Hankook Tire Co., Ltd. and Subsidiaries Consolidated Financial Statements

December 31, 2018 and 2017

Hankook Tire Co., Ltd. and Subsidiaries

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December 31, 2018 and 2017

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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 Co., Ltd.

Opinion

We have audited the accompanying consolidated financial statements of Hankook Tire Co., Ltd. and its subsidiary (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2018 and 2017, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Key Audit Matters

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

(a) Valuation of finished goods inventories

Key Audit Matter

As disclosed in Note 10 to the consolidated financial statements, the Group's finished goods amount to $\mbox{$W$}$ 1,087,672 million as at December 31, 2018, representing 11.1% of total assets which is significant to the Group. Inventories are initially measured at cost, and the amount of write down should be recognized when inventories have become damaged, obsolete, or if their net realizable value have declined, and is less than the cost. We considered that valuation of finished goods inventories is a key

audit matter because the determination of the net realizable value of the finished goods inventories involves the significant level of management's judgements.

How our audit addressed the Key Audit Matter

We have performed the following audit procedures in relation to the above key audit matter:

- We reviewed appropriateness of accounting policy on valuation of finished goods inventories.
- We assessed design and effectiveness of major internal controls relating to the valuation process of net realizable value and obsolescence of finished goods inventories.
- We tested the accuracy and completeness of aging data for finished goods inventories through sampling.
- We verified whether the Group's actual recent selling price is consistent with the estimated selling price used in calculation of net realizable value of finished goods inventories through sampling.
- We recalculated valuation allowance of finished goods prepared by the Group.

(b) Appropriateness of allocation of purchase consideration when business combination over Model Solution Co., Ltd.

Key Audit Matter

As disclosed in Note 37 to the consolidated financial statements, in May 2018, the Group acquired 75% of issued shares of Model Solution Co., Ltd. and obtained control over Model Solution Co., Ltd. The Group accounted for the acquisition in accordance with K-IFRS 1103 Business Combinations. The purchase consideration of \forall 68,625 million was allocated to the various acquired assets and liabilities, and the allocation of purchase price relies on fair value. The Group engaged an independent external expert to assist the Group in valuation of the main tangible and intangible assets acquired. We considered that the appropriateness of allocation of purchase consideration is a key audit matter given the size of the purchase consideration and the significant level of management's judgment involved for the valuation.

How our audit addressed the Key Audit Matter

We have performed the following audit procedures for the key audit matter. We included expert in value assessment when performing audit procedure.

- We tested the terms of acquisition by reviewing shares acquisition agreement.
- We reviewed whether the management's expert has the necessary competence, capabilities and objectivity for the valuation.
- We assessed the adequacy of the method used in fair value measurement for the acquired identifiable intangible and other assets and liability.
- We assessed the consistency and reasonableness of key fundamental assumptions and variables used in determining fair value and tested that the result of calculation was accurate.
- We assessed the reasonableness of the estimation from the previous business plan by comparing it with the actual performance of Model Solution Co., Ltd.
- We assessed the appropriateness of disclosed note in the consolidated financial statements related to purchase price allocation.

Other Matter

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

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

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

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.

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

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern.

- If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- · Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements.
 We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

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

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

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

The engagement partner on the audit resulting in this independent auditor's report is Seung-Kwon Ryoo, Certified Public Accountant.

Seoul, Korea March 20, 2019

This report is effective as of March 20, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Hankook Tire Co., Ltd. and Subsidiaries Consolidated Statements of Financial Position December 31, 2018 and 2017

(in thousands of Korean won)	Notes		2018		2017
Assets					
Current assets					
Cash and cash equivalents	6	₩	611,977,139	₩	694,151,216
Short-term financial assets	6		27,568,027		4,343,731
Trade and other receivables	6,9,41		1,332,681,424		1,254,005,058
Inventories	10		1,598,471,564		1,494,391,162
Other financial assets	5,6,8,11		28,742,241		11,673,900
Other current assets	12		53,747,755		75,881,689
Non-compart coacts			3,653,188,150		3,534,446,756
Non-current assets	0		50,000		60.005
Long-term financial assets	6		59,288		60,995
Long-term trade and other receivables	6,9		1,086,846		972,439
Available-for-sale financial assets	5,6		-		4,387,494
Financial assets at fair value through	F 0 7		40,000,400		
other comprehensive income	5,6,7		46,083,106		-
Financial assets at fair value through profit or loss	5,6,7		1,500,000		1 000 202 110
Investments in associates	13 15		1,085,601,269		1,090,392,140 4,317,370,358
Property, plant and equipment	16		4,225,226,632		108,704,303
Investment properties			107,340,268		
Intangible assets Other financial assets	17		366,016,747		195,528,100
	5,6,8,11 12		28,076,264		22,362,727
Other non-current assets	34		83,060,507		99,016,901
Deferred tax assets	34	-	199,203,170		145,543,938
		111	6,143,254,097		5,984,339,395
Total assets		₩	9,796,442,247	₩	9,518,786,151
Liabilities					
Current liabilities					
Trade and other payables	6,18,41	₩	931,208,622	₩	864,748,927
Borrowings	6,19		843,802,336		1,234,067,835
Current tax liabilities			113,084,279		41,225,704
Provisions	20		45,338,531		37,442,036
Other financial liabilities	5,6,8,21		11,230,588		5,833,677
Other current liabilities	22		77,969,623		90,660,985
			2,022,633,979		2,273,979,164
Non-current liabilities					
Borrowings	6,19		788,579,777		739,391,689
Net defined benefit liabilities	23		11,907,587		5,268,711
Provisions	20		27,829,813		17,681,372
Other financial liabilities	5,6,21		26,551,060		1,351,943
Other non-current liabilities	22		89,047,737		85,140,078
Deferred tax liabilities	34		39,579,326		22,466,949
			983,495,300		871,300,742
Total liabilities			3,006,129,279		3,145,279,906

Equity					
Share capital	24		61,937,535		61,937,535
Other paid-in capital	25		2,971,745,781		2,992,377,720
Other components of equity	27		(264,043,086)		(214,629,000)
Retained earnings	26		3,995,902,869		3,518,984,934
Equity attributable to owners of the Parent Company			6,765,543,099		6,358,671,189
Non-controlling interest			24,769,869		14,835,056
Total equity			6,790,312,968		6,373,506,245
Total liabilities and equity		₩	9,796,442,247	₩	9,518,786,151

Hankook Tire Co., Ltd. and Subsidiaries Consolidated Statements of Comprehensive Income Years Ended December 31, 2018 and 2017

(in thousands of Korean won, except per share data)	Notes		2018		2017
Sales	28,38,41	₩	6,795,088,816	₩	6,812,857,982
Cost of sales	28,35,41		(4,691,443,619)		(4,492,383,668)
Gross profit			2,103,645,197		2,320,474,314
Selling and administrative expenses	29,35		(1,209,646,385)		(1,349,380,914)
Research and development expenses	35		(191,348,211)		(177,661,628)
Operating profit			702,650,601		793,431,772
Finance income	30		82,358,445		130,472,074
Finance costs	31		(139,228,507)		(145,023,596)
Other non-operating income	32		159,477,564		123,560,556
Other non-operating expense	33		(145,560,211)		(195,509,241)
Gain on investments in associates, net			38,002,359		36,104,778
Profit before income tax			697,700,251		743,036,343
Income tax expense	34		(167,319,566)		(136,579,502)
Profit for the year		₩	530,380,685	₩	606,456,841
Other comprehensive income Items that will not be reclassified to profit or loss Financial assets at fair value through other comprehensive income Remeasurements of net defined benefit liabilities Remeasurements of net defined benefit liabilities of associates Items that may be subsequently reclassified to profit or loss Changes in the fair value of available-for-sale financial assets Cash flow hedges Share of other comprehensive income of associates Exchange differences on translating foreign operations Other comprehensive income for the year, net of tax Total comprehensive income for the year		₩	(8,964,269) 4,209,587 (152,985) - (5,432,248) (7,050,524) (28,060,455) (45,450,894) 484,929,791	₩	16,876,422 1,906,335 924,537 - 3,174,565 (163,648,962) (140,767,103) 465,689,738
Profit for the year is attributable to: Owners of the Parent Company Non-controlling interests		₩	522,214,845 8,165,838	₩	599,063,937 7,392,904
Total comprehensive income for the year is attributable to: Owners of the Parent Company Non-controlling interests		₩	477,044,923 7,884,868	₩	458,827,597 6,862,141
Earnings per share Basic and diluted earnings per share	36	747	4.216	747	4.837
basic and diluted earnings per snare	30	₩	4,210	₩	4,037

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

Hankook Tire Co., Ltd. and Subsidiaries Consolidated Statements of Changes in Equity Years Ended December 31, 2018 and 2017

							her paid-in capital				Other					
(in thousands of Korean won)	Notes		Share capital		Share premium	Co	nsolidated reserve within equity	т	reasury shares	Retained earnings	components of equity	Total	No	n-controlling interest		Total equity
(III thousands of Notean wort)	Notes		onare capital	•	onare premium			٠	reasury snares	earnings	or equity	lotai		interest		equity
Balance as at January 1, 2017		₩	61,937,535	₩	2,993,465,738	₩		₩	(1,088,018)	₩ 2,950,572,887	₩ (55,503,479)	₩ 5,949,384,663	₩	12,094,657	₩	5,961,479,320
Annual dividends			-		-		-		-	(49,541,072)	-	(49,541,072)		(4,121,740)		(53,662,812)
Total comprehensive income for the year																
Profit for the year			-		-		-		-	599,063,937	-	599,063,937		7,392,904		606,456,841
Changes in the fair value of available-for-sale																
financial assets	27		-		-		-		-	-	922,766	922,766		1,771		924,537
Share of other comprehensive income of associates	27		-		-		-		-	-	3,174,565	3,174,565		-		3,174,565
Exchange differences on translating foreign operations	27		-		-		-		-	-	(163,222,853)	(163,222,853)		(426,110)		(163,648,963)
Remeasurements of net defined benefit liabilities			-		-		-		-	16,982,847	-	16,982,847		(106,425)		16,876,422
Remeasurements of net defined benefit liabilities																
of associates			-		-		-		-	1,906,335	-	1,906,335		-		1,906,335
Balance at December 31, 2017		₩	61,937,535	₩	2,993,465,738	₩	-	₩	(1,088,018)	₩ 3,518,984,934	₩ (214,629,001)	₩ 6,358,671,188	₩	14,835,057	₩	6,373,506,245
Balance as at January 1, 2018		₩	61,937,535	₩	2,993,465,738	₩	-	₩	(1,088,018)	₩ 3,518,984,934	₩ (214,629,001)	₩ 6,358,671,188	₩	14,835,057	₩	6,373,506,245
Annual dividends							-		-	(49,541,072)	-	(49,541,072)		(6,686,600)		(56,227,672)
Repurchase obligation of treasury shares	21,25,40	0	-		-		(20,631,939)		-	-	-	(20,631,939)		-		(20,631,939)
Business combination	37		-		-		-		-	-	-	· · · · ,		8,736,544		8,736,544
Total comprehensive income for the year																-
Profit for the year			-		-		-		-	522,214,845	-	522,214,845		8,165,838		530,380,683
Remeasurements of net defined benefit liabilities			_		-		_		_	4.397.148	_	4.397.148		(187,560)		4,209,588
Remeasurements of net defined benefit liabilities										, ,		, ,		(- ,,		,,
of associates			_		_		_		_	(152,985)	_	(152,985)		_		(152,985)
Cash flow hedges	27		_		-		_		_	(102,000)	(5,432,248)	(5,432,248)		-		(5,432,248)
Loss on valuation of equity instruments at fair value											(-, - , -,	(-, - , -,				(-, -, -,
through other comprehensive income	27										(8,966,804)	(8,966,804)		2,535		(8,964,269)
Share of other comprehensive income	27 27		-		-		-		-	-	(7,050,524)	(7,050,524)		2,035		(7,050,524)
Exchange differences on translating foreign operations	27		-		-				-	-	(27,964,509)	(27,964,509)		(95,946)		(28,060,455)
Balance at December 31, 2018	21	₩	61.937.535	₩	2,993,465,738	₩	(20,631,939)	₩	(1,088,018)	₩ 3,995,902,870	₩ (264,043,086)	₩ 6,765,543,100	₩	24,769,868	₩	6,790,312,968
			01,007,000		2,000,400,700		(20,001,000)		(1,000,010)	0,000,002,070	(204,040,000)	0,700,040,100		24,700,000	··-	3,. 30,012,000

Hankook Tire Co., Ltd. and Subsidiaries

Consolidated Statements of Cash Flows

Years Ended December 31, 2018 and 2017

(in thousands of Korean won)	Notes		2018		2017
Cash flows from operating activities					
Cash generated from operating activities					
Profit for the year		₩	530,380,684	₩	606,456,841
Adjustments	39		843,913,869		805,282,614
Changes in operating assets and liabilities	39		(96,352,334)		(370,289,049)
			1,277,942,219		1,041,450,406
Interest income received			12,321,532		13,903,988
Interest expense paid			(54,136,553)		(66,788,488)
Dividends received			33,416,876		31,279,071
Income tax paid			(146,004,124)		(168,113,742)
Net cash inflow from operating activities			1,123,539,950		851,731,235
Net cash limow from operating activities			1,120,000,000		001,701,200
Cash flows from investing activities					
Net change in short-term financial assets			(23,048,765)		150,051,711
Net change in long-term financial assets			3,553		(1,592)
Payments for available-for-sale financial assets			-		(140)
Proceeds from disposal of available-for-sale financial assets			_		100,032
Payments for financial assets at fair value through profit or loss			(61,500,000)		100,002
,					_
Proceeds from disposal of financial assets at fair value through profit or loss			60,223,202		-
Payments for equity instruments at fair value			(50.704.075)		
through other comprehensive income			(52,724,875)		-
Payments for debt instruments at fair value through			(450.040)		
other comprehenvice income			(458,810)		-
Proceeds from disposal of debt instruments at fair value through			400.400		
other comprehenvice income			439,192		-
Payments for property, plant and equipment	15		(323,635,831)		(472,292,699)
Proceeds from disposal of property, plant and equipment	15		18,852,879		39,422,188
Payments for intangible assets	17		(5,327,536)		(7,128,051)
Proceeds from disposal of intangible assets	17		1,150,856		31,289
Proceeds from disposal of investment properties			651,468		-
Settlement of derivatives			(10,065,392)		244,517
Net changes in other financial assets			(548,904)		(1,354,364)
Proceeds from disposal of other investment assets			464,540		-
Payments for investments in subsidiaries			(199,296,228)		(53,828,670)
Proceeds from disposal of investments in subsidiaries			-		498,442
Net cash outflow from investing activities			(594,820,651)		(344,257,337)
Cash flows from financing activities					
Net changes in short-term borrowings	39		(81,597,132)		(49,381,446)
Increase in long-term borrowings	39		-		113,084,000
Repayments of long-term borrowings	39		(110,011,000)		(480,000)
Issuance of debentures	39		316,598,145		-
Repayments of debentures	39		(536,028,600)		(130,425,000)
Repayments of current portion of long-term borrowings	39		(120,254,714)		(160,807,400)
Dividends paid to owners of the Parent Company	39		(49,541,072)		(49,541,072)
Increase in financial liabilities to non-controlling interests	39		4,750,000		-
Dividends paid to non-controlling Interests	39		(6,686,600)		(4,121,740)
Net cash outflow from financing activities			(582,770,973)		(281,672,658)
			_		
Net increase (decrease) in cash and cash equivalents			(54,051,674)	-	225,801,240
Cash and cash equivalents at the beginning of the year			694,151,216		465,349,713
Effects of exchange rate changes on cash and cash equivalents			(28,122,402)		3,000,263
Cash and cash equivalents at the end of the year		₩	611,977,140	₩	694,151,216
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1. General Information

General information of Hankook Tire 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:

1.1 The Group

The Group was spun off from Hankook Tire Worldwide Co., Ltd. (formerly, Hankook Tire Co., Ltd.) on September 1, 2012 to manufacture and sell tires, tubes and alloy wheels. The Group's headquarters is located at Kangnam-Gu, Seoul, and eight manufacturing factories are located in Korea, China, Hungary, Indonesia and USA, including its subsidiaries. On October 4, 2012, the Group was relisted on the Korea stock exchange.

As at December 31, 2018 and 2017, the Group's shareholders are as follows:

	20	18	20	17
	Number of shares	Percentage of ownership (%)	Number of shares	Percentage of ownership (%)
Hankook Tire Worldwide				
Co., Ltd.	37,408,655	30.20	37,162,521	30.00
Yang Rai Cho	7,019,903	5.67	7,019,903	5.67
Hyun Bum Cho	2,561,241	2.07	2,561,241	2.07
Hyun Shick Cho	799,241	0.65	799,241	0.65
Others ¹	76,086,029	61.41	76,332,163	61.62
	123,875,069	100	123,875,069	100

¹ Including 22,388 treasury shares as at December 31, 2018.

