

SK HYNIX, INC. AND SUBSIDIARIES

Condensed Consolidated Interim Financial Statements

September 30, 2019 and 2018

(Unaudited)

(With Independent Auditors' Review Report Thereon)

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Independent Auditors' Review Report

Based on a report originally issued in Korean

The Board of Directors and Shareholders
SK hynix, Inc.:

Reviewed financial statements

We have reviewed the accompanying condensed consolidated interim financial statements of SK hynix, Inc. and its subsidiaries (the "Group") which comprise the condensed consolidated statement of financial position as of September 30, 2019, the condensed consolidated statements of comprehensive income for the three and nine-month periods ended September 30, 2019 and 2018, and changes in equity and cash flows for the nine-month periods ended September 30, 2019 and 2018 and notes, comprising a summary of significant accounting policies and other explanatory information.

Management's responsibility

Management is responsible for the preparation and fair presentation of these condensed consolidated interim financial statements in accordance with Korean International Financial Reporting Standards ("K-IFRS") No.1034 '*Interim Financial Reporting*', and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' review responsibility

Our responsibility is to issue a report on these condensed consolidated interim financial statements based on our reviews.

We conducted our reviews in accordance with the Review Standards for Quarterly and Semiannual Financial Statements established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial statements consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our reviews, nothing has come to our attention that causes us to believe that the accompanying condensed consolidated interim financial statements referred to above are not prepared fairly, in all material respects, in accordance with K-IFRS No.1034 '*Interim Financial Reporting*'.

Other matters

The consolidated statement of financial position of the Group as of December 31, 2018, and the related consolidated statements of comprehensive income, changes in equity and cash flows for the year then ended, which are not accompanying this report, were audited by us in accordance with Korean Standards on Auditing and our report thereon, dated February 25, 2019, expressed an unqualified opinion. The accompanying condensed consolidated statement of financial position of the Group as of December 31, 2018, presented for comparative purposes, is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived.

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



KPMG Samjong Accounting Corp.

KPMG Samjong Accounting Corp.
Seoul, Korea
November 12, 2019

This report is effective as of November 12, 2019, the review report date. Certain subsequent events or circumstances, which may occur between the review report date and the time of reading this report, could have a material impact on the accompanying condensed consolidated interim financial statements and notes thereto. Accordingly, the readers of the review report should understand that the above review report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

SK HYNIX, INC. and Subsidiaries
Condensed Consolidated Statements of Financial Position
As of September 30, 2019 and December 31, 2018
(Unaudited)

(In millions of won)

	Note	2019	2018
Assets			
Current assets			
Cash and cash equivalents	5,6 ₩	1,203,143	2,349,319
Short-term financial instruments	5,6,7	313,655	523,579
Short-term investment assets	5,6	1,738,782	5,496,452
Trade receivables, net	5,6,8,32	4,757,987	6,319,994
Loans and other receivables, net	5,6,8,32	21,250	18,392
Inventories, net	9	5,473,612	4,422,733
Current tax assets		9,658	22,252
Other current assets	10,32,33	657,412	741,425
		<u>14,175,499</u>	<u>19,894,146</u>
Non-current assets			
Investments in associates and joint ventures	11	726,889	562,194
Long-term investment assets	5,6,12	4,819,043	4,325,550
Loans and other receivables, net	5,6,8,32	105,777	68,514
Other financial assets	5,6,7	943	310
Property, plant and equipment, net	13,33	38,937,960	34,952,617
Right-of-use assets	3,14	1,055,025	-
Intangible assets, net	15	2,566,223	2,678,770
Investment property, net	16	261	1,400
Deferred tax assets		681,262	544,016
Employee benefit assets, net	20	-	5,164
Other non-current assets	10,32,33	602,869	625,654
		<u>49,496,252</u>	<u>43,764,189</u>
Total assets	₩	<u><u>63,671,751</u></u>	<u><u>63,658,335</u></u>

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries
Condensed Consolidated Statements of Financial Position, Continued
As of September 30, 2019 and December 31, 2018
(Unaudited)

(In millions of won)

	Note	2019	2018
Liabilities			
Current liabilities			
Trade payables	5,6,32 ₩	915,017	1,096,380
Other payables	5,6,32	2,014,192	3,681,933
Other non-trade payables	5,6,32	1,187,543	1,879,520
Borrowings	5,6,17,33,34	2,297,571	1,614,303
Provisions	19	4,883	56,208
Current tax liabilities		58,508	4,555,670
Lease liabilities	3,5,6,14,34	198,930	-
Other current liabilities	18	150,780	147,838
		<u>6,827,424</u>	<u>13,031,852</u>
Non-current liabilities			
Other non-trade payables	5,6,32	17,982	15,231
Borrowings	5,6,17,33,34	7,405,344	3,667,634
Defined benefit liabilities, net	20	181,824	5,387
Deferred tax liabilities		5,471	6,597
Lease liabilities	3,5,6,14,34	884,042	-
Other non-current liabilities	18,33	83,438	79,303
		<u>8,578,101</u>	<u>3,774,152</u>
Total liabilities		<u>15,405,525</u>	<u>16,806,004</u>
Equity			
Equity attributable to owners of the Parent Company			
Capital stock	22	3,657,652	3,657,652
Capital surplus	22	4,143,736	4,143,736
Other equity	22,35	(2,505,188)	(2,506,451)
Accumulated other comprehensive loss	23	(164,874)	(482,819)
Retained earnings	24	43,122,640	42,033,601
Total equity attributable to owners of the Parent Company		<u>48,253,966</u>	<u>46,845,719</u>
Non-controlling interests		<u>12,260</u>	<u>6,612</u>
Total equity		<u>48,266,226</u>	<u>46,852,331</u>
Total liabilities and equity	₩	<u><u>63,671,751</u></u>	<u><u>63,658,335</u></u>

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Income
For the three and nine-month periods ended September 30, 2019 and 2018
(Unaudited)

(In millions of won, except per share information)

	<i>Note</i>	2019		2018	
		Three-month period	Nine-month period	Three-month period	Nine-month period
Revenue	4,25,32 ₩	6,838,766	20,063,622	11,416,788	30,506,985
Cost of sales	27,32	5,023,127	13,550,971	3,871,624	11,017,081
Gross profit		1,815,639	6,512,651	7,545,164	19,489,904
Selling and administrative expense	26,27,32	1,343,078	4,035,970	1,072,744	3,076,229
Operating profit		472,561	2,476,681	6,472,420	16,413,675
Finance income	28	416,962	1,305,369	172,835	1,176,190
Finance expenses	28	389,229	1,113,882	251,999	929,616
Share of profit of equity-accounted investees	11	4,469	14,522	2,979	11,451
Other income	29,32	31,440	80,822	57,491	74,725
Other expenses	29,32	15,904	87,652	18,492	116,906
Profit before income tax		520,299	2,675,860	6,435,234	16,629,519
Income tax expense	30	24,815	541,221	1,743,041	4,487,454
Profit for the period		495,484	2,134,639	4,692,193	12,142,065
Other comprehensive income (loss)					
Item that will never be reclassified to profit or loss:					
Remeasurements of defined benefit liability, net of tax	20	(5,129)	(16,441)	(7,051)	(21,146)
Items that are or may be reclassified to profit or loss:					
Foreign operations – foreign currency translation differences, net of tax	23	46,371	270,592	(233,252)	(20,728)
Equity-accounted investees – share of other comprehensive income (loss), net of tax	11,23	18,238	47,127	(4,524)	9,366
Other comprehensive income (loss) for the period, net of tax		59,480	301,278	(244,827)	(32,508)
Total comprehensive income for the period	₩	554,964	2,435,917	4,447,366	12,109,557

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries

Condensed Consolidated Statements of Comprehensive Income, Continued

For the three and nine-month periods ended September 30, 2019 and 2018

(Unaudited)

(In millions of won, except per share information)

		2019		2018	
	<i>Note</i>	Three-month period	Nine-month period	Three-month period	Nine-month period
Profit (loss) attributable to:					
Owners of the Parent Company	₩	493,201	2,131,483	4,693,620	12,143,821
Non-controlling interests		2,283	3,156	(1,427)	(1,756)
Total comprehensive income					
(loss) attributable to:					
Owners of the Parent Company		553,260	2,432,987	4,448,533	12,110,387
Non-controlling interests		1,704	2,930	(1,167)	(830)
Earnings per share					
Basic earnings per share (in won)	31	721	3,116	6,731	17,272
Diluted earnings per share (in won)	31	721	3,116	6,730	17,270

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries

Condensed Consolidated Statements of Changes in Equity

For the nine-month periods ended September 30, 2019 and 2018
(Unaudited)

(In millions of won)

Attributable to owners of the Parent Company									
Note	Capital stock	Capital surplus	Other equity	Accumulated			Total	Non-controlling interests	Total equity
				comprehensive loss	other	Retained earnings			
Balance at January 1, 2018	₩	3,657,652	4,143,736	(771,100)	(491,529)	27,276,521	33,815,280	5,639	33,820,919
Total comprehensive income:									
Profit for the period		-	-	-	-	12,143,821	12,143,821	(1,756)	12,142,065
Remeasurements of defined benefit liability, net of tax	20	-	-	-	-	(21,146)	(21,146)	-	(21,146)
Other comprehensive income from joint venture and associate, net of tax	11,23	-	-	-	9,366	-	9,366	-	9,366
Foreign currency translation differences for foreign operations, net of tax	23	-	-	-	(21,654)	-	(21,654)	926	(20,728)
Total comprehensive income		-	-	-	(12,288)	12,122,675	12,110,387	(830)	12,109,557
Transactions with owners of the Parent Company:									
Acquisition of treasury shares		-	-	(1,736,514)	-	-	(1,736,514)	-	(1,736,514)
Dividends paid		-	-	-	-	(706,002)	(706,002)	-	(706,002)
Share-based payment transactions	35	-	-	866	-	-	866	-	866
Total transactions with owners of the Parent Company		-	-	(1,735,648)	-	(706,002)	(2,441,650)	-	(2,441,650)
Balance at September 30, 2018	₩	3,657,652	4,143,736	(2,506,748)	(503,817)	38,693,194	43,484,017	4,809	43,488,826

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity, Continued
For the nine-month periods ended September 30, 2019 and 2018
(Unaudited)

	Note	Attributable to owners of the Parent Company					
		Capital stock	Capital surplus	Other equity	Accumulated other comprehensive loss	Retained earnings	Total
							Non-controlling interests
							Total equity
Balance at January 1, 2019		₩ 3,657,652	4,143,736	(2,506,451)	(482,819)	42,033,601	46,845,719
Total comprehensive income:							
Profit for the period		-	-	-	-	2,131,483	2,131,483
Remeasurements of defined benefit liability, net of tax	20	-	-	-	-	(16,441)	(16,441)
Other comprehensive income from joint venture and associate, net of tax	11,23	-	-	-	47,127	-	47,127
Foreign currency translation differences for foreign operations, net of tax	23	-	-	-	270,818	-	270,818
Total comprehensive income		-	-	-	317,945	2,115,042	2,432,987
Transactions with owners of the Parent Company:							
Increase of Non-controlling interests		-	-	-	-	-	-
Dividends paid	24	-	-	-	-	(1,026,003)	(1,026,003)
Share-based payment transactions	35	-	-	1,263	-	-	1,263
Total transactions with owners of the Parent Company		-	-	1,263	-	(1,026,003)	(1,024,740)
Balance at September 30, 2019		₩ 3,657,652	4,143,736	(2,505,188)	(164,874)	43,122,640	48,253,966

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
For the nine-month periods ended September 30, 2019 and 2018
(Unaudited)

(In millions of won)

	Note	2019	2018
Cash flows from operating activities			
Cash generated from operating activities	34 ₩	8,857,851	18,252,184
Interest received		24,946	73,561
Interest paid		(167,009)	(90,820)
Dividends received		14,648	15,099
Income tax paid		(4,830,821)	(2,993,507)
Net cash provided by operating activities		3,899,615	15,256,517
Cash flows from investing activities			
Decrease in short-term financial instruments, net		211,221	4,286,955
Decrease (increase) in short-term investment assets, net		3,818,234	(1,988,553)
Collection of loans and other receivables		8,695	13,338
Increase in loans and other receivables		(47,331)	(41,870)
Proceeds from disposal of long-term investment assets		1,790	1,201
Acquisition of long-term investment assets		(73,313)	(4,002,669)
Decrease in other financial assets		-	117
Increase in other financial assets		(626)	(17)
Proceeds from disposal of property, plant and equipment		51,895	122,757
Acquisition of property, plant and equipment		(11,388,920)	(11,757,688)
Proceeds from disposal of intangible assets		183	2,532
Acquisition of intangible assets		(495,510)	(613,359)
Receipt of government grants		-	1,422
Acquisition of investments in associates		(117,514)	(196,880)
Net cash used in investing activities	₩	(8,031,196)	(14,172,714)

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries
Condensed Consolidated Statements of Cash Flows, Continued
For the nine-month periods ended September 30, 2019 and 2018
(Unaudited)

(In millions of won)

	Note	2019	2018
Cash flows from financing activities			
Proceeds from borrowings	34 ₩	7,962,788	2,407,194
Repayments of borrowings	34	(3,785,399)	(1,656,045)
Repayment of lease liabilities	34	(201,324)	-
Acquisition of treasury shares		-	(1,736,514)
Dividends paid		(1,026,003)	(706,002)
Increase of non-controlling interests		2,718	-
Net cash provided by (used in) financing activities		<u>2,952,780</u>	<u>(1,691,367)</u>
Effect of movements in exchange rates on cash and cash equivalents		<u>32,625</u>	<u>(2,070)</u>
Net decrease in cash and cash equivalents		<u>(1,146,176)</u>	<u>(609,634)</u>
Cash and cash equivalents at beginning of the period		<u>2,349,319</u>	<u>2,949,991</u>
Cash and cash equivalents at end of the period	₩	<u><u>1,203,143</u></u>	<u><u>2,340,357</u></u>

See accompanying notes to the condensed consolidated interim financial statements.

