

SK hynix Inc. and Subsidiaries

Consolidated Financial Statements

December 31, 2020

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Consolidated Financial Statements

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
SK hynix Inc.

Opinion

We have audited the accompanying consolidated financial statements of SK hynix Inc. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as at December 31, 2020, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Group as at December 31, 2020, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

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

Key Audit Matters

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

(1) Fair value measurement of financial assets related to the Group's investments to KIOXIA Holdings Corporation presented as long-term investment assets

Reasons why the matter was determined to be a key audit matter

The Group has equity investment in a special purpose entity ("SPC1") and convertible bonds ("SPC2") in relation to investments in KIOXIA Holding Corporation with total amount of ₩ 5,946,719 million, which represents 8.36% of consolidated total assets as at December 31, 2020, and the Group recognized ₩ 1,685,313 million as gain on valuation of the financial assets for the year ended December 31, 2020 with respect to the investments. The financial assets are non-listed and measured at the fair value using significant unobservable inputs; therefore, the financial assets are classified to Level 3 of the fair value.

The fair value of SPC1 and SPC2 was measured in consideration of the profit-sharing agreement between investors based on the estimated equity value of KIOXIA, a non-public company, and the Group used an independent external expert for the fair value measurement.

The carrying amount of the financial assets is material in the consolidated financial statements and the selection of the valuation techniques that will be applied in the fair value measurement, assumptions and estimates of inputs that have significant impacts on the fair value measurement involve the Group management's judgement. Accordingly, we determined the fair value measurement of the financial assets as a key audit matter.

How our audit addressed the Key Audit Matter

We performed the following audit procedures, including the use of auditor's experts.

- Obtained an understanding and evaluated the Group's accounting policy, process and internal controls including management's review and approval in relation to the fair value measurements of the financial assets.
- Evaluated the competence and independence of external specialist used by management.
- Reviewed the relevant contracts to understand the investment conditions related to the financial asset investment and reviewed whether it is appropriately reflected in management's valuation details.
- Assessed the appropriateness of the valuation technique used in the fair value estimates by management.
- Assessed the reasonableness of key assumptions applied in fair value estimates of SPC1, SPC2 and equity value of KIOXIA.
- Performed a lookback analysis by comparing the estimation of prior year to actual results whether estimates include optimistic assumptions.
- Reviewed the consistency of the sales growth rate, operating profit margin rate and investment forecasts applied in the equity value measurement of KIOXIA with the past growth and market conditions.
- Evaluated the results of a sensitivity analysis on the discount rates and permanent growth rate performed by management to assess the impact of changes in key assumptions on the fair value measurement.

(2) Appropriateness of machinery's depreciation starting point

Reasons why the matter was determined to be a key audit matter

The Group's property, plant and equipment amount to ₩ 41,230,562 million, of which the machinery accounts for ₩ 26,491,042 million. Regarding the recognition of depreciation expenses for machinery, the Group starts depreciating machinery when the acquisition and installation of the machinery is complete, and it is available for use. Meanwhile, during the current period, the Group has started to depreciate the machinery amounting to ₩ 7,412,026 million, for the year ended December 31, 2020 after determining that the machinery is available for use.

The size of the investment in machinery that the Group makes annually for the maintenance and expansion of production plants is significant and the effect of depreciation amount on the consolidated financial statements is significant depending on the determination when it is available for use. Accordingly, we determined the appropriateness of depreciation starting point as a key audit matter.

How our audit addressed the Key Audit Matter

We performed the following audit procedures.

- Obtained an understanding on the Group's policy, process and internal controls in relation to the determination on when to start depreciation of the machinery
- Assessed the Group's internal controls in relation to the determination on when the machinery is available for use and when its depreciation begins including the machinery transferred from construction-in-progress
- Assessed internal controls for identifying and reviewing the reasons for assets remaining as assets under constructions for long time
- Inspected evidence documents used by the Group in determining the depreciation starting point of the machinery
- Observed and made inquiries on operations of key production facilities invested during the current period
- Made inquiries on when certain construction-in-progress is expected to be available for use and start depreciation and reviewed the relevant evidence documents

Emphasis of Matters

Without modifying our opinion, we draw attention to Note 3 of the consolidated financial statements. Note 3 to the consolidated financial statements describes uncertainties relating to the impact of Coronavirus disease 2019 (COVID-19) on the Group's operations including market demands and the Group's production capability. Our opinion is not modified in respect of this matter.

Other Matters

The consolidated financial statements of the Group for the year ended December 31, 2019, were audited by another auditor who expressed an unqualified opinion on those statements, not presented herein, on February 25, 2020. On the other hand, the consolidated financial statements expressed by the auditor are those prior to reflecting the changes in accounting policies described in Note 2.30 to the consolidated financial statements, and the comparative consolidated financial statements for the year ended December 31, 2019, reflect the relevant matters.

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

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

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

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

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

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

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

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

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

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

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

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes

public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Si-Chang, Choi, Certified Public Accountant.

[Signature in the name of the audit firm]

Seoul, Korea

March 2, 2021

This report is effective as of March 2, 2021, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

SK hynix Inc. and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2020 and 2019

(In millions of Korean won)

	Notes	2020	2019
Assets			
Current assets			
Cash and cash equivalents	5,6 ₩	2,975,989 ₩	2,306,070
Short-term financial instruments	5,6,7	436,708	298,350
Short-term investment assets	5,6	1,535,518	1,390,293
Trade receivables, net	5,6,8,34	4,931,322	4,261,674
Loans and other receivables, net	5,6,8,34	69,194	23,508
Inventories, net	9	6,136,318	5,295,835
Current tax assets		202	199,805
Other current assets	10	485,672	682,037
Other financial assets	5,6,7	30	30
		<u>16,570,953</u>	<u>14,457,602</u>
Non-current assets			
Investments in associates and joint ventures	11	1,166,244	768,767
Long-term trade receivables, net	5,6,8	-	44,775
Long-term investment assets	5,6,12	6,139,627	4,381,812
Loans and other receivables, net	5,6,8,34	75,589	109,079
Other financial assets	5,6,7	353	901
Property, plant and equipment, net	13,16,35	41,230,562	39,949,940
Right-of-use assets, net	3,14	1,707,645	1,706,658
Intangible assets, net	15	3,400,278	2,571,049
Investment property, net	13,16	209,417	258
Deferred tax assets	22,32	556,194	673,640
Employee benefit assets	21	61,962	3,406
Other non-current assets	10,35	55,029	580,463
		<u>54,602,900</u>	<u>50,790,748</u>
Total assets		<u>₩ 71,173,853</u>	<u>₩ 65,248,350</u>

SK hynix Inc. and Subsidiaries
Consolidated Statements of Financial Position, Continued
December 31, 2020 and 2019

(In millions of Korean won)

	Notes	2020	2019
Liabilities			
Current liabilities			
Trade payables	5,6,34	₩ 1,046,159	₩ 1,042,542
Other payables	5,6,34	2,348,909	2,367,673
Other non-trade payables	5,6,17,34	1,367,193	1,257,895
Borrowings	5,6,18,35	3,114,250	2,737,770
Provisions	20	13,797	10,701
Current tax liabilities		636,649	89,217
Lease liabilities	3,5,6,14	347,464	293,171
Other current liabilities	19	197,395	162,997
Other financial liabilities	5,6	544	-
		<u>9,072,360</u>	<u>7,961,966</u>
Non-current liabilities			
Long-term other payables	5,6	272,396	-
Other non-trade payables	5,6,17	29,923	18,266
Borrowings	5,6,18,35	8,137,398	7,785,736
Defined benefit liabilities, net	21	2,739	53,624
Deferred tax liabilities	22	266,640	15,743
Lease liabilities	3,5,6,14	1,296,252	1,373,828
Other financial liabilities	5,6,23	88,121	15,532
Other non-current liabilities	19	98,927	87,773
		<u>10,192,396</u>	<u>9,350,502</u>
Total liabilities		<u>19,264,756</u>	<u>17,312,468</u>
Equity			
Equity attributable to owners of the Parent Company			
Capital stock	24	3,657,652	3,657,652
Capital surplus	24	4,143,736	4,143,736
Other equity	24,37	(2,503,122)	(2,504,713)
Accumulated other comprehensive loss	25	(405,453)	(298,935)
Retained earnings	26	46,995,728	42,923,362
Total equity attributable to owners of the Parent Company		<u>51,888,541</u>	<u>47,921,102</u>
Non-controlling interests		<u>20,556</u>	<u>14,780</u>
Total equity		<u>51,909,097</u>	<u>47,935,882</u>
Total liabilities and equity		<u>₩ 71,173,853</u>	<u>₩ 65,248,350</u>