1.2 Consolidated Subsidiaries

Details of the consolidated subsidiaries as of December 31, 2018 and 2017, are as follows:

Name of entity	Location	Location Main business		Ownership interest held by the Group (%)		
			2018	2017		
Daehwa Engineering & Machinery Co., Ltd.	Korea	Manufacture of tire and tube manufacturing machine	95.0	95.0	December	
Hankook Tire America Corp.	USA	Sales of tires	100.0	100.0	December	
Hankook Tyre U.K. Ltd.	United Kingdom	Sales of tires	100.0	100.0	December	
Jiangsu Hankook Tire Co., Ltd.	China	Manufacture and sales of tires	100.0	100.0	December	
Hankook Tire China Co., Ltd.	China	Manufacture and sales of tires	100.0	100.0	December	
Shanghai Hankook Tire	China	Sales of tires	100.0	100.0	December	

Name of entity Location		Main business	Ownershi held by t	Closing month	
			2018	2017	
Sales Co., Ltd.					
Hankook Tire Netherlands B.V.	Netherlands	Sales of tires	100.0	100.0	December
Hankook Tire Japan Corp.	Japan	Sales of tires	100.0	100.0	December
Hankook Tire Canada Corp.	Canada	Sales of tires	100.0	100.0	December
Hankook Reifen Deutschland GmbH	Germany	Sales of tires	100.0	100.0	December
Hankook Tire France SARL	France	Sales of tires	100.0	100.0	December
Hankook Espana S. A.	Spain	Sales of tires	100.0	100.0	December
Hankook Tyre Australia Pty., Ltd.	Australia	Sales of tires	100.0	100.0	December
Hankook Tire Europe Holdings B.V.	Netherlands	Building European governance	100.0	100.0	December
Hankook Tire Hungary Ltd.	Hungary	Manufacture and sales of tires	100.0	100.0	December
Hankook Tire Budapest Kereskedelmi Kft	Hungary	Sales of tires	100.0	100.0	December
Hankook Tire Italia S.R.L.	Italy	Sales of tires	100.0	100.0	December
Hankook Tire Europe GmbH	Germany	Support to sales of tires	100.0	100.0	December
Hankook Tire Rus LLC	Russia	Sales of tires	100.0	100.0	December
Hankook Tire DE Mexico, S.A. DE C.V.	Mexico	Sales of tires	100.0	100.0	December
Chongqing Hankooktire Co., Ltd.	China	Manufacture and sales of tires	100.0	100.0	December
PT. HANKOOKTIRE INDONESIA.	Indonesia	Manufacture and sales of tires	99.9	99.9	December
MK Mold (Jiaxing) Co., LTD.	China	Manufacture and sales of tire mold	50.1	50.1	December
MK Technology Co., Ltd.	Korea	Manufacture and sales of tire mold	50.1	50.1	December
Hankook Tire Singapore PTE., Ltd.	Singapore	Trade and consulting	100.0	100.0	December
Hankook Tire Malaysia SDN.BHD.	Malaysia	Sales of tires	100.0	100.0	December
Hankook Tire India Ilp	India	Sales of tires	100.0	100.0	December
Hankook Tire Sweden AB	Sweden	Sales of tires	100.0	100.0	December
Beijing Jielun Trading Company Co.,Ltd.	China	Sales of tires	100.0	100.0	December
Hankook Lastikleri A.S.	Turkey	Sales of tires	100.0	100.0	December
Hankook Tire Polska Sp. z	Poland	Sales of tires	100.0	100.0	December
o.o. Hankook Tire Thailand					
Co.,Ltd. Hankook Tire de Colombia	Thailand	Sales of tires	99.9	99.9	December
Ltda.	Colombia	Sales of tires	100.0	100.0	December
Hankook Tire Manufacturing	USA	Manufacture and	100.0	100.0	December

Name of entity	Location	Main business	Ownershi held by t	Closing month	
			2018	2017	
Tennessee LP		sales of tires			
Hankook Tire America Holdings I, LLC	USA	Building American governance	100.0	100.0	December
Hankook Tire America Holdings II, LLC	USA	Building American governance	100.0	100.0	December
MK Technology (CHONGQING) Mould Co., Ltd.	China	Manufacture and sales of tire mold	50.1	50.1	December
Hankook Tire Ceska Republika s.r.o.	Czech	Sales of tires	100.0	100.0	December
Hankook Donggeurami Partners Co., Ltd.	Korea	Facilities management service, baking	100.0	100.0	December
Hankook Tyre Australia Retail Pty., Ltd.	Australia	Distribution of tires	100.0	100.0	December
JAX Quickfit Franchising Systems Unit Trust.	Australia	Distribution of tires	100.0	100.0	December
JAX Quickfit Franchising Systems Pty Ltd.	Australia	Distribution of tires	100.0	100.0	December
JAX Quickfit Properties Pty Ltd.	Australia	Distribution of tires	100.0	100.0	December
Hankook Tire Latam, S.A.	Panama	Trade and consulting	100.0	100.0	December
Hankook Tire Latin America Distribution Center, S.A.	Panama	Sales of tires	100.0	100.0	December
Hankook Tire Ukraine LLC	Ukraine	Sale of tires	100.0	-	December
KCG 1 Private Equity Fund Limited Partnership	Korea	Collective investment	80.0	-	December
Model Solution Co.,Ltd.	Korea	Manufacture of injection molds	75.0	-	December
ModelSolution Inc.	USA	Computer printing	75.0	-	December
Reifen-Muller KG	Germany	Distribution of tires	100.0	-	December
Reifen-Muller GmbH & Co. Runderneuerungswerk KG	Germany	Distribution of tires	100.0	-	December
Rm Verwaltungs GmbH	Germany	Building European governance	100.0	-	December

1.3 Changes in Scope for Consolidation

Subsidiaries newly included in the consolidation during the year ended December 31, 2018, are as follow, and there are no subsidiaries excluded from consolidation:

Subsidiary	Reason
Hankook Tire Ukraine LLC	Newly established
KCG 1 Private Equity Fund Limited Partnership	Newly established
Model Solution Co.,Ltd.	Newly acquired
ModelSolution Inc.	Newly acquired
Reifen-Muller KG	Newly acquired
Reifen-Muller GmbH & Co. Runderneuerungswerk KG	Newly acquired
Rm Verwaltungs GmbH	Newly established

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, 2018.

- Amendment to Korean IFRS 1028 Investments in Associates and Joint Ventures

When an investment in an associate or a joint venture is held by, or is held indirectly through, an entity that is a venture capital organization, or a mutual fund, unit trust and similar entities including investment-linked insurance funds, the entity may elect to measure each investment separately at fair value through profit or loss in accordance with Korean IFRS 1109. The amendment does not have a significant impact on the financial statements because the Group is not a venture capital organization.

- Amendment to Korean IFRS 1040 Transfers of Investment Property

The amendment to Korean IFRS 1040 clarifies that a transfer to, or from, investment property, including property under construction, can only be made if there has been a change in use that is supported by evidence, and the list of evidence for a change of use in the standard was recharacterized as a non-exclusive list of example. The amendment does not have a significant impact on the financial statements.

- Amendment to Korean IFRS 1102 Share-based Payment

Amendments to Korean IFRS 1102 clarify accounting for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. Amendments also clarify that the measurement approach should treat the terms and conditions of a cash-settled award in the same way as for an equity-settled award. The amendment does not have a significant impact on the financial statements.

- Enactment of Interpretation 2122 Foreign Currency Transaction and Advance Consideration

According to the enactment, the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income (or part of it) is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration. The enactment does not have a significant impact on the financial statements.

- Korean IFRS 1109 Financial Instruments

The Group has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures have not been restated, and the differences between previous book amounts and book amounts at the date of initial application are recognized to equity. See Note 43 for further details on the impact of the application of the standard.

- Korean IFRS 1115 Revenue from Contracts with Customers

The Group has applied to apply Korean IFRS 1115 *Revenue from Contracts with Customers*. In accordance with the transition provisions in Korean IFRS 1115, comparative figures have not been restated. The Group elected the modified retrospective approach, and recognized the cumulative impact of initially applying the revenue standard as an adjustment to retained earnings as at January 1, 2018, the period of initial application. See Note 43 for further details on the impact of the application of the standard.

(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 annual reporting period commencing January 1, 2018 and have not been early adopted by the Group are set out below.

- Korean IFRS 1116 Leases

Korean IFRS 1116 *Leases* issued on May 22, 2017 is effective for annual periods beginning on or after January 1, 2019, with early adoption permitted. This standard will replace Korean IFRS 1017 *Leases*. The Group will apply the standards for annual periods beginning on or after January 1, 2019.

Under the new standard, with implementation of a single lease model, lessee is required to recognize assets and liabilities for all lease which lease term is over 12 months and underlying assets are not low value assets. A lessee is required to recognize a right-of-use asset and a lease liability representing its obligation to make lease payments.

The Group performed an impact assessment to identify potential financial effects of applying Korean IFRS 1116. The Group is analyzing the effects on the financial statements based on available information as at December 31, 2018 to identify effects on 2018 financial statements; however, it is difficult to provide reasonable estimates of financial effects until the analysis is complete.

- Korean IFRS 1109 Financial Instruments

The narrow-scope amendments made to Korean IFRS 1109 *Financial Instruments* enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted.

- Amendments to Korean IFRS 1019 Employee Benefits

The amendments require that an entity shall calculate current service cost and net interest for the remainder of the reporting period after a plan amendment, curtailment or settlement based on updated actuarial assumptions from the date of the change. The amendments also require that a reduction in a surplus must be recognized in profit or loss even if that surplus was not previously recognized because of the impact of the asset ceiling. The amendments are effective for plan amendments, curtailments and settlements occurring in reporting periods that begin on or after January 1, 2019.

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

The amendments clarify that an entity shall apply Korean IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted. In accordance with the transitional provisions in Korean IFRS 1109, the restatement of the comparative information is not required and the cumulative effects of initially applying the amendments retrospectively should be recognized in the beginning balance of retained earnings (or other components of equity, as appropriate) at the date of initial application.

- Enactment to Interpretation of Korean IFRS 2123 Uncertainty over Income Tax Treatments

The Interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed. This Interpretation will be applied for annual periods beginning on or after January 1, 2019, and an entity can either restate the comparative financial statements retrospectively or recognize the cumulative effect of initially applying the Interpretation as an adjustment in the beginning balance at the date of initial application.

- Annual Improvements to Korean IFRS 2015 2017 Cycle:
- Korean IFRS 1103 Business Combination

The amendments clarify that when a party to a joint arrangement obtains control of a business that is a joint operation, and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. In such cases, the acquirer shall remeasure its entire previously held interest in the joint operation. These amendments will be applied to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early adoption permitted.

· Korean IFRS 1111 Joint Agreements

The amendments clarify that when a party that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business. In such cases, previously held interests in the joint operation are not remeasured. These amendments will be applied to transactions in which an entity obtains joint control on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early adoption permitted.

· Paragraph 57A of Korean IFRS 1012 Income Tax

The amendment is applied to all the income tax consequences of dividends and requires an entity to recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized those past transactions or events. These amendments will be applied for annual reporting periods beginning on or after January 1, 2019, with early adoption permitted.

· Korean IFRS 1023 Borrowing Costs

The amendments clarify that if a specific borrowing remains outstanding after the related qualifying asset is ready for its intended use (or sale), it becomes part of general borrowings. These amendments will be applied to borrowing costs incurred on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early adoption permitted.

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.

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A changed in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interest to reflect their relative interest in the subsidiary. Any difference between the amount of the adjustment to non-controlling interest and any consideration paid or received is recognized in a separate reserve within equity attributable to owners of the Parent Company.

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value with the changed in carrying amount recognized in profit or loss.

(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.

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 Group'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. They are deferred in other comprehensive income if they relate to qualifying cash flow hedges and qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit or loss, within finance costs. All other foreign exchange gains and losses are presented in the statement of profit or loss within 'other income or other expenses'.

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 held at fair value through other comprehensive income are recognized in other comprehensive income.

(c) Translation to the presentation currency

The results and financial position of foreign operations that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period,
- · income and expenses for each statement of profit or loss are translated at average exchange rates, and
- · All resulting exchange differences are recognized in other comprehensive income.

When the Group ceases to control a subsidiary, exchange differences that were recorded in equity are recognized in the consolidated statements of comprehensive income as part of the gain or loss on sale.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the Group, and translated at the closing rate at the end of the reporting period.

2.5 Financial Assets

(a) Classification

From January 1, 2018, the Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- · those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

(b) Measurement

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.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

A. Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

Amortized cost: Assets that are held for collection of contractual cash flows where those
cash flows represent solely payments of principal and interest are measured at amortized
cost. A gain or loss on a debt investment that is subsequently measured at amortized cost
and is not part of a hedging relationship is recognized in profit or loss when the asset is
derecognized or impaired. Interest income from these financial assets is included in
'finance income' using the effective interest rate method.

- Fair value through other comprehensive income: Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other income or expenses' and impairment losses are presented in 'other expenses'.
- Fair value through profit or loss: Assets that do not meet the criteria for amortized cost or
 fair value through other comprehensive income are measured at fair value through profit
 or loss. A gain or loss on a debt investment that is subsequently measured at fair value
 through profit or loss and is not part of a hedging relationship is recognized in profit or loss
 and presented net in the statement of profit or loss within 'other income or expenses' in
 the year in which it arises.

B. Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other income and expenses' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

(c) Impairment

The Group assesses on a forward looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables and lease receivables, the Group applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables. (Note 42 provides more detail of how the Group determines there has been a significant increase in credit risk.)

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on tradedate, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

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.

(e) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the 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 as 'other non-operating income (expenses)' or 'finance income (costs)' based on the nature of transactions.

2.7 Trade Receivables

Trade receivables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method, less loss allowance. (See Note 9 for further information about the Group's accounting for trade receivables and Note 42 for a description of the Group's impairment policies)

2.8 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the following method:

Type of inventory

Costing method

Finished goods and work in process
Raw materials, merchandise and supplies
Materials in transit

Weighted-average method

Moving-weighted average method

Specific identification method

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

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

2.10 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:

Useful lives

Buildings	13 - 60 years
Structures	2~50
Machinery	2~18
Vehicles	2~10
Tools, furniture and fixtures	2~30
Molds	8

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

2.11 Borrowing Costs

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

2.12 Government Grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions. Government grants related to assets are presented in the statement of financial position either by deducting the grant in arriving at the carrying amount of the asset, and government grants related to costs are deferred and recognized in the profit or loss over the period necessary to match them with the costs that they are intended to compensate.

2.13 Intangible Assets

Goodwill is measured as described in Note 2.3.(a), and carried at cost less accumulated impairment losses.

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

Software development costs that are internally generated by the Group are recognized as intangible assets when the criteria including technical feasibility and probability of generating future economic benefits are met. Membership rights are regarded as intangible assets with indefinite useful life and not amortized 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 5 - 10 years
Other intangible assets and others 3 - 50 years

2.14 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 of 40 years.

2.15 Impairment of Non-financial Assets

Goodwill and 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.

2.16 Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

2.17 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 separated 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.

Preferred shares that require mandatory redemption at a particular date are classified as liabilities. Interest expenses on these preferred shares using the effective interest method are recognized in the statement of profit or loss as 'finance costs', together with interest expenses recognized from other financial liabilities.

(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. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

2.18 Financial Guarantee Contracts

Financial guarantee contracts are recognized as a financial liability at the time the guarantee is issued. The liability is initially measured at fair value, subsequently at the higher of following and recognized in the statement of financial position within 'other financial liabilities'.

- the amount determined in accordance with the expected credit loss model under Korean IFRS 1109 Financial Instruments and
- the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with Korean IFRS 1115 Revenue from Contracts with Customers

2.19 Provisions

Provisions for service warranties, make good obligation, and legal claims are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. 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.

2.20 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Current 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.

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

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.

2.21 Employee Benefits

(a) Post-employment benefits

The Group operates both defined contribution and defined benefit pension plans.

For defined contribution plans, the Group pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The Group has no further payment obligation once the contribution have been paid. The contribution are recognized as employee benefit expense when they are due.

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.

2.22 Revenue Recognition

From January 1, 2018, the Group has applied Korean IFRS 1115 Revenue from Contracts with Customers.

(a) Identification of performance obligation

For the product sales contract, the Group separates contracts to identify a performance obligation from service rendered, apart from sales of goods or products. The Group determines standard warranty coverage periods per product and customer considering warranty periods required by law and others when entering into contracts with customers for the sales of products. If the Group provides an extended warranty beyond the standard warranty coverage period or a customer has the option to purchase an additional warranty separately, the warranty is recognized as revenue by identifying a separate performance obligation.

(b) Performance obligation at point in time

Revenue from sale of goods is recognized when products are delivered to the purchaser. Delivery occurs when the goods have been transferred to the specific location, the risks of obsolescence and loss have been transferred to the purchaser, and either the purchaser has accepted the goods in accordance with the sales contract, the acceptance provisions have lapsed, or the Group has objective evidence that all criteria for acceptance have been satisfied.

The products are often sold with volume discounts and customers have a right to return faulty products. Accumulated experience is used to estimate and provide for the discounts and returns. The volume discounts are assessed based on anticipated annual purchases. The Group recognizes provisions for product warranties based on reasonable expectation reflecting warranty obligation rates incurred historically.

(c) Significant financial components

In general, the period between when the Group transfers a promised good or service to a customer and when the customer pays for that good or service is one year or less. In this case, the Group applies a practical expedient that does not adjust the promised amount of consideration for the effects of a significant financing component.

2.23 Segment Reporting

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 Board of Directors that makes strategic decisions.

2.24 Approval of Issuance of the Financial Statements

The consolidated financial statements 2018 were approved for issue by the Board of Directors on March 12, 2019 and are subject to change with the approval of shareholders at their Annual General Meeting.

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

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. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

(a) Estimated goodwill impairment

The Group tests whether goodwill has suffered any impairment on an annual basis. The recoverable amount of a cash generating unit (CGU) is determined based on value-in-use calculations (Note 17).

(b) 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.

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.

(c) 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 5).

(d) Impairment of financial assets

The provision for impairment for financial assets are based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period (Note 42).

(e) 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 23).

(f) Provisions

The Group recognizes provision for warranty on products sold. The Group accrues provision for warranty based on the best estimate of amounts necessary to settle future and existing claims. The amounts are estimated based on past experience.

(g) Valuation of inventories

Inventories are stated at the lower of cost and net realizable value. Estimates of net realizable value are based on the most reliable evidence available at the time the estimates are made, of the amount the inventories are expected to realize. These estimates take into consideration fluctuations of price or cost directly relating to past experience, current market conditions and events occurring after the end of the period to the extent that such events confirm conditions existing at the end of the period.

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 consolidated financial statements. The Group is not subject to any externally imposed capital requirements.

The debt ratios as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018		2017
Total liabilities	₩ 3,006,129,279	₩	3,145,279,906
Total equity	6,790,312,968		6,373,506,245
Debt ratio	44.3%		49.3%

- (b) The significant accounting policies and methods (including recognition, measurement and related gain and loss recognition) adopted for the Group's financial assets, financial liabilities and equity are detailed in Note 2. Financial instrument category for financial assets and financial liabilities at the end of the reporting period are detailed in Note 6.
- (c) 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 reports the details quarterly to Financial 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 are 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 sensitivity analysis includes monetary items denominated in foreign currencies.

The table below summarizes the impact of weakened/strengthened Korean won on the Group's profit before tax for the year. The analysis is based on the assumption that Korean won has weakened/strengthened by 10% with all other variables held constant.