SK HYNIX, INC. and Subsidiaries
Notes to the Condensed Consolidated Interim Financial Statements
September 30, 2019 and 2018
(Unaudited)

1. Reporting Entity

(1) General information about SK hynix, Inc. (the "Parent Company" or the "Company") and its subsidiaries (collectively the "Group") is as follows:

The Parent Company, incorporated in October 15, 1949, is engaged in the manufactures, distribution and sales of semiconductor products and its shares have been listed on the Korea Exchange since 1996. The Parent Company's headquarters is located at 2091 Gyeongchung-daero, Bubal-eup, Icheon-si, Gyeonggi-do, South Korea, and the Group has manufacturing facilities in Icheon-si and Cheongju-si, South Korea, and Wuxi and Chongqing, China.

As of September 30, 2019, the shareholders of the Parent Company are as follows:

Shareholder	Number of shares	Percentage of ownership (%)
SK Telecom Co., Ltd.	146,100,000	20.07
National Pension Service and other investors	537,901,795	73.89
Treasury shares	44,000,570	6.04
	728,002,365	100.00

The Parent Company's common shares and depositary receipts (DRs) are listed on the Stock Market of Korea Exchange and the Luxembourg Stock Exchange.

SK HYNIX, INC. and Subsidiaries
Notes to the Condensed Consolidated Interim Financial Statements
September 30, 2019 and 2018
(Unaudited)

1. Reporting Entity, Continued

(2) Details of the Group's consolidated subsidiaries as of September 30, 2019 and December 31, 2018 are as follows:

Company	Location	Business	Ownership (%)	
			2019	2018
SK hyeng Inc.	Korea	Construction service	100.00	100.00
SK hystec Inc.	Korea	Business support service	100.00	100.00
Happycore Inc.	Korea	Manufacturing and cleaning cleanroom suits	100.00	100.00
SK hynix system ic Inc.	Korea	Semiconductor manufacturing and sales	100.00	100.00
HAPPYNARAE Co., Ltd.	Korea	Industrial material supply	100.00	100.00
SK hynix America Inc.	U.S.A.	Semiconductor sales	97.74	97.74
SK hynix Deutschland GmbH	Germany	Semiconductor sales	100.00	100.00
SK hynix Asia Pte. Ltd.	Singapore	Semiconductor sales	100.00	100.00
SK hynix Semiconductor Hong Kong Ltd.	Hong Kong	Semiconductor sales	100.00	100.00
SK hynix U.K. Ltd.	U.K.	Semiconductor sales	100.00	100.00
SK hynix Semiconductor Taiwan Inc.	Taiwan	Semiconductor sales	100.00	100.00
SK hynix Japan Inc.	Japan	Semiconductor sales	100.00	100.00
SK hynix Semiconductor (Shanghai) Co., Ltd.	China	Semiconductor sales	100.00	100.00
SK hynix Semiconductor India Private Ltd. ¹	India	Semiconductor sales	100.00	100.00
SK hynix (Wuxi) Semiconductor Sales Ltd.	China	Semiconductor sales	100.00	100.00
SK hynix Semiconductor (China) Ltd.	China	Semiconductor manufacturing	100.00	100.00
SK hynix Semiconductor (Chongqing) Ltd. ²	China	Semiconductor manufacturing	100.00	100.00
SK hynix Italy S.r.l	Italy	Semiconductor research and development	100.00	100.00
SK hynix memory solutions America Inc.	U.S.A.	Semiconductor research and development	100.00	100.00
SK hynix memory solutions Taiwan Ltd.	Taiwan	Semiconductor research and development	100.00	100.00
SK hynix memory solutions Eastern Europe LLC.	Belarus	Semiconductor research and development	100.00	100.00
SK APTECH Ltd.	Hong Kong	Overseas investment	100.00	100.00
SK hynix Ventures Hong Kong Limited	Hong Kong	Overseas investment	100.00	100.00
SK hynix (Wuxi) Investment Ltd. ³	China	Overseas investment	100.00	100.00
SK hynix (Wuxi) Industry Development Ltd. ⁴	China	Foreign hospital construction	100.00	100.00
SK hynix Happiness (Wuxi) Hospital Management Ltd. ⁴	China	Foreign hospital operation	100.00	100.00
SK hynix system ic (Wuxi) Co., Ltd. ⁵	China	Overseas Semiconductor manufacturing and sales	100.00	100.00
SK hynix cleaning (Wuxi) Ltd. ⁴	China	Building maintenance	100.00	100.00
SUZHOU HAPPYNARAE Co., Ltd. ⁶	China	Overseas industrial material supply	100.00	100.00
CHONGQING HAPPYNARAE Co., Ltd. ⁷	China	Overseas industrial material supply	100.00	100.00
SkyHigh Memory Limited ⁸	Hong Kong	Overseas manufacturing and sales of semiconductor	60.00	-
SK hynix (Wuxi) Education Technology Co.,Ltd. ⁹	China	Education	100.00	-
MMT (Money Market Trust)	Korea	Money Market Trust	100.00	100.00

SK HYNIX, INC. and Subsidiaries
Notes to the Condensed Consolidated Interim Financial Statements
September 30, 2019 and 2018
(Unaudited)

1. Reporting Entity, Continued

(2) Details of the Group's consolidated subsidiaries as of September 30, 2019 and December 31, 2018 are as follows, Continued:

¹ Subsidiary of SK hynix Asia Pte. Ltd.

² Subsidiary of SK APTECH Ltd.

³ Subsidiary of SK hynix Semiconductor (China) Ltd.

⁴ Subsidiary of SK hynix (Wuxi) Investment Ltd.

⁵ Subsidiary of SK hynix system ic Inc.

⁶ Subsidiary of HAPPYNARAE Co., Ltd.

⁷ Subsidiary of SUZHOU HAPPYNARAE Co., Ltd.

⁸ SkyHigh Memory Limited was established during the nine-month period ended September 30, 2019 and is a subsidiary of SK hynix system ic Inc.

⁹ SK hynix (Wuxi) Education Technology Co., Ltd. was established during the nine-month period ended September 30, 2019 and is a subsidiary of SK hynix (Wuxi) Investment Ltd.

(3) Changes in the consolidated subsidiaries during the the nine-month period ended September 30, 2019 are follows:

	Company	Description
Newly included	SkyHigh Memory Limited	Newly established
Newly included	SK hynix (Wuxi) Education Technology Co., Ltd.	Newly established

(4) Major subsidiaries' summarized separate statements of financial position as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019			2018		
	Assets	Liabilities	Equity	Assets	Liabilities	Equity
SK hynix system ic Inc.	₩ 640,449	129,587	510,862	550,323	92,989	457,334
SK hynix America Inc.	1,960,693	1,607,771	352,922	3,013,637	2,707,732	305,905
SK hynix Deutschland GmbH	53,904	11,922	41,982	99,641	60,244	39,397
SK hynix Asia Pte. Ltd.	388,651	294,924	93,727	933,268	848,990	84,278
SK hynix Semiconductor Hong Kong Ltd.	240,541	76,602	163,939	347,109	204,622	142,487
SK hynix U.K. Ltd.	228,959	203,722	25,237	536,208	518,036	18,172
SK hynix Semiconductor Taiwan Inc.	249,388	222,408	26,980	449,054	427,498	21,556
SK hynix Japan Inc.	335,798	255,483	80,315	837,362	770,819	66,543
SK hynix Semiconductor (Shanghai) Co., Ltd.	106,607	10,810	95,797	1,199,602	1,116,282	83,320
SK hynix (Wuxi) Semiconductor Sales Ltd.	1,959,851	1,854,567	105,284	535,819	492,934	42,885
SK hynix Semiconductor (China) Ltd.	9,095,061	4,415,491	4,679,570	6,390,490	2,158,715	4,231,775
SK hynix Semiconductor (Chongqing) Ltd.	787,370	261,080	526,290	540,284	124,451	415,833

SK HYNIX, INC. and Subsidiaries
Notes to the Condensed Consolidated Interim Financial Statements
September 30, 2019 and 2018
(Unaudited)

1. Reporting Entity, Continued

(5) Major subsidiaries' summarized separate statements of comprehensive income (loss) for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019			2018		
	Revenue	Profit (loss)	Total comprehensive income (loss)	Revenue	Profit (loss)	Total comprehensive income (loss)
SK hynix system ic Inc. ₩	488,871	53,563	53,529	403,445	51,460	51,460
SK hynix America Inc.	5,938,080	23,465	23,465	10,610,821	(46,080)	(46,080)
SK hynix Deutschland GmbH	178,008	1,483	1,483	407,394	1,379	1,379
SK hynix Asia Pte. Ltd.	1,219,687	3,112	3,112	2,594,969	606	606
SK hynix Semiconductor Hong Kong Ltd.	1,247,485	10,686	10,686	3,121,929	37,582	37,582
SK hynix U.K. Ltd.	690,719	5,526	5,526	1,065,889	(2,738)	(2,738)
SK hynix Semiconductor Taiwan Inc.	1,073,654	6,331	6,331	2,370,401	(825)	(825)
SK hynix Japan Inc.	545,838	6,883	6,883	877,491	(4,291)	(4,291)
SK hynix Semiconductor (Shanghai) Co., Ltd.	137,096	9,564	9,564	5,763,952	47,183	47,183
SK hynix (Wuxi) Semiconductor Sales Ltd.	8,305,745	61,109	61,109	3,042,181	25,030	25,030
SK hynix Semiconductor (China) Ltd.	2,325,077	(47,594)	(47,594)	1,839,936	137,740	137,740
SK hynix Semiconductor (Chongqing) Ltd.	320,669	28,571	28,571	299,190	19,916	19,916

(6) There are no significant non-controlling interests to the Group as of September 30, 2019 and December 31, 2018.

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2. Basis of Preparation

(1) Statement of compliance

The condensed consolidated interim financial statements have been prepared in accordance with Korean International Financial Reporting Standards ("K-IFRS"), as prescribed in the Act on External Audits of Stock Companies.

These condensed consolidated interim financial statements were prepared in accordance with K-IFRS No. 1034, '*Interim Financial Reporting*' as part of the period covered by the Group's K-IFRS annual financial statements. Selected explanatory notes are included to explain events and transactions that are significant to an understanding of the changes in financial position and performance of the Group since the last annual consolidated financial statements as of and for the year ended December 31, 2018. These condensed consolidated interim financial statements do not include all of the disclosures required for full annual financial statements.

The Group applied K-IFRS No. 1116 '*Leases*' from January 1, 2019. Changes to significant accounting policies are described in Note 3.

