		1,699,868
Raw materials		19,259,628
Work in process		11,106,710
Supplies		1,404,508
Materials in transit		3,686,062
	₩	44,489,406

32. Borrowings

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

(in thousands	s of Korean won)	Creditor	Latest maturity date	Annual interest rate(%) December 31, 2016		2016		2015	
Short-term borrowings	Export bill discount	Kookmin Bank	2017.03.23	3.8	₩	4,779,267	₩		-
	(Nego borrowings)	NH Bank	2017.03.25	3.0		820,528			-
		Deutsche Bank AG	2017.01.06	1.7		426,402			-
		Shinhan Bank	2017.07.09	1.5		680,290			-
		Woori Bank	2017.06.23	2.4		9,896,567			-
		KEB Hana Bank	2017.09.25	1.9		4,533,874			-
		Citi Bank	2017.03.28	1.9		8,400,896			
					₩	29,537,824	₩		

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Changes in borrowings for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)		2016
Beginning balance	₩	-
Net increase(decrease)		(19,935,275)
Change in the scope of consolidation		47,667,016
Translation differences		1,806,083
Ending balance	₩	29,537,824

33. Earnings Per Share

The Group's basic earnings per share attributable to equity holders of Parent Company for the periods ended December 31, 2016 and 2015, are computed as follows:

(in Korean won)		2016	2015		
Profit attributable to the ordinary equity holders of Parent Company ¹	₩	261,535,601,727	₩	172,703,147,138	
Weighted-average number of ordinary shares outstanding (share) ²		91,695,084		91,695,085	
Basic earnings per share	₩	2,852	₩	1,883	

¹ As there are no adjustments during the reporting period, profit attributable to the ordinary equity holders of Parent Company is calculated as same with the profit in the statements of comprehensive income.

The Group did not issue any potential ordinary shares. Therefore, basic earnings per share is identical to diluted earnings per share.

² The Group's outstanding ordinary shares minus the number of treasury share acquired are weighted averaged.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

34. Transition to Korean IFRS

34.1 First-time Adoption of Korean IFRS

The Company's transition date to Korean IFRS is January 1, 2010, and adoption date is January 1, 2011.

In 2016, the subsidiary was included and the separate financial statements are prepared. The Company first adopted International Financial Reporting Standards as adopted by the Republic of Korea ("Korean IFRS") from January 1, 2015 for the separate financial statements. The separate financial statements of the Company for the annual period beginning on January 1, 2016, have been prepared. In accordance with Korean IFRS 1101 *First-time Adoption of Korean International Financial Reporting Standards*, the timing of first-time adoption in the separate financial statements and the consolidated financial statements are different. Therefore, assets and liabilities are recognized at the same amounts in the statements excluding consolidated adjustments.

In preparing the consolidated financial statements in accordance with Korean IFRS 1101 *First time Adoption of Korean International Financial Reporting Standards*, the Company has applied the mandatory exceptions and certain optional exemptions allowed by Korean IFRS.

34. 2 Exemption Options under Korean IFRS 1101

The Company elected to apply the following optional exemptions from full retrospective application.

(a) Business combinations

The Group elected to apply the exemption for business combinations allowed under Korean IFRS 1101 and has not retrospectively applied Korean IFRS 1103 to past business combinations that occurred before the transition date (January 1, 2015).

(b) Investments in subsidiaries and associates as deemed cost

The Company used the amounts for investments in subsidiaries and associates revaluated under the previous K-GAAP as deemed cost as of revaluation date. The Company used the fair value at the transition date for investments in subsidiaries and associates as deemed cost. Total amount of investments that used the fair value at the transition date as deemed cost, is $\mbox{$W$}$ 1,632,017,958 thousand.

34.3 Mandatory Exceptions to Retroactive Application of Other Korean IFRS

Exceptions to other Korean IFRS applied by the Company are as follows:

(a) Derecognition of financial assets

The Company applied the derecognition requirements in Korean IFRS 1039, *Financial Instruments: Recognition and Measurement*, prospectively for transfers of financial assets occurring on or after the transition date. Where the Company had derecognized financial assets before the transition date in accordance with the previous K-GAAP, the Company did not recognize these assets even when the transfers did not meet the derecognition criteria under Korean IFRS.