(in thousands of Korean won)		2018	2017		
Weakened	₩	29,409,090	₩	19,427,808	
Strengthened		(29,409,090)		(19,427,808)	

In order to reduce the impact of changes in exchange rates on future cash flows, the Group entered into foreign currency forward contracts. The outstanding forward contracts as at December 31, 2018 are as follows:

(in thousands of Korean won, USD, CNY, THB,MYR,INR)	Maturity date	Selling currency (A)	Selling amount	Contract exchange rate(B/A)	Buying Currency (B)	Contractual inflow amount
Bank of America and others	2019-11-13	USD	210,000	1,107.5	5 KRW	232,585,500
Credit Agricole and others	2019-08-29	CNY	1,223,000	162.4	9 KRW	198,721,430
ING and others	2019-08-29	USD	210,004	0.8	3 EUR	174,779
Deutsche Bank and others	2019-04-12	THB	45,399	0.0	3 USD	1,386
JPM-MY and others	2019-06-21	MYR	41,984	0.2	4 USD	10,120
JPM	2019-06-21	INR	103,200	0.0	1 USD	1,415

The Group entered in a currency swap contract for which the Group receives and pays with fixed exchange rate and interest rate when settling principal and interest on foreign currency long-term

debentures issued in the current period. The Group applies accounting for cash flow hedges on the derivatives, and the details are as follows:

(in thousands of USD)	Contract amount	Contract exchange rate	KRW interest rate_pay (%)	Foreign currency interest rate_receive (%)	Contract commencement date	Contract end date
Korea Development Bank	300,000 (total principal)	1061.5~1071.9	2.61~2.64	3.50	2018.01.25~2018.01.30	2023.01.30

For currency swap contract, gains on valuation after tax of derivatives recognized in other comprehensive income amount to \$5,432,248 thousand (Note 8), and gains on valuation of derivatives amount to \$147,940 thousand and losses on valuation of derivatives amount to \$2,279,012 thousand are recognized in profit or loss for the year ended December 31, 2018.

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.

The table below summarizes the impact of increases/decreases of interest rate in borrowings with floating interest rate on the Group's pre-tax profit for the year. The analysis is based on the assumption that the interest rate has increased/decreased by 10 basis point with all other variables held constant.

(in thousands of			Impact on profit before tax				
Korean v	von)		2018		2017		
10 bp	Increase	₩	31,254	₩	(45,732)		
	Decrease		(31,254)		45,732		

In order to reduce the impact of changes in interest rates, the Group entered into interest rate swap contracts. A summary of the terms of outstanding interest rate swap contracts as at December 31, 2018 is as follows:

(in thousands of USD)	Contract date	Due date	Notional amount _	Agreed interest rate(%)	
				Buy	Sell
Bank of America	2016-12-13	2019-06-13	80,000	3M Libor	1.33
JP Morgan	2017-03-13	2020-02-13	50,000	1M Libor	1.75
JP Morgan	2017-03-13	2020-03-13	50,000	1M Libor	1.78
			180,000		

For interest rate swap contracts, gains on valuation of derivatives amount to \\$593,795 thousand (2017: \\$2,270,864 thousand) and losses on valuation of derivatives amount to \\$126,349 thousand (2017: \\$\\$\dagger\$-) is recognized in profit or loss for the year ended December 31, 2018.

c) Other price risks

The Group is exposed to equity securities 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 below sensitivity analysis was performed based on stock price fluctuation risk at the end of the reporting period.

- If the equity securities price has increased/decreased by 5%, the Group's other comprehensive income would be increased/decreased by ₩2,258,809 thousand (2017: ₩174,054 thousand) due to changes in financial assets at fair value.

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 Financial 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.

4) Liquidity risk management

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. Note 40 explains details of unused balances of credit facility agreements entered through the Group's discretion to reduce the liquidity risk.

a) Details of liquidity and interest rate risk

The table below discloses remaining contractual maturity of non-derivative financial liabilities and derivatives which will be settled net in cash in detail. Derivatives which will be settled net in cash consist of interest swap contract to manage interest risk of the Group. The table below is prepared based on undiscounted cash flow of non-derivative financial liabilities. Contractual maturity is based on the earliest day when the payment can be claimed to the Group.

(in thousands of Korean		2018											
won)			Co	ontractual cash				Residual	amo	unt			
	В	ook amount		flows	W	Within 1 year		to 2 years	2 to 5 years		O۱	ver 5 years	
Trade payables	₩	423,316,782	₩	423,316,782	₩	423,316,782	₩	-	₩	-	₩	-	
Non-trade payables		282,179,726		282,179,726		282,179,726		-		-		-	
Accrued expenses		225,694,136		225,694,136		225,694,136		-		-		-	
Dividends payable		17,978		17,978		17,978		-		-		-	
Leasehold deposits													
received		3,941,121		3,941,121		2,772,000		1,149,121		20,000		-	
Short-term borrowings		811,473,548		813,286,898		813,286,898		-		-		-	
Long-term borrowings		238,447,415		269,728,022		35,002,868		67,342,139		74,266,145		93,116,869	
Debentures		582,461,150		645,225,850		17,312,550		263,133,175		364,780,125			
	₩	2,567,531,856	₩	2,663,390,513	₩	1,799,582,938	₩	331,624,435	₩	439,066,270	₩	93,116,869	

(in thousands of Korean		2017										
won)			Со	ntractual cash			Residual amount					
	Вс	ook amount		flows	Within 1 year		1 to 2 years		years 2 to 5 years		Over 5 year	
Trade payables	₩	382,686,120	₩	382,686,120	₩	382,686,120	₩	-	₩	-	₩	-
Non-trade payables		247,764,124		247,764,124		247,764,124		-		-		-
Accrued expenses		234,274,369		234,274,369		234,274,369		-		-		-
Dividends payable		24,314		24,314		24,314		-		-		-
Leasehold deposits												
received		4,104,943		4,104,943		2,753,000		1,311,943		40,000		-
Short-term borrowings		866,387,152		868,019,489		868,019,489		-		-		-
Long-term borrowings		332,009,310		348,540,527		125,309,873		4,789,158		218,441,496		-
Debentures		775,063,062		830,855,708		261,443,319		10,589,152		265,971,623	:	292,851,614
	₩	2,842,313,394	₩	2,916,269,594	₩ :	2,122,274,608	₩ ′	16,690,253	₩	484,453,119	₩ ;	292,851,614

As at December 31, 2018, gross settlement contracts consist of currency forward contract, which will be settled within 11 months. This contract is not included in above table and non-discounted contractual cash inflow/outflow from the contract is as follows:

(in thousands of Korean won)		2018		2017			
Contractual cash inflow	₩	669,324,249	₩	390,131,705			
Contractual cash outflow		673,762,619		389,787,960			

5. Fair Value

For the year ended December 31, 2018, there were no changes in business environment and economic environment that have significant impacts on the fair value of assets and liabilities of the Group.

5.1 Fair Value of Financial Instruments by Category

Carrying amount and fair value of financial instruments by category as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017					
	Carryin	_	air value	Carrying amount	Fa	ir value			
	amoun		all value		amount	1 0	iii value		
Financial assets									
Available-for-sale financial									
assets	₩	- ₩	-	₩	4,387,494	₩	4,387,494		
Financial assets at fair value									
through other									
comprehensive income	46,083	3,106	46,083,106		-		-		
Financial assets at fair value									
through profit or loss	1,500	0,000	1,500,000		-		-		
Financial derivative assets	13,256	5,235	13,256,235		5,797,210		5,797,210		
Financial liabilities									
Financial derivative liabilities	8,458	3,588	8,458,588		3,080,677		3,080,677		

Financial assets including trade and non-trade receivables, and financial liabilities at amortized cost whose carrying amount is a reasonable approximation of fair value are excluded from the fair value disclosures.

5.2 Fair value Hierarchy

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).

Fair value hierarchy classifications of the financial instruments that are measured at fair value or its fair value is disclosed as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018									
		Level 1	Level 2	Level 3		Total					
Recurring fair value											
measurements											
Financial assets at fair value											
through other	₩	46,083,106 ₩	- ₩	-	₩	46,083,106					
comprehensive income											
Financial assets at fair value				1,500,000		1,500,000					
through profit or loss		-	-	1,500,000		1,300,000					
Financial derivative assets		-	13,256,235	-		13,256,235					
Financial derivative liabilities		-	8,458,588	-		8,458,588					
(in thousands of Korean won)			2017								
		Level 1	Level 2	Level 3		Total					
Recurring fair value											
measurements											
Available-for-sale financial	₩	4,387,494 ₩	- ₩		₩	4,387,494					
assets	vv	4,367,494 W	- vv	-	۷V	4,367,494					
Financial derivative assets		-	5,797,210	-		5,797,210					
Financial derivative liabilities		-	3,080,677	-		3,080,677					

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

The Group's policy is to recognize transfers between levels of the fair value at the date of the event or change in circumstances that caused the transfer. There were no transfers between levels of each fair value hierarchy of financial instrument during the reporting period.

5.4 Valuation Technique and the Inputs

Valuation techniques and inputs used in level 2 fair value measurements are as follows:

				2018	
(in thousands of Korean won)	F	air value	Level	Valuation techniques	Inputs
Financial derivative assets					
Interest rate swap	₩	1,513,022	2	Option pricing model	Underlying asset price, credit risk adjusted discount rate, underlying asset variability
Currency swap		7,722,999	2	Discounted cash flow model	Discount rate, exchange rate
Currency forward contract Financial derivative liabilities		4,020,214	2	Discounted cash flow model	Discount rate, exchange rate
Currency forward contract		8,458,588	2	Discounted cash flow model	Discount rate, exchange rate
Financial assets at fair value comprehensive income	e thi	rough other			
Beneficiary certificates		1,500,000	3	Net asset value	recent transactions
				2017	
(in thousands of Korean won)	F	air value	Level	Valuation techniques	Inputs
Financial derivative assets					
Interest rate swap	₩	2,372,783	2	Option pricing model	Underlying asset price, credit risk adjusted discount rate, underlying asset variability
Currency forward contract Financial derivative liabilities		3,424,427	2	Discounted cash flow model	Discount rate, exchange rate
Currency forward contract		3,080,677	2	Discounted cash flow model	Discount rate, exchange rate

6. Financial Instrument by Category

6.1 Carrying Amounts of Financial Instruments by Category

Categorizations of financial assets and liabilities as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

•	,		2018		2017
Financial assets					
Financial assets at fair	Financial assets at fair				
value	value through other				
	comprehensive income	₩	46,083,106	₩	-
	Financial assets at fair				
	value through profit or loss		1,500,000		-
	Available-for-sale financial				
	assets		-		4,387,494
	Financial derivative assets		13,256,235		5,797,210
Financial assets at	Cash and cash equivalents		611,977,139		694,151,216
amortized cost	Short-term financial assets		27,568,027		4,343,731
	Trade receivables		1,225,997,611		1,157,746,639
	Non-trade receivables				
	(current)		100,549,606		92,225,063
	Non-trade receivables (non-				
	current)		1,086,846		972,439
	Accrued income		6,134,208		4,033,356
	Deposits provided		13,913,339		12,434,163
	Short-term loans		21,789,271		4,345,407
	Long-term loans		7,859,660		11,459,847
	Long-term financial assets		59,288		60,995
		₩	2,077,774,336	₩	1,991,957,560

(in thousands of Korea	nn won)				
			2018		2017
Financial liabilities Financial liabilities at					
fair value	Financial derivative liabilities	₩	8,458,588	₩	3,080,677
Financial liabilities	Trade payables		423,316,782		382,686,120
at amortized cost	Non-trade payables		282,179,726		247,764,124
	Accrued expenses		225,694,136		234,274,369
	Dividends payable		17,978		24,314
	Borrowings (current)		299,939,052		580,307,192
	Borrowings (non-current)		788,579,777		739,391,689
	Leasehold deposits received				
	(current)		2,772,000		2,753,000
	Leasehold deposits received				
	(non-current)		1,169,121		1,351,943
	Non-controlling interests		4,750,000		-
	Collateral loan on trade				
	receivables1		543,863,284		-
	Other financial liabilities		20,631,939		-
Other financial	Collateral loan on trade				
liabilities	receivables ²	-			653,760,643
		₩	2,601,372,383	₩	2,845,394,071

¹ The associated liability is measured in such a way that the net carrying amount of the transferred asset and the associated liability is the amortized cost of the rights and obligations retained by the transferrer as the transferred asset is measured at amortized cost.

² Other financial liabilities relate to transfers of financial liabilities not qualify for derecognition that is not subject to categorization of financial liabilities.

6.2 Net Gains or Losses by Category of Financial Instruments

Net gains or losses on each category of financial instruments for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

(2018	2017
Financial derivative assets, liabilities		
Gains (losses) on valuation of derivatives	₩ (6,266,974)	₩ 666,742
Losses on transaction of derivatives	(11,676,859)	(1,184,238)
Cash flow hedges (after tax other		
comprehensive income)	(5,432,248)	-
Available-for-sale financial assets		
Gains on valuation (after tax other		
comprehensive income)	-	924,537
Losses on disposal	-	(108)
Impairment loss	-	(100,000)
Equity instruments at fair value through other		
comprehensive income		
Losses on valuation (after tax other		
comprehensive income)	(8,964,269)	-
Debt instruments at fair value through other		
comprehensive income		
Losses on disposal	(19,618)	-
Financial assets at amortized cost		
Interest income	13,614,025	11,890,324
Gains (losses) on foreign currency transaction	44,486,232	(53,865,215)
Losses on foreign currency translation	(6,418,534)	(44,053,961)
Impairment loss	(2,324,635)	(622,975)
Financial liabilities at amortized cost		
Interest expense	(57,031,424)	(36,561,997)
Gains (losses) on foreign currency transaction	(33,576,665)	12,764,060
Gains on foreign currency translation	8,050,825	15,940,657
Other financial liabilities		
Interest expense	-	(22,085,118)
Gains on foreign currency transaction	-	16,658,177
Gains on foreign currency translation		25,530,923
	₩ (65,560,143)	₩ (74,098,192)

7. Financial Assets

7.1 Financial Assets at Fair Value through Profit or Loss

As explained in Note 2, the Group has applied Korean IFRS 1109 *Financial Instruments* from January 1, 2018. See Note 43 for the impact of the changes in accounting policies on the classification of financial assets and financial statements.

(a) Equity instruments at fair value through profit or loss

There are no equity instruments at fair value through profit or loss held by the Group as at December 31, 2018.

(b) Debt instruments at fair value through profit or loss

Debt instruments at fair value through profit or loss as at December 31, 2018 and 2017, are as follows:

 (in thousands of Korean won)
 2018
 2017

 Non-current
 W
 1,500,000
 ₩

 Beneficiary certificates
 ₩
 1,500,000
 ₩

 ₩
 1,500,000
 ₩

7.2 Financial Assets at Fair Value through Other Comprehensive Income

(a) Equity instruments at fair value through other comprehensive income

Equity instruments at fair value through other comprehensive income as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017 ¹
Non-current				
Listed shares and others ¹	₩	46,083,106	₩	4,387,494
	₩	46,083,106	₩	4,387,494

¹In the prior financial year, the Group had designated equity investments as available-for-sale when the management intended to hold them for the medium to long-term.

Upon disposal of these equity investments, the accumulated other comprehensive income for these equity investments is reclassified to retained earnings and is not reclassified to profit or loss.

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

There are no debt instruments at fair value through other comprehensive income held by the Group as at December 31, 2018. Upon disposal of the debt instruments, the accumulated other comprehensive income is reclassified to profit or loss.

8. Derivative Financial Instruments

Details of financial assets (liabilities) at fair value through profit or loss in the Group's derivative financial instruments as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018				2017					
	Assets		Liabilities		Assets		Liabilities			
Interest rate swap	₩	1,513,022	₩	-	₩	2,372,783	₩	-		
Currency forward contracts		4,020,214		8,458,588		3,424,427		3,080,677		
	₩	5,533,236	₩	8,458,588	₩	5,797,210	₩	3,080,677		

Details of derivative financial instruments applying cash flow hedge accounting as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018			2017				
		Assets	Liabilities		Assets		Liabilities		
Cash flow hedges (currency swap) ¹	₩	7,722,999	₩	_	₩	_	₩ -	_	

¹ As a result of applying cash flow hedge accounting, recognized in other comprehensive income after tax for the year ended December 31, 2018 is as follows:

(in thousands of Korean won)			2018				
ŕ	_	es in value of tive (after tax)	Line items in the statements of profit or loss	am	Reclassified nount in profit loss(after tax)	other co ir	red amount in mprehensive ncome iter tax)
	₩	7,144,201	Interest expense and Foreign exchange differences	₩	(12,576,449)	₩	(5,432,248)

9. Trade and Other Receivables

Details of trade and other receivable as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)				2018		
	G	ross amount		Less: Loss allowance		Net amount
Current						
Trade receivables	₩	1,235,154,547	₩	(9,156,936)	₩	1,225,997,611
Non-trade receivables		100,656,817		(107,211)		100,549,606
Accrued income		6,134,208		-		6,134,208
	₩	1,341,945,572	₩	(9,264,147)	₩	1,332,681,425
Non-Current				<u> </u>		
Non-trade receivables	₩	1,086,846		<u> </u>		1,086,846
(in thousands of Korean won)				2017		
	G	ross amount		Less: Loss allowance		Net amount
Current						
Trade receivables	₩	1,165,137,739	₩	(7,391,100)	₩	1,157,746,639
Non-trade receivables		92,336,131		(111,068)		92,225,063
Accrued income		4,033,356		-		4,033,356
	₩	1,261,507,226	₩	(7,502,168)	₩	1,254,005,058
Non-Current						
Non-trade receivables	₩	972,439		-		972,439

Movements on the provision for impairment of trade receivables and other receivables for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018							
	Trade receivables			Non-trade receivables		Total		
Beginning balance Business combination and	₩	7,391,101	₩	111,068	₩	7,502,169		
others		651,344		-		651,344		
Impairment loss		1,744,311		15,324		1,759,635		
Write-offs		(135,934)		(24,284)		(160,218)		
Exchange differences		(493,886)		5,103		(488,783)		
Ending balance	₩	9,156,936	₩	107,211	₩	9,264,147		

(in thousands of Korean won)	2017						
	Trad	e receivables		Non-trade receivables		Total	
Beginning balance Impairment loss (reversal)	₩	8,517,110 669,743	₩	134,834 (46,768)	₩	8,651,944 622,975	
Write-offs		(1,476,926)		(10,840)		(1,487,766)	
Exchange differences Ending balance	₩	(318,827) 7,391,100	₩	33,842 111,068	₩	(284,985) 7,502,168	

Credit risk and loss allowance

The above trade and other receivables are measured at amortized cost. Changes in loss allowance of trade and other receivables for the year ended December 31, 2018 are not significant. The Group considers changes in credit ratings of trade receivables from the commencement date of the credit granting to the end of the reporting period in determining the recoverability of the trade receivables.