(2) Use of estimates and judgments

(a) Critical judgments, assumptions and estimation uncertainties

The preparation of the condensed consolidated interim financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates if estimates and assumptions that are based on management's best judgment at the end of the interim reporting period differ from the actual environment.

In preparing these condensed consolidated interim financial statements, the significant judgments made by management in applying the Group's accounting policies and the key sources of estimation uncertainty were the same as those that applied to the consolidated financial statements as of and for the year ended December 31, 2018, except for new significant judgements and key sources of estimation uncertainty related to the adoption of K-IFRS No. 1116 '*Leases*', which are described in Note 3.

(b) Fair value measurement

The Group establishes fair value measurement policies and procedures as its accounting policies and disclosures require fair value measurements for various financial and non-financial assets and liabilities. Such policies and procedures are executed by the valuation department, which is responsible for the review of significant fair value measurements including fair values classified as level 3 in the fair value hierarchy.

The valuation department regularly reviews unobservable significant inputs and valuation adjustments. If third party information such as prices available from an exchange, dealer, broker, industry group, pricing service or regulatory agency is used for fair value measurements, the valuation department reviews whether the valuation based on third party information includes classifications by levels within the fair value hierarchy and meets the requirements for the relevant standards.

The Group uses the best observable inputs in market when measuring fair values of assets or liabilities. Fair values are classified within the fair value hierarchy based on inputs used in valuation methods as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

If various inputs used to measure fair value of assets or liabilities fall into different levels of the fair value hierarchy, the Group classifies the assets and liabilities at the lowest level of inputs among the fair value hierarchy which is significant to the entire measured value. The Group recognizes transfers between levels at the end of the reporting period of which such transfers occurred.

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3. Significant Accounting Policies

Except as described below, the accounting policies applied in these condensed consolidated interim financial statements are the same as those applied in the last annual financial statements. The changes in accounting policies are also expected to be reflected in the Group's consolidated financial statements as of and for the year ending December 31, 2019.

The Group initially adopted K-IFRS No. 1116, 'Leases' from January 1, 2019. A number of other new standards are effective from January 1, 2019, but they do not have a significant impact on the Group's condensed consolidated interim financial statements.

K-IFRS No. 1116 introduced a single, on-balance sheet accounting model for lessees. As a result, the Group, as a lessee, has recognized right-of-use assets representing its rights to use the underlying assets and lease liabilities representing its obligation to make lease payments. Lessor accounting remains similar to previous accounting policies.

The Group recognized the cumulative effect of the initial application of K-IFRS No. 1116 in right-of-use assets and lease liabilities as of January 1, 2019 (the date of initial application). Accordingly, the comparative information presented for 2018 has not been restated - i.e. it is presented, as previously reported, under K-IFRS No. 1017 and related interpretations. Details of changes to the accounting policies are disclosed below.

(1) Definition of a lease

Previously, the Group determined at contract inception whether an arrangement was or contained a lease under K-IFRS Interpretation No. 2104, '*Determining Whether an Arrangement contains a Lease*'. The Group now assesses whether a contract is or contains a lease based on the new definition of a lease. Under K-IFRS No. 1116, a contract is, or contains, a lease if the contract conveys a right to control the use of an identified asset for a period of time in exchange for consideration.

At inception or on reassessment of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease and non-lease component on the basis of their relative stand-alone prices. However, for certain agreements in which it is a lessee, the Group has elected not to separate non-lease components and will instead account for the lease and non-lease components as a single lease component.

(2) As a lessee

The Group leases many assets, including production equipment. As a lessee, the Group previously classified leases as operating or finance leases based on its assessment of whether the lease transferred substantially all of the risks and rewards of ownership. Under K-IFRS No. 1116, the Group recognizes right-of-use assets and lease liabilities for most leases on the condensed consolidated statements of financial position.

However, as permitted in K-IFRS No. 1116, the Group has elected not to recognize right-of-use assets and lease liabilities for certain leases of low-value assets and short-term leases. The Group recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

The Group separately presents right-of-use assets that do not meet the definition of investment property in the statement of financial position. The carrying amounts of right-of-use assets are as below.

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3. Significant Accounting Policies, Continued

(2) As a lessee, Continued

(In millions of won)

		Properties	Structures	Vehicles	Machinery	Other property, plant and equipment	Total
Balance at							
January 1, 2019	₩	26,599	867,864	279,952	10,674	3,215	1,188,304
Balance at							
September 30, 2019	₩	30,819	836,242	173,613	13,537	814	1,055,025

(i) Significant Accounting Policies

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost and subsequently measured at cost less any accumulated depreciation and impairment losses, adjusted for certain remeasurement of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. The Group generally uses its incremental borrowing rate as a discount rate.

The lease liability is subsequently increased by the interest expense on the lease liability and decreased by lease payment made. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, a change in the estimate of the amount expected to be payable under a residual value guarantee, or as appropriate, changes in the assessment of whether a purchase or extension option is reasonably certain to be exercised or a termination option is reasonably certain not to be exercised.

(ii) Transition

Previously, the Group classified certain lease contracts for equipments and others as operating leases under K-IFRS No. 1017.

At transition, for leases classified as operating leases under K-IFRS No. 1017, lease liabilities were measured at the present value of the remaining lease payments, discounted at the Group's incremental borrowing rate as of January 1, 2019. Right-of-use assets are measured at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments.

The Group used the following practical expedients when applying K-IFRS No. 1116 to leases previously classified as operating leases under K-IFRS No. 1017.

- Excluded initial direct costs from measuring the right-of-use assets at the date of initial application.
- Used hindsight when determining the lease term if the contract contains options to extend or terminate the lease.

The Group leases a number of structures. Certain items were classified as finance leases under K-IFRS No. 1017. For these finance leases, the carrying amount of the right-of-use assets and the lease liability at January 1, 2019 were determined at the carrying amount of the lease asset and lease liability under K-IFRS No. 1017 immediately before that date.

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3. Significant Accounting Policies, Continued

(3) As a lessor

The Group leases out its investment property. The Group has classified these leases as operating leases. The accounting policies applicable to the Group as a lessor are not different from those under K-IFRS No. 1017.

The Group is not required to make any adjustments on transition to K-IFRS No. 1116 for leases in which it acts as a lessor. However, the Group has applied K-IFRS No. 1115, 'Revenue from Contracts with Customers' to allocate consideration in the contract to each lease and non-lease component.

(4) Impacts on financial statements

(i) Impacts on transition

On transition to K-IFRS No. 1116, the Group recognized additional right-of-use assets and lease liabilities. The impact on transition is summarized as follows:

(In millions of won)

	January 1, 2019
Right-of-use assets	₩ 1,188,304
Property, plant and equipment	(73,069)
Lease liabilities	1,192,096
Borrowings	(68,158)
Other current liabilities	(8,703)

When measuring lease liabilities for leases that were classified as operating leases, the Group discounted lease payments using its incremental borrowing rate at January 1, 2019. The weighted average incremental borrowing rate is 2.22%.

(In millions of won)

	Amount
Operating lease commitment at January 1, 2019	₩ 1,291,372
Discounted using the incremental borrowing rate at January 1, 2019	1,128,364
Finance lease liabilities recognized as of December 31, 2018	68,158
- Recognition exemption for leases of low-value assets	(835)
- Recognition exemption for leases of short-term leases	(3,591)
Lease liabilities recognized at January 1, 2019	₩ 1,192,096

(ii) Impacts for the period

As a result of initially applying K-IFRS No. 1116, in relation to the leases that were previously classified as operating leases, the Group recognized ₩986,525 million of right-of-use assets (including investment property) and ₩1,021,110 million of lease liabilities as of September 30, 2019.

Also in relation to those leases under K-IFRS No. 1116, the Group has recognized depreciation and interest expense, instead of operating lease expense. During the nine-month period ended September 30, 2019, the Group recognized ₩188,425 million of depreciation charges and ₩17,428 million of interest expense from these leases.

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4. Geographic and Customer Information

The Group has a single reportable segment that is engaged in the manufacture and sale of semiconductor products. The management of the Group reviews the operation result of the semiconductor business for reporting information used and reviewed when establishing the Group's business strategy.

- (1) The Group's non-current assets (excluding financial assets, loans and other receivables, equity-accounted investees and deferred tax assets) information by region based on the location of subsidiaries as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Korea	₩ 34,521,194	32,768,811
China	8,197,585	5,100,869
Taiwan	8,661	6,309
Asia (other than China and Taiwan)	18,835	1,401
U.S.A.	404,097	376,307
Europe	11,966	9,908
	₩ <u>43,162,338</u>	<u>38,263,605</u>

- (2) Revenues from customers A and B that each constitutes more than 10% of the Group's consolidated revenue for the nine-month period ended September 30, 2019 amount to ₩3,956,456 million (2018: ₩3,762,588 million) and ₩2,258,689 million (2018: ₩3,917,063 million), respectively.

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5. Categories of Financial Instruments

(1) Categories of financial assets as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

2019			
	Financial assets at fair value through profit or loss	Financial assets at amortized cost	Total
Cash and cash equivalents	₩ -	1,203,143	1,203,143
Short-term financial instruments	-	313,655	313,655
Short-term investment assets	1,738,782	-	1,738,782
Trade receivables	-	4,757,987	4,757,987
Loans and other receivables	-	127,027	127,027
Other financial assets	-	943	943
Long-term investment assets	4,819,043	-	4,819,043
	₩ <u>6,557,825</u>	<u>6,402,755</u>	<u>12,960,580</u>

(In millions of won)

2018			
	Financial assets at fair value through profit or loss	Financial assets at amortized cost	Total
Cash and cash equivalents	₩ -	2,349,319	2,349,319
Short-term financial instruments	-	523,579	523,579
Short-term investment assets	5,496,452	-	5,496,452
Trade receivables	-	6,319,994	6,319,994
Loans and other receivables	-	86,906	86,906
Other financial assets	-	310	310
Long-term investment assets	4,325,550	-	4,325,550
	₩ <u>9,822,002</u>	<u>9,280,108</u>	<u>19,102,110</u>

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5. Categories of Financial Instruments, Continued

(2) Categories of financial liabilities as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

		2019	
	Financial liabilities at fair value through profit or loss	Financial liabilities measured at amortized cost	Total
Trade payables	₩ -	915,017	915,017
Other payables	1,523	2,012,669	2,014,192
Other non-trade payables ¹	-	1,205,525	1,205,525
Borrowings	-	9,702,915	9,702,915
Lease liabilities	-	1,082,972	1,082,972
	₩ 1,523	14,919,098	14,920,621

(In millions of won)

		2018
	Financial liabilities measured at amortized cost	
Trade payables	₩	1,096,380
Other payables		3,681,933
Other non-trade payables ¹		1,894,751
Borrowings ²		5,281,937
	₩	11,955,001

¹ Details of other non-trade payables as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Current		
Accrued expenses	₩ 1,187,543	1,879,520
Non-current		
Long-term accrued expenses	4,317	1,096
Rent deposit payables	13,665	14,135
	17,982	15,231
	₩ 1,205,525	1,894,751

² As of December 31, 2018, borrowings include finance lease liabilities amounting to ₩68,158 million in accordance with K-IFRS No. 1017. Meanwhile, as a result of the transition to K-IFRS No. 1116, lease liabilities are presented separately from borrowings in the consolidated statement of financial position as of September 30, 2019.

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6. Financial Risk Management

(1) Financial risk management

The Group's activities are exposed to a variety of financial risks: market risk (including foreign exchange risk, interest rate risk and price risk), credit risk and liquidity risk. The interim financial statements do not include all the financial risk management policies and disclosures that are required in the annual financial statements. There is no significant change in risk management policies and risk management department for the nine-month period ended September 30, 2019.

(a) Market risk

(i) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar, Euro and Japanese Yen. Foreign exchange risk arises from future commercial transactions; recognized assets and liabilities in foreign currencies; and net investments in foreign operations.

Monetary foreign currency assets and liabilities as of September 30, 2019 are as follows:

(In millions of won and millions of foreign currencies)

	Assets		Liabilities	
	Foreign currencies	Korean won equivalent	Foreign currencies	Korean won equivalent
USD	6,784	₩ 8,149,202	7,949	₩ 9,549,435
EUR	11	14,990	89	117,170
JPY	481	5,356	123,924	1,379,774
CNY	281	47,402	4	676

As of September 30, 2019, the impacts from foreign exchange risks on each monetary foreign currency assets and liabilities assuming change in exchange rate by 10% are as follows:

(In millions of won)

	If increased by 10%	If decreased by 10%
USD	₩ (140,023)	140,023
EUR	(10,218)	10,218
JPY	(137,442)	137,442
CNY	4,673	(4,673)

6. Financial Risk Management, Continued

(1) Financial risk management, Continued

(a) Market risk, Continued

(ii) Interest rate risk

Interest rate risk of the Group is defined as the risk that the interest expenses arising from borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises through floating rate borrowings, and is partially offset by interests received from floating rate financial assets.