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

SK hynix Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income
Years Ended December 31, 2020 and 2019

(In millions of Korean won, except per share information)

	Notes	2020	2019
Revenue	4,27,34 ₩	31,900,418 ₩	26,990,733
Cost of sales	29,34	21,089,789	18,818,814
Gross profit		10,810,629	8,171,919
Selling and administrative expenses	28,29	5,798,005	5,452,740
Operating profit		5,012,624	2,719,179
Finance income	5,30	3,327,905	1,247,640
Finance expenses	5,30	1,980,411	1,531,417
Share of profit (loss) of equity-accounted investees	11	(36,279)	22,633
Other income	31	84,773	88,179
Other expenses	31	171,575	113,575
Profit before income tax		6,237,037	2,432,639
Income tax expense	32	1,478,123	423,561
Profit for the year		4,758,914	2,009,078
Other comprehensive income (loss)			
Item that will never be reclassified to profit or loss:			
Remeasurements of defined benefit liability, net of tax	21	1,266	(90,211)
Items that are or may be reclassified to profit or loss:			
Foreign operations – foreign currency translation differences, net of tax	25	(47,407)	150,037
Gain (loss) on valuation of derivatives, net of tax	23,25	(417)	12,753
Equity-accounted investees – share of other comprehensive income (loss), net of tax	11,25	(60,820)	21,444
Other comprehensive income (loss) for the year, net of tax		(107,378)	94,023
Total comprehensive income for the year	₩	₩ 4,651,536	₩ 2,103,101
Profit attributable to:			
Owners of the Parent Company	₩	₩ 4,755,102	₩ 2,005,975
Non-controlling interests		3,812	3,103
Total comprehensive income attributable to:			
Owners of the Parent Company		4,649,850	2,099,648
Non-controlling interests		1,686	3,453
Earnings per share	33		
Basic earnings per share (in Korean won)		6,952	2,933
Diluted earnings per share (in Korean won)		6,950	2,932

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

SK hynix Inc. and Subsidiaries
Consolidated Statements of Changes in Equity
Years Ended December 31, 2020 and 2019

		Attributable to owners of the Parent Company								
	Notes	Capital stock	Capital surplus	Other equity	Accumulated other comprehensive income (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	₩ 6,612	₩ 46,852,331	
Comprehensive income:										
		-	-	-	-	2,005,975	2,005,975	3,103	2,009,078	
	21	-	-	-	-	(90,211)	(90,211)	-	(90,211)	
	11,25	-	-	-	21,444	-	21,444	-	21,444	
	25				12,753	-	12,753	-	12,753	
	25	-	-	-	149,687	-	149,687	350	150,037	
Total comprehensive income for the year		-	-	-	183,884	1,915,764	2,099,648	3,453	2,103,101	
Transactions with owners of the Parent Company:										
		-	-	-	-	-	-	4,715	4,715	
	26	-	-	-	-	(1,026,003)	(1,026,003)	-	(1,026,003)	
	37	-	-	1,738	-	-	1,738	-	1,738	
Total transactions with owners of the Parent Company		-	-	1,738	-	(1,026,003)	(1,024,265)	4,715	(1,019,550)	
Balance at December 31, 2019		₩ 3,657,652	₩ 4,143,736	₩ (2,504,713)	₩ (298,935)	₩ 42,923,362	₩ 47,921,102	₩ 14,780	₩ 47,935,882	

SK hynix Inc. and Subsidiaries
Consolidated Statements of Changes in Equity, Continued
Years Ended December 31, 2020 and 2019

		Attributable to owners of the Parent Company						Non- controlling interests	Total equity
		Capital stock	Capital surplus	Other equity	Accumulated other comprehensive income (loss)	Retained earnings	Total		
Notes									
Balance at January 1, 2020		₩ 3,657,652	₩ 4,143,736	₩ (2,504,713)	₩ (298,935)	₩ 42,923,362	₩ 47,921,102	₩ 14,780	₩ 47,935,882
Comprehensive income:									
Profit for the year		-	-	-	-	4,755,102	4,755,102	3,812	4,758,914
Remeasurements of defined benefit liabilities, net of tax	21	-	-	-	-	1,266	1,266	-	1,266
Other comprehensive loss of associate, net of tax	11,25	-	-	-	(60,820)	-	(60,820)	-	(60,820)
Loss on valuation of derivatives, net of tax	25	-	-	-	(417)	-	(417)	-	(417)
Foreign operations – foreign currency translation differences, net of tax	25	-	-	-	(45,281)	-	(45,281)	(2,126)	(47,407)
Total comprehensive income for the year		-	-	-	(106,518)	4,756,368	4,649,850	1,686	4,651,536
Transactions with owners of the Parent Company:									
Increase of non-controlling interests		-	-	-	-	-	-	4,090	4,090
Dividends paid	26	-	-	-	-	(684,002)	(684,002)	-	(684,002)
Share-based payments	37	-	-	1,591	-	-	1,591	-	1,591
Total transactions with owners of the Parent Company		-	-	1,591	-	(684,002)	(682,411)	4,090	(678,321)
Balance at December 31, 2020		₩ 3,657,652	₩ 4,143,736	₩ (2,503,122)	₩ (405,453)	₩ 46,995,728	₩ 51,888,541	₩ 20,556	₩ 51,909,097

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

SK hynix Inc. and Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2020 and 2019

(In millions of Korean won)

	Notes	2020	2019
Cash flows from operating activities			
Cash generated from operations	36 ₩	12,916,771 ₩	11,895,834
Interest received		40,635	30,543
Interest paid		(288,565)	(238,314)
Dividends received		16,365	14,891
Income tax paid		(370,635)	(5,153,218)
Net cash inflow from operating activities		<u>12,314,571</u>	<u>6,549,736</u>
Cash flows from investing activities			
Decrease in short-term financial instruments		913,591	1,070,784
Increase in short-term financial instruments		(1,054,401)	(845,337)
Decrease (increase) in short-term investment assets, net		(115,122)	4,164,793
Decrease in other financial assets		773	-
Increase in other financial assets		(205)	(627)
Decrease in loans and other receivables		36,722	13,057
Increase in loans and other receivables		(238,727)	(57,482)
Proceeds from disposal of long-term investment assets		708	4,316
Acquisitions of long-term investment assets		(93,846)	(81,447)
Proceeds from disposal of property, plant and equipment		59,089	53,840
Acquisitions of property, plant and equipment		(10,068,662)	(13,920,244)
Proceeds from disposal of intangible assets		695	183
Acquisitions of intangible assets		(800,729)	(673,356)
Proceeds from business transfer		2,958	-
Acquisitions of investments in associates		(483,237)	(176,954)
Acquisitions of business		-	(2,462)
Net cash outflow from investing activities		<u>(11,840,393)</u>	<u>(10,450,936)</u>
Cash flows from financing activities			
Proceeds from borrowings	36	5,173,016	9,833,882
Repayments of borrowings	36	(3,921,310)	(4,585,425)
Repayments of lease liabilities	36	(319,740)	(390,501)
Dividends paid		(684,002)	(1,026,003)
Increase of non-controlling interests		4,090	4,715
Net cash inflow from financing activities		<u>252,054</u>	<u>3,836,668</u>
Effects of exchange rate changes on cash and cash equivalents		<u>(56,313)</u>	<u>21,283</u>
Net increase (decrease) in cash and cash equivalents		<u>669,919</u>	<u>(43,249)</u>
Cash and cash equivalents at the beginning of the year		<u>2,306,070</u>	<u>2,349,319</u>
Cash and cash equivalents at the end of the year	₩	<u><u>2,975,989</u></u> ₩	<u><u>2,306,070</u></u>

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

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

1. General Information

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

The Parent Company manufactures, distributes and sells semiconductor products. The Parent Company was established on October 15, 1949 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, the Republic of Korea, and Wuxi and Chongqing, China.