10. Inventories

Details of inventories as at December 31, 2018 and 2017 are as follows:

Korean won) Inventory valuation allowance Exchange differences Valuation loss (reversal) Finished goods ₩ 1,095,625,846 ₩ 1,087,671,532 ₩ 7,954,314 ₩ 227,888 ₩(23,343,343) Work in process 43,102,021 43,102,021 (847,353) Raw materials 324,527,075 324,527,075 (847,353) Supplies 37,914,898 37,914,898 Materials in transit 105,256,039 105,256,039 ₩(24,190,696) ₩ 1,606,425,879 ₩ 1,598,471,565 ₩ 7,954,314 ₩ 227,888 ₩(24,190,696)
Work in process 43,102,021 43,102,021 - - - Raw materials 324,527,075 324,527,075 - - (847,353) Supplies 37,914,898 37,914,898 - - - - Materials in transit 105,256,039 105,256,039 - - - -
Raw materials 324,527,075 324,527,075 - - (847,353) Supplies 37,914,898 37,914,898 - - - - Materials in transit 105,256,039 105,256,039 - - - -
Supplies 37,914,898 37,914,898 - - - Materials in transit 105,256,039 105,256,039 - - - -
Materials in transit105,256,039
<u>₩ 1,606,425,879</u> <u>₩ 1,598,471,565</u> <u>₩ 7,954,314</u> <u>₩ 227,888</u> <u>₩(24,190,696)</u>
(in thousands of December 31, 2017 2017
Korean won) Inventory
Inventory valuation Exchange Valuation loss Acquisition cost valuation allowance differences (reversal)
Finished goods
Work in process 40,620,698 40,620,698
Raw materials 356,302,413 355,455,060 847,353 (36,321) 216,946
Supplies 31,005,128
Materials in transit119,544,71119,544,711
₩ 1,526,308,285 ₩ 1,494,391,162 ₩ 31,917,123 ₩ (2,462,154) ₩ 24,327,735

The Group recognizes loss from inventory valuation and inventory shrinkage as expenses in the year in which the loss occurs. In addition, reversal of inventory write-downs due to an increase in the net realizable value of inventory assets is deducted from cost of sales recognized as an expense in the year in which the reversal occurs.

11. Other Financial Assets

Details of other financial assets as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		20	18			20	17	
		Current	N	on-current		Current	N	on-current
Loans Guarantee deposits	₩	21,789,271	₩	7,859,660	₩	4,345,407	₩	11,459,847
provided Financial derivative		2,531,493		11,381,846		2,576,859		9,857,304
assets		4,421,477		8,834,758		4,751,634		1,045,576
	₩	28,742,241	₩	28,076,264	₩	11,673,900	₩	22,362,727

12. Other Assets

Details of other assets as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		20	18			20	17	
		Current	N	on-current		Current	N	on-current
Advance payments Prepaid expenses Net defined benefit	₩	9,188,610 19,170,698	₩	52,150,587 30,761,742	₩	7,488,420 20,770,599	₩	54,656,497 32,668,820
assets Others		- 25,388,446		- 148,178		- 47,622,671		11,690,944 640
3	₩	53,747,754	₩	83,060,507	₩	75,881,690	₩	99,016,901

13. Investment in Associates

Details of the Group's investment in associates as at December 31, 2018 and 2017, are as follows:

(in thousands of			_		2018	
Korean won)	Closing month	Location	Number of shares	Percentage of ownership (%)	Acquisition cost	Book amount
Hanon Systems Co., Ltd. ¹	December	Korea	104,031,000	19.5	₩ 1,061,740,386	₩ 1,085,601,269
(in thousands of			_		2017	
Korean won)	Closing month	Location	Number of shares	Percentage of ownership (%)	Acquisition cost	Book amount
Hanon Systems Co., Ltd. ¹	December	Korea	104,031,000	19.5	₩ 1,061,740,386	₩ 1,090,392,140

¹ As at December 31, 2018, the fair value of marketable investment in associates is \$1,123,534,800 thousand (2017: \$1,446,030,900 thousand).

The table below provides summarized financial information for those associates that are material to the Group and received dividends from the associates.

(in thousands of				2018			
Korean won)	Assets	Liabilities	Equity	Sales	Profit for the year	Total comprehensive income	Dividend received
Hanon Systems Co., Ltd.	₩5,355,780,832	₩3,224,124,651	₩2,131,656,181	₩5,937,585,095	₩283,697,420	₩232,201,224	₩33,289,920
(in thousands of				2017			
Korean won)	Assets	Liabilities	Equity	Sales	Profit for the year	Total comprehensive income	Dividend received
Hanon Systems Co., Ltd.	₩4,133,390,581	₩2,090,959,189	₩2,042,431,392	₩5,582,423,807	₩309,872,150	₩328,301,754	₩31,209,300

Details of the valuation of equity-accounted investees of the Group as of December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)			2018	2017	
Hanon Systems Co.,	Beginning balance Share of profit of associates accounted for using	₩	1,090,392,140	₩	1,081,080,298
Ltd.	the equity method		38,002,359		36,104,778
Net defined benefit liabilities			(201,827)		1,715,852
	Cash flow hedges		(6,952,219)		12,321,576
	Exchange differences on translating foreign				
	operations		(2,563,044)		(9,752,436)
	Dividend		(33,289,920)		(31,209,300)
	Others		213,780		131,372
	Ending balance	₩	1,085,601,269	₩	1,090,392,140

14. Investment in Subsidiaries

The summarized financial information of the subsidiaries as at and for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018						
				Profit (loss)				
	Assets	Liabilities	Sales	for the year				
Hankook Tire America Corp.	₩862,437,042	₩476,638,057	₩1,644,470,779	₩ (11,130,064)				
Hankook Tire Canada Corp.	75,148,548	53,960,025	173,385,768	3,187,389				
Hankook Tire DE Mexico, S.A. DE								
C.V.	66,684,160	63,615,486	112,333,529	1,205,415				
Hankook Tire de Colombia Ltda.	12,412,662	11,139,383	37,468,456	252,945				
Hankook Tire Manufacturing	775 400 040	070 040 700	000 005 070	(00.454.005)				
Tennessee LP	775,138,012	673,648,786	208,225,078	(39,454,635)				
Hankook Tire America Holdings I,	4 000 050			(004)				
LLC	1,893,256	-	-	(331)				
Hankook Tire America Holdings II,	106 120 120			(224)				
LLC	186,438,428	-	-	(331)				
Hankook Tire Latin America	10 066 067	10 002 022	44 OGE 040	(4 407 250)				
Distribution Center, S.A. Hankook Tire Latam, S.A.	18,866,967 179,524	19,893,922 101,639	44,065,019 341,499	(1,127,359)				
	376,358,481	178,179	341,499	16,228				
Hankook Tire Europe Holdings B.V. Hankook Tire Netherlands B.V.	120,268,746	96,896,629	204 267 204	65,284,315				
	129,270,990	112,474,765	284,367,304 218,162,361	2,535,113				
Hankook Tyre U.K. Ltd. Hankook Reifen Deutschland GmbH	299,297,279	269,718,665	551,735,005	(175,736) 1,486,246				
Hankook Tire France SARL	68,748,894	56,067,704	192,476,378	2,578,821				
Hankook Tire Italia S.R.L.	141,081,956	124,299,016	200,405,241	1,356,640				
Hankook Espana S.A.	60,379,050	46,414,276	148,305,537	2,754,122				
Hankook Tire Europe GmbH	409,540,927	270,345,968	25,768,678	719,953				
Hankook Tire Hungary Ltd.	1,343,618,627	140,744,705	862,180,158	204,251,556				
Hankook Tire Budapest	1,545,010,021	140,744,703	002,100,130	204,231,330				
Kereskedelmi Kft	42,503,340	31,208,503	80,970,485	480,504				
Hankook Tire Rus LLC	55,608,192	52,307,577	148,826,146	(1,887,035)				
Hankook Tire Sweden AB	23,279,274	20,572,989	46,920,673	471,814				
Hankook Lastikleri A.S.	22,547,568	28,131,180	59,971,951	(5,699,573)				
Hankook Tire Polska Sp. z o.o.	38,708,664	32,945,051	85,646,420	1,626,343				
Hankook Tire Ceska Republika s.r.o.	35,868,965	31,797,263	95,885,800	519,532				
Hankook Tire Ukraine LLC	714,531	348,799	1,201,983	17,372				
Hankook Tire Japan Corp.	12,130,012	13,376,679	31,878,140	820,104				
Hankook Tyre Australia Pty., Ltd.	41,271,206	36,086,145	93,671,831	(882,835)				
PT. HANKOOKTIRE INDONESIA.	637,785,376	115,574,625	448,039,372	24,730,324				
Hankook Tire Thailand Co., Ltd.	5,975,929	5,502,886	21,337,592	(17,728)				
Hankook Tires India Ilp.	3,746,071	2,730,808	3,996,119	(23,089)				
Hankook Tire Malaysia SDN.BHD.	9,480,207	14,949,453	34,172,767	544,614				
Hankook Tire Singapore PTE., Ltd.	158,867,188	152,905,529	5,658,332	539,738				
Hankook Tyre Australia Retail Pty.,								
Ltd. ¹	71,522,469	18,384,638	24,870,202	1,741,438				
Hankook Tire China Co., Ltd.	1,039,465,607	177,364,578	658,445,916	46,821,218				
Jiangsu Hankook Tire Co., Ltd.	642,138,522	123,516,888	548,351,675	7,435,910				
Shanghai Hankook Tire Sales Co.,								
Ltd.	501,611,628	491,579,991	873,783,383	4,483,471				
Chongqing Hankooktire Co., Ltd.	515,794,841	369,548,781	389,450,791	24,695,125				

(in thousands of Korean won)				
	Assets	Liabilities	Sales	Profit (loss) for the year
Beijing Jielun Trading Company Co.,				
Ltd.	2,486,870	2,538,086	35,875,980	(274,422)
MK Technology	108,118,451	8,196,737	87,221,146	14,278,987
MK Mold (Jiaxing) Co., LTD.	23,861,258	2,112,923	18,941,550	4,568,939
MK Technology (CHONGQING)				
Mould Co., Ltd.	1,307,503	39,615	3,461,941	118,201
Model Solution Co., Ltd.	41,207,294	21,453,211	35,517,745	5,524,795
ModelSolution Inc.	2,734,131	1,505,726	1,235,998	(538,573)
Daehwa Engineering & Machinery				
Co., Ltd.	61,006,141	18,243,915	69,994,598	(1,762,290)
Hankook Donggeurami Partners				
Co., Ltd.	2,026,692	1,479,557	4,849,861	250,112
KCG 1 Private Equity Fund				
limited partnership	22,397,307	1,975	-	(302,031)
Reifen-Muller KG	202,000,211	170,517,093	99,862,114	5,735,451
Reifen-Muller GmbH & Co.				
Runderneuerungswerk KG	25,133,690	13,299,882	6,678,493	2,057,646
RM Verwaltungs GmbH	42,985	3,591	12,635	7,528

¹ Financial information including JAX Quickfit Franchising Systems Unit Trust., JAX Quickfit Franchising Systems Pty Ltd., JAX Quickfit Properties Pty Ltd., which are 100% owned by Hankook Tyre Australia Retail Pty., Ltd.

(in thousands of Korean won)				
				Profit (loss)
	Assets	Liabilities	Sales	for the year
Hankook Tire America Corp.	₩ 843,704,801	₩ 454,868,681	₩ 1,669,764,669	₩ 15,141,876
Hankook Tire Canada Corp.	59,377,893	40,555,843	185,222,599	2,435,371
Hankook Tire DE Mexico, S.A. DE				
C.V.	49,080,693	46,720,958	86,737,331	1,584,841
Hankook Tire de Colombia Ltda.	11,733,424	10,631,355	48,161,725	1,061,098
Hankook Tire Europe Holdings B.V.	311,631,626	23,489	-	32,098,121
Hankook Tire Netherlands B.V.	155,668,646	134,792,089	303,253,487	3,316,343
Hankook Tyre U.K. Ltd.	123,686,749	106,520,413	203,191,575	1,221,624
Hankook Reifen Deutschland GmbH	257,357,607	229,240,932	536,405,640	954,015
Hankook Tire France SARL	76,370,857	66,229,033	163,707,576	1,991,842
Hankook Tire Italia S.R.L.	119,208,586	103,760,818	180,760,846	2,585,808
Hankook Espana S.A.	56,418,451	45,165,541	110,232,479	1,523,687
Hankook Tire Europe GmbH	198,939,745	194,081,444	23,943,459	32,341
Hankook Tire Hungary Ltd.	1,225,260,038	119,762,401	911,868,843	177,871,329
Hankook Tire Budapest				
Kereskedelmi Kft	37,923,523	26,689,394	68,535,471	668,260
Hankook Tire Rus LLC	61,574,734	55,761,472	149,133,996	612,177
Hankook Tire Japan Corp.	19,136,774	20,073,356	54,294,027	190,161
Hankook Tyre Australia Pty.	51,790,406	45,396,933	99,644,388	3,066,327
Hankook Tire China Co., Ltd.	1,207,972,255	202,088,912	657,147,707	39,454,634
Jiangsu Hankook Tire Co., Ltd.	672,414,493	157,934,711	612,033,995	18,267,297
Shanghai Hankook Tire Sales Co.,				
Ltd.	455,400,114	450,068,788	944,905,847	7,051,653

(in thousands of Korean won)				
				Profit (loss)
	Assets	Liabilities	Sales	for the year
Daehwa Engineering & Machinery				
Co., Ltd.	57,737,474	13,281,152	45,470,935	(3,738,902)
Chongqing Hankooktire Co., Ltd.	607,954,803	485,191,668	394,992,043	17,301,284
PT. HANKOOK TIRE INDONESIA	656,171,956	179,836,407	474,555,103	21,905,165
MK Mold (Jiaxing) Co., LTD	20,081,935	2,686,303	17,614,308	3,627,483
MK Technology Co., Ltd.	109,841,057	10,440,717	75,613,762	25,987,058
Hankook Tire Singapore PTE., Ltd.	197,067,288	191,880,278	382,686,381	1,230,510
Hankook Tire Malaysia SDN.BHD.	10,114,366	15,992,089	32,003,208	55,684
Hankook Tire Sweden AB	21,665,215	19,327,398	44,060,680	854,033
Beijing Jielun Trading Company				
Co.,Ltd	2,569,787	2,351,445	31,949,704	(40,680)
Hankook Lastikleri A.S.	29,357,333	29,971,338	72,030,174	(730,230)
Hankook Tire Polska Sp. z o.o.	36,501,627	32,201,069	82,375,939	984,147
Hankook Tire (Thailand) Co.,Ltd.	8,598,891	8,130,534	19,277,829	625,371
Hankook Tire Manufacturing				
Tennessee LP	762,851,440	627,176,172	54,616,641	(43,657,702)
Hankook Tire America Holdings I,				,
LLC	1,893,155	_	-	_
Hankook Tire America Holdings II,	, ,			
LLC	186,438,327	_	_	_
MK Technology (CHONGQING)	, ,			
Mould Co., Ltd.	1,793,771	635,177	1,905,951	98,501
Hankook Tire Ceska Republika s.r.o.	34,979,627	31,394,621	86,967,465	1,273,582
Hankook Donggeurami Partners	, ,	, ,	, ,	, ,
Co., Ltd.	1,980,543	1,691,197	4,250,326	135,781
Hankook Tyre Australia Retail Pty.,	, ,	, ,	, ,	,
Ltd. ¹	74,111,951	19,549,297	21,116,266	(4,749,975)
Hankook Tires India Ilp.	1,805,688	720,112	488,320	(331,302)
Hankook Tire Latam, S.A.	198,389	139,562	120,057	5,548
Hankook Tire Latin America		,	,,,,,,,	2,3.0
Distribution Center, S.A.	22,726,774	22,612,898	8,287,644	(219,058)
	,,	,,	3,23.,011	(=:0,000)

¹ Financial information including JAX Quickfit Franchising Systems Unit Trust., JAX Quickfit Franchising Systems Pty Ltd., JAX Quickfit Properties Pty Ltd., which are 100% owned by Hankook Tyre Australia Retail Pty., Ltd.