As of September 30, 2019, the Group is partially exposed to the risk of fluctuation of net interest expenses arisen from change in interest rates. If interest rates on borrowings had been 100 basis points higher/lower with all other variables held constant, profit before income tax for the next three-month period would have been ₩13,269 million lower/higher, mainly as a result of higher/lower interest expense on floating rate borrowings and interest income on floating rate financial assets.

(iii) Price risk

The Group invests in equity and debt securities resulted from its business needs and the purpose of liquidity management. The Group's equity and debt securities are exposed to price risk as of September 30, 2019.

(b) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises mainly from operating and investing activities. In order to manage credit risk, the Group periodically evaluates the credit worthiness of each customer or counterparty through the analysis of its financial information, historical transaction records and other factors, and establishes credit limits for each customer or counterparty.

(i) Trade and other receivables

For each new customer, the Group individually analyzes its credit worthiness before standard payment and delivery terms and conditions are offered. In addition, the Group is consistently managing trade and other receivables by reevaluating the customer's credit worthiness and securing collaterals in order to limit its credit risk exposure.

The Group reviews at the end of each reporting period whether trade and other receivables are impaired and maintains credit insurance policies to manage credit risk exposure from oversea customers. The maximum exposure to credit risk as of September 30, 2019 is the carrying amount of trade and other receivables.

(ii) Other financial assets

Credit risk also arises from other financial assets such as cash and cash equivalents; Short-term financial instruments; short-term and long-term investment assets; and short-term and long-term loans mainly due to the bankruptcy of each counterparty to those financial assets. The maximum exposure to credit risk as of September 30, 2019 is the carrying amount of those financial assets. The Group transacts only with banks and financial institutions with high credit ratings, and accordingly management does not expect any significant loss from non-performance by the counterparties.

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6. Financial Risk Management, Continued

(1) Financial risk management, Continued

(c) Liquidity risk

Liquidity risk is defined as the risk that the Group is unable to meet its short-term payment obligations on time due to deterioration of its business performance or inability to access financing. The Group forecasts its cash flow and liquidity status and sets action plans on a regular basis to manage liquidity risk proactively.

The Group invests surplus cash in interest-bearing current accounts, time deposits, demand deposits, choosing instruments with appropriate maturities or sufficient liquidity to provide sufficient head-room as determined by the above-mentioned forecasts.

(2) Capital management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends to shareholders, proceeds and repayments of borrowings, issue new shares or sell assets to reduce debt.

The debt-to-equity ratio and net borrowing ratio as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Total liabilities (A)	₩ 15,405,525	16,806,004
Total equity (B)	48,266,226	46,852,331
Cash and cash equivalents, short-term investment assets and short-term financial instruments (C)	3,255,580	8,369,350
Total borrowings (D) ¹	9,702,915	5,281,937
Debt-to-equity ratio (A/B)	31.92%	35.87%
Net borrowing ratio (D-C)/B ²	13.36%	-

¹ As of December 31, 2018, borrowings include finance lease liabilities amounting to ₩68,157 million in accordance with K-IFRS No. 1017. Meanwhile, as a result of the transition to K-IFRS No. 1116, lease liabilities are presented separately from borrowings in the consolidated statement of financial position as of September 30, 2019.

² Net borrowing ratio as of December 31, 2018 is not presented as the ratio was negative.

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6. Financial Risk Management, Continued

(3) Fair value

Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in valuation techniques as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

(a) The following table presents the carrying amounts and fair values of financial instruments by categories, including their levels in the fair value hierarchy, as of September 30, 2019 and December 31, 2018:

(In millions of won)

		2019			
	Carrying amounts	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Short-term investment assets	₩ 1,738,782	-	1,738,782	-	1,738,782
Long-term investment assets	4,819,043	-	-	4,819,043	4,819,043
	6,557,825	-	1,738,782	4,819,043	6,557,825
Financial assets not measured at fair value					
Cash and cash equivalents ¹	1,203,143	-	-	-	-
Short-term financial instruments ¹	313,655	-	-	-	-
Trade receivables ¹	4,757,987	-	-	-	-
Loans and other receivables ¹	127,027	-	-	-	-
Other financial assets ¹	943	-	-	-	-
	6,402,755	-	-	-	-
Financial liabilities measured at fair value					
Other payables	1,523	-	-	1,523	1,523
Financial liabilities not measured at fair value					
Trade payables ¹	915,017	-	-	-	-
Other payables ¹	2,012,669	-	-	-	-
Other non-trade payables ¹	1,205,525	-	-	-	-
Borrowings	9,702,915	-	9,784,642	-	9,784,642
Lease liabilities	1,082,972	-	-	-	-
	₩ 14,919,098	-	9,784,642	-	9,784,642

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6. Financial Risk Management, Continued

(3) Fair value, Continued

(In millions of won)

		2018			
	Carrying amounts	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Short-term investment assets	₩ 5,496,452	-	5,496,452	-	5,496,452
Long-term investment assets	4,325,550	-	-	4,325,550	4,325,550
	9,822,002	-	5,496,452	4,325,550	9,822,002
Financial assets not measured at fair value					
Cash and cash equivalents ¹	2,349,319	-	-	-	-
Short-term financial instruments ¹	523,579	-	-	-	-
Trade receivables ¹	6,319,994	-	-	-	-
Loans and other receivables ¹	86,906	-	-	-	-
Other financial assets ¹	310	-	-	-	-
	9,280,108	-	-	-	-
Financial liabilities not measured at fair value					
Trade payables ¹	1,096,380	-	-	-	-
Other payables ¹	3,681,933	-	-	-	-
Other non-trade payables ¹	1,894,751	-	-	-	-
Borrowings ²	5,281,937	-	5,300,120	-	5,300,120
₩	11,955,001	-	5,300,120	-	5,300,120

¹ Do not include fair values of financial assets and liabilities of which fair values have not been measured as carrying amounts are considered to be a reasonable approximation of fair values.

² As of December 31, 2018, borrowings include finance lease liabilities in accordance with K-IFRS No.1017.

(b) The valuation techniques used to measure financial instruments with fair value level 2 and fair value level 3 are the same as those applied by the Group in its consolidated financial statements as of and for the year ended December 31, 2018.

(c) There was no transfer between fair value hierarchy levels for the nine-month period ended September 30, 2019. The movements in financial assets and financial liabilities classified as level 3 fair value measurements during the nine-month period ended September 30, 2019 are as follows:

(In millions of won)

	Beginning Balance	Acquisition	Disposal	Foreign exchange difference	Loss on valuation	Ending Balance
Financial assets						
Long-term investment assets	₩ 4,325,550	74,726	(1,731)	420,524	(26)	4,819,043
Financial liabilities						
Other payables	₩ -	3,208	-	119	(1,804)	1,523

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7. Restricted Financial Instruments

Details of restricted financial instruments as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

		2019	2018	Description
Short-term financial instruments	₩	227,500	227,500	Restricted for supporting small businesses
		6,680	6,079	Pledged for consumption tax
		<u>234,180</u>	<u>233,579</u>	
Other financial assets		11	11	Bank overdraft guarantee deposit
		274	265	Others
		<u>285</u>	<u>276</u>	
	₩	<u><u>234,465</u></u>	<u><u>233,855</u></u>	

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8. Trade Receivables and Loans and Other Receivables

(1) Details of loans and other receivables as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Current		
Other receivables	₩ 9,780	8,465
Accrued income	2,441	3,899
Short-term loans	5,968	4,807
Short-term guarantee and other deposits	3,061	1,221
	<u>21,250</u>	<u>18,392</u>
Non-current		
Long-term other receivables	2	54
Long-term loans	32,938	28,125
Guarantee deposits	72,601	40,117
Others	236	218
	<u>105,777</u>	<u>68,514</u>
	<u>₩ 127,027</u>	<u>86,906</u>

(2) Trade receivables and loans and other receivables, net of provision for impairment, as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	
	Gross amount	Provision for impairment
Trade receivables	₩ 4,758,036	(49)
Current loans and other receivables	22,530	(1,280)
Non-current loans and other receivables	106,970	(1,193)
	<u>₩ 4,887,536</u>	<u>(2,522)</u>

(In millions of won)

	2018	
	Gross amount	Provision for impairment
Trade receivables	₩ 6,320,042	(48)
Current loans and other receivables	19,715	(1,323)
Non-current loans and other receivables	69,631	(1,117)
	<u>₩ 6,409,388</u>	<u>(2,488)</u>

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8. Trade Receivables and Loans and Other Receivables, Continued

(3) Details of provision for impairment

Changes in the provision for impairment of trade receivables for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 48	46
Foreign exchange difference	1	1
Ending balance	₩ 49	47

Changes in the provision for impairment of current loans and other receivables for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 1,323	1,327
Reversal	(44)	(3)
Foreign exchange difference	1	(1)
Ending balance	₩ 1,280	1,323

Changes in the provision for impairment of non-current loans and other receivables for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 1,117	1,087
Write-off	-	(985)
Foreign exchange difference	76	-
Ending balance	₩ 1,193	102

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9. Inventories

Details of inventories as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

2019			
	Acquisition cost	Inventory valuation allowance	Carrying amount
Merchandise	₩ 4,001	(17)	3,984
Finished goods	1,841,593	(255,556)	1,586,037
Work-in-process	3,103,464	(483,451)	2,620,013
Raw materials	701,352	(43,468)	657,884
Supplies	565,965	(24,035)	541,930
Goods in transit	63,764	-	63,764
₩	<u>6,280,139</u>	<u>(806,527)</u>	<u>5,473,612</u>

(In millions of won)

2018			
	Acquisition cost	Inventory valuation allowance	Carrying amount
Merchandise	₩ 1,648	(14)	1,634
Finished goods	1,532,188	(127,749)	1,404,439
Work-in-process	2,327,178	(208,197)	2,118,981
Raw materials	486,436	(24,894)	461,542
Supplies	433,017	(17,138)	415,879
Goods in transit	20,258	-	20,258
₩	<u>4,800,725</u>	<u>(377,992)</u>	<u>4,422,733</u>

10. Other Current and Non-current Assets

Details of other current and non-current assets as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Current		
Advance payments	₩ 83,518	113,030
Prepaid expenses	279,284	260,064
Value added tax refundable	245,305	343,821
Contract assets	49,184	24,294
Others	121	216
	<u>657,412</u>	<u>741,425</u>
Non-current		
Long-term advance payments	57,978	96,817
Long-term prepaid expenses	544,891	528,837
	<u>602,869</u>	<u>625,654</u>
₩	<u>1,260,281</u>	<u>1,367,079</u>

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11. Investments in Associates and Joint Ventures

(1) Details of investments in associates and joint ventures as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

Type	Investee	Location	Business	Owner-ship(%)	2019		2018	
					Net asset value	Carrying amount	Owner-ship(%)	Carrying amount
Associate	Stratio, Inc. ¹	U.S.A	Development and manufacturing semiconductor	9.12	₩ 96	2,097	9.12	₩ 2,079
	SK China Company Limited ¹	China	Consulting and investment	11.87	218,018	270,369	11.87	246,052
	Gemini Partners Pte. Ltd.	Singapore	Consulting	20.00	2,601	2,601	20.00	2,601
	TCL Fund ¹	China	Investment	11.06	4,107	4,107	11.06	3,464
	SK South East Asia Investment Pte. Ltd.	Singapore	Consulting and investment	20.00	240,314	240,314	20.00	111,810
	Hushan Xinju (Chengdu) Venture Investment Center(Smartsources)	China	Venture Capital	26.32	5,826	5,705	46.30	3,241
	WooYoung Farm Co., Ltd. ²	Korea	Growing crops	31.95	448	1,000	-	-
	HITECH Semiconductor (Wuxi) Co., Ltd.	China	Manufacturing semiconductor parts	45.00	114,543	114,543	45.00	109,708
Joint venture	Hystars Semiconductor (Wuxi) Co., Ltd.	China	Foundry factory construction	50.10	84,735	86,153	50.10	83,239
					₩ 670,688	726,889	₩ 562,194	

¹ The Group is able to exercise significant influence through its right to appoint a director to the board of directors of each investee. Accordingly, the investments in these investees have been classified as associates.