As of December 31, 2020, 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	79,883,313	10.97
Other investors	458,018,482	62.92
Treasury shares	44,000,570	6.04
	<u>728,002,365</u>	<u>100.00</u>

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

SK hynix Inc. and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2020 and 2019

1. General Information, Continued

(2) Details of the Group's consolidated subsidiaries as of December 31, 2020 and 2019 are as follows:

Name of entity	Location	Business	Ownership (%)	
			2020	2019
SK hyeng Inc.	Korea	Construction and service	100	100
SK hystec Inc.	Korea	Business support and service	100	100
Happymore Inc.	Korea	Manufacturing cleanroom suits and cleaning	100	100
SK hynix system ic Inc.	Korea	Semiconductor manufacturing and sales	100	100
HappyNarae Co., Ltd.	Korea	Industrial material supply	100	100
SK hynix America Inc.	U.S.A.	Semiconductor sales	97.74	97.74
SK hynix Deutschland GmbH	Germany	Semiconductor sales	100	100
SK hynix Asia Pte. Ltd.	Singapore	Semiconductor sales	100	100
SK hynix Semiconductor Hong Kong Ltd.	Hong Kong	Semiconductor sales	100	100
SK hynix U.K. Ltd.	U.K.	Semiconductor sales	100	100
SK hynix Semiconductor Taiwan Inc.	Taiwan	Semiconductor sales	100	100
SK hynix Japan Inc.	Japan	Semiconductor sales	100	100
SK hynix Semiconductor (Shanghai) Co., Ltd.	China	Semiconductor sales	100	100
SK hynix Semiconductor India Private Ltd. ¹	India	Semiconductor sales	100	100
SK hynix (Wuxi) Semiconductor Sales Ltd.	China	Semiconductor sales	100	100
SK hynix Semiconductor (China) Ltd.	China	Semiconductor manufacturing	100	100
SK hynix Semiconductor (Chongqing) Ltd. ²	China	Semiconductor manufacturing	100	100
SK hynix Italy S.r.l	Italy	Semiconductor research and development	100	100
SK hynix memory solutions America Inc.	U.S.A.	Semiconductor research and development	100	100
SK hynix memory solutions Taiwan Ltd.	Taiwan	Semiconductor research and development	100	100
SK hynix memory solutions Eastern Europe LLC.	Belarus	Semiconductor research and development	100	100
SK APTECH Ltd.	Hong Kong	Overseas investment	100	100
SK hynix Ventures Hong Kong Limited	Hong Kong	Overseas investment	100	100
SK hynix (Wuxi) Investment Ltd. ³	China	Overseas investment	100	100
SK hynix (Wuxi) Industry Development Ltd. ⁴	China	Foreign hospital construction	100	100
SK hynix Happiness (Wuxi) Hospital Management Ltd. ⁴	China	Foreign hospital operation	70	70
SK hynix system ic (Wuxi) Co., Ltd. ⁵	China	Overseas Semiconductor manufacturing and sales	100	100
SK hynix (Wuxi) cleaning Ltd. ⁴	China	Building maintenance	100	100
SUZHOU HAPPYNARAE Co., Ltd. ⁶	China	Overseas industrial material supply	100	100
CHONGQING HAPPYNARAE Co., Ltd. ⁷	China	Overseas industrial material supply	100	100
SkyHigh Memory Limited ⁵	Hong Kong	Overseas Semiconductor manufacturing and sales	60	60
SK hynix (Wuxi) Education Technology Co., Ltd. ⁴	China	Education	100	100
Gauss Labs Inc. ⁸	U.S.A	Telecommunication of information	100	-
MMT (Money Market Trust)	Korea	Money Market Trust	100	100

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

1. General Information, Continued

(2) Details of the Group's consolidated subsidiaries as of December 31, 2020 and 2019 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

⁶ Subsidiary of HappyNarae Co., Ltd.

⁷ Subsidiary of SUZHOU HAPPYNARAE Co., Ltd.

⁸ Gauss Labs Inc. has been established during the year ended December 31, 2020.

(3) Changes in the Group's consolidated subsidiaries for the year ended December 31, 2020 are as follows:

Type	Name of entity	Reason
Addition	Gauss Labs Inc.	New establishment

(4) Major subsidiaries' summarized statements of financial position as of December 31, 2020 and December 31, 2019 are as follows:

(In millions of Korean won)

	December 31, 2020			December 31, 2019		
	Assets	Liabilities	Equity	Assets	Liabilities	Equity
SK hynix system ic Inc.	₩ 998,387	₩ 372,463	₩ 625,924	₩ 666,171	₩ 130,880	₩ 535,291
SK hynix America Inc.	2,722,417	2,330,715	391,702	1,801,366	1,436,975	364,391
SK hynix Asia Pte. Ltd.	284,115	197,442	86,673	387,860	298,657	89,203
SK hynix Semiconductor Hong Kong Ltd.	282,273	134,019	148,254	195,262	44,405	150,857
SK hynix U.K. Ltd.	303,729	283,833	19,896	217,160	197,293	19,867
SK hynix Semiconductor Taiwan Inc.	273,651	247,895	25,756	247,671	219,056	28,615
SK hynix Japan Inc.	348,336	278,622	69,714	305,770	235,243	70,527
SK hynix (Wuxi) Semiconductor Sales Ltd.	1,250,087	1,024,006	226,081	1,646,998	1,510,156	136,842
SK hynix Semiconductor (China) Ltd.	11,862,866	6,685,079	5,177,787	9,605,890	4,937,517	4,668,373
SK hynix Semiconductor (Chongqing) Ltd.	920,531	317,216	603,315	837,339	309,283	528,056
HappyNarae Co., Ltd.	171,026	116,728	54,298	186,079	136,257	49,822

SK hynix Inc. and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2020 and 2019

1. General Information, Continued

(5) Major subsidiaries' summarized statements of comprehensive income (loss) for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020			2019		
	Revenue	Profit (loss)	Total comprehen- sive income (loss)	Revenue	Profit (loss)	Total comprehen- sive income (loss)
SK hynix system ic Inc.	₩ 702,979	₩ 93,333	₩ 93,674	₩ 661,511	₩ 76,614	₩ 77,957
SK hynix America Inc.	12,761,911	53,448	53,448	8,353,658	47,947	47,947
SK hynix Asia Pte. Ltd.	1,858,091	3,055	3,055	1,662,315	1,965	1,965
SK hynix Semiconductor Hong Kong Ltd.	1,746,160	6,320	6,320	1,579,680	2,493	2,493
SK hynix U.K. Ltd.	994,299	1,331	1,331	907,945	1,057	1,057
SK hynix Semiconductor Taiwan Inc.	1,917,103	4,657	4,657	1,455,320	8,127	8,127
SK hynix Japan Inc.	551,890	(181)	(150)	672,393	701	700
SK hynix (Wuxi) Semiconductor Sales Ltd.	10,423,701	90,303	90,303	10,882,152	94,768	94,768
SK hynix Semiconductor (China) Ltd.	3,936,769	484,677	484,677	3,177,415	18,551	18,551
SK hynix Semiconductor (Chongqing) Ltd.	699,558	73,048	73,048	477,849	39,102	39,102
HappyNarae Co., Ltd.	981,466	4,314	4,153	1,107,524	8,473	8,162

(6) There are no significant non-controlling interests to the Group as of December 31, 2020 and 2019.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies

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

2.1 Basis of measurement

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

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

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

The consolidated financial statements have been prepared on the historical cost basis, except for the following material items in the consolidated statements of financial position:

- derivative financial instruments are measured at fair value
- financial instruments at fair value through profit or loss are measured at fair value
- assets or liabilities for defined benefit plans are recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

Korean IFRS permits the use of critical accounting estimates in the preparation of the consolidated financial statements and requires management judgments in applying accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements, are disclosed in Note 3.

2.2 Changes in Accounting Policies and Disclosure

(A) New and amended standards adopted by the Group

The Group has applied the following standards and interpretations for the first time for their annual reporting period commencing January 1, 2020.

① Amendments to Korean IFRS 1001 *Presentation of Financial Statements* and Korean IFRS 1008 *Accounting policies, changes in accounting estimates and errors – Definition of Material*

The amendments clarify the definition of material. Information is material if omitting, misstating or obscuring it could reasonably be expected to influence the decisions that the primary users of general-purpose financial statements make on the basis of those financial statements. The amendments do not have a significant impact on the consolidated financial statements.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.2 Changes in Accounting Policies and Disclosure, Continued

② Amendments to Korean IFRS 1103 *Business Combination* – *Definition of a Business*

The amended definition of a business requires an acquisition to include an input and a substantive process that together significantly contribute to the ability to create outputs and the definition of output excludes the returns in the form of lower costs and other economic benefits. If substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, an entity may elect to apply an optional concentration test that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The amendments do not have a significant impact on the consolidated financial statements.