15. Property, Plant and Equipment

Details of the book amount of property, plant and equipment as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018								
	Ac	quisition cost	Accumulated depreciation	Accumulated impairment loss	E	Book amount			
Land	₩	403,234,312	₩ -	₩ -	₩	403,234,312			
Buildings	2,217,149,723		(505,465,971)	(22,411)	1,711,661,341				
Structures		123,094,006	(63,560,827)	-		59,533,180			
Machinery and equipment		4,824,457,962	(3,437,013,003)	-		1,387,444,958			
Vehicles		100,605,568 (51,613,944)		-		48,991,624			
Tools, furniture and									
fixtures		1,224,275,067	(771,865,675)	(1,934,446)		450,474,946			
Machinery in transit		10,029,816	-	-		10,029,816			
Construction in progress		153,856,454				153,856,454			
	₩	9,056,702,909	₩ (4,829,519,420)	₩ (1,956,857)	₩	4,225,226,631			

(in thousands of Korean won)	2017								
	Acquisition cost		Accumulated depreciation	Accumulated impairment loss	E	Book amount			
Land	₩	322,027,220	₩ -	₩ -	₩	322,027,220			
Buildings		2,076,785,908	(447,585,155)	(20,994)		1,629,179,759			
Structures		123,402,062	(59,508,856)	-		63,893,206			
Machinery and equipment		4,756,170,063	(3,126,999,505)	-		1,629,170,558			
Vehicles	92,624,481		92,624,481		(43,713,347)	-		48,911,134	
Tools, furniture and									
fixtures		1,165,469,360	(700,124,915)	(1,942,695)		463,401,750			
Machinery in transit		12,580,498	-	-		12,580,498			
Construction in progress		148,206,233		_		148,206,233			
	₩	8,697,265,825	₩ (4,377,931,778)	₩ (1,963,689)	₩	4,317,370,358			

Changes in property, plant and equipment for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of	^F Korean
------------------	---------------------

won)				20	18			
	Business Beginning combination balance and others		Beginning combination		Transfer	Exchange differences	Ending balance	
Land	₩ 322,027,220	₩ 12,783,803	₩ 206,893	₩ (545,235)	₩ -	₩ 67,644,668	₩ 1,116,963	₩ 403,234,312
Buildings	1,629,179,759	129,883,937	5,691,526	(671,843)	(60,279,205)	4,760,279	3,096,888	1,711,661,341
Structures	63,893,206	-	805,843	(31,478)	(5,204,084)	481,703	(412,010)	59,533,180
Machinery and equipment	1,629,170,558	10,677,471	46,052,662	(4,366,328)	(372,757,977)	60,742,472	17,926,100	1,387,444,958
Vehicles	48,911,134	3,489,588	3,967,049	(149,801)	(9,637,106)	1,117,656	1,293,104	48,991,624
Tools, furniture and								
fixtures	463,401,750	2,813,728	62,038,905	(15,703,846)	(110,374,603)	46,790,938	1,508,074	450,474,946
Machinery in transit	12,580,498	-	7,729,165	-	-	(10,285,190)	5,343	10,029,816
Construction in progress	148,206,233	1,914	192,413,233	-	<u> </u>	(186,078,039)	(686,887)	153,856,454
	₩4,317,370,358 +	∜ 159,650,441	₩ 318,905,276	₩ (21,468,531)	₩ (558,252,975)	₩ (14,825,513)	₩ 23,847,575	₩ 4,225,226,631

(in thousands of Korean

won)	2017							
	Beginning balance	Business combination and others	Acquisition	Disposal	Depreciation	Transfer	Exchange differences	Ending balance
Land	₩ 326,474,136	₩ -	₩ 246,701	₩ -	₩ -	₩ -	₩ (4,693,617)	₩ 322,027,220
Buildings	1,418,316,497	240,161	3,331,115	(905,534)	(55,212,382)	313,741,059	(50,331,157)	1,629,179,759
Structures	66,833,718	-	791,472	(30,362)	(5,740,201)	3,816,469	(1,777,890)	63,893,206
Machinery and equipment	1,629,293,703	-	41,646,643	(2,735,993)	(364,825,273)	420,806,669	(95,015,191)	1,629,170,558
Vehicles	25,526,214	128,708	1,518,577	(648,231)	(6,693,037)	31,792,498	(2,713,595)	48,911,134
Tools, furniture and fixtures	464,847,332	620,306	60,235,249	(16,685,559)	(97,864,077)	69,674,606	(17,426,107)	463,401,750
Machinery in transit	17,152,735	-	12,692,618	-	-	(16,863,812)	(401,043)	12,580,498
Construction in progress	750,808,311	<u>-</u>	294,319,514	(19,923,531)		(835,453,332)	(41,544,729)	148,206,233
	₩4,699,252,646	₩ 989,175	₩ 414,781,889	₩ (40,929,210)	₩ (530,334,970)	₩ (12,485,843)	₩ (213,903,329)	₩4,317,370,358

Line items including depreciation in the statements of profit or loss for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Cost of sales	₩	498,276,174	₩	468,536,297
Selling and administrative expenses (including research and development cost)		59,976,801		61,798,673
	₩	558,252,975	₩	530,334,970

Pledged assets as collaterals

As at December 31, 2018, a certain portion of the Group's property, plant and equipment (land, buildings and machinery) is pledged as collaterals for its credit line and others (Note 40).

Details of financial lease assets as at December 31, 2018, are as follows:

(in thousands of Korean won)				2018		
	Δ	cquisition cost	Accumulated depreciation		В	ook amount
Buildings	₩	116,396,290	₩	(2,155,409)	₩	114,240,881

Changes in financial lease assets for the year ended December 31, 2018, are as follows:

(in thousands of		2018							
Korean won)	Beginning balance	Business combination	Depreciation	Exchange differences	Ending balance				
Buildings	₩	- ₩117,798,513	₩ (2,188,284)	₩ (1,369,348)	₩ 114,240,881				

The total of future minimum lease payments to the lessor as at December 31, 2018, are as follows:

(in thousands of Korean won)	2018		
Total minimum lease payments			
Within one year	₩	9,698,713	
Later than one year but not later than five years		38,794,852	
Later than five years		93,116,869	
		141,610,434	
Unearned finance expense		26,773,019	
Net minimum lease payments			
Within one year		9,566,788	
Later than one year but not later than five years		35,525,348	
Later than five years		69,745,279	
	₩	114,837,415	

16. Investment Properties

Buildings

Details of investment properties as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018							
,	Acquisition cost		Accumulated depreciation		Book amount			
Land	₩	83,287,549	₩	-	₩	83,287,549		
Buildings		41,817,799		(17,765,080)		24,052,719		
	₩	125,105,348	₩	(17,765,080)	₩	107,340,268		
(in thousands of Korean won)				2017				
	Acquisition cost			ccumulated epreciation	Book amount			
Land	₩	83,654,643	₩	-	₩	83,654,643		
Buildings		41,858,244		(16,808,584)		25,049,660		
-	₩	125,512,887	₩	(16,808,584)	₩	108,704,303		

Changes in investment properties for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of			2018		
Korean won)	Beginning balance	Business combination and others	Depreciation	Others	Ending balance
Land Buildings	₩ 83,654,643 25,049,660 ₩ 108,704,303	₩ - 112,805 ₩ 112,805	₩ - (1,034,476) ₩ (1,034,476)	₩ (367,094) (75,270) ₩ (442,364)	₩ 83,287,549 24,052,719 ₩ 107,340,268
(in thousands of Korean won)	Beginni	•	2017		Ending
Land	balanc ₩ 83.65	•	ciation - ₩	Others -	balance ₩ 83,654,643

(1,030,795)

(1,030,795)

₩

25,049,660

108,704,303

301,435

301,435

₩

For the year ended December 31, 2018, depreciations of investment property are included in selling and administrative expenses.

₩

25,779,020

₩ 109,433,663

Fair value of investment properties as at December 31, 2018 is \$256,948,027 thousand (2017: \$242,180,832 thousand).

17. Intangible Assets

Details of intangible assets as at December 31, 2018 and 2017, are as follows:

(in thousands of				20					
Korean won)	Acquisition cost		-	Accumulated amortization		Accumulated impairment loss		Book amount	
Industrial rights	₩	13,883,727	₩	(11,285,914)	₩	-	₩	2,597,813	
Other intangible assets		129,413,568		(90,698,177)		(109,695)		38,605,696	
Goodwill		162,562,808		-		(5,846,120)		156,716,688	
Land-use rights Customer value and		67,594,929		(9,562,029)		-		58,032,900	
others		107,508,493		(2,252,596)		-		105,255,897	
Construction in progress		4,807,752						4,807,752	
	₩	485,771,277	₩	(113,798,716)	₩	(5,955,815)	₩	366,016,746	
Con the access of a fi				00	47				

(in thousands of	ousands of				2017					
Korean won)	Acc	quisition cost		ccumulated mortization		ccumulated airment loss	В	ook amount		
Industrial rights	₩	13,066,278	₩	(10,567,672)	₩	-	₩	2,498,606		
Other intangible assets		126,961,930		(73,902,555)		(25,709)		53,033,666		
Goodwill		57,270,288		-		(5,846,120)		51,424,168		
Land-use rights		68,611,419		(9,516,830)		_		59,094,589		
Customer value and										
others		26,410,649		(1,071,934)		-		25,338,715		
Construction in progress		4,138,356				_		4,138,356		
	₩	296,458,920	₩	(95,058,991)	₩	(5,871,829)	₩	195,528,100		

Changes in intangible assets for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of	thousands of 2018							
Korean won)	Beginning balance	Business combination and others	Acquisition	Disposal	Amortization	Others	Exchange differences	Ending balance
Industrial rights Other intangible	₩ 2,498,606	₩ 542	₩ 295,809	₩ -	₩ (1,100,882)	₩ 902,889	₩ 849	₩ 2,597,813
assets	53,033,666	1,023,283	1,324,232	(1,159,037)	(15,495,279)	2,917,234	(3,038,403)	38,605,696
Goodwill ¹	51,424,168	106,439,953	-	-	-	-	(1,147,433)	156,716,688
Land-use rights	59,094,589	-	-	-	(1,898,726)	-	837,037	58,032,900
Brand and customer relationship Construction in	25,338,715	79,597,052	-	-	(1,246,533)	-	1,566,663	105,255,897
progress	4,138,356	30,801	3,707,495	(358,589)		(2,693,493)	(16,818)	4,807,752
progress	₩ 195,528,100	₩ 187,091,631	₩ 5,327,536	₩ (1,517,626)	₩ (19,741,420)	₩ 1,126,630	₩ (1,798,105)	₩ 366,016,746

¹ The Group acquired the tire distribution department of Model Solution Co., Ltd. and Reifen-Muller during the year ended December 31, 2018 and recognized goodwill amounting to ₩42,415,368 thousand and ₩64,024,585 thousand, respectively (Note 37).

(in thousands of					2017				
Korean won)	Beginning balance	Business combination and others	Acquisition	Disposal	Amortization	Impairment	Others	Exchange differences	Ending balance
Industrial rights Other intangible	₩ 2,514,376	₩ -	₩ 519,482	₩ 1,595	₩ (1,053,772)	₩ -	₩ 517,714	₩ (789)	₩ 2,498,606
assets	39,691,442	4,835,091	4,000,618	(31,985)	(14,831,620)	-	20,302,785	(932,665)	53,033,666
Goodwill ¹	27,393,123	30,528,613	-	-	-	(6,067,460)	-	(430,108)	51,424,168
Land-use rights	66,166,885	-	-	-	(1,873,376)	-	-	(5,198,920)	59,094,589
Brand and customer									
relationship	-	25,338,715	-	-	-	-	-	-	25,338,715
Construction in									
progress	10,422,240		2,607,951	(248,670)			(8,628,659)	(14,506)	4,138,356
	₩146,188,066	₩7,128,051	₩ (279,060)	₩ (17,758,768)	₩ (6,067,460)	₩12,191,840	₩ (6,576,988)	₩60,702,419	₩195,528,100

¹ The Group acquired the tire distribution department of JAX Tyres during the year ended December 31, 2017, and recognized goodwill and brand and customer relationship amounting to ₩30,528,612 thousand and ₩25,338,715 thousand, respectively.

Impairment Tests for Goodwill

Goodwill is allocated to each of the CGUs identified for each consolidated entity. Details of goodwill of each consolidated entity as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018	2017		
Hankook Tyre Australia Retail Pty., Ltd.	₩	22,883,613	₩	24,031,045	
Model Solution Co., Ltd.		42,415,368		-	
Reifen-Muller KG		64,024,585		-	
	₩	129,323,566	₩	24,031,045	

Goodwill impairment reviews are undertaken annually. Goodwill related to MK technology Co., Ltd. amounts to \forall 27,393,123 thousand is not allocated, because it is considered as a sole cashgenerating unit. As a result of impairment test, it is considered that the carrying value of cash generating units does not exceed the recoverable amount.

The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations use pre-tax cash flow projections based on business plan approved by management covering a five-year period. Cash flows beyond the fiver-year period are extrapolated using the estimated growth rate which does not exceed the long-term average growth rate for the industry in which the Group operated.

Management determined the estimated pre-tax cash flow based on past performance and its expectations of market development. Value in use is measured by applying the discount rates reflecting specific risks relating to the relevant consolidated entity. The key assumptions used as at December 31, 2018, are as follows:

(in percentage, %)	Annual growth rate for sales	Discount rate	Long-term growth rate
Hankook Tyre Australia	0.00/	44.00/	3.0%
Retail Pty., Ltd	9.9%	11.8%	
Model Solution Co., Ltd.	6.4%	9.0%	1.0%
Reifen-Muller KG	2.1%	8.7%	0.5%
Hankook Tire Co., Ltd.	3.5%	8.1%	1.0%

The table below summarizes the impact of increases/decreases of each assumption in each CGU on the Group's pre-tax profit for the year. The assumptions were used in calculating value-in-use of goodwill material to the Group.

(in the week of Marson wan)		2018
(in thousands of Korean won)		Model Solution Co., Ltd.
0.5%P decrease in long-term growth rate	₩	(304,139)
0.5%P increase in pre-tax discount rate		(2,156,264)

18. Trade and Other Payables

Details of trade and other payables as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Trade payables	₩	423,316,782	₩	382,686,120
Non-trade payables		282,179,726		247,764,124
Accrued expenses		225,694,136		234,274,369
Dividends payable		17,978		24,314
	₩	931,208,622	₩	864,748,927

19. Borrowings

Details of borrowings as at December 31, 2018 and 2017, are as follows:

(in	thousands	of Korean

won)		20			2017			
		Current	ı	lon-current		Current	N	on-current
Short-term borrowings	₩	811,473,548	₩	-	₩	866,387,152	₩	-
Long-term borrowings		22,762,000		100,848,000		117,729,310		214,280,000
Financial lease liabilities		9,566,788		105,270,628		-		-
Debentures				582,461,150		249,951,373		525,111,689
	₩	843,802,336	₩	788,579,778	₩	1,234,067,835	₩	739,391,689

Details of short-term borrowings as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	Lender	Annual interest rate(%)		2018		2017
General loans Transfer of trade	BMG and others	1.52	₩	169,909,279	₩	80,871,879
receivables1	Woori Bank and others	4.19		543,863,284		653,760,643
Usance	BNP Paribas and others	2.90		97,700,985		131,754,630
			₩	811,473,548	₩	866,387,152

¹ As transfer of trade receivables does not meet derecognition criteria, financial liabilities are recognized and secured by the Group's trade receivables (Note 40).

Details of long-term borrowings including financial lease liabilities of the Group as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)			Annual	20)18	20	17
Koroan wong	Lender	Maturity date	interest rate(%)	Current	Non-current	Current	Non-current
Long-term							
borrowings in	KEB Hana						
local currency	Bank	2020.6.30	3.6	₩ 400,000	₩ 11,400,000	₩ -	₩ -
Long-term							
borrowings in	BTMU and						
foreign currency	others	2021.9.30	1.98	22,362,000	89,448,000	117,729,310	214,280,000
	Klaus and						
	Uwe Muller						
Financial lease	Immobilien						
liabilities	GmbH	2033.8.14	3.0	9,566,788	105,270,628		
				₩32,328,788	₩206,118,628	₩117,729,310	₩ 214,280,000

Details of debentures as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		Annual		201	18	2017		
	Issue date	interest rate(%)	Current		Non-current	Current	Non-current	
The 83-1st debentures	2015.03.12	2.1	₩	-	₩ -	₩ 250,000,000	₩ -	
The 83-2nd debentures	2015.03.12	2.2		-	250,000,000	-	250,000,000	
Long-term debentures in foreign currency	2018.1.30	3.5		_	335,430,000	-	_	
Less: Discount on debentures				-	(2,968,850)	(48,627)	(324,557)	
Tennessee local government								
bond(1st) (USD)	2014.12.10	2.4		-	-	-	32,142,000	
Tennessee local government								
bond(2nd) (USD)	2015.11.19	2.4		-	-	-	160,710,000	
Tennessee local government								
bond(3rd) (USD)	2016.5.26	2.4				<u> </u>	82,584,246	
		_	₩		₩ 582,461,150	₩ 249,951,373	₩ 525,111,689	

20. Provisions

Changes in provisions for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)								2018	В						
·	_	inning lance		usiness nbination	ir	ecogr prof	it or	Use	d durin year	g the		chanç	_	Endir	ng balance
Provision for product liabilities Provision for product	₩ 4	,473,763	₩		- ₩	13,70)1,182	₩	(8,943	3,115)	₩		-	₩	9,231,830
warranties	49	,633,975		33,10	1	23,84	7,544		(18,313	3,490)		(19,3	345)		55,181,785
Other provisions	1	,015,670				8,02	2,153		(287	7,377)		4,	,284		8,754,730
	₩ 55	,123,408	₩	33,10	1 ₩	45,57	0,879	₩	(27,543	3,982)	₩	(15,0	061)	₩	73,168,345
(in thousands of Korean won)	E	Beginninç]	Recogniz	zed in	ı U	201 Ised d		ı E	xchan	ge		Endi	ing	_
		balance		profit or	loss		the y	ear	di	fferen	ces		balar	nce	
Provision for product liabilities	₩	9,668,0	000	₩ 3,9	39,204	4 ₩	(8,56	60,96	3) ₩	(572	2,478)	₩	4,4	173,763	}
provision for product warranties	;	53,087,4	191	12,8	61,39	4	(16,19	95,69	4)	(119	9,217)		49,6	33,974	Ŀ
Other provisions		938,5	559	1	71,85	4	(9	9,77	3)	;	5,031		1,0)15,671	
·	₩	63,694,0)50	₩ 16,9	72,45	2 ₩	(24,85	56,43	0) ₩	(686	6,664)	₩	55,1	123,408	<u>-</u> <u>}</u>
															-

21. Other Financial Liabilities

Details of other financial liabilities as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		20		2017				
		Current	N	Non-current		Current	N	on-current
Leasehold deposits received Financial derivative	₩	2,772,000	₩	1,169,121	₩	2,753,000	₩	1,351,943
liabilities Financial liabilities to non-controlling		8,458,588		-		3,080,677		-
interests¹ Other financial		-		4,750,000		-		-
liabilities ²		_		20,631,939		_		<u>-</u>
	₩	11,230,588	₩	26,551,060	₩	5,833,677	₩	1,351,943

¹ As the term of KCG 1 Private Equity Fund limited partnership the Group invested in is limited, non-controlling interests were classified as financial liabilities for the year ended December 31, 2018. ² The Group recognized an obligation to purchase its share capital as financial liabilities upon the acquisition of Model Solution Co., Ltd. and the related amount was deducted from other paid-in capital for the year ended December 31, 2018 (Note 40).