² The Group acquired 31.95% of ownership in WooYoung Farm Co., Ltd. during the nine-month period ended September 30, 2019 and classified the investment as an associate because the Group has significant influence over WooYoung Farm Co., Ltd.

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11. Investments in Associates and Joint Ventures, Continued

(2) Changes in investments in associates and joint ventures for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019					
		Beginning balance	Acquisition	Share of profit (loss)	Other equity movement	Dividend	Ending balance
Stratio, Inc.	₩	2,079	-	11	7	-	2,097
SK China Company Limited		246,052	-	3,127	21,190	-	270,369
Gemini Partners Pte. Ltd.		2,601	-	(155)	155	-	2,601
TCL Fund		3,464	513	27	113	(10)	4,107
SK South East Asia Investment Pte. Ltd.		111,810	113,470	65	14,969	-	240,314
Hushan Xinju (Chengdu) Venture Investment Center(Smartsources)		3,241	2,531	(106)	39	-	5,705
WooYoung Farm Co., Ltd.		-	1,000	-	-	-	1,000
HITECH Semiconductor (Wuxi) Co., Ltd.		109,708	-	11,538	7,755	(14,458)	114,543
Hystars Semiconductor (Wuxi) Co., Ltd.		83,239	-	15	2,899	-	86,153
	₩	562,194	117,514	14,522	47,127	(14,468)	726,889

(In millions of won)

		2018					
		Beginning balance	Acquisition	Share of profit (loss)	Other equity movement	Dividend	Ending balance
Stratio, Inc.	₩	2,105	-	(22)	4	-	2,087
SK China Company Limited		244,912	-	2,249	7,418	-	254,579
Gemini Partners Pte. Ltd.		4,003	-	(110)	36	-	3,929
TCL Fund		2,634	720	124	(57)	-	3,421
SK South East Asia Investment Pte. Ltd.		-	110,880	-	390	-	111,270
HITECH Semiconductor (Wuxi) Co., Ltd.		106,210	-	9,506	3,798	(13,120)	106,394
Hystars Semiconductor (Wuxi) Co., Ltd.		-	85,280	(296)	(2,223)	-	82,761
	₩	359,864	196,880	11,451	9,366	(13,120)	564,441

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11. Investments in Associates and Joint Ventures, Continued

(3) Associates and joint ventures' summarized statements of financial position as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019			
	Current assets	Non-current assets	Current liabilities	Non-current liabilities
Stratio, Inc.	₩ 446	767	165	-
SK China Company Limited	647,658	1,404,730	50,733	164,336
Gemini Partners Pte. Ltd.	5,468	7,603	68	-
TCL Fund	4,063	36,410	3,311	-
SK South East Asia Investment Pte. Ltd.	88,209	1,769,367	94	370,000
Hushan Xinju (Chengdu) Venture Investment Center(Smartsource)	8,252	13,886	-	-
WooYoung Farm Co., Ltd.	1,016	610	2	222
HITECH Semiconductor (Wuxi) Co., Ltd.	256,745	473,407	122,647	352,964
Hystars Semiconductor (Wuxi) Co., Ltd.	165,054	232,246	39,426	188,742

(In millions of won)

	2018			
	Current assets	Non-current assets	Current liabilities	Non-current liabilities
Stratio, Inc.	₩ 403	617	159	-
SK China Company Limited	646,779	1,148,281	65,037	97,633
Gemini Partners Pte. Ltd.	5,357	7,649	-	-
TCL Fund	915	33,596	3,188	-
SK South East Asia Investment Pte. Ltd.	559,050	-	-	-
Hushan Xinju (Chengdu) Venture Investment Center(Smartsource)	6,187	814	-	-
HITECH Semiconductor (Wuxi) Co., Ltd.	211,273	376,266	114,756	228,987
Hystars Semiconductor (Wuxi) Co., Ltd.	145,509	19,295	1,490	-

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11. Investments in Associates and Joint Ventures, Continued

(4) Associates and a joint ventures' summarized statements of comprehensive income (loss) for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Revenue	Income (loss) for the period	Revenue	Income (loss) for the period
Stratio, Inc.	₩ 31	116	70	(236)
SK China Company Limited	71,659	26,353	48,851	18,955
Gemini Partners Pte. Ltd.	-	(776)	-	(550)
TCL Fund	-	243	-	1,118
SK South East Asia Investment Pte. Ltd.	3,726	326	-	-
Hushan Xinju (Chengdu) Venture Investment Center(Smartsources)	-	(245)	-	-
WooYoung Farm Co., Ltd.	-	-	-	-
HITECH Semiconductor (Wuxi) Co., Ltd.	487,772	25,641	464,475	21,125
Hystars Semiconductor (Wuxi) Co., Ltd.	-	31	-	(591)

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12. Long-term Investment Assets

Changes in long-term investment assets for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 4,325,550	43,226
Acquisition	74,726	4,002,669
Disposal	(1,732)	(953)
Foreign exchange difference	420,525	(39,443)
Valuation	(26)	-
Ending balance	₩ 4,819,043	4,005,499

13. Property, Plant and Equipment

(1) Changes in property, plant and equipment for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 34,952,617	24,062,601
Impacts on transition to K-IFRS No. 1116	(73,069)	-
Beginning balance after transition adjustments	34,879,548	24,062,601
Acquisition	9,408,579	11,691,193
Disposal and retirement	(38,694)	(150,196)
Depreciation	(5,489,731)	(4,285,162)
Transfer ¹	1,105	984
Foreign exchange difference	177,153	(59,928)
Ending balance	₩ 38,937,960	31,259,492

¹ Investment property has been transferred to property, plant and equipment during the nine-month periods ended September 30, 2019 and 2018.

(2) Certain property, plant and equipment are pledged as collaterals for borrowings of the Group as of September 30, 2019 (Note 33-(5)).

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14. Leases

(1) Changes in right-of-use assets for the nine-month period ended September 30, 2019 are as follows:

(In millions of won)

	2019
Beginning balance	₩ -
Impacts on transition to K-IFRS No. 1116	1,188,304
Beginning balance after transition adjustments	1,188,304
Increase	44,252
Depreciation	(192,994)
Foreign exchange difference	15,463
Ending balance	₩ 1,055,025

(2) Changes in lease liabilities for the nine-month period ended September 30, 2019 are as follows:

(In millions of won)

	2019
Beginning balance	₩ -
Impacts on transition to K-IFRS No. 1116	1,192,096
Beginning balance after transition adjustments	1,192,096
Increase	44,564
Interest	19,211
Payments	(203,736)
Foreign exchange difference	30,837
Ending balance	₩ 1,082,972

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15. Intangible Assets

(1) Changes in intangible assets for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019	2018
Beginning balance	₩	2,678,770	2,247,290
Acquisition		495,510	611,962
Business combination		3,208	-
Disposal and retirement		(9,890)	(6,946)
Amortization		(625,463)	(389,993)
Impairment		(71)	(3,463)
Foreign exchange difference and others		24,159	10,337
Ending balance	₩	2,566,223	2,469,187

(2) Among costs associated with development activities, ₩248,537 million that met capitalization criteria were capitalized as development cost for the nine-month period ended September 30, 2019 (2018: ₩422,270 million). In addition, costs associated with research activities and other development expenditures that did not meet the criteria and amounted to ₩2,079,521 million were recognized as expenses for the nine-month period ended September 30, 2019 (2018: ₩1,589,573 million).

16. Investment Property

(1) Changes in investment property during the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019	2018
Beginning balance	₩	1,400	2,468
Depreciation		(34)	(68)
Transfer ¹		(1,105)	(984)
Ending balance	₩	261	1,416

¹ Investment property has been transferred to property, plant and equipment during the nine-month periods ended September 30, 2019 and 2018.

(2) The depreciation expense of ₩34 million was charged to cost of sales for the nine-month period ended September 30, 2019 (2018: ₩68 million).

(3) Rental income from investment property during the nine-month period ended September 30, 2019 was ₩121 million (2018: ₩248 million).

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17. Borrowings

Details of borrowings as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018 ¹
Current		
Short-term borrowings	₩ 1,072,096	585,788
Current portion of long-term borrowings ¹	1,015,624	578,665
Current portion of debentures	209,851	449,850
	<u>2,297,571</u>	<u>1,614,303</u>
Non-current		
Long-term borrowings ¹	4,539,483	2,161,566
Debentures	2,865,861	1,506,068
	<u>7,405,344</u>	<u>3,667,634</u>
	<u>₩ 9,702,915</u>	<u>5,281,937</u>

¹ As of December 31, 2018, current portion of long-term borrowings and non-current long-term borrowings include finance lease liabilities amounting to ₩10,564 million and ₩57,594 million, respectively, in accordance with K-IFRS No. 1017. Meanwhile, as a result of the transition to K-IFRS No. 1116, the Group presents lease liabilities separately from borrowings in the consolidated statement of financial position as of September 30, 2019.

18. Other Current and Non-current Liabilities

Details of other current and non-current liabilities as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Current		
Advance receipts	₩ 7,697	8,973
Unearned income	193	186
Withholdings	50,063	49,770
Deposits received	1,076	1,036
Contract liabilities	85,905	80,373
Others	5,846	7,500
	<u>150,780</u>	<u>147,838</u>
Non-current		
Other long-term employee benefits	78,538	74,403
Long-term advance receipts	4,900	4,900
	<u>83,438</u>	<u>79,303</u>
	<u>₩ 234,218</u>	<u>227,141</u>

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19. Provisions

(1) Changes in provisions for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

2019					
	Beginning Balance	Increase	Utilization	Reversal	Ending Balance
Warranty	₩ 3,992	10,278	(10,641)	-	3,629
Legal claims	5,881	-	(5,881)	-	-
Emission allowances	46,335	-	(2,702)	(42,379)	1,254
	₩ 56,208	10,278	(19,224)	(42,379)	4,883

(In millions of won)

2018					
	Beginning Balance	Increase	Utilization / Transfer	Reversal	Ending Balance
Warranty	₩ 3,807	10,508	(9,009)	-	5,306
Legal claims	9,460	5,119	(9,460)	-	5,119
Emission allowances	37,412	-	-	(4,685)	32,727
	₩ 50,679	15,627	(18,469)	(4,685)	43,152

(2) Provisions for warranty

The Group estimates the expected warranty costs based on historical results and records provisions for warranty.

(3) Provisions for legal claims

The Group recognizes provisions for legal claims when the Group has a present legal or constructive obligation as a result of past events and an outflow of resources required to settle the obligation is probable and the amount can be reliably estimated.

(4) Provision for emission allowances

The Group recognizes estimated future payment for the number of emission certificates required to settle the Group's obligation exceeding the actual number of certificates on hand as emission allowances according to the Act on Allocation and Trading of Greenhouse Gas Emission Permits.

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20. Defined Benefit Liabilities

(1) Details of defined benefit liabilities as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Present value of defined benefit obligations	₩ 1,791,640	1,609,055
Fair value of plan assets	(1,609,816)	(1,608,832)
Net defined benefit liabilities	₩ 181,824	223
Defined benefit liabilities	181,824	5,387
Employee benefit assets ¹	-	(5,164)

¹ The Parent Company and certain subsidiaries' fair value of plan assets in excess of the present value of defined benefit obligations, presented as employee benefit assets, amounted to ₩5,164 million as of December 31, 2018.