③ Amendments to Korean IFRS 1109 *Financial Instruments*, Korean IFRS 1039 *Financial Instruments: Recognition and Measurement* and Korean IFRS 1107 *Financial Instruments: Disclosure* – *Interest Rate Benchmark Reform*

The amendments allow to apply the exceptions when forward-looking analysis is performed in relation the application of hedge accounting while uncertainties arising from interest rate benchmark reform exist. The exceptions require the Group assumes that the interest rate benchmark on which the hedged items and the hedging instruments are based on is not altered as a result of interest rate benchmark reform, when determining whether the expected cash flows are highly probable, whether an economic relationship between the hedged item and the hedging instrument exists, and when assessing the hedging relationship is highly effective. The amendments do not have a significant impact on the consolidated financial statements.

(B) New and amended standards not yet adopted by the Group

The following new accounting standards and interpretations that have been published that are not mandatory for December 31, 2020 reporting periods and have not been early adopted by the Group.

(a) Amendments to Korean IFRS 1116 *Lease* – *Practical expedient for COVID-19-Related Rent Exemption, Concessions, Suspension*

As a practical expedient, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification, and the amounts recognized in profit or loss as a result of applying this exemption should be disclosed. The amendments should be applied for annual periods beginning on or after June 1, 2020, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

(b) Amendments to Korean IFRS 1109 *Financial Instruments*, Korean IFRS 1039 *Financial Instruments: Recognition and Measurement*, Korean IFRS 1107 *Financial Instruments: Disclosure*, Korean IFRS 1104 *Insurance Contracts* and Korean IFRS 1116 *Lease* – *Interest Rate Benchmark Reform*

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.2 Changes in Accounting Policies and Disclosure, Continued

In relation to interest rate benchmark reform, the amendments provide exceptions including adjust effective interest rate instead of book amounts when interest rate benchmark of financial instruments at amortized costs is replaced, and apply hedge accounting without discontinuance although the interest rate benchmark is replaced in hedging relationship. The amendments should be applied for annual periods beginning on or after January 1, 2021, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

(c) Amendments to Korean IFRS 1103 *Business Combination – Reference to the Conceptual Framework*

The amendments update a reference of definition of assets and liabilities qualify for recognition in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korea IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets, and Korean IFRS 2121 Levies. The amendments also confirm that contingent assets should not be recognized at the acquisition date. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

(d) Amendments to Korean IFRS 1016 *Property, plant and equipment – Proceeds before intended use*

The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity will recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group is reviewing the impact of these amendments on the consolidated financial statements.

(e) Amendments to Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets - Onerous Contracts : Cost of Fulfilling a Contract*

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.2 Changes in Accounting Policies and Disclosure, Continued

(f) Annual Improvements to Korean IFRS 2018-2020

Annual improvements of Korean IFRS 2018-2020 Cycle should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

- - Korean IFRS 1101 First time Adoption of Korean International Financial Reporting Standards – Subsidiaries that are first-time adopters
- - Korean IFRS 1109 Financial Instruments – Fees related to the 10% test for derecognition of financial liabilities
- - Korean IFRS 1116 Leases – Lease incentives
- - Korean IFRS 1041 Agriculture – Measuring fair value

(g) Amendments to Korean IFRS 1001 *Presentation of Financial Statements - Classification of Liabilities as Current or Non-current*

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group is reviewing the impact of these amendments on the consolidated financial statements.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.3 Operating Segments

An operating segment is a component of the Group that: 1) engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with other components of the Group, 2) whose operating results are reviewed regularly by the Group's chief operating decision maker ("CODM") in order to allocate resources and assess its performance, and 3) for which discrete financial information is available. The Group's CODM is the Board of Directors, who do not receive and therefore do not review discrete financial information for any component of the Group. Accordingly, no operating segment information is included in these consolidated financial statements. Entity wide disclosures of geographic, product and customer information are provided in notes 4 and 27.

2.4 Consolidation

(a) Business combination

A business combination is accounted for by applying the acquisition method, unless it is a combination involving entities or businesses under common control.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed as incurred and during period of service, except if related to the issue of debt or equity securities according to Korean IFRS No. 1032 and Korean IFRS No. 1109.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration is measured at fair value at the date of acquisition. If an obligation to pay contingent consideration that meets the definition of a financial instrument is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. This determination is based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

(b) Non-controlling interests

Non-controlling interests are measured at their proportionate share of the acquiree's identifiable net assets at the date of acquisition.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.4 Consolidation, Continued

(c) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the entity. Consolidation of an investee begins from the date the Group obtains control of the investee and ceases when the Group loses control of the investee.

(d) Loss of control

If the Group loses control of a subsidiary, the Group derecognizes the assets and liabilities of the former subsidiary from the consolidated statement of financial position and recognizes gain or loss associated with the loss of control attributable to the former controlling interest. Any investment retained in the former subsidiary is recognized at its fair value when control is lost.

(e) Interests in equity-accounted investees

The Group's interest in equity-accounted investees comprises interests in an associate and a joint venture. An associate are these entities in which the Group has significant influence, but not control or joint control, over the entity's financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associates and the joint venture are initially recognized at cost including transaction costs. Subsequent to initial recognition, their carrying amounts are increased or decreased to recognize the Group's share of the profit or loss and changes in equity of the associate or the joint venture. Distributions from equity-accounted investees are accounted for as deduction from the carrying amounts.

(f) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. The Group's share of unrealized gain incurred from transactions with equity-accounted investees are eliminated and unrealized loss are eliminated using the same basis if there are no evidence of asset impairments.

(g) Business combinations under common control

The assets and liabilities acquired in the combination of entities or business under common control are recognized at the carrying amounts recognized previously in the consolidated financial statements of the ultimate parent. The difference between consideration transferred and carrying amounts of net assets acquired is added to or deducted from other capital adjustments.

2.5 Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits with maturities of three months or less from the acquisition date that are subject to an insignificant risk of changes in their fair value.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.6 Inventories

The cost of inventories is based on the weighted average method (except for goods in-transit that is based on the specific identification method), and includes expenditures incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing inventories to their existing location and condition. In the case of manufactured inventories and work-in-process, cost includes an appropriate share of production overheads based on the actual capacity of production facilities. However, the normal capacity is used for the allocation of fixed production overheads if the actual level of production is lower than the normal capacity.

Inventories are measured at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and selling expenses. The amount of any write-down of inventories to net realizable value and all losses of inventories shall be recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, shall be recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

2.7 Trade Receivables

Trade receivables are initially recognized at fair value if it does not include a significant financing component, such as unconditional consideration if it includes a significant financing component. The trade receivables are subsequently measured by subtracting the loss allowance from the amortized cost applied with the effective interest method. (See note 8 for additional information on the accounting for the Group's trade receivables, and 6.(1) for accounting for impairment)

2.8 Non-derivative financial assets

(a) Initial recognition and measurement

Trade and other receivables, and debt investment are initially recognized when they are originated. Other financial assets and financial liabilities are recognized when the Group becomes a party to the contractual provisions of the instruments.

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

(b) Classification and subsequent measurements

On initial recognition, a financial asset is classified as measured at: amortized cost; fair value through other comprehensive income (FVOCI) - debt investment; FVOCI - equity investment; or FVTPL. The classification of financial assets is generally based on the business model in which a financial asset is managed and its contractual cash flow characteristics. In case of changing its business model, all affected financial asset are reclassified on the first day of the first reporting period after the change in the business model.

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at FVTPL:

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

A debt investments is measured at FVOCI if it meets both of the following conditions and is not designated as at FVTPL:

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

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.8 Non-derivative financial assets, Continued

(b) Classification and subsequent measurements, Continued

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

All financial assets not classified as measured at amortized cost or FVOCI as described above are measured at FVTPL. This includes all derivative financial assets. On initial recognition, the Group may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

The Group makes an assessment of the objective of the business model in which, financial assets is held at a portfolio level because this best reflects the way the business is managed, and information is provided to management. The information considered includes:

- The stated policies and objectives for the portfolio and the operation of those policies in practice;
- how the performance of the business model and the financial assets held within that business model are evaluated and reported to the entity's key management personnel;
- the risks that affect the performance of the business model (and the financial assets held within that business model) and, in particular, the way in which those risks are managed;
- how managers of the business are compensated (e.g. whether the compensation is based on the fair value of the assets managed or on the contractual cash flows collected); and
- the frequency, volume and timing of sales of financial assets in prior periods, the reason for those sales and expectation about future sales activity for financial asset.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose, consistent with the Group's continuing recognition of the assets.

For the purpose of this assessment, 'principal' is defined as the fair value of the financial assets on initial recognition. 'Interest' is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (e.g. liquidity risk and administrative costs), as well as a profit margin.