22. Other Liabilities

Details of other liabilities as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		20	18			20	17	
		Current	N	on-current		Current	N	on-current
Advance received	₩	18,589,033	₩	-	₩	26,870,966	₩	-
Withholdings		37,908,541		-		35,067,863		-
Unearned revenue ¹		20,789,411		69,148,695		25,768,989		65,494,385
Long-term employee liabilities		-		18,072,850		-		18,122,712
Others		682,638		1,826,192		2,953,167		1,522,981
	₩	77,969,623	₩	89,047,737	₩	90,660,985	₩	85,140,078

¹Chongqing Hankooktire Co., Ltd. and Hankook Tire Manufacturing Tennessee LP of the Group received government grants from state and local governments for the purpose of providing land free-of charge and subsidies for acquisition of tangible assets and recognized the grants as deferred revenue.

23. Post-Employment Benefits

The Group has both defined contribution and defined benefit plans.

23.1 Defined Benefit Plan

The Group operates 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 Group is exposed to 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, 2018, by Samsung Securities Co., Ltd. Present value of the defined benefit obligation, its related current service cost and past service cost have been measured by using the projected unit credit method.

Details of net defined benefit liabilities (assets) recognized in the statements of financial position as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Present value of defined benefit obligations	₩	426,292,800	₩	380,159,219
Fair value of plan assets		(414,385,213)		(386,581,452)
Net defined benefit liabilities	₩	11,907,587	₩	5,268,711
Net defined benefit assets	₩	_	₩	(11,690,944)

Movements in the defined benefit liabilities and the fair value of plan assets for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018							
	Present value of defined benefit obligations	Fair value of plan assets	Total					
Beginning balance	₩ 380,159,219	₩ (386,581,452)	₩ (6,422,233)					
Current service cost	52,982,854	-	52,982,854					
Interest expense (income)	14,715,968	(14,206,053)	509,915					
	67,698,822	(14,206,053)	53,492,769					
Remeasurements: Return on plan assets (excluding amounts included in net interest)	-	6,966,785	6,966,785					
Actuarial loss (gain) from change in demographic assumptions Actuarial loss (gain) from change in	(591,580)	-	(591,580)					
financial assumptions Actuarial loss (gain) from experience	20,897,020	-	20,897,020					
adjustments	(33,438,613)	-	(33,438,613)					
	(13,133,173)	6,966,785	(6,166,388)					
Employers' contributions	-	(30,343,821)	(30,343,821)					
Benefit payments	(31,428,304)	29,872,717	(1,555,587)					
Others	15,469,358	(15,262,276)	207,082					
Changes in scope of consolidation	7,526,878	(4,831,113)	2,695,765					
Ending balance	₩ 426,292,800	₩ (414,385,213)	₩ 11,907,587					

(in thousands of Korean won)	2017						
	Present value of defined benefit obligations	Fair value of plan assets	Total				
Beginning balance	₩383,027,219	₩ (364,379,529)	₩ 18,647,690				
Current service cost	56,500,319	-	56,500,319				
Interest expense (income)	12,945,160	(11,728,722)	1,216,438				
	69,445,479	(11,728,722)	57,716,757				
Remeasurements: Return on plan assets (excluding		5.050.000	5 050 000				
amounts included in net interest) Actuarial gain from change in	(202 572)	5,058,628	5,058,628				
demographic assumptions Actuarial gain from change in financial	(292,572)	-	(292,572)				
assumptions Actuarial gain from experience	(18,309,028)	-	(18,309,028)				
adjustments	(9,651,218)		(9,651,218)				
	(28,252,818)	5,058,628	(23,194,190)				
Employers' contributions	-	(48,978,041)	(48,978,041)				
Benefit payments	(43,681,338)	33,446,212	(10,235,126)				
Others	(354,539)		(354,539)				
Changes in scope of consolidation	(24,784)		(24,784)				
Ending balance	₩ 380,159,219	₩ (386,581,452)	₩ (6,422,233)				

The significant actuarial assumptions used in defined benefit obligations assessment as at December 31, 2018 and 2017, are as follows:

(in percentage, %)	2018	2017
Discount rate	2.5%~8.5%	2.6%~7.3%
Salary growth rate	3.0%~10.0%	3.4%~10.0%

While holding all other assumptions constant, if significant actuarial assumptions vary within a reasonable range, the effects on the defined benefit obligations are as follows.

(in thousands of Korean won)	2018					
	Increase	Decrease				
1% change of discount rate1% change of salary growth rate	₩ (41,200,757) 48,082,360	₩ 48,822,139 (41,396,478)				
(in thousands of Korean won)	2017	,				
	Increase	Decrease				
1% change of discount rate1% change of salary growth rate	₩ (37,287,513) 43,797,201	₩ 44,232,579 (37,637,840)				

Amounts recognized in statements of comprehensive income regarding defined pension plans for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Current service cost	₩	52,982,854	₩	56,500,319
Interest cost		509,915		1,216,438
	₩	53,492,769	₩	57,716,757

Plan assets as at December 31, 2018 and 2017, consist of:

(in thousands of Korean	20	18	2017			
won)	Amount	Composition	Amount	Composition		
Debt instruments	₩ 395,959,208	95.6%	₩ 354,764,049	91.8%		
Cash and cash equivalents	8,317,311	2.0%	2,738,210	0.7%		
Others	10,108,694	2.4%	29,079,193	7.5%		
	₩ 414,385,213	100.0%	₩ 386,581,452	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, 2018, are \text{\$\psi 62,549,410}\$ thousand(2017: \text{\$\psi 42,707,867}\$ thousand).

The expected maturity analysis of undiscounted pension benefits as at December 31, 2018, is as follows:

(in thousands of Korean won)	2018 Between 1 and 2 Between 2 and 5								
,	Less	than 1 year	years	years	Over 5 years	Total			
Pension benefits	₩	18,178,527	24,858,403	84,712,867	1,679,484,829	1,807,234,626			

The weighted average duration of the defined benefit obligation is 11.4 years.

23. 2 Defined Contribution Plan

The expense recognized in the current year in relation to defined contribution plan was $\mbox{$\forall$ 2,606,783$ thousand (2017: $\mbox{$\forall$ 1,842,816$ thousand).}}$

24. Share Capital

Details of share capital as at December 31, 2018 and 2017, are as follows:

(in Korean won, except for number of shares)		2018		2017
Authorized (in shares)		250,000,000		250,000,000
Par value	₩	500	₩	500
Outstanding (in shares):				
Ordinary shares		123,875,069		123,875,069
Share capital:				
Ordinary shares	₩	61,937,534,500	₩	61,937,534,500

25. Other Paid-in Capital

Details of other paid-in capital as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Share premium	₩	2,993,465,738	₩	2,993,465,738
Other capital surplus ¹		(20,631,939)		-
Treasury shares ²		(1,088,018)		(1,088,018)
	₩	2,971,745,781	₩	2,992,377,720

¹The Group recognized an obligation to purchase its share capital as financial liabilities upon the acquisition of Model Solution Co., Ltd. and the related amount was deducted from other paid-in capital for the year ended December 31, 2018 (Note 40).

26. Retained Earnings and Dividends

Details of retained earnings as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018	2017	
Legal reserve:			
Surplus reserve	₩ 29,724,643	₩ 24,770,536	
	29,724,643	24,770,536	
Voluntary reserve:			
Dividend equalization reserve	61,000,000	50,000,000	
Director's retirement bonus reserve	5,000,000	5,000,000	
Voluntary reserve	59,665,845	50,000,000	
	125,665,845	105,000,000	
Unappropriated retained earnings	3,840,512,381	3,389,214,398	
	₩ 3,995,902,869	₩ 3,518,984,934	

²During 2012, the Group acquired 22,388 treasury shares through a spin-off. Further appropriation of them is not determined.

Dividend distributed to the Group's ordinary shareholders amounted to \$49,541,072 thousand (2017: \$49,541,072 thousand) for the year ended December 31, 2017, was paid in April, 2018. Dividend distributed to non-controlling interests is \$6,686,600 thousand (2017: \$4,121,740 thousand), was paid in April, 2018.

27. Other Components of Equity

Changes in other components of equity for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018								
	Changes in the fair value of available- for-sale financial assets	Gain (loss) on valuation of equity instruments at fair value through other comprehensive income	Cash flow hedges	Exchange differences on translating foreign operations	Share of other comprehensiv e income of associates	Total _			
Beginning balance ¹	₩ 1,823,902	₩ -	₩ -	₩ (216,095,633)	₩ (357,269)	₩ (214,629,000)			
Changes in accounting policy	(1,823,902)	1,823,902	-	-	-	-			
Adjusted beginning balance	-	1,823,902	-	(216,095,633)	(357,269)	(214,629,000)			
Increase (Decrease) ²	-	(8,964,269)	(5,432,248)	(28,060,455)	(7,050,524)	(49,507,496)			
Reclassification to profit or loss	-	-	-	-	-	-			
Reclassification to non-controlling									
interests		(2,535)		95,946		93,411			
Ending balance	₩ -	₩ (7,142,902)	₩ (5,432,248)	₩ (244,060,142)	₩ (7,407,794)	₩ (264,043,086)			

¹Same as the reported amounts as at December 31, 2017.

²The amount of tax effect is deducted.

(in thousands of Korean won)	2017									
	Beginning balance		Increase (Decrease) ¹		Reclassification to profit or loss		Reclassification to non- controlling interests		Ending balance	
Changes in the fair value of available-for-sale financial assets	₩	901,136	₩	924,537	₩	_	₩	(1,771)	₩	1,823,902
Exchange differences on translating foreign operations		(52,872,780)	(10	63,648,963)		_		426,110		(216,095,633)
Share of other comprehensive		(0.504.005)		0.474.500						(057.000)
income of associates	₩	(3,531,835) (55,503,479)	₩ (1	3,174,566 59,549,860)	₩		₩	424.339	₩	(357,269) (214,629,000)

¹ The amount of tax effect is deducted.

28. Sales and Cost of Sales

Details of sales for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Sales of goods	₩	6,557,501,964	₩	6,783,793,378
Sale of finished goods		6,975,077,606		7,168,897,955
Sale discount		(78,499,010)		(89,672,541)
Sales incentive		(339,076,632)		(295,432,036)
Rendering of services		237,586,851		29,064,604
Rental sales		2,683,681		2,690,325
Service sales		234,903,170		26,374,279
	₩	6,795,088,815	₩	6,812,857,982

Details of cost of sales for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Cost of finished goods sold	₩	4,524,699,753	₩	4,471,533,234
Cost of service sales		190,748,199		-
Custom duties reimbursed		(1,816,187)		(3,477,301)
Loss (reversal) on valuation of inventories and				
others		(22,188,146)		24,327,735
	₩	4,691,443,619	₩	4,492,383,668

29. Selling and Administrative Expenses

Details of selling and administrative expenses for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018	2017
Salaries	₩ 204,447,5	73 ₩ 190,124,664
Post-employment benefits	12,011,3	
Service expenses	40,933,8	
Employee welfare benefits	41,102,5	
Utility expenses	4,707,1	
Supplies expenses	2,795,0	
Repairs expenses	6,258,7	
Test expenses	14,911,3	
Overseas branch maintenance expenses	10,212,4	49 10,766,622
Travel expenses	15,240,7	83 16,728,468
Training expenses	1,906,3	32 1,219,749
Communication expenses	3,716,3	29 3,711,579
Entertainment expenses	3,765,0	72 4,717,828
Vehicles maintenance expenses	4,066,2	36 3,818,139
Publication expenses	1,165,6	23 494,460
Commission fees	61,417,3	35 59,310,634
Rental expenses	36,289,3	33,910,500
Depreciation of property, plant and equipment	34,090,4	92 35,521,858
Depreciation of investment property	1,034,4	76 1,030,795
Amortization of intangible assets	17,584,1	61 12,820,265
Insurance	8,278,4	7,343,051
Taxes and dues	24,438,9	93 22,288,087
Impairment loss on receivables	1,744,3	11 669,743
Conference expenses	1,177,8	76 941,161
Brand loyalty expenses	49,351,9	55 48,575,290
SSC service fee	4,117,3	77 20,851,829
Travel and transportation expenses	222,071,3	24 217,608,118
Ship transportation expenses		- 180,283,789
Advertising	222,084,4	31 226,501,581
Other export expenses	12,380,1	02 13,067,646
Packing charges	8,774,4	91 10,969,491
Sales damage expenses	37,548,7	26 16,800,598
Foreign market development expenses	92,7	
Storage charges	98,904,8	
Other expenses	1,024,5	
	₩ 1,209,646,3	<u>₩ 1,349,380,914</u>

30. Finance Income

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

(in thousands of Korean won)	2018		2017	
Interest income	₩	13,614,025	₩	11,890,324
Gains on valuation of derivatives		4,711,764		5,695,291
Gains on transaction of derivatives		706,708		4,143,118
Gains on foreign currency translation		22,069,293		49,437,634
Gains on foreign currency transaction		41,256,655		59,305,707
	₩	82,358,445	₩	130,472,074

31. Finance Costs

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

(in thousands of Korean won)		2018	2017		
Interest expense	₩	57,031,424	₩	58,647,115	
Loss on disposal of debt instruments at fair value					
through other comprehensive income		19,618		-	
Losses on disposal of available-for-sale financial					
assets		-		108	
Impairment loss on available-for-sale financial					
assets		-		100,000	
Losses on valuation of derivatives		10,918,804		860,656	
Losses on transaction of derivatives		14,012,484		5,584,989	
Losses on foreign currency transaction		52,895,323		52,354,834	
Losses on foreign currency translation		4,350,854		27,475,894	
	₩	139,228,507	₩	145,023,596	

32. Other Non-operating Income

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

(in thousands of Korean won)	2018		2017	
Royalty income	₩	476,809	₩	488,891
Dividend income		126,956		69,771
Commission income		4,387,024		2,104,715
Rental income		809,382		863,842
Gains on foreign currency translation		18,214,089		21,461,773
Gains on foreign currency transaction		106,498,485		76,345,892
Gains on disposal of property, plant and				
equipment		4,911,675		3,079,339
Gains on disposal of intangible assets		-		45,620
Gain on disposal of investment properties		211,241		-
Gains on insurance settlements		11,864		143,606
Gains on transaction of derivatives		4,232,125		257,633
Gains on valuation of derivatives		49,378		-
Other		19,548,536	1	18,699,474
	₩	159,477,564	₩	123,560,556

33. Other Non-operating Expenses

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

(in thousands of Korean won)		2018		2017
Donation	₩	3,283,242	₩	2,269,580
Losses on foreign currency transaction		83,950,250		107,739,742
Losses on foreign currency translation		34,300,236		46,005,894
Losses on disposal of trade receivables		3,838		103,453
Losses on disposal of property, plant and equipment		7,764,647		4,917,468
Losses on abandonment of property, plant and equipment		14,517		8,785
Losses on disposal of intangible assets		8,181		695
Impairment loss on intangible assets		-		6,067,460
Losses on valuation of derivative instruments		109,312		4,167,893
Losses on derivative instruments transactions		2,603,209		-
Other		13,522,779		24,228,271
	₩	145,560,211	₩	195,509,241

34. Tax Expense and Deferred Tax

Income tax expense for the years ended December 31, 2018 and 2017, consists of:

(in thousands of Korean won)		2018		2017
Current tax:				
Current tax on profit for the year	₩	188,464,740	₩	80,090,297
Deferred tax:				
Origination and reversal of temporary differences		(33,992,962)		35,204,894
Changes in tax credit		12,847,788		21,284,310
Income tax expense	₩	167,319,566	₩	136,579,501

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)		2018		2017
Profit before income tax expense	₩	697,700,249	₩	743,036,343
Tax calculated at statutory tax rates applicable to profits in the respective countries)	153,519,692		165,231,050
Tax effects of:				
Income not subject to tax		(3,162,080)		(2,728,933)
Expenses not deductible for tax purposes		7,610,933		7,416,413
Tax credit and reduction effect		(2,861,903)		(37,709,216)
Others		12,212,924		4,370,187
Subtotal		13,799,874		(28,651,549)
Income tax expense	₩	167,319,566	₩	136,579,501
Effective tax rate		24.0%		18.4%

The tax effect relating to components of other comprehensive income for the years ended December 31, 2018 and 2017, is as follows:

(in thousands of		2018			2017	
Korean won)	Before tax	Tax effect	After tax	Before tax	Tax effect	After tax
Remeasurements of net						
defined benefit liabilities	₩ 6,166,386	₩ (1,956,799)	₩ 4,209,587	₩ 23,194,190	₩ (6,317,768)	₩ 16,876,422
Share of retained earnings of		,			,	
associates	(201,827)	48,842	(152,985)	1,715,852	190,483	1,906,335
Changes in the fair value of						
available-for-sale financial						
assets	-	-	-	660,230	264,307	924,537
Gain (loss) on valuation of						
financial assets at fair value						
through other comprehensive						
income	(11,604,099)	2,639,830	(8,964,269)	-	-	-
Valuation of derivative						
instruments	(7,492,756)	2,060,508	(5,432,248)	-	-	-
Exchange differences on						
translating foreign operations	(28,060,455)	-	(28,060,455)	(163,648,962)	-	(163,648,962)
Share of other comprehensive						
income of associates	(9,515,263)	2,464,739	(7,050,524)	2,569,140	605,425	3,174,565
	₩ (50,708,014)	₩ 5,257,120	₩ (45,450,894)	₩ (135,509,550)	₩ (5,257,553)	₩ (140,767,103)

The analysis of deferred tax assets and liabilities as at December 31, 2018 and 2017, is as follows:

(in thousands of Korean won)		2018		2017
Deferred tax asset(liabilities) to be recovered within 12 months Deferred tax asset(liabilities) to be recovered after more than 12	₩	88,023,310	₩	35,328,471
months		71,600,534		87,748,519
	₩	159,623,844	₩	123,076,990

The movement in deferred tax assets and liabilities during the year, without taking into consideration the offsetting of balances within the same tax jurisdiction, is as follows:

(in thousands of			2018		
Korean won)	Beginning balance	Business combination and others	Statement of profit or loss	Other comprehensive income	Ending balance
Property, plant and equipment	₩ 1,229,068	₩ -	₩ 14,819,375	₩ -	₩ 16,048,443
Inventories	1,498,824	-	(113,589)	-	1,385,235
Accrued income	(12,560)	-	(42,944)	-	(55,504)
Derivatives	652,978	-	366,121	2,060,507	3,079,606
Long-term employee benefit	4,752,922	-	(158,310)	-	4,594,612
Other Provision Post-employment benefit	14,578,139	-	2,342,365	-	16,920,504
obligation	(4,222,429)	-	2,155,983	(1,846,726)	(3,913,172)
Accrued expense Advanced depreciation provision for non-	5,138,963	-	1,747,415	-	6,886,378
depreciable assets Advanced depreciation provision for depreciable	(17,210,321)	-	551,437	-	(16,658,884)
assets	(304,962)	-	30,182	-	(274,780)
Gains and losses on foreign currency translation	216	-	-	-	216
Others Deferred tax asset(liabilities)	1,067,314	-	2,263,989	3,043,584	6,374,887
of subsidiaries Deferred tax asset(liabilities) related with consolidation	(16,324,584)	15,584,207	19,160,155	11,908,830	30,328,608
adjustment	88,081,137	(20,642,289)	(9,129,216)	3,579,163	61,888,795
	₩ 78,924,705	₩ (5,058,082)	₩ 33,992,963	₩ 18,745,358	₩ 126,604,944
Tax credit and tax reduction	44,152,284		(1,859,310)	1,714,404	33,018,900
	₩ 123,076,989	₩ (5,058,082)	₩ 21,145,175	₩ 20,459,762	₩ 159,623,844

(in thousands of			2017		
Korean won)		Business		Other	
	Beginning	combination and	Statement of	comprehensive	
	balance	others	profit or loss	income	Ending balance
Property, plant and					
equipment	₩ (10,546,700)	₩ -	₩ 11,775,768	₩ -	₩ 1,229,068
Inventories	1,022,016	-	476,808	-	1,498,824
Accrued income	(135,164)	-	122,604	-	(12,560)
Derivatives	(159,242)	-	812,220	-	652,978
Long-term employee benefit	4,197,457	-	555,465	-	4,752,922
Other Provision Post-employment benefit	15,016,488	-	(438,349)	-	14,578,139
obligation	(121,509)	-	2,236,682	(6,337,602)	(4,222,429)
Accrued expense Advanced depreciation provision for non-	5,066,862	-	72,101	-	5,138,963
depreciable assets Advanced depreciation provision for depreciable	(15,493,272)	-	(1,717,049)	-	(17,210,321)
assets Gains and losses on foreign	(294,928)	-	(10,034)	-	(304,962)
currency translation	(43,574)	-	43,790	-	216
Others Deferred tax asset(liabilities)	339,618	-	727,696	-	1,067,314
of subsidiaries Deferred tax asset(liabilities) related with consolidation	3,324,806	5,412,291	(22,073,339)	(2,988,342)	(16,324,584)
adjustment	119,756,789		(27,789,257)	(3,886,395)	88,081,137
	₩ 121,929,647	₩ 5,412,291	₩ (35,204,894)	₩ (13,212,339)	₩ 78,924,705
Tax credit and tax reduction	54,407,204	-	(21,284,310)	11,029,390	44,152,284
	₩ 176,336,851	₩ 5,412,291	₩ (56,489,204)	₩ (2,182,949)	₩ 123,076,989

Details of unrecognized taxable temporary differences as deferred tax liabilities as at December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

2018

2017

Remarks

Investments in subsidiaries

W 2,406,771,228 W 2,292,662,810

No plan to dispose the investments

35. Expenses by Nature

Expenses by nature for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)

Korean won)		20	18	
	Coat of color	Selling and administrative	Research and development	Total
Changes in	Cost of sales	expenses	expenses	Total
inventories:				
Finished goods	₩ (139,905,967)	₩ -	₩ -	₩ (139,905,967)
Work in process	(2,481,323)	-	-	(2,481,323)
Supplies	(6,909,769)	-	-	(6,909,769)
Raw materials	30,927,985	-	-	30,927,985
Purchase of raw				
materials and others	2,584,087,829	-	-	2,584,087,829
Employees benefits	713,844,718	257,561,387	95,840,054	1,067,246,159
Depreciation ¹	498,276,174	35,124,967	25,886,309	559,287,450
Amortization	2,239,976	15,685,435	1,816,009	19,741,420
Commission fees	51,247,877	61,417,335	8,374,189	121,039,401
Others	960,116,119	839,857,261	59,431,650	1,859,405,030
	₩ 4,691,443,619	₩ 1,209,646,385	₩ 191,348,211	₩ 6,092,438,215

¹ Depreciation of investment properties are included.

(in thousands of

Korean won)	2017							
			Selling and diministrative	_	esearch and evelopment			
	Co	st of sales		expenses	(expenses		Total
Changes in								
inventories:								
Finished goods	₩	29,460,667	₩	-	₩	-	₩	29,460,667
Work in process		(2,469,272)		-		-		(2,469,272)
Supplies		(3,302,954)		-		-		(3,302,954)
Raw materials		(91,619,593)		-		-		(91,619,593)
Purchase of raw materials and others	2	,832,544,472		-		-		2,832,544,472
Employees benefits		688,101,574		241,423,593		86,995,655		1,016,520,822
Depreciation ¹		468,536,297		36,552,653		26,276,815		531,365,765
Amortization		3,491,882		12,820,265		1,446,621		17,758,768
Commission fees		47,338,990		59,310,634		5,847,668		112,497,292
Others		520,301,605		999,273,769		57,094,870		1,576,670,244
	₩ 4	,492,383,668	₩	1,349,380,914	₩	177,661,629	₩	6,019,426,211

¹ Depreciation of investment properties are included.

36. Earnings per Share

The basic and diluted earnings per share for the years ended December 31, 2018 and 2017, are computed as follows:

(in Korean won)	2017	2017
Profit for the year attributable to the ordinary equity holders of the Parent Company ¹ Weighted-average number of ordinary shares	₩ 522,214,845,405	₩ 599,063,937,358
outstanding (in shares) ²	123,852,681	123,852,681
Basic and diluted earnings per share	₩ 4,216	₩ 4,837

¹ Weighted average number of ordinary shares outstanding is calculated considering outstanding ordinary shares divided by outstanding period, excluding number of treasury shares.

² Basic and diluted earnings per share are the same because there is no potentially dilutive ordinary share issued by the Group.

37. Business Combination

In May 2018, the Group acquired 75% of issued shares of Model Solution Co., Ltd. and obtained control. The goodwill of \forall 42,415,368 thousand arising from the acquisition is attributable to economies of scale expected from combining the Group and the operations of Model Solution Co., Ltd. The recognized goodwill will not be deductible for tax purpose. Details of the purchase consideration, the assets and liabilities recognized as a result of the acquisition, and goodwill at the acquisition date are as follows:

(in thousands of Korean won)		Amount
Consideration Transferred	₩	68,625,000
Recognized amounts of identifiable assets acquired and liabilities assumed		
Cash and cash equivalents		2,072,128
Trade and other receivables		5,400,392
Inventories		1,755,636
Other current assets		200,849
Financial assets at fair value through other comprehensive income		500
Property, plant and equipment		20,865,986
Investment properties		112,805
Intangible assets		575,974
Customer relationship and others		26,420,000
Other financial assets		398,480
Other non-current assets		662,187
Deferred tax assets		1,190,859
Trade and other payables		(4,021,585)
Short-term borrowings		(400,000)
Current income tax liabilities		(487,092)
Other financial liabilities		(3,936)
Other current liabilities		(465,771)
Long-term payables		(11,400,000)
Net defined benefit liabilities		(1,686,236)
Deferred tax liabilities		(6,245,000)
Net identifiable assets acquired		34,946,176
Non-controlling interests		(8,736,544)
Goodwill		42,415,368
	₩	68,625,000

During the year ended Decmebr 31, 2018, a subsidiary of the Group obtained control by entering into a contract for acquiring 100% of issued shares of Reifen-Muller which is a tire distributor in Germany in order to strengthen its global distribution business and secure a distribution business model in Germany, a leading automobile market. Companies to be acquired are Reifen-Muller KG, a sales distribution affiliate of Reifen-Muller and Reifen-Muller GmbH & Co., Runderneuerungswerk KG that is engaged in recycling and sales of tire for truck. The goodwill of ₩64,024,585 thousand arising from the acquisition is attributable to the economies of scale expected from combining the subsidiary of the Group and the operations of Reifen-Muller. Details of the purchase consideration, the assets and liabilities recognized as a result of the acquisition, and goodwill at the acquisition date are as follows:

(in thousands of Korean won)		Amount
Consideration Transferred	₩	137,877,651
Recognized amounts of identifiable assets acquired and liabilities assumed		
Cash and cash equivalents		5,134,295
Trade and other receivables		30,809,813
Inventories		50,123,635
Other current assets		5,765,836
Long-term trade and other receivables		12,848
Property, plant and equipment		138,784,454
Intangible assets		478,652
Customer relationship and others		53,177,052
Other financial assets		2,330
Deferred tax assets		13,913,963
Trade and other payables		(41,714,372)
Short-term borrowings		(45,013,221)
Income tax payables		(13,635,964)
Long-term borrowings		(107,982,960)
Post-employment benefits obligations		(1,009,529)
Provisions		(33,101)
Other non-current liabilities		(31,295)
Deferred tax liabilities		(14,929,370)
Net identifiable assets acquired		73,853,066
Goodwill		64,024,585
	₩	137,877,651

The fair value of net identifiable assets and the goodwill are tentative amounts that will be adjusted to the final valuation results.

38. Operating Segment Information

The Group has a single operating segment subject to Korean IFRS 1108 Segment Reporting; therefore, no operating segment information is disclosed.

The Group is mainly operating in five geographical regions. Net sales information by geographical region for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Kor	ean
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won)		2018		2017				
		Amount	Ratio (%)		Amount	Ratio (%)		
North America	₩	1,960,436,752	28.85	₩	1,904,235,860	27.95%		
South and Central America		248,783,491	3.66		243,598,182	3.58%		
Asia, except Korea		1,341,310,989	19.74		1,505,304,849	22.10%		
Europe		2,302,815,426	33.89		2,166,156,264	31.80%		
Domestic		941,742,157	13.86		993,562,827	14.57%		
	₩	6,795,088,816	100.00	₩	6,812,857,982	100.00%		

There is no external customer, who contributes more than 10% of the Group's total revenue for the years ended December 31, 2018 and 2017.

At the end of the reporting period, non-current assets broken down by location of the assets are shown as follows:

(in thousands of Korean won)	2018	2018				
North America	₩	609,017,216	₩	621,559,636		
South and Central America		1,132,395		1,234,683		
Asia, except Korea		1,658,078,712		1,829,083,987		
Europe		655,529,932		466,178,942		
Domestic		1,857,885,898		1,790,871,471		
	₩	4,781,644,154	₩	4,708,928,719		

Financial assets, deferred tax assets, investment in subsidiaries and net defined benefit assets are excluded from non-current assets.

39. Cash Generated from Operations

Details of cash generated from operations for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Adjustments:				
Income tax expense	₩	167,319,566	₩	136,579,501
Gain on investments in associates		(38,002,359)		(36,104,778)
Gain on disposal of other investment assets		-		(45,620)
Interest income		(13,614,025)		(11,890,324)
Interest expense		57,031,424		58,647,115
Dividend income		(126,956)		(69,771)
Gains on foreign currency translation		(40,283,382)		(70,899,407)
Losses on foreign currency translation		38,651,090		73,481,787
Gains on foreign currency transaction		-		(3,675,552)
Losses on disposal of available-for-sale financial				
assets		-		108
Losses on disposal of debt instruments at fair				
value through other comprehensive income		19,618		-
Losses (gains) on valuation of inventories		(24,190,696)		24,327,735
Losses on abandonment of inventories		2,116,410		-
Losses on disposal of trade receivables		3,838		103,453
Impairment loss on trade receivables		1,744,311		669,743
Other impairment loss		580,324		(46,768)
Gains on disposal of property, plant and				
equipment		(4,911,675)		(3,079,339)
Impairment loss of intangible assets		-		6,067,460
Reversal of impairment loss of intangible assets		(24,000)		-
Gains on disposal of investment properties		(211,241)		-
Losses on disposal of property, plant and				
equipment		7,764,647		4,917,468
Losses on abandonment of property, plant and				
equipment		14,517		8,785
Losses on disposal of intangible assets		8,181		695
Gains on valuation of financial liabilities to non-				
controlling interests		358,589		-
Depreciation of property, plant and equipment		558,252,974		530,334,970
Depreciation of investment properties		1,034,476		1,030,795
Amortization of intangible assets		19,741,420		17,758,768
Casualty loss		-		575,431
Increase in other provisions		70,600		171,854
Sales damage expense		37,549,927		16,800,598
Employee welfare benefit		1,579,687		1,383,654
Post-employment benefit		53,492,770		57,716,757
Gains on valuation of derivatives		(4,761,142)		(5,695,291)

Losses on valuation of derivatives		11,028,116		5,028,549
Gains on transaction of derivatives		(4,938,834)		(4,400,751)
Losses on transaction of derivatives		16,615,693		5,584,989
	₩	843,913,869	₩	805,282,614
(in thousands of Korean won)		2018		2017
Changes in operating assets and liabilities:				
Decrease (increase) in trade receivables	₩	(51,218,263)	₩	3,583,431
Decrease (increase) in other receivables		(52,720,934)		146,466,335
Increase in inventories		(40,220,597)		(172,007,632)
Decrease (increase) in other financial assets		(1,144,355)		1,169,571
Decrease in other assets		34,160,913		13,425,845
Increase (decrease) in trade payables		5,648,924		(136,777,370)
Increase (decrease) in other payables		25,057,925		(917,353)
Decrease in provision		(19,592,064)		(24,856,430)
Decrease in other financial liabilities		(177,826)		(404,755)
Increase (decrease) in other liabilities		35,753,348		(140,757,525)
Payment of post-employment benefits		(31,470,370)		(43,681,338)
Increase in plan assets		(429,039)		(15,531,828)
·	₩	(96,352,338)	₩	(370,289,049)

The principal non-cash transaction for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		2018		2017
Transfer of construction in progress to property,				
plant and equipment	₩	173,411,502	₩	835,453,332
Transfer of construction in progress to loans		13,793,168		-
Changes in non-trade payables in relation to				
acquisition of fixed assets		(6,645,416)		(61,178,191)
Capitalized borrowing costs		1,914,862		3,667,381

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

(in thousands of Korean won)	Short-term borrowings ¹		Long-term borrowings	ı	Debentures (current)		Debentures Non-current)	(Non- controlling interests		Dividend payables	Total
At January 1, 2018	₩ 984,116,462	₩	214,280,000	₩	249,951,373	₩	525,111,689	₩	-	₩	24,314	₩1,973,483,838
Business combination	45,413,221		119,382,960		-		-		-		-	164,796,180
Exchange differences	(7,304,651)		5,895,818		-		23,363,826		-		-	21,954,994
Cash flows	(201,851,847)		(110,011,000)		(250,000,000)		30,569,545		4,750,000		(56,227,672)	(582,770,974)
Amortization cost for debentures	-		-		48,627		3,416,089		-		-	3,464,716
Other (Declared dividends and others)	-		-		-		-		-		56,221,336-	56,221,336-
Transfer	23,429,150		(23,429,150)		-		-		-		-	-
At December 31, 2018	₩ 843,802,336	₩	206,118,628	₩	-	₩	582,461,150	₩	4,750,000	₩	17,978	₩1,637,150,090

¹Includes current portion of long-term borrowings.

(in thousands of Korean won)	Short-term borrowings ¹		Long-term borrowings		Debentures (current)		Debentures Non-current)		Dividend payables	Total
At January 1, 2017	₩1,121,604,955	₩	265,954,277	₩	130,381,159	₩	809,394,766	₩	19,485	₩2,327,354,642
Exchange differences	(66,671,950)		(30,610,676)		-		(35,211,596)		-	(132,494,222)
Cash flows	(210,188,844)		112,604,000		(130,425,000)		-		(53,662,812)	(281,672,656)
Transfer	133,667,601		(133,667,601)		249,951,373		(249,951,373)		-	-
Amortization cost for debentures	-		-		43,841		879,892		-	923,733
Business combinations and others	5,704,700		-		-		-		-	5,704,700
Other (Declared dividends and others)	-		-		-		-		53,667,641	53,667,641
At December 31, 2017	₩ 984,116,462	₩	214,280,000	₩	249,951,373	₩	525,111,689	₩	24,314	₩1,973,483,838

¹Includes current portion of long-term borrowings.

40. Contingencies and Commitments

Pledged assets as collaterals

As at December 31, 2018, a certain portion of the Group's land, buildings, machinery and equipment is pledged as collaterals for borrowings as follows:

(in thousands of Korean won, USD and CNY)	Pledged assets	Pledg	ed amounts
The Korea Development Bank and others	Land, buildings, machinery and short-term financial assets	KRW USD	274,780,000 153,200
	and short-term initiation assets	CNY	285,162

Buildings, inventories, machinery and others are insured against a general liability insurance policy.

The beneficial interest of insurance for buildings and machinery is pledged as collateral for the Group's borrowings (The Korea Development Bank: $\mbox{$\fill\end{\psi}}122,000,000$ thousand and USD 110,000 thousand; Woori Bank: $\mbox{$\fill\end{\psi}}138,140,000$ thousand and USD 43,200 thousand; Hana Bank: $\mbox{$\fill\end{\psi}}14,640,000$ thousand, Bank of China: CNY 276,270 thousand; Agricultural Bank of China: CNY 8,892 thousand).

The Group is insured against potential future claims that may occur under the Product Liability Act in the Republic of Korea that was effective since July 1, 2002, which penalizes a manufacturer or seller when a product is defective and causes injury or damage to a person or property. The Group recognizes the best estimate amounting to $\forall 9,231,830$ thousand, which is expected to be paid, as provision for product liabilities (Note 20).

For the purpose of providing tires in India, the Group provided a payment guarantee to Bureau of Indian Standards through Shinhan Bank New Delhi branch for up to USD 130,000.

Transfer of trade receivables

Trade receivables that are transferred to financial institutions, but not matured, at the end of the reporting period, are as follows:

(in thousands of Korean won)		2018		2017
Collateral loan on trade receivables	₩	543,863,284	₩	653,760,643

The Group recognized trade receivables with recourse which were transferred to financial institutions, but not yet matured as short-term borrowings (Note 19).