(2) Principal actuarial assumptions as of September 30, 2019 and December 31, 2018 are as follows:

	2019 (%)	2018 (%)
Discount rate for defined benefit obligations	1.90 ~ 3.78	2.64 ~ 3.78
Expected rate of salary increase	2.70 ~ 5.83	2.70 ~ 5.83

(3) Changes in defined benefit obligations for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 1,609,055	1,330,559
Current service cost	163,492	127,355
Interest cost	44,696	42,348
Transferred from associates	2,252	1,277
Benefits paid	(27,934)	(23,408)
Others	79	20
Ending balance	₩ 1,791,640	1,478,151

(4) Changes in plan assets for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 1,608,832	1,337,848
Interest income	44,700	42,559
Contributions	1,570	91
Transferred from associates	3,277	1,328
Benefits paid	(32,124)	(29,982)
Remeasurements	(16,441)	(21,146)
Others	2	-
Ending balance	₩ 1,609,816	1,330,698

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20. Defined Benefit Liabilities, Continued

(5) The amounts recognized in profit or loss for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Current service cost	₩ 54,525	163,492	42,440	127,355
Net interest income	(8)	(4)	(70)	(211)
	<u>₩ 54,517</u>	<u>163,488</u>	<u>42,370</u>	<u>127,144</u>

(6) Details of plan assets as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Deposits	₩ 1,608,118	1,607,552
Others	1,698	1,280
	<u>₩ 1,609,816</u>	<u>1,608,832</u>

Actual return on plan assets for the nine-month periods ended September 30, 2019 and 2018 amounted to ₩28,259 million and ₩21,413 million, respectively.

(7) Contributions to defined contribution plans amounting to ₩298 million (2018: ₩129 million) was recognized as cost of sales for the nine-month period ended September 30, 2019.

21. Derivative Financial Instruments

(1) There were no derivative financial instruments as of September 30, 2019 and December 31, 2018.

(2) There were no gains or losses from derivative instruments for the nine-month periods ended September 30, 2019 and 2018.

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22. Capital Stock, Capital Surplus and Other Equity

(1) The Parent Company has 9,000,000,000 authorized shares and the face value per share is ₩5,000 as of September 30, 2019. The number of shares issued, common stock, capital surplus and other capital as of September 30, 2019 and December 31, 2018, are as follows:

(In millions of won and thousands of shares)

	2019	2018
Issued shares ¹	731,530	731,530
Capital stock:		
Common stock	₩ 3,657,652	3,657,652
Capital surplus:		
Additional paid-in capital	3,625,797	3,625,797
Others	517,939	517,939
	<u>4,143,736</u>	<u>4,143,736</u>
Other equity:		
Acquisition cost of treasury shares	(2,508,427)	(2,508,427)
Share options	3,239	1,976
	<u>₩ (2,505,188)</u>	<u>(2,506,451)</u>
Number of treasury shares	44,001	44,001

¹ As of September 30, 2019, the number of listed shares is 728,002 thousand, which differs from total issued shares due to stock retirement.

(2) As of September 30, 2019 and December 31, 2018, the number of outstanding shares, which deducted treasury shares held by Parent Company from listed shares, is 684,002 thousand, respectively.

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23. Accumulated Other Comprehensive Loss

(1) Details of accumulated other comprehensive loss as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

		2019	2018
Equity-accounted investees – share of other comprehensive income (loss)	₩	28,961	(18,166)
Foreign operations – foreign currency translation differences		(193,835)	(464,653)
	₩	<u>(164,874)</u>	<u>(482,819)</u>

(2) Changes in accumulated other comprehensive income (loss) for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019	
		Beginning	Change
Equity-accounted investees – share of other comprehensive income (loss)	₩	(18,166)	47,127
Foreign operations – foreign currency translation differences		(464,653)	270,818
	₩	<u>(482,819)</u>	<u>317,945</u>

(In millions of won)

			2018	
			The effect of initial application of K-IFRS No. 1109	
		Beginning	Change	Ending
Equity-accounted investees – share of other comprehensive loss	₩	(20,442)	9,366	(11,076)
Loss on valuation of long-term investment assets		(10,735)	-	-
Foreign operations – foreign currency translation differences		(471,087)	(21,654)	(492,741)
	₩	<u>(502,264)</u>	<u>(12,288)</u>	<u>(503,817)</u>

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24. Retained Earnings

Retained earnings as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

	2019	2018
Legal reserve ¹	₩ 281,555	178,954
Discretionary reserve ²	235,506	235,506
Unappropriated retained earnings ³	42,605,579	41,619,141
	₩ <u>43,122,640</u>	<u>42,033,601</u>

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

² Discretionary reserve is the reserve for technology development.

³ Dividends in the amount of ₩1,026,003 million were approved at shareholders' meeting held at Parent Company on March 22, 2019 and paid during the nine-month period ended September 30, 2019.

SK HYNIX, INC. and Subsidiaries

Notes to the Condensed Consolidated Interim Financial Statements

September 30, 2019 and 2018

(Unaudited)

25. Revenue

(1) Details of revenue for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019		2018	
		Three-month period	Nine-month period	Three-month period	Nine-month period
Sale of goods	₩	6,822,061	20,010,917	11,404,467	30,468,084
Providing services		16,705	52,705	12,321	38,901
	₩	6,838,766	20,063,622	11,416,788	30,506,985

(2) Details of revenue by product and service types for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019		2018	
		Three-month period	Nine-month period	Three-month period	Nine-month period
DRAM	₩	5,106,760	15,264,389	9,201,152	24,402,869
NAND Flash		1,313,200	3,723,604	2,045,502	5,609,054
Other		418,806	1,075,629	170,134	495,062
	₩	6,838,766	20,063,622	11,416,788	30,506,985

(3) Revenue information by region based on the location of selling entities for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

		2019		2018	
		Three-month period	Nine-month period	Three-month period	Nine-month period
Korea	₩	344,700	961,526	191,014	717,143
China		3,348,413	9,630,830	4,532,705	11,904,846
Taiwan		393,529	1,070,715	785,736	2,369,867
Asia (other than China and Taiwan)		597,144	1,778,180	1,244,343	3,471,220
U.S.A.		1,933,145	5,801,586	4,102,850	10,608,979
Europe		221,835	820,785	560,140	1,434,930
	₩	6,838,766	20,063,622	11,416,788	30,506,985

SK HYNIX, INC. and Subsidiaries
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25. Revenue, Continued

(4) Details of revenue by the timing of revenue recognition during the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Performance obligations satisfied at a point in time	₩ 6,822,061	20,010,917	11,404,467	30,468,084
Performance obligations satisfied over time	16,705	52,705	12,321	38,901
	₩ 6,838,766	20,063,622	11,416,788	30,506,985

(5) Revenue recognition policies and performance obligation

Revenue is measured based on the consideration promised in the contract with customers. The Group recognizes revenue when control of goods or services is transferred to the customers.

Revenue recognition policies regarding the nature and timing of performance obligations satisfaction in the contract are as follows:

	Nature of goods or services and timing of performance obligation satisfaction.	Revenue recognition under K-IFRS No. 1115.
		Revenue is measured at the amount of consideration for the sale of goods, reflecting the expected amount of return estimated through historical information. The Group's right to recover products from customers on settling the refund liability is recognized as asset and refund liability is recognized as well.
Sale of goods	When the good is defective, the customer has granted the right to return the defective goods in exchange for a functioning product or cash.	Settling a refund liability shall initially be measured by reference to the former carrying amount of the product less any expected costs to recover those products. Refund liability is included in other current liabilities (Note 18) and right to recover products from customers on settling the refund liability is included in other current assets (Note 10). The Group updates the measurement of the asset arising from changes in expectations about products to be returned at the end of each reporting period.

SK HYNIX, INC. and Subsidiaries
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26. Selling and Administrative Expenses

Selling and administrative expenses for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Salaries	₩ 121,067	400,316	126,936	383,647
Defined benefit plan	11,925	35,259	7,793	23,304
Employee benefits	33,512	103,047	27,227	79,920
Commission	118,907	334,391	85,464	264,381
Depreciation	52,237	149,922	32,808	90,695
Amortization	149,112	546,714	110,027	330,949
Freight and custody charge	10,076	29,090	9,106	21,682
Legal cost	6,251	25,830	6,615	17,039
Rental	2,064	5,324	3,341	9,948
Taxes and dues	12,924	43,136	9,901	19,554
Training	11,086	33,193	7,964	21,335
Advertising	20,379	51,946	21,347	50,845
Utilities	3,119	9,040	2,757	8,652
Supplies	21,186	59,851	26,179	57,495
Repair	10,962	22,647	5,511	18,546
Travel and transportation	3,783	12,264	4,147	11,138
Sales promotion	19,337	49,865	17,981	51,442
Others	19,826	44,614	9,427	26,084
	<u>627,753</u>	<u>1,956,449</u>	<u>514,531</u>	<u>1,486,656</u>
Research and development:				
Expenditure on research and development	796,573	2,328,058	718,589	2,011,843
Development cost capitalized	(81,248)	(248,537)	(160,376)	(422,270)
	<u>715,325</u>	<u>2,079,521</u>	<u>558,213</u>	<u>1,589,573</u>
₩	<u><u>1,343,078</u></u>	<u><u>4,035,970</u></u>	<u><u>1,072,744</u></u>	<u><u>3,076,229</u></u>

SK HYNIX, INC. and Subsidiaries
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27. Expenses by Nature

Nature of expenses for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Changes in finished goods and work-in-process ₩	224,485	(682,630)	(235,018)	(795,160)
Raw materials and consumables	1,666,013	4,858,556	1,419,455	3,978,281
Labor costs	783,865	2,669,034	797,316	2,421,656
Depreciation and amortization	2,090,700	6,133,603	1,612,895	4,574,972
Royalty	35,471	107,395	41,946	134,980
Commission	527,030	1,529,569	397,477	1,179,141
Utilities	350,671	1,001,877	294,785	816,506
Repair	231,872	773,374	219,403	675,632
Outsourcing	297,608	871,473	286,975	787,430
Others	158,490	324,690	109,134	319,872
Total ¹ ₩	<u>6,366,205</u>	<u>17,586,941</u>	<u>4,944,368</u>	<u>14,093,310</u>

¹ Total expenses consist of cost of sales and selling and administrative expenses.

SK HYNIX, INC. and Subsidiaries
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28. Finance Income and Expense

Finance income and expense for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Finance income				
Interest income	₩ 7,268	24,864	10,598	53,791
Dividend income	129	211	-	1,979
Foreign exchange differences ¹	397,224	1,224,366	145,913	1,091,720
Gain on valuation of short-term investment assets	(2,408)	3,555	4,750	9,578
Gain on disposal of short-term investment assets	13,957	50,511	11,574	18,874
Gain on disposal of long-term investment assets	58	58	-	248
Gain on valuation of financial liabilities at fair value through profit or loss	734	1,804	-	-
	<u>416,962</u>	<u>1,305,369</u>	<u>172,835</u>	<u>1,176,190</u>
Finance expense				
Interest expenses	70,714	171,166	23,404	65,781
Foreign exchange differences	318,511	942,690	228,595	863,835
Loss on valuation of long-term investment assets	4	26	-	-
	<u>389,229</u>	<u>1,113,882</u>	<u>251,999</u>	<u>929,616</u>
Net finance income (expense)	₩ <u>27,733</u>	<u>191,487</u>	<u>(79,164)</u>	<u>246,574</u>

¹ The foreign exchange differences of long-term investment assets amounting to ₩420,524 million are included.

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29. Other Income and Expenses

(1) Other income for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Gain on disposal of property, plant and equipment ₩	5,450	24,401	17,231	30,475
Others	25,990	56,421	40,260	44,250
₩	<u>31,440</u>	<u>80,822</u>	<u>57,491</u>	<u>74,725</u>

(2) Other expenses for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Loss on disposal of property, plant and equipment ₩	2,496	10,619	4,242	57,759
Loss on disposal of intangible assets	4,628	7,005	1,834	4,414
Impairment of intangible assets	1	71	-	3,463
Loss on disposal of trade receivables	1,775	5,798	2,873	6,522
Donation	5,454	43,139	7,035	35,028
Others	1,550	21,020	2,508	9,720
₩	<u>15,904</u>	<u>87,652</u>	<u>18,492</u>	<u>116,906</u>

30. Income Tax Expense

Income tax expense is recognized based on management's best estimate of the annual effective income tax rate expected for the full financial year multiplied by the pre-tax income of the interim reporting period. Income tax expense includes current tax expense adjustments related to prior periods.

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31. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to ordinary shareholders of the Parent Company by the weighted average number of outstanding ordinary shares during the three and nine-month periods.