In assessing whether the contractual cash flows are solely payments of principal and interest, the Group considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition. In making this assessment, the Group considers:

- contingent events that would change the amount or timing of cash flows;
- terms that may adjust the contractual coupon rate, including variable-rate features;
- prepayment and extension features; and
- terms that limit the Group's claim to cash flows from specified assets (e.g. non-recourse features).

A prepayment feature is consistent with the solely payments of principal and interest criterion if the prepayment amount substantially represents unpaid amounts of principal and interest on the principal amount outstanding, which may include reasonable additional compensation for early termination of the contract. Additionally, for a financial asset acquired at a discount or premium to its contractual par amount, a feature that permits or requires prepayment at an amount that substantially represents the contractual par amount plus accrued (but unpaid) contractual interest (which may also include reasonable additional compensation for early termination) is treated as consistent with this criterion if the fair value of the prepayment feature is insignificant at initial recognition.

SK hynix Inc. and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.8 Non-derivative financial assets, Continued

(b) Classification and subsequent measurements, Continued

The following accounting policies apply to subsequent measurements of financial assets.

Financial assets at FVTPL	These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.
Financial assets at amortized cost	These assets are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.
Debt investments at FVOCI	These assets are subsequently measured at fair value. Interest income is calculated using the effective interest method. Foreign exchange gains and losses and impairment are recognized in profit or loss. Other net gains and losses are recognized in OCI. On derecognition, gains and losses accumulated in OCI are reclassified to profit or loss.
Equity investments at FVOCI	These assets are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in OCI and are never reclassified to profit or loss.

(c) De-recognition

The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred or in which the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group enters into transactions whereby it transfers assets recognized in its statement of financial position, but retain either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognized.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.8 Non-derivative financial assets, Continued

(d) Offsetting between financial assets and financial liabilities

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

2.9 Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value at the end of each reporting period, and changes in the fair value of derivatives therein are accounted for as described below.

(a) Hedge accounting

The Group enters into a fixed-to-fixed cross currency swap contract and a floating-to-fixed cross currency interest rate swap contract to hedge interest rate risk and currency risk.

On initial designation of the hedge, the Group formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction. In addition, the document includes hedging instruments; hedged items; initial commencement date of those hedge relationship; fair value of hedged items based on hedged risk during the subsequent period; and the method of valuation on hedging instruments offsetting changes in cash flow.

- **Cash flow hedge**

When a derivative is designated to hedge the variability in cash flows attributable to a particular risk associated with a recognized asset or liability, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income, net of tax, and presented in accumulated other comprehensive income. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss. If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss on the hedging instrument that has been recognized in other comprehensive income is reclassified to profit or loss in the periods which the forecasted transaction occurs.

(b) Other derivative financial instruments

Other derivative financial instrument not designated as a hedging instrument are measured at fair value, and the changes in fair value of the derivative financial instrument is recognized immediately in profit or loss.

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.10 Impairment of financial assets

(a) Recognition of impairment on financial assets

The Group recognizes loss allowances for expected credit losses (ECLs) on:

- financial assets measured at amortized costs; and
- contract assets.

The Group measures impairment losses at an amount equal to lifetime ECLs except for the below assets, which are measured at 12-month ECLs.

- credit risk of debt instruments is low at the end of reporting date
- credit risk has not increased significantly since the initial recognition of debt investment (lifetime ECL: ECL that resulted from all possible default events over the expected life of a financial instrument)

The Group adopted an accounting policy to recognize loss allowances at an amount equal to lifetime expected credit losses for trade receivables and contract assets.

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition and estimating expected credit loss, the Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

Lifetime expected credit losses are the expected credit losses that result from all possible default events over the expected life of a financial instrument.

12-month ECLs are the portion of ECLs that result from all default events that are possible within the 12 months after the reporting date (or a shorter period if the expected life of the instrument is less than 12 months).

The maximum period considered when estimating ECLs is the maximum contractual period over which the Group is exposed to credit risk.

(b) Measurement of expected credit loss

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Group expects to receive). ECLs are discounted at the effective interest rate of the financial instrument.

(c) Credit-impaired financial instrument

A debt instrument carried at amortized cost and fair value through other comprehensive income (FVOCI) is assessed at the end of each reporting period to determine whether there is objective evidence that it is impaired. A financial asset is credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of that asset have occurred.

Objective evidence that a financial asset is impaired includes:

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

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2. Significant Accounting Policies, Continued

2.10 Impairment of financial assets, Continued

(d) Presentation of credit loss allowance on financial position

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets.

(e) Write-off

The Group writes off a financial asset when it has no reasonable expectations of recovering the contractual cash flows on a financial asset in its entirety or a portion thereof. For corporate customers, the Group individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery. However financial assets that are written off could still be subject to collection activities according to the Group's past due collection process.

2.11 Property, plant and equipment

Property, plant and equipment are initially measured at cost. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent to initial recognition, an item of property, plant and equipment is carried at its cost less any accumulated depreciation and any accumulated impairment losses.

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

Property, plant and equipment, except for land, are depreciated on a straight-line basis over estimated useful lives that appropriately reflect the pattern in which the asset's future economic benefits are expected to be consumed.

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment and are recognized as other income or expenses.

The estimated useful lives of the Group's property, plant and equipment are as follows:

	Useful lives (years)
Buildings	10 - 50
Structures	10 - 20
Machinery	5 - 15
Vehicles	5 - 10
Other	5 - 10

Depreciation methods, useful lives, and residual values are reviewed at the end of each reporting period and, if appropriate, accounted for as changes in accounting estimates.

SK hynix Inc. and Subsidiaries

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December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.12 Borrowing costs

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

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

2.13 Intangible assets

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

Goodwill arising from business combinations is recognized as the excess of the consideration transferred in the acquisition over the net fair value of the identifiable assets acquired and liabilities assumed. Any deficit is a bargain purchase that is recognized in profit or loss. Goodwill is measured at cost less accumulated impairment losses.

Amortization of intangible assets is calculated on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use. The residual value of intangible assets is zero. However, certain intangible assets are determined as having indefinite useful lives and not amortized as there is no foreseeable limit to the period over which the assets are expected to be available for use.

The estimated useful lives of the Group's intangible assets are as follows:

	Useful lives (years)
Industrial rights	5 - 10
Development costs	2
Other intangible assets	4 - 20

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

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

SK hynix Inc. and Subsidiaries

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2. Significant Accounting Policies, Continued

2.13 Intangible assets, continued

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

2.14 Government grants

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

(a) Grants related to assets

Government grants whose primary condition is that the Group purchases, constructs or otherwise acquires non-current assets are deducted in calculating the carrying amount of the asset. The grant is recognized in profit or loss over the useful lives of depreciable assets.

(b) Grants related to income

Government grants which are intended to compensate the Group for expenses incurred are recognized in profit or loss by as deduction of the related expenses.

2.15 Investment property

Property held for the purpose of earning rental income or benefiting from capital appreciation is classified as investment property. Investment property is initially measured at its cost. Transaction costs are included in the initial measurement. Subsequently, investment property is carried at cost less accumulated depreciation and impairment losses.

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

Investment property is depreciated on a straight-line basis over 40 years.

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting period and, if appropriate, accounted for as changes in accounting estimates.

2.16 Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets, other than assets arising from employee benefits, inventories, and deferred tax assets, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

The Group estimates the recoverable amount of an individual asset; however if it is impossible to measure the individual recoverable amount of an asset, the Group estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell.

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2. Significant Accounting Policies, Continued

2.16 Impairment of non-financial assets, continued

The value in use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

An impairment loss is recognized if the carrying amount of an asset or a CGU exceeds its recoverable amount.

Goodwill acquired in a business combination is allocated to each CGU that is expected to benefit from the synergies arising from business combination. Any impairment identified at the CGU level will first reduce the carrying value of goodwill and then be used to reduce the carrying amount of the other assets in the CGU on a pro rata basis.

Except for impairment losses in respect of goodwill, which are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

2.17 Trade payables and other payables

Trade payables and other payables are liabilities that the Group has received but have not been paid for goods or services before the end of the reporting period. The liability is unsecured and it usually paid within 30 days of recognition. Trade payables and other payables were marked current unless the due date was 12 months after the reporting period. Those liabilities are initially recognized at fair value and subsequently measured at amortized cost using the effective interest method.

2.18 Leases

The Group assesses whether a contract is or contains a lease at inception of a contract. 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.