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

(b) Exception for estimates

The Company's Korean IFRS estimates at the transition date are consistent with the estimates as at the same date made in accordance with the previous K-GAAP (after adjustments to reflect any difference in accounting policies), unless there is objective evidence that those estimates were in error.

34.4 Adjustments due to the transition from previous K-GAAP to Korean IFRS

As the Company has not presented its separate financial statements in the previous period, it does not disclose the capital and profit and loss adjustments for the period.

35. Business Combination and Transactions with Non-controlling Interests

In March 2016, Atlas BX Co., Ltd., an associate of the Group, acquired its treasury shares. As a result, the Group's ownership to the Atlas BX Co., Ltd. was increased from 31.1% to 71.7% (after additional acquiring its treasury shares, the Group's ownership is 74.7%) and the entity was reclassified to the Group's subsidiaries.

The fair value of the shares held by Atlas BX Co., Ltd., which was held prior to the business combination, was less than the net asset value at the acquisition date, which resulted in a gain on the purchase of discounts, which was included in other non-operating income in the statement of comprehensive income. Details of the purchase consideration, the assets and liabilities recognized as a result of the acquisition, and fair value of the non-controlling interest at the acquisition date are as follows:

(in thousands of Korean won)		Amount
Fair value of equity interest in Atlas BX Co., Ltd. held before the business combination Recognized amounts of identifiable assets acquired and liabilities assumed	₩	142,434,250
Cash and cash equivalents		12,909,630
Trade receivables		95,200,492
Other receivables		1,329,480
Short-term financial assets		50,042,000
Other current assets		4,012,140
Inventories		55,481,398
Long-term financial assets		8,000
Property, plant and equipment		123,782,091
Intangible assets		30,351,315
AFS financial assets		178,218
Other non-current receivables		240,304
Trade payables		178,218
Other payables		(33,089,086)
Other current liabilities		(27,936,171)
Other non-current payables		(50,000)

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

Other non-current liabilities		(1,667,036)
Deferred tax liabilities		(11,827,107)
Current tax liabilities		(12,130,206)
Borrowings		(47,667,016)
Post-employment obligation		(34,746,701)
Pension plan assets		31,953,240
Other provisions		(1,122,271)
Net identifiable assets acquired		230,286,871
Non-controlling interest		(65,294,631)
Profit as a bargain purchase		(22,557,990)
	₩	142,434,250

The gross contractual amount for trade and other receivables due is \forall 96,749,954 thousand, of which \forall 41,765 thousand is expected to be uncollectible.

Non-controlling interests in Atlas BX Co., Ltd., a listed company, were estimated using consideration paid to acquire 71.7% interest in the group. The said consideration is adjusted by considering a complete lack of control that the market participants might consider.

The Group recognized a gain of \forall 2,769,690 thousand as a result of measuring at fair value its 31.1% equity interest in Atlas BX Co., Ltd. held before the business combination. The gain is included in other non-operating income in the Group's statement of comprehensive income for the year ended December 31, 2016.

Had Atlas BX Co., Ltd. been consolidated from January 1, 2016, the consolidated statement of comprehensive income would have shown a revenue of ₩ 808,661,265 thousand and profit attributable to owners of Parent Company of ₩ 291,824,930 thousand.

Effects of transactions with non-controlling interests on the equity attributable to owners of the Group for the periods ended December 31, 2016 and 2015, are as follows:

(in thousands of Korean won)

2016

Acquisition of additional interests in a subsidiary¹ ₩ (1,140,507)

 1 On May 26, 2016, Atlas BX Co., Ltd. additionally acquired its treasury shares. The Group now holds 74.9% equity interest in Atlas BX Co., Ltd. The carrying amount of the non-controlling interests in Atlas BX Co., Ltd. on the date of acquisition was \forall 6,247,696 thousand, and the Group derecognized non-controlling interests of \forall 7,466,543 thousand and recorded a decrease in equity attributable to owners of the Group of \forall 1,140,507 thousand. The effects of changes in the ownership interest of Atlas BX Co., Ltd. on the equity attributable to owners of the Group during 2016 and 2015 are summarized as follows:

Notes to the Consolidated Financial Statements December 31, 2016 and 2015

(in thousands of Korean won)		2016
Book amount of non-controlling interests acquired Consideration paid to non-controlling interests	₩	7,466,543 (8,607,050)
Excess of consideration paid recognized in the transactions with non-controlling interests reserve within equity	₩	(1,140,507)