(1) Basic earnings per share for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won, except for shares and per share amounts)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Profit attributable to ordinary shareholders of the Parent Company	₩ 493,201	2,131,483	4,693,620	12,143,821
Weighted average number of outstanding ordinary shares ¹	684,001,795	684,001,795	697,358,807	703,089,140
Basic earnings per share (in won)	₩ 721	3,116	6,731	17,272

¹ Weighted average number of ordinary shares outstanding is calculated as follows:

(In shares)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Outstanding ordinary shares	728,002,365	728,002,365	728,002,365	728,002,365
Treasury shares	(44,000,570)	(44,000,570)	(30,643,558)	(24,913,225)
Weighted average number of outstanding ordinary shares	684,001,795	684,001,795	697,358,807	703,089,140

(2) Diluted earnings per share for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won, except for shares and per share amounts)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Profit attributable to ordinary shareholders of the Parent Company	₩ 493,201	2,131,483	4,693,620	12,143,821
Weighted average number of diluted outstanding ordinary shares ¹	684,090,845	684,080,420	697,448,623	703,181,187
Diluted earnings per share (in won)	₩ 721	3,116	6,730	17,270

¹ Weighted average number of diluted outstanding ordinary shares is calculated as follows:

(In shares)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Weighted average number of outstanding ordinary shares	684,001,795	684,001,795	697,358,807	703,089,140
Share options	89,050	78,625	89,816	92,047
Weighted average number of diluted outstanding ordinary shares	684,090,845	684,080,420	697,448,623	703,181,187

SK HYNIX, INC. and Subsidiaries
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32. Transactions with Related Parties and Others

(1) Details of related parties as of September 30, 2019 are as follows:

Type	Name of related parties
Associates	Stratio, Inc., SK China Company Limited, Gemini Partners Pte. Ltd., TCL Fund, SK South East Asia Investment Pte. Ltd., Hushan Xindu (Chengdu) Venture Investment Center(Smartsources), WooYoung Farm Co., Ltd.
Joint ventures	HITECH Semiconductor (Wuxi) Co., Ltd., Hystars Semiconductor (Wuxi) Co., Ltd.
Other related parties	SK Telecom Co., Ltd., which has significant influence over the Group, SK Holdings Co., Ltd., which has control over SK Telecom Co., Ltd., and their subsidiaries

(2) Significant transactions for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

For the three-month period ended September 30, 2019					
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend received
Associate	SK China Company Limited	₩ 4	2,427	-	-
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	1,611	158,505	-	-
	Hystars Semiconductor (Wuxi) Co., Ltd.	1	-	-	-
Other related parties	SK Telecom Co., Ltd.	36,000	5,741	1,501	-
	SK Holdings Co., Ltd.	5,159	63,332	71,513	-
	ESSENCE Limited	202,928	-	-	-
	SK Engineering & Construction Co., Ltd.	12,003	6	372,372	-
	SK Energy Co., Ltd.	17,009	11,433	-	-
	SK Networks Co., Ltd.	3,310	2,632	-	-
	SKC solmics Co., Ltd.	153	19,728	138	-
	Chungcheong energy service Co., Ltd.	169	3,408	-	-
	SK Materials Co., Ltd.	1,070	20,871	-	-
	SK Siltron Co., Ltd.	7,728	105,284	-	-
	SK Airgas Co., Ltd.	16	18,017	-	-
	Others	41,287	116,154	11,675	-
		₩ 328,448	527,538	457,199	-

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32. Transactions with Related Parties and Others, Continued

(2) Significant transactions for the three and nine-month periods ended September 30, 2019 and 2018 are as follows, Continued:

(In millions of won)

		For the nine-month period ended September 30, 2019			
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend received
Associate	SK China Company Limited	₩ 11	7,063	-	-
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	3,414	488,787	-	14,458
	Hystars Semiconductor (Wuxi) Co., Ltd.	238	-	-	-
Other related parties	SK Telecom Co., Ltd. ¹	97,011	235,847	7,977	-
	SK Holdings Co., Ltd. ²	19,318	196,384	201,046	-
	ESSENCE Limited	600,853	-	-	-
	SK Engineering & Construction Co., Ltd.	42,362	6	960,132	-
	SK Energy Co., Ltd.	41,307	52,634	-	-
	SK Networks Co., Ltd.	9,219	8,607	-	-
	SKC solmics Co., Ltd.	528	60,851	1,047	-
	Chungcheong energy service Co., Ltd.	175	19,891	-	-
	SK Materials Co., Ltd.	3,217	59,863	-	-
	SK Siltron Co., Ltd.	24,316	324,113	-	-
	SK Airgas Co., Ltd.	56	53,334	-	-
	Others	105,506	362,134	20,965	-
		₩ 947,531	1,869,514	1,191,167	14,458

¹ Operating expense and others include dividend payments of ~~₩~~219,200 million.

² For the nine-month period ended September 30, 2019, royalty paid for the use of the SK brand amounted to ~~₩~~61,972 million.

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32. Transactions with Related Parties and Others, Continued

(2) Significant transactions for the three and nine-month periods ended September 30, 2019 and 2018 are as follows, Continued:

(In millions of won)

For the three-month period ended September 30, 2018					
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend received
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	₩ 2,632	163,908	1,901	-
	Hystars Semiconductor (Wuxi) Co., Ltd.	108	-	-	-
Other related parties	SK Telecom Co., Ltd. ¹	14	3,414	3,249	-
	SK Holdings Co., Ltd. ²	510	53,246	50,915	-
	ESSEN CORE Limited	217,783	-	-	-
	SK Engineering & Construction Co., Ltd.	804	135	738,938	-
	SK Energy Co., Ltd.	781	11,604	-	-
	SK Networks Co., Ltd.	-	1,646	-	-
	SKC solmics Co., Ltd.	-	4,376	384	-
	Chungcheong energy service Co., Ltd.	-	2,541	-	-
	HAPPYNARAE Co., Ltd.	9	134,720	18,074	-
	SK Materials Co., Ltd.	-	17,686	-	-
	SK Siltron Co., Ltd.	1,224	94,976	-	-
	SK Airgas Co., Ltd.	1	10,588	15	-
	Others	85	86,552	8,108	-
		₩ 223,951	585,392	821,584	-

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32. Transactions with Related Parties and Others, Continued

(2) Significant transactions for the three and nine-month periods ended September 30, 2019 and 2018 are as follows, Continued:

(In millions of won)

		For the nine-month period ended September 30, 2018			
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend received
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	₩ 3,318	464,832	1,901	13,120
	Hystars Semiconductor (Wuxi) Co., Ltd.	108	-	-	-
Other related parties	SK Telecom Co., Ltd. ¹	220	158,326	6,772	-
	SK Holdings Co., Ltd. ²	1,102	166,857	170,888	-
	ESSENCE Limited	712,307	-	-	-
	SK Engineering & Construction Co., Ltd.	3,806	427	1,770,175	-
	SK Energy Co., Ltd.	3,417	49,352	-	-
	SK Networks Co., Ltd.	-	4,016	10,600	-
	SKC solmics Co., Ltd.	-	14,060	847	-
	Chungcheong energy service Co., Ltd.	-	11,719	203	-
	HAPPYNARAE Co., Ltd.	29	384,833	42,786	-
	SK Materials Co., Ltd.	-	49,326	-	-
	SK Siltron Co., Ltd.	3,333	243,260	-	-
	SK Airgas Co., Ltd.	1	20,224	259	-
	Others	248	208,349	23,929	-
		₩ 727,889	1,775,581	2,028,360	13,120

¹ Operating expense and others include dividend payments of ~~₩~~146,100 million.

² For the nine-month period ended September 30, 2018, royalty paid for the use of the SK brand amounted to ~~₩~~46,466 million.

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32. Transactions with Related Parties and Others, Continued

(3) The balances of significant transactions as of September 30, 2019 and December 31, 2018 are as follows:

(In millions of won)

		2019	
	Company	Trade receivables and others	Other payables and others
Associate	SK China Company Limited	₩ 1	7,301
Joint ventures	HITECH Semiconductor (Wuxi) Co., Ltd.	1,265	103,779
	Hystars Semiconductor (Wuxi) Co., Ltd.	-	-
Other related parties	SK Telecom Co., Ltd.	1,739	1,497
	SK Holdings Co., Ltd.	2,214	158,250
	ESSENCE Limited	55,718	-
	SK Engineering & Construction Co., Ltd.	6,546	442,818
	SK Energy Co., Ltd.	2,679	19,257
	SK Networks Co., Ltd.	323	7,090
	SKC solmics Co., Ltd.	45	16,991
	Chungcheong energy service Co., Ltd.	46	1,083
	SK Materials Co., Ltd.	467	7,728
	SK Siltron Co., Ltd. ¹	112,454	48,313
	SK Airgas Co., Ltd.	7	279,591
	Others	13,851	63,481
		₩ 197,355	1,157,179

¹ Trade receivables and others include advanced payment related to the purchase of wafer that amounts to ₩109,662 million.(Note 33-(9))

(In millions of won)

		2018	
	Company	Trade receivables and others	Other payables and others
Associate	SK China Company Limited	₩ 1	9,060
Joint ventures	HITECH Semiconductor (Wuxi) Co., Ltd.	33	102,932
	Hystars Semiconductor (Wuxi) Co., Ltd.	19	-
Other related parties	SK Telecom Co., Ltd.	3,339	15,489
	SK Holdings Co., Ltd.	1,876	144,225
	ESSENCE Limited	71,673	-
	SK Engineering & Construction Co., Ltd.	12,910	744,935
	SK Energy Co., Ltd.	5,350	9,005
	SK Networks Co., Ltd.	790	1,452
	SKC solmics Co., Ltd.	57	8,113
	Chungcheong energy service Co., Ltd.	4	3,644
	SK Materials Co., Ltd.	443	18,214
	SK Siltron Co., Ltd.	156,023	37,070
	SK Airgas Co., Ltd.	-	24,026
	Others	14,918	96,929
		₩ 267,436	1,215,094

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32. Transactions with Related Parties and Others, Continued

(4) Key management compensation

The Group considers registered directors who have authority and responsibility for planning, directing and controlling the activities of the Group as key management. The compensation paid to key management for employee services for the three and nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019		2018	
	Three-month period	Nine-month period	Three-month period	Nine-month period
Salaries	₩ 494	3,351	734	2,284
Defined benefit plan	102	305	87	263
Share-based payment	303	650	17	34
	₩ 899	4,306	838	2,581

(5) The significant transactions between the Group and the companies that are in the same conglomerate group according to 'Fair Trade Law' for the three and nine-month periods ended September 30, 2019 and 2018 are as follows. These entities are not related parties according to K-IFRS No. 1024, 'Related Party Disclosures'.

(In millions of won)

		2019			
		Operating revenue and others		Operating expense and others	
		Three-month period	Nine-month period	Three-month period	Nine-month period
Companies in the Conglomerate	SK Chemicals Co., Ltd.	₩ 2,339	7,025	379	1,155
	SK Bioscience Co., Ltd.	1,201	3,628	5	28
	ANTS Co., Ltd.	2	6	2,542	5,921
	Others	1,074	2,410	-	-
		₩ 4,616	13,069	2,926	7,104

(In millions of won)

		2018			
		Operating revenue and others		Operating expense and others	
		Three-month period	Nine-month period	Three-month period	Nine-month period
Company in the Conglomerate	SK Chemicals Co., Ltd.	₩ -	-	292	882

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32. Transactions with Related Parties and Others, Continued

(6) The balances of significant transactions between the Group and the companies that are in the same conglomerate group designated by 'Fair Trade Law'. The details of the balances as of September 30, 2019 and December 31, 2018 are as follows. These entities are not related parties according to K-IFRS No. 1024, 'Related Party Disclosures'.

(In millions of won)

		2019	
		Trade receivables and others	Other payables and others
Company			
Companies in the Conglomerate	SK Chemicals Co., Ltd.	₩ 750	116
	SK Bioscience Co., Ltd.	258	2
	ANTS Co., Ltd.	-	493
	Others	403	-
		₩ 1,411	611

(In millions of won)

		2018	
		Trade receivables and others	Other payables and others
Company			
Companies in the Conglomerate	SK Discovery Co., Ltd.	₩ 5	-
	SK Chemicals Co., Ltd.	1,253	331
	SK Bioscience Co., Ltd.	884	13
		₩ 2,142	344

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33. Commitments and Contingencies

(1) Significant pending litigations and claims of the Group as of September 30, 2019 are as follows:

(a) Lawsuit from Netlist, Inc.