(i) As a lessee

The Group recognizes for a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, the initial amount of the lease liability, adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove of the underlying asset, or to restore the underlying asset or the site on which the underlying asset is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term. In case that ownership of the right-of-use asset is transferred at the end of the lease term, or the cost of the right-of-use asset includes the exercise price of a purchase option, the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset may be reduced by an impairment loss or adjusted for remeasurements of the lease liability.

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2. Significant Accounting Policies, Continued

2.18 Leases, continued

(i) As a lessee, continued

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 the discount rate.

Lease payments included in the measurement of the lease liability consist of the following:

- fixed payments (including in-substance fixed payments)
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date
- amounts expected to be payable under a residual value guarantee
- the exercise price under a purchase option that the Group is reasonably certain to exercise
- lease payments in an optional renewal period, if the Group is reasonably certain to exercise extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

The lease liability is subsequently increased by the interest expense recognized for the lease liability and decreased by reflecting the payment of the lease. The lease liability is remeasured when there is a change in future lease payments arising from changes in an index or a rate (interest rate), if there's a change in the Group's estimate of the amount expected to be paid under a residual value guarantee, or if the Group changes in the assessment of whether the option to buy or extend is reasonably certain to be exercised or not to exercise the termination option.

When the lease liabilities are remeasured, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

A lessee shall remeasure the lease liability as an adjustment to the right-of-use asset, if either:

- a change in the lease term or a change in circumstances or significant events that result in a change in the assessment of the exercise of the purchase option. In such cases, the lease liability is remeasured by discounting the modified lease payment at the revised discount rate;
- the lease payment changes due to changes in the index or rate (interest rate) or the amount expected to be paid according to the residual value guarantee. In such cases, the lease liability measures the modified lease fee again by discounting it at an unchanged discount rate. However, if a change in the variable interest rate causes a change in the lease payments, the revised discount rate that reflects the change in interest rates is used; or
- the lease agreement changes and is not accounted for as a separate lease. In such cases, the lease liability is remeasured by discounting the modified lease payment at the revised discount rate as of the effective date of the lease change, based on the lease term of the modified lease.

The Group has elected not to recognize right-of-use assets and lease liabilities for some 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.

SK hynix Inc. and Subsidiaries

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2. Significant Accounting Policies, Continued

2.18 Leases, continued

(i) As a lessee, continued

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, the Group has elected practical expedient not to separate non-lease components and account for the lease and non-lease components as a single lease component.

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

Subsequently, the right-of-use asset is accounted for consistently with the accounting policies applicable to the asset.

(ii) As a lessor

As a lessor, the Group determines whether the lease is a finance lease or an operating lease at the inception of the lease.

To classify each lease, the Group generally determines whether the lease transfers most of the risks and rewards of ownership of the underlying asset. If most of the risks and rewards of ownership of the underlying asset are transferred to the lessee, the lease is classified as a finance lease, otherwise the lease is classified as an operating lease. As part of this assessment, the Group considers whether the lease term represents a significant portion of the economic life of the underlying asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sublease separately. In addition, the classification of a lease is determined by the right-of-use asset arising from the head lease, not the underlying asset. If a head lease is a short-term lease to which the Group applies the recognition exemption, then the sub-lease is classified as an operating lease.

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 components.

The Group recognizes the lease payments received from operating leases on a straight-line basis over the lease term as revenue in 'other revenue'.

The accounting policies that the Group has applied to the comparative period as lessors are not different from those in K-IFRS No. 1116.

SK hynix Inc. and Subsidiaries

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2. Significant Accounting Policies, Continued

2.19 Non-derivative financial liabilities

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

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

Financial liabilities at fair value through profit or loss include financial liabilities held for trading or designated as such upon initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, any directly attributable transaction costs are recognized in profit or loss as incurred.

(b) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value less any directly attributable transaction costs. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest rate method.

(c) Derecognition of financial liability

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

2.20 Employee benefits

(a) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the reporting period in which the employees render the related service. When an employee has rendered service to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service.

(b) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the reporting period in which the employees render the related service, and are calculated at the present value of the amount of future benefit that employees have earned in return for their service in the current and prior periods. Remeasurements are recognized in profit or loss in the period in which they arise.

(c) Retirement benefits: defined benefit plans

As of the end of reporting period, defined benefits liabilities relating to defined benefit plans are recognized as present value of defined benefit obligations, net of fair value of plan assets.

The calculation is performed annually by an independent actuary using the projected unit credit method. When the fair value of plan assets exceeds the present value of the defined benefit obligation, the Group recognizes an asset, to the extent of the present value of any economic benefits available in the form of refunds from the plan or reduction in the future contributions to the plan.

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2. Significant Accounting Policies, Continued

2.20 Employee benefits, continued

(c) Retirement benefits: defined benefit plans, Continued

Remeasurements of the net defined benefit liability (asset) comprise of actuarial gains and losses, the return on plan assets excluding amounts included in net interest on the net defined benefit liability (asset), and any change in the effect of the asset ceiling, excluding amounts included in net interest on the net defined benefit liability (asset), and are recognized in other comprehensive income.

The Group determines net interests on net defined benefit liability (asset) by multiplying discount rate determined at the beginning of the annual reporting period and considers changes in net defined benefit liability (asset) from contributions and benefit payments. Net interest costs and other costs relating to the defined benefit plan are recognized through profit or loss.

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

(d) Retirement benefits: defined contribution plans

When an employee has provided service for a certain period of time in relation to the defined contribution plan, the contribution to the defined contribution plan is recognized in profit or loss except to be included in the cost of the asset. The contributions to be paid are recognized as liabilities (accrued expenses) less the contributions that have been already paid.

(e) Termination benefits

The Group recognizes a liability and expense for termination benefits at the earlier of the period when the Group can no longer withdraw the offer of those benefits and the period when the Group recognizes costs for a restructuring. If benefits are not payable within 12 months after the end of the reporting period, then they are discounted to their present value.

2.21 Provisions

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

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

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

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

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

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2. Significant Accounting Policies, Continued

2.22 Emissions Rights

The Group accounts for greenhouse gases emission right and the relevant liability as below pursuant to the *Act on Allocation and Trading of Greenhouse Gas Emission* in Korea.

(a) Greenhouse Gases Emission Right

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

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

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

(b) Emission liability

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

2.23 Foreign currencies

(a) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are retranslated to the functional currency at the exchange rate at the reporting data. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are translated to the functional currency at the exchange rate at the date that the fair value was determined.

Foreign currency differences arising on the settlement or retranslation of monetary items are recognized in profit or loss, except for differences arising on the retranslation of the net investment in a foreign operation, which are recognized in other comprehensive income. When a gain or loss on a non-monetary item is recognized in other comprehensive income, any exchange component of that gain or loss is recognized in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is recognized in profit or loss.

(b) Foreign operations

If the presentation currency of the Group is different from a foreign operation's functional currency, the financial statements of the foreign operation are translated into the presentation currency using the following methods:

The assets and liabilities of foreign operations, whose functional currency is not the currency of a hyperinflationary economy, are translated to presentation currency at exchange rates at the end of reporting period. The income and expenses of foreign operations are translated to functional currency at exchange rates at the dates of the transactions. Foreign currency differences are recognized in other comprehensive income.

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December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.23 Foreign currencies, continued

(b) Foreign operations, continued

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation is treated as assets and liabilities of the foreign operation. Thus, they are expressed in the functional currency of the foreign operation and translated at the exchange rates at the end of reporting date.

When a foreign operation is disposed of, the relevant amount in the translation is transferred to profit or loss as part of the profit or loss on disposal. On the partial disposal of a subsidiary that includes a foreign operation, the relevant proportion of such cumulative amount is reattributed to non-controlling interest. In any other partial disposal of a foreign operation, the relevant proportion is reclassified to profit or loss.

2.24 Equity capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares is recognized as a deduction from equity, net of any tax effects.

When the Group repurchases its share capital, the amount of the consideration paid is recognized as a deduction from equity and classified as treasury shares. The profits or losses from the purchase, disposal, reissue, or retirement of treasury shares are not recognized as current profit or loss. If the Group acquires and disposes treasury shares, the consideration paid or received is directly recognized in equity.

2.25 Share-based payment

The Group has granted shares or share options to its employees. For equity-settled share-based payment transactions, the Group measures the goods or services received, and the corresponding increase in equity as a capital adjustment at the fair value of the goods or services received, unless that fair value cannot be estimated reliably. If the Group cannot reliably estimate the fair value of the goods or services received, the Group measures their value, and the corresponding increase in equity, indirectly, by reference to the fair value of the equity instruments granted. If the fair value of the equity instruments cannot be estimated reliably at the measurement date, the Group measures them at their intrinsic value and recognizes the goods or services received based on the number of equity instruments that ultimately vest.