Purchase agreement

At the end of the reporting period, the Group has purchase agreements on raw rubber materials with several suppliers, including Southland, which are usually renewed annually. In addition, the Group has supply contracts with Hankook Tire Worldwide Co., Ltd. to be provided trademark license and supporting work and to provide administrative work including finance, accounting, and legal affairs. Moreover, at the end of the reporting period, the Group has a long-term contract with EmFrontier Inc., one of its related parties, to be provided with maintenance service for the Group's information system.

Financing arrangements

Details of the Group's financing arrangements at the end of the reporting period, are as follows:

(in thousands of Korean won)			2018		2017
Comprehensive limit agreements on	Total limit	₩	4,585,968,455	₩	4,886,950,560
discount trade receivable in foreign	Used		1,264,893,391		1,251,411,669
currencies and others	Unused		3,321,075,064		3,635,538,891

Seoul Guarantee Insurance Co., Ltd. has provided guarantee amount to \mathsepsilon 1,038,386 thousand (2017:\mathsepsilon962,696 thousand) for performance guarantee and others.

Pending litigations

As at December 31, 2018, the Group has two pending lawsuits in relation to overtime charges and related additional wage claims amounting to \forall 3,290,884 thousand in total with current or retired employees, and the lawsuits are in process of second trial as they were reversed and remanded from third trial during the year. As a result of second trial, the Group recognized the principal obligated for the payment as other provisions amounting to \forall 609,453 thousand, and this amount is subject to change as a result of litigation.

Additionally, the Group has many outstanding cases as a defendant or as a plaintiff. The ultimate outcome of these cases cannot be predicted reasonably. Management does not expect the outcome of the cases will have a material effect on the Group's financial position.

Coinvestment agreement of shares acquisition

The Group acquired 20,806,200 shares of Hanon Systems Co., Ltd.(19.49% of ownership) from VIHI LLC, the largest shareholder of Hanon Systems Co., Ltd.

- a) Details of Shares Purchase Agreement
 - Seller: Visteon Corp. and VIHI LLC
 - Purchaser: Hahn & Co. Auto Holdings LLC and Hankook Tire Co., Ltd.
 - Contract date: 2014.12.17
 - Closing date of deal: 2015.06.10
 - Number of shares to be purchased per purchaser
 - (i) Hahn & Co. Auto Holdings LLC: 53,913,800 shares (50.50% of ownership)
 - (ii) Hankook Tire Co., Ltd.: 20,806,200 shares (19.49% of ownership)
- b) Contract between shareholders

The purchasers above, the Group and Hahn & Co. Auto Holdings LLC entered into a contract between shareholders that includes the followings:

- Hahn & Co. Auto Holdings LLC's drag-along right
- The Group's right of first refusal
- The Group's tag-along right

Agreements related to shares acquisition

The Group acquired 140,735 shares (75% of ownership) of Model Solution Co., Ltd from Monet Holdings (45,035 shares) and Laird Holding Limited (95,700 shares), shareholders of Model Solution Co., Ltd. In addition, the Group entered into a contract between shareholders with Monet Holdings in relation to investments in Model Solution Co., Ltd.

- a) Details of Shares of Purchase Agreement
 - Seller: Laird Holding Limited, Monet Holdings (Domestic PEF)
 - Purchaser: Hankook Tire Co., Ltd.
 - Contract date: 2018. 05. 31

b) Contract between shareholders

Туре	Name of related parties
Limit on transfer of shares	 Hankook Tire Co., Ltd. requires prior written consent if transfer of shares will not maintain the largest shareholder status, but, except for Model Solution Co., Ltd. after 1 year from IPO. Monet Holdings is limited to transfer the shares to a company of the same business area or a competitor without prior consent of Hankook Tire Co., Ltd.
Tag-along right	Monet Holdings has tag-along right for the transfer of rights of Hankook Tire Co., Ltd, but except for the transfer of shares that are less than 15% of total issued shares to strategic investors who engage in business with strategic objectives and synergies or the transfer of shares that maintain largest shareholder status within 1 year after IPO of Model Solution Co., Ltd
Right of first refusal	Hankook Tire Co., Ltd has right of first refusal if Monet Holdings sells the shares to a third party.
Drag-along right	Monet Holdings has a drag-along right requesting to sell jointly all shares held by Hankook Tire Co., Ltd on the same terms and conditions as Model Solution Co., Ltd. if Hankook Tire Co., Ltd deliberately avoids IPO of Model Solution.
Put option ¹	If IPO is not made within an agreed period, Monet Holdings has a put option to sell all shares of Hankook Tire Co., Ltd. held by Monet Holdings and its selling price is the number of shares held by Monet Holdings multiplied by the amount that selling price of a share determined in shares of purchase agreement concluded on May 31, 2018.

¹ The Group recognized present value of exercise price of put option related to above shares of purchase agreement as financial liabilities (Note 21) and deducted the same amount from its own equity (Note 25).

The Group has requested to review the system of the legality before taxation for the certain items of taxation amount received in relation to the tax investigation regarding its income tax in respect of the financial year of 2013 to 2017 and it is under investigation by the National Tax Service. The final result of this examination and its impact cannot be predicted at the end of the reporting period.

41. Related Party Transactions

Details of related parties as at December 31, 2018, are as follows:

Туре	Name of related parties
Individuals	Yang-Rai Cho, Hyun-Shick Cho, Hyun-Bum Cho
Holding company ¹	Hankook Tire Worldwide Co., Ltd.
Holding company's subsidiaries and associates ²	Atlas BX Co., Ltd., Atlas BX Motorsports Co., Ltd., Atlasbx America Corporation, HK Automotive Co., Ltd., JAX motors Co., Ltd. (formerly, Flying Motors Co., Ltd.), HK Motors Co., Ltd., Han Automobile.Co, EmFrontier Inc., Emfrontier America Inc., PT. EMFRONTIER ENS Indonesia
Domestic associates	Hanon Systems Co., Ltd.
Other related parties ³	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., YKT Co., Ltd.

¹ The entity has a significant influence on the Group.

² The Flying Motors Co., Ltd. merges with Nexzen INC. and changes its name to JAX motors Co., Ltd for the year ended December 31, 2018.

³ Although the entity is not the related party of the Group in accordance with Korean IFRS 1024, the entity belongs to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

Transactions between the Group and related parties for the years ended December 31, 2018 and 2017, are as follows:

a) Sales and others

(in thousands of Korean won)	2018				2017				
	;	Sales		Others	Total	Sales	Ot	thers	Total
Hankook Tire Worldwide Co.,									
Ltd.	₩	111,059	₩	1,749,961	₩ 1,861,020	₩ -	₩	447,738	₩ 447,738
Atlas BX Co., Ltd.		35,111		938,262	973,373	179,050		534,511	713,561
EmFrontier Inc.		28		58,680	58,708	-		24,841	24,841
HK Auto Motive Co., Ltd.		-		113,854	113,854	-		3,651	3,651
JAX motors Co., Ltd. (formerly, Flying Motors Co.,									
Ltd.)		-		-	-	-		8,891	8,891
Hanon Systems Co., Ltd.		25,234		-	25,234				
Atlas BX Motorsports Co., Ltd.		-		30,541	30,541	60,100		-	60,100
Daehwa Eng'& Machinery									
Jinxing Co., Ltd.		285,720		569,052	854,772	503,346			503,346
	₩	457,152	₩	3,460,350	₩ 3,917,502	₩742,496	₩1,	019,632	₩1,762,128

b) Purchases and others

(in thousands of Korean won)		2018		2017			
	Purchases	Others ¹	Others ¹ Total		Others ¹	Total	
Hankook Tire Worldwide Co.,							
Ltd. ²	₩ -	₩ 57,512,827	₩ 57,512,827	₩ -	₩73,608,560	₩73,608,560	
Atlas BX Co., Ltd.	21,193,594	-	21,193,594	37,424,770	-	37,424,770	
Atlas BX Motorsports Co., Ltd	-	684,784	684,784	-	679,928	679,928	
HK Motors Co., Ltd.	-	92,498	92,498	-	1,472,229	1,472,229	
HK Automotive Co., LTd	-	2,313	2,313	-	-	-	
EmFrontier Inc.	-	28,499,718	28,499,718	-	66,111,042	66,111,042	
Emfrontier America Inc.	-	514,070	514,070	-	3,300,413	3,300,413	
Daehwa Eng'&Machinery Jiaxing							
Co., Ltd.	-	14,513,145	14,513,145	-	12,994,700	12,994,700	
Shin-Yang Tourist Development		148,316	148,316		208,598	208,598	
	₩21,193,594	₩ 101,967,671	₩ 123,161,265	₩37,424,770	₩158,375,470	₩195,800,240	

¹ Sales rebates and other paid to related parties, which are sales deductible items, are presented as purchases and others.

² The Group entered into service supporting agreement and trademark license agreement with Hankook Tire Worldwide Co., Ltd.

Outstanding balances of receivables and payables as at December 31, 2018 and 2017, are as follows:

a) Receivables and others

(in thousands of Korean won)	2018				2017			
	Trade receivables		Non-trade receivables	Total	Trade receivables	Non-trade receivables	Total	
Hankook Tire Worldwide Co.,								
Ltd.	₩	66	₩ 3,004,532	₩ 3,004,598	₩ -	₩1,979,701	₩1,979,701	
Atlas BX Co., Ltd.		-	423,756	423,756	-	149,050	149,050	
JAX motors Co., Ltd.								
(formerly, Flying Motors Co.,								
Ltd.)		-	-	-	-	3,510	3,510	
EmFrontier Inc.		-	-	-	-	3,300	3,300	
HK Motors Co., Ltd.		-	-	-	-	2,653	2,653	
Hanon Systems Co., Ltd.		2,462	-	2,462	-	-	-	
Atlasbx America Corporation		_	-	-	149,050	-	149,050	
Daehwa Eng'& Machinery								
Jiaxing Co., Ltd.		-	440,293	440,293	-	415,056	415,056	
Shin-Yang Tourist Development			400,000	400,000		400,000	400,000	
	₩	2,528	₩ 4,268,581	₩ 4,271,109	₩ 149,050	₩2,953,270	₩3,102,320	

b) Payables and others

(in thousands of Korean won)	2018			2017			
		Non-trade		Trade	Non-trade		
	Trade payable	payables	Total	payable	payables	Total	
Hankook Tire Worldwide Co.,							
Ltd.	₩ -	₩ 19,403,900	₩19,403,900	₩ -	₩ 26,911,880	₩ 26,911,880	
Atlas BX Co., Ltd.	4,388,721	176,116	4,564,837	15,630,383	168,742	15,799,125	
HK Motors Co., Ltd.	-	34,228	34,228	-	-	-	
EmFrontier Inc.	-	8,561,919	8,561,919	-	19,072,330	19,072,330	
Daehwa Eng'& Machinery							
Jiaxing Co., Ltd.	-	2,537,287	2,537,287	-	19,510	19,510	
Shin-Yang Tourist							
Development		4,620	4,620		19,510	19,510	
	₩ 4,388,721	₩ 30,718,070	₩ 30,718,070	₩15,630,383	₩ 46,968,983	₩ 62,599,366	

Hankook Tire Worldwide Co., Ltd. (the surviving company) is jointly and severally liable for the Group's liabilities incurred before the spin-off. The outstanding balance of payment guarantee and credit facility agreements provided by Hankook Tire Worldwide Co., Ltd. jointly and severally at the end of reporting period are as follows:

(in thousands of Korean won,	2018			2017			
HUF, USD)	Foreign currency	Korean won equivalent		Foreign currency		orean won equivalent	
Credit facility agreements							
USD	-	₩	-	70,000	₩	74,998,000	

Borrowing transactions with related parties for the years ended December 31, 2018 and 2017, are as follows:

There are no borrowing transactions with related parties for the year ended December 31, 2018.

		2017						
(in thousands of Korea	n			Foreign currency				
won)		Beginning balance	Repayments	translation	Ending balance			
Hankook Tire Worldwide Co., Ltd.	Short-term borrowings	₩ 54,750,160	₩ (51,074,608)	₩ (3,675,552)	₩	_		
Worldwide Go., Etd. Dorrowings	Donowingo	₩ 54,750,160	₩ (51,074,608)	₩ (3,675,552)	₩	_		

Dividend income/paid and contributions in cash with related parties for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)		201	18	2017							
		Dividend income Dividend paid Dividend income		Dividend income Dividend paid		Dividend income Dividend paid Dividend income Dividend income		vidend income Dividend paid Dividend income Dividend		d income Dividend paid Dividend income Dividend p	
Holding company	Hankook Tire Worldwide Co., Ltd Hanon Systems	₩ -	₩ 14,865,008	₩ -	₩ 12,469,811						
Associate	Co., Ltd.	33,289,920	<u>-</u>	31,209,300	<u>-</u> _						
		₩ 33,289,920	₩ 14,865,008	₩ 31,209,300	₩ 12,469,811						

Compensations for key management for the years ended December 31, 2018 and 2017, are as follows:

(in thousands of Korean won)	2018			2017
Salaries	₩	10,563,556	₩	9,820,543 1,449,112
Post-employment benefits	₩	1,860,976 12,424,532	₩	11,269,655
		12, 124,002		11,230,000

42. Credit Risk

The Group is exposed to credit risk when the following payments are not made from the counterparty by the payment date.

- Payment of trade receivables within the payment terms by customer.
- Contractual cash flows of debt instruments measured at amortized cost

Trade receivables

The Group applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables. To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due.

Other financial assets measured at amortized cost

All of the other financial assets at amortized costs are considered to have low credit risk, and the loss allowance recognized during the period was, therefore, limited to 12 months expected loss. Management considers 'low credit risk' for government bonds. Other instruments are considered to be low credit risk when they have a low risk of default and the issuer has a strong capacity to meet its contractual cash flow obligations in the near term.

43. Changes in accounting policy

43.1 Adoption of Korean IFRS 1109 Financial Instruments

As explained in Note 2, Group has applied Korean IFRS 1109 Financial Instruments on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures for prior reporting period have not been restated with the exception of certain aspects of hedge accounting. The adoption of Korean IFRS 1109 does not have a significant impact on the consolidated financial statements.

(a) Classification and Measurement of Financial Instruments

On the date of initial application of Korean IFRS 1109, January 1, 2018, the Group's management has assessed which business models apply to the financial assets held by the Group and has classified its financial instruments into the appropriate Korean IFRS 1109 categories. Accordingly, the Group reclassified financial assets amounting to \$%4,387,494\$ thousand classified as available-for-sale financial assets as at December 31, 2017, to financial assets at fair value through other comprehensive income. Other loans and receivables amounting to \$%1,981,772,856\$ thousand, financial liabilities at amortized cost amounting to \$%2,188,552,751\$ thousand and other financial liabilities amounting to \$%653,760,643\$ thousand were reclassified to financial assets and liabilities at amortized cost, respectively.

As at January 1, 2018, related accumulated other comprehensive income of \forall 1,823,902 thousand for the equity instruments in the related other components of equity were not reclassified to profit or loss even though these assets are disposed of.

On the date of initial application, January 1, 2018, the financial assets of the Group with any reclassifications noted, were as follows:

(in thousands of Korean won)	Measureme	nt category	Carrying amount				
wony	Korean IFRS 1039	Korean IFRS 1109	Korean IFRS 1039	Korean IFRS 1109	Difference		
Current financial assets							
Cash and cash equivalents	Amortized costs	Amortized costs	₩ 694,151,216	₩ 694,151,216	₩ -		
Short-term financial instruments	Amortized costs	Amortized costs	4,343,731	4,343,731	-		
Trade receivables and other receivables	Amortized costs	Amortized costs	1,254,005,058	1,254,005,058	-		
Other financial assets	Amortized costs	Amortized costs	6,922,266	6,922,266	-		
Financial derivative assets	Financial assets at fair value through profit or loss	Fair value through profit or loss	4,751,634	4,751,634	-		
Non-current financial asso	ets						
Long-term financial instruments	Amortized costs	Amortized costs	60,995	60,995	-		
Trade receivables and other receivables	Amortized costs	Amortized costs	972,439	972,439	-		
Listed shares and others	Available-for-sale financial assets	Fair value through other comprehensive income	4,387,494	4,387,494	-		
Other financial assets	Amortized costs	Amortized costs	21,317,151	21,317,151	-		
Financial derivative assets	Financial assets at fair value through profit or loss	Fair value through profit or loss	1,045,576	1,045,576	-		

(b) Impairment of Financial Assets

The Group has two types of financial assets subject to Korean IFRS 1109's new expected credit loss model:

- · trade receivables for sales of inventory, and
- debt investments carried at amortized cost

Upon adoption of Korean IFRS 1109, accounting policies for recognition of impairment have changed. The impact of the change in impairment methodology on the Group's beginning balance of retained earnings is not significant.

(i) Trade receivables

The Group applies the simplified approach to measure the loss allowance at an amount equal to lifetime expected credit losses for trade receivables.

(ii) Debt instruments

Debt investments at amortized cost and those at fair value through other comprehensive income are considered to be low risk, and thus the provision for impairment is determined as 12 months expected credit losses.

43.2 Adoption of Korean IFRS 1115 Revenue from Contracts with Customers

As explained in Note 2, the Group has applied Korean IFRS 1115 *Revenue from contracts with customers* from January 1, 2018. In accordance with the transitional provisions in Korean IFRS 1115, comparative figures have not been restated. The impacts on the consolidated financial statements from application of Korean IFRS 1115 are as follows.

The Group identified distinct transportation services from sale of goods upon application of Korean IFRS 1115. In addition, the costs of performance have been incurred before the customer's benefits (revenue recognition) are generated, and such cost to fulfill a contract is amortized over the contract period through capitalization if it meets the capitalization criteria. The adjusted amounts in the statements of financial position as at initial application are not significant.

Financial statement line items affected by the adoption of the new rules in the current period are as follows:

(in thousands of Korean won)	Rep	orted amount	Adjustments	Amount before application of Korean IFRS 1115	
Sales	₩	6,795,088,816	₩ (447,120	0) ₩ 6,794,641,696	
Cost of sales		4,691,443,619	(206,849,294	4,484,594,325	
Selling and administrative expenses ¹		1,400,994,596	207,296,41	1,608,291,010	

¹ Amount includes research and development expenses on the statement of comprehensive income.

There is no significant difference between the cash flows from the application of Korean IFRS 1115 and those under the previous standard.