Netlist, Inc. filed lawsuits against the Parent Company, SK hynix America Inc. and Sk hynix memory solutions America Inc. alleging infringement of multiple patents to the U.S. District Court for the Central District of California, on August 31, 2016 and June 14, 2017, to the U.S. International Trade Commission on September 1, 2016 and October 31, 2017. Meanwhile, the lawsuit filed to the U.S. International Trade Commission on September 1, 2016 was finalized on January 16, 2018 with the conclusion that the Parent Company, SK hynix America Inc. and Sk hynix memory solutions America Inc. did not infringe the patents of Netlist, Inc. Netlist, Inc. filed a petition on March 26, 2018. As of September 30, 2019, the patent infringement lawsuits have not been finalized and the final results cannot be predicted.

Meanwhile, Netlist filed a lawsuit against the Parent Company for infringement of one German patent to the District Court of Munich on July 11, 2017. The District Court of Munich rendered its decision finding no infringement by the Parent Company on January 31, 2019. Netlist, Inc. filed a notice of appeal against the decision to the Higher Regional Court of Munich on March 5, 2019 but withdrew the notice of appeal on June 11, 2019, thus the non-infringement decision of the District Court of Munich became the final and conclusive judgment.

(b) Price-fixing class-action lawsuits in North America

On April 27, 2018, a purported class-action lawsuit was filed against the Parent Company and its subsidiary, SK hynix America Inc. in the U.S. District Court for the Northern District of California asserting claims based on alleged price-fixing of DRAM products during the period from June 1, 2016 to February 1, 2018. Similar lawsuits were subsequently filed in federal court in the U.S., as well as in Canadian courts in British Columbia, Quebec and Ontario. As of September 30, 2019, the lawsuits filed have not been finalized and the Group is unable to predict the outcome of these matters and therefore cannot reliably estimate the range of possible loss.

(c) The antitrust investigation in China

The State Administration for Market Regulation of China initiated to investigate the violation of the antitrust law regarding on primary DRAM businesses' sales in China in May 2018. The investigation is ongoing. As of September 30, 2019, the Group is unable to predict the outcome of these matters and therefore cannot reliably estimate the range of possible loss.

(d) Other patent infringement claims and litigation

In addition to the above litigations, the Group has responded to various disputes related to intellectual property rights and has recognized a liability when it represents a present obligation as a result of past event and it is probable that an outflow of resources will arise and a loss can be reliably estimated.

(2) Technology and patent license agreements

The Group has entered into a number of patent license agreements with several companies. The related royalties are paid on a lump-sum or running basis in accordance with the respective agreements. The lump-sum royalties are expensed over the contract period using the straight-line method.

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33. Commitments and Contingencies, Continued

(3) Contract for supply of industrial water

The Group has entered into a new contract with Veolia Water Industrial Development Co., Ltd. ("Veolia") under which the Group purchases industrial water from Veolia during period of June 2018 through May 2023. According to the contract, the Group is obligated to pay base service charges, which are predetermined and additional service charges which are variable according to the amount of water used.

(4) Post- process service contract with HITECH Semiconductor (Wuxi) Co., Ltd.(HITECH)

The Group has entered into an agreement with HITECH to be provided with post-process service by HITECH. The conditions of the service provided includes package, package test, modules and others. According to the agreement, the Group is liable to guarantee a certain level of margin to HITECH.

(5) Assets provided as collateral

Details of assets provided as collateral as of September 30, 2019 are as follows:

(In millions of won and millions of foreign currencies)

	Book value		Pledged amount		Remark
	Currency	Amount	Currency	Amount	
Land and Buidings	KRW	57,202	USD	52	
				(KRW 63,027)	
Machinery	KRW	5,106,015	KRW	5,854	Borrowings for equipment and others
			USD	2,677	
				(KRW 3,215,359)	
			KRW	600,000	
	KRW	<u>5,163,217</u>	USD	2,729	
				(KRW 3,278,386)	
			KRW	<u>605,854</u>	

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33. Commitments and Contingencies, Continued

(6) Financing agreements

Details of credit lines with financial institutions as of September 30, 2019 are as follows:

(In millions of won and millions of foreign currencies)

	Financial Institution	Commitment	Currency	Amount
The Parent Company	KEB Hana Bank and others	Import finance including usance Comprehensive limit contract for import and export	USD	275
		Overdrafts with banks	KRW	20,000
		Accounts receivable factoring contracts which have no right to recourse	KRW	140,000
		Import finance including usance	RMB	1,440
			USD	4,392
SK hynix Semiconductor (China) Ltd.	Agricultural Bank of China and others			
SK hynix America Inc. and other sales entities	Citibank and others	Accounts receivable factoring contracts which have no right to recourse	USD	309
Domestic subsidiaries	KEB Hana Bank and others	Import finance including bills bought	USD	45
		Finance secured by accounts receivables	KRW	53,820
		Agent agreement for payment of goods received	KRW	12,500

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33. Commitments and Contingencies, Continued

(7) Details of guarantees provided to others as of September 30, 2019 are as follows:

(In millions of U.S. dollars)

	Currency	Amount	Remark
Taiwan Semiconductor Manufacturing Company, Limited. ¹	USD	60	Guarantees for supply agreement

¹ The Group received a deposit of ₩1,000 million as collateral from ADTechnology Inc. regarding payment guarantee for Taiwan Semiconductor Manufacturing Company, Limited.

(8) Capital commitments

The Group's unrecorded commitments in relation to the capital expenditures on property, plant and equipment as of September 30, 2019 are ₩1,136,975 million (as of December 31, 2018: ₩1,857,092 million).

(9) Long-term purchase agreement for raw materials

The Group has entered into a procurement agreement with SK Siltron Co., Ltd. from 2019 to 2023 for a stable supply of wafer with an advanced payment of ₩150,000 million during the year ended December 31, 2017. The advanced payment used in connection with the purchase of wafer during the current period is ₩40,338 million, and the balance of the advance payment as of September 30, 2019 is ₩109,662 million. Meanwhile, SK Siltron Co., Ltd. has committed to providing a certain portion of its investment assets as collateral to secure the advanced payment.

(10) Investment in Toshiba Memory Corporation ("TMC")

In regards to the Group's interests in TMC through its investments in BCPE Pangea Intermediate holdings Cayman, L.P. and BCPE Pangea Cayman2 Limited, equity shares in TMC owned, directly or indirectly, by the Group are limited to a certain percentage during certain periods after the date of acquisition. In addition, during the periods, the Group does not have the right in appointing TMC's directors and is unable to exercise significant influence over decision-making for TMC's operation and management.

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34. Cash Flows

(1) Reconciliations between profit and net cash inflow from operating activities for the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Profit for the period	₩ 2,134,639	12,142,065
Adjustment		
Income tax expense	541,221	4,487,454
Interest expense	171,166	65,781
Interest income	(24,864)	(53,791)
Depreciation of property, plant and equipment	5,489,731	4,285,162
Depreciation of investment property	34	68
Amortization	625,463	389,993
Depreciation of right-of-use assets	192,994	-
Loss on disposal of property, plant and equipment	10,619	57,759
Loss on disposal of intangible assets	7,005	4,414
Impairment on intangible assets	71	3,463
Defined benefit plan	163,488	127,144
Compensation expense associated with share option	1,263	866
Loss on foreign currency translation	364,012	188,233
Gain on disposal of property, plant and equipment	(24,401)	(30,475)
Gain on foreign currency translation	(454,970)	(69,563)
Gain on valuation of short-term investment assets	(3,555)	(9,578)
Gain on disposal of short-term investment assets	(50,511)	(18,874)
Loss on valuation of long-term investment assets	26	-
Gain on disposal of long-term investment assets	(58)	(248)
Gain on Financial liabilities measured at fair value	(1,804)	-
Gain on equity method investments, net	(14,522)	(11,451)
Others, net	5,452	4,661
Changes in operating assets and liabilities		
Decrease (increase) in trade receivables	1,944,010	(2,056,686)
Decrease in loans and other receivables	52,275	19,914
Increase in inventories	(1,015,550)	(1,051,823)
Decrease (increase) in other assets	121,709	(18,494)
Decrease in trade payables	(541,370)	(79,100)
Increase (decrease) in other payables	(75,903)	34,583
Decrease in other non-trade payables	(705,282)	(199,454)
Decrease in provisions	(48,607)	(38,214)
Increase (decrease) in other liabilities	(530)	87,007
Contributions to plan assets	(1,570)	(91)
Payment of defined benefit liabilities	(3,830)	(8,541)
Cash generated from operating activities	₩ 8,857,851	18,252,184

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34. Cash Flows, Continued

(2) Details of significant transactions without inflows and outflows of cash for the nine-month periods ended September 30, 2019 and 2018, except for reclassifications between long-term and short-term balances, are as follows:

(In millions of won)

	2019	2018
Increase in other payables related to acquisition of property, plant and equipment	₩ -	94,604

(3) Changes in liabilities arising from financial activities during the nine-month periods ended September 30, 2019 and 2018 are as follows:

(In millions of won)

	2019	2018
Beginning balance	₩ 5,281,937	4,171,270
Adjustment due to the transition to K-IFRS No.1116 ¹	1,123,937	-
Beginning balance after transition adjustments	6,405,874	4,171,270
Cash flows from financing activities		
Proceeds from borrowings	7,962,788	2,407,194
Repayments of borrowings	(3,785,399)	(1,656,045)
Repayments of lease liabilities	(201,324)	-
Foreign currency differences and others	385,605	53,767
Present value discount (interest expense)	20,756	1,192
Interest paid	(2,413)	-
Ending balance	₩ 10,785,887	4,977,378

¹ Lease liabilities are recognized additionally as the Group initially applied K-IFRS No. 1116 as of January 1, 2019.

35. Share-based Payment

(1) The Group accounts for share-based payment in which the Group has a choice of either cash-settled payment or equity-settled payment in accordance with its substance. The details of share options as of September 30, 2019 are as follows:

(In shares)

	Total numbers of share option granted	Exercised	Forfeited or Cancelled	Outstanding at September 30, 2019
1 st	99,600	-	-	99,600
2 nd	99,600	-	-	99,600
3 rd	99,600	-	-	99,600
4 th	7,747	-	-	7,747
5 th	7,223	-	-	7,223
6 th	8,171	-	-	8,171
7 th	61,487	-	-	61,487
8 th	61,487	-	-	61,487
9 th	61,487	-	-	61,487
	506,402	-	-	506,402

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35. Share-based Payment, Continued

(1) The Group accounts for share-based payment in which the Group has a choice of either cash-settled payment or equity-settled payment in accordance with its substance. The details of share options as of September 30, 2019 are as follows, Continued:

	Grant date	Service Period for Vesting	Exercisable Period	Exercise price
1 st	March 24, 2017	March 24, 2017 - March 24, 2019	March 25, 2019 - March 24, 2022	₩ 48,400
2 nd	March 24, 2017	March 24, 2017 - March 24, 2020	March 25, 2020 - March 24, 2023	52,280
3 rd	March 24, 2017	March 24, 2017 - March 24, 2021	March 25, 2021 - March 24, 2024	56,460
4 th	January 1, 2018	January 1, 2018 - December 31, 2019	January 1, 2020 - December 31, 2022	77,440
5 th	March 28, 2018	March 28, 2018 - March 28, 2020	March 29, 2020 - March 28, 2023	83,060
6 th	February 28, 2019	February 28, 2019 - February 28, 2021	March 1, 2021 - February 29, 2024	73,430
7 th	March 22, 2019	March 22, 2019 - March 22, 2021	March 23, 2021 - March 22, 2024	71,560
8 th	March 22, 2019	March 22, 2019 - March 22, 2022	March 23, 2022 - March 22, 2025	77,290
9 th	March 22, 2019	March 22, 2019 - March 22, 2023	March 23, 2023 - March 22, 2026	83,470

(2) Measurement of fair value

The compensation cost is calculated by applying a binomial option-pricing model in estimating the fair value of the option at grant date. The inputs used are as follows:

	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th
Expected volatility	23.23%	23.23%	23.23%	22.50%	25.30%	25.60%	26.20%	26.20%	26.20%
Estimated fair value of share options	₩ 10,026	9,613	9,296	16,687	18,362	16,505	17,744	16,888	16,093
Dividend yield ratio	1.20%	1.20%	1.20%	0.78%	1.23%	1.36%	1.32%	1.32%	1.32%
Risk free rate	1.86%	1.95%	2.07%	2.38%	2.46%	1.89%	1.82%	1.88%	1.91%

(3) The compensation expense for the nine-month period ended September 30, 2019 was ₩1,263 million (2018: ₩866 million).