For cash-settled share-based payment transactions, the Group measures the goods or services acquired and the liability incurred at the fair value of the liability. Until the liability is settled, the Group remeasures the fair value of the liability at each reporting date and at the date of settlement, with changes in fair value recognized in profit or loss for the period.

The Group accounts for share-based payment, with options to choose either cash-settled or equity-settled share-based payment, in accordance with the substance of transactions.

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2. Significant Accounting Policies, Continued

2.26 Revenue from contracts with customers

Revenue is measured based on the promised consideration specified in a contract with a customer. The Group recognizes revenue when the Group transfers a promised good or service to a customer.

Revenue is recognized when the customer obtains control of that asset, which is typically upon delivery or shipment depending on the terms of the contract.

When the good is defective, the customer is granted the right to return the defective goods in exchange for a functioning product or cash.

Revenue is measured at the amount of consideration for the sale of goods, reflecting the expected amount of return estimated through historical information. The Company's right to recover products from customers and refund liability are recognized.

Refund liability is initially measured at the former carrying amount of the product less any expected costs to recover those products. Refund liability is included in other current liabilities (See note 19) and right to recover products from customers is included in other current assets (See note 10). The Company reviews its estimate of expected returns at the end of each reporting period and updates the amounts of the asset and liabilities accordingly.

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December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.27 Finance income and finance expenses

The Group's finance income and finance expenses include:

- Interest income;
- Interest expense;
- Dividend income;
- The net gain or loss on financial assets at fair value through profit or loss;
- Gain or loss on foreign exchange(currency) translation for financial asset and liabilities;
- Impairment losses and reversals on investment in debt securities carried at amortized cost method; and
- The gain on the remeasurement to fair value of any pre-existing interest in an acquire in a business combination

The Group uses effective interest rate method for recognizing interest income and expense. Dividend income is recognized in profit or loss on the date that the Group's right to receive dividend is established.

The 'effective interest rate' is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to:

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

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

2.28 Income taxes

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

(a) Current tax

Current tax is the expected tax payable or refundable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the end of the reporting period and any adjustment to tax payable in respect of previous years. The amount of current tax payable or receivable is the best estimate of tax amount expected to be paid or received that reflects uncertainty related to income taxes. The taxable income is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit (tax loss) of future periods, and non-taxable or non-deductible items from the accounting profit. The tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period.

(b) Deferred tax

Deferred tax is recognized, using the asset-liability method, in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes.

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2. Significant Accounting Policies, Continued

2.28 Income taxes, Continued

(b) Deferred tax, Continued

The Group recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Group recognizes deferred tax assets for all deductible temporary differences including unused tax loss and tax credit to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

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

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

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis. If there are any additional income tax expense incurred in accordance with dividend payments, such income tax expense is recognized when liabilities relating to the dividend payments are recognized.

2.29 Earnings per share

The Group presents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Parent Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of outstanding ordinary shares, adjusted for own shares held, for the effects of all dilutive potential ordinary shares including stock options.

2.30 Changes in accounting policies

From January 1, 2020, the Group has changed its accounting policy by adopting accounting treatments in accordance with agenda decisions for 'Lease Term and Useful Life of Leasehold Improvements' issued by IFRS Interpretations Committee on December 16, 2019. The Group determines the lease term as the non-cancellable period of a lease, together with both (a) periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option; and (b) periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option. When the lessee and the lessor each has the right to terminate the lease without permission from the other party, the Group has considered a termination penalty in determining the period for which the contract is enforceable.

The Group has adopted the above decisions made by IFRS Interpretations Committee as a change in accounting policies, and the main effects of such changes for the relevant periods are as follows:

SK hynix Inc. and Subsidiaries

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2. Significant Accounting Policies, Continued

2.30 Changes in accounting policies, continued

- Back-end Process Service Contracts and Machinery Rental Contracts

For the determination of lease terms of certain back-end process service contracts and machinery rental contracts, the Group identified the contract period as the enforceable lease period during the year ended December 31, 2019 since the leaseholder's consent was required to extend such contracts. However, upon adoption of aforementioned accounting policy, considering the economic loss the Group would incur if the contract was not extended, more extended period was identified as lease period. Due to this change of accounting policies, the lease period has been extended and related lease liabilities and right-of-use assets have increased.

The effects of the above changes in accounting policies have been restated on the consolidated statements of financial position, the consolidated statement of comprehensive income, and the consolidated cash flow statement as of the beginning and the end of the years ended December 31, 2020 and 2019 and the impacts are as follows:

(In millions of Korean won)

	January 1, 2019		
	Before restatement	Effects of restatement	Total
Current assets	₩ 19,894,146	₩ -	₩ 19,894,146
Non-current assets	44,878,908	435,423	45,314,331
Right-of-use assets, net	1,193,370	435,423	1,628,793
Total Assets	64,773,054	435,423	65,208,477
Current liabilities	13,257,271	100,315	13,357,586
Lease liabilities	244,644	100,315	344,959
Non-current liabilities	4,663,452	335,108	4,998,560
Lease liabilities	946,935	335,108	1,282,043
Total Liabilities	17,920,723	435,423	18,356,146
Total Equity	₩ 46,852,331	₩ -	₩ 46,852,331

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2. Significant Accounting Policies, Continued

2.30 Changes in accounting policies, continued

(In millions of Korean won)

December 31, 2019			
	Before restatement	Effects of restatement	Total
Current assets	₩ 14,457,602	₩ -	₩ 14,457,602
Non-current assets	50,331,892	458,856	50,790,748
Right-of-use assets, net	1,250,576	456,082	1,706,658
Deferred tax assets	670,866	2,774	673,640
Total Assets	<u>64,789,494</u>	<u>458,856</u>	<u>65,248,350</u>
Current liabilities	7,874,033	87,933	7,961,966
Lease liabilities	205,238	87,933	293,171
Non-current liabilities	8,972,266	378,236	9,350,502
Lease liabilities	995,592	378,236	1,373,828
Total Liabilities	<u>16,846,299</u>	<u>466,169</u>	<u>17,312,468</u>
Total Equity	₩ <u>47,943,195</u>	₩ <u>(7,313)</u>	₩ <u>47,935,882</u>

(In millions of Korean won)

December 31, 2020			
	Amount based on previous policy	Adjustment	Reported amount
Current assets	₩ 16,570,953	₩ -	₩ 16,570,953
Non-current assets	54,209,482	393,418	54,602,900
Right-of-use assets, net	1,314,227	393,418	1,707,645
Total Assets	<u>70,780,435</u>	<u>393,418</u>	<u>71,173,853</u>
Current liabilities	8,953,989	118,371	9,072,360
Lease liabilities	229,093	118,371	347,464
Non-current liabilities	9,925,184	267,212	10,192,396
Deferred tax liabilities	263,668	2,972	266,640
Lease liabilities	1,032,012	264,240	1,296,252
Total Liabilities	<u>18,879,173</u>	<u>385,583</u>	<u>19,264,756</u>
Total Equity	₩ <u>51,901,262</u>	₩ <u>7,835</u>	₩ <u>51,909,097</u>

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2. Significant Accounting Policies, Continued

2.30 Changes in accounting policies, continued

(In millions of Korean won)

Year ended December 31, 2019			
	Before restatement	Effects of restatement	Total
Revenue	₩ 26,990,733	₩ -	₩ 26,990,733
Cost of sales	18,825,275	(6,461)	18,818,814
Gross profit	8,165,458	6,461	8,171,919
Selling and administrative expenses	5,452,740	-	5,452,740
Operating profit	2,712,718	6,461	2,719,179
Finance income	1,247,640	-	1,247,640
Finance expenses	1,514,869	16,548	1,531,417
Share of profit of equity-accounted investees	22,633	-	22,633
Other income	88,179	-	88,179
Other expenses	113,575	-	113,575
Profit before income tax	2,442,726	(10,087)	2,432,639
Income tax expense	426,335	(2,774)	423,561
Profit for the year	2,016,391	(7,313)	2,009,078
Other comprehensive income (loss)	94,023	-	94,023
Basic earnings per share (in won)	2,943	(10)	2,933
Diluted earnings per share (in won)	2,943	(11)	2,932

(In millions of Korean won)

Year ended December 31, 2020			
	Amount based on previous policy	Adjustment	Reported amount
Revenue	₩ 31,900,418	₩ -	₩ 31,900,418
Cost of sales	21,098,992	(9,203)	21,089,789
Gross profit	10,801,426	9,203	10,810,629
Selling and administrative expenses	5,798,005	-	5,798,005
Operating profit	5,003,421	9,203	5,012,624
Finance income	3,327,905	-	3,327,905
Finance expenses	1,992,102	(11,691)	1,980,411
Share of profit of equity-accounted investees	(36,279)	-	(36,279)
Other income	84,773	-	84,773
Other expenses	171,575	-	171,575
Profit before income tax	6,216,143	20,894	6,237,037
Income tax expense	1,475,151	2,972	1,478,123
Profit for the year	4,740,992	17,922	4,758,914
Other comprehensive income (loss)	(107,378)	-	(107,378)
Basic earnings per share (in won)	6,926	26	6,952
Diluted earnings per share (in won)	6,924	26	6,950

SK hynix Inc. and Subsidiaries

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December 31, 2020 and 2019

2. Significant Accounting Policies, Continued

2.30 Changes in accounting policies, continued

(In millions of Korean won)

	Year ended December 31, 2019		
	Before restatement	Effects of restatement	Total
Cash flows from operating activities	₩ 6,483,188	₩ 66,548	₩ 6,549,736
Cash flows from investing activities	(10,450,936)	-	(10,450,936)
Cash flows from financing activities	3,903,216	(66,548)	3,836,668

2.31 Approval of the Consolidated Financial Statements

The consolidated financial statements were authorized for issuance by the board of directors on January 28, 2021, which will be submitted for approval at the shareholders' meeting to be held on March 30, 2021.

3. Critical Accounting Estimates and Assumptions

Preparation of financial statements requires assumptions and estimates of the future, and the management requires judgement to apply the Group's accounting policies. The estimates and assumptions are continuously assessed, considering historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

During 2020, the spread of Coronavirus disease 2019 ("COVID-19") has a material impact on the global economy. It may have a negative impact; such as, decrease in productivity, decrease or delay in sales, collection of existing receivables and others. Accordingly, it may have a negative impact on the financial position and financial performance of the Group.

Critical accounting estimates and assumptions applied in the preparation of the consolidated financial statements can be adjusted depending on changes in the uncertainty from COVID-19. Also, the ultimate effect of COVID-19 to the Group's business, financial position and financial performance cannot presently be determined.

The following are estimates and assumptions about management decisions and significant risks that may affect the adjustment of the carrying amount of assets and liabilities in the following financial years: Additional information on significant judgements and estimates for some items is included in the separate footnotes.

(1) Fair value of financial instruments

In principle, the fair value of financial instruments that are not traded in an active market is determined using valuation techniques. The Group is making judgments on the selection and assumptions of various evaluation techniques based on important market conditions as of the end of the reporting period. (see note 6)

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

3. Critical Accounting Estimates and Assumptions, Continued

(2) Corporate income tax

There is uncertainty in determining the final tax effect as corporate tax on the Group's taxable income is calculated by applying various national tax laws and tax authorities' decisions. The Group recognized the corporate tax effect, which is expected to be borne in the future as a result of business activities until the end of the reporting period, as current tax and deferred tax after the best estimation process. However, the actual future final corporate tax burden may not be consistent with the assets and liabilities recognized, and this difference may affect current and deferred tax assets and liabilities when the final tax effect is confirmed.

The Group will pay additional corporate taxes calculated by the method prescribed by the tax law when a certain amount of taxable income is not used for investment, salary increase, etc. for a certain period of time. Therefore, when measuring current and deferred taxes during the period, the tax effects should be reflected, and the corporate tax to be borne by the Group depends on the level of investment and salary growth in each year, so there is uncertainty in calculating the final tax effect.

In accordance with K-IFRS No.1012, the Group reviews uncertainty in its tax treatment and reflects the impact of uncertainty in its financial statements if the tax authorities conclude that uncertainty is unlikely to be accepted, using a method that expects better prediction of uncertainty:

- (a) Most likely: the single most likely amount within the range of possible outcomes
- (b) Expected value: the sum of all amounts in the range of possible outcomes multiplied by each probability;

(3) Provisions

The Group calculates provisions related to litigation costs as of the end of the reporting period, which are determined by estimates based on past experience (see note 20).

(4) Net defined benefit liabilities

The present value of the net defined benefit liability is affected by various factors determined by the actuarial method, especially changes in the discount rate (see note 21).

(5) Inventories

Estimating the net realizable value of inventories is based on the most reliable evidence available as of the estimated date for the amount feasible from inventories. In addition, if the Group confirms the circumstances in which an event exists at the end of the reporting period, it shall estimate the change in price or cost directly related to the event.

(6) Revenue recognition

A refund liability and a right to the returned goods are recognized for the products expected to be returned once they are sold. Accumulated experience is used to estimate such returns at the time of sale at a portfolio level (expected value method), and the Group's revenue is affected by changes in expected return rate.

Sales of goods are recognized based on considerations specified in the contract, net of sales incentives, when control of the products has transferred. The sales deduction, which affects the Company's revenue, is reasonably estimated based on historical experience and past contracts.

(7) Development cost

The recoverable amounts of development cost have been determined based on value-in-use calculations, and those calculations are based on estimates.

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Notes to the Consolidated Financial Statements
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3. Critical Accounting Estimates and Assumptions, Continued

(8) Depreciation of property, plant, and equipment and Intangible assets

The depreciation method, residual values and useful lives of property, plant and equipment and Intangible assets are reviewed, and adjusted if appropriate, at the end of each reporting period. If the resulting estimates differ from previous estimates, the difference is accounted for as a change in accounting estimates in accordance with K-IFRS 1008 'Accounting Policies, Changes in Accounting Estimates and Errors'.

(9) Goodwill

The recoverable amount of cash-generating units to review goodwill for impairment is determined on the basis of their net fair value.

(10) Lease

In determining the lease term, the Group considers all relevant facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For warehouses, retail stores, and equipment leases, the most relevant factors are generally as follows:

- If a significant penalty is to be paid to terminate (not to extend), it is generally quite certain that the Group exercises the option to extend (not to extend).
- It is generally fairly certain that the Group exercises the option to extend (not exercise the option to terminate) if the lease is expected to have significant residual value.
- In other cases than the above, the Group will consider other factors, including the lease duration and costs, and the discontinuation required to replace the leased asset.

Most extension options in office and vehicle transport leases are not included in lease liabilities because the Group can replace the asset without significant cost or business interruption.

Reevaluate the lease term if the option is actually exercised (or not exercised) or the Group is liable to exercise (not exercised) the option. Only when significant events occur or there are significant changes in the circumstances that affect the lessee's control of the lease term, the consolidator changes its judgment to ensure that the option to extend (or will not be exercised) is significant.

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4. Operating Segment Information

The Group has a single reportable segment that is engaged in the manufacture and sale of semiconductor products. Management of the Group reviews the operational results of the semiconductor business with the reporting information which is prepared in the same manner as management reviews during the establishment of the Group's business strategy.

- (1) The Group's non-current assets (excluding long-term trade receivables, financial assets, loans and other receivables, investment in associates and joint ventures and deferred tax assets) information by region based on the location of the Parent Company and its subsidiaries as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Korea	₩ 35,954,666	₩ 35,566,521
China	10,302,196	8,814,465
Asia (other than China)	20,397	21,497
U.S.A.	373,767	395,772
Europe	13,868	14,293
	<u>₩ 46,664,894</u>	<u>₩ 44,812,548</u>

- (2) For the year ended December 31, 2020, revenue of ₩3,655,937 million, ₩3,510,469 million and ₩3,190,135 million, over 10% of the Group's revenue, are derived from external customers A, B and C, respectively and for the year ended December 31, 2019, revenues of ₩4,947,483 million and ₩3,051,211 million, over 10% of the Group's revenue, are derived from a single external customer A and B, respectively.

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Notes to the Consolidated Financial Statements
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5. Carrying Amounts of Financial Instruments by Categories

(1) Carrying amounts of financial assets by categories as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		December 31, 2020	
	Financial assets at fair value through profit or loss		Financial assets at fair value through other comprehensive income or loss
Cash and cash equivalents	₩ -	₩	-
Short-term financial instruments	227,500		-
Short-term investment assets	1,535,518		-
Trade receivables ¹	-		512,458
Loans and other receivables	-		-
Other financial assets	-		-
Long-term investment assets	6,139,627		-
	₩ 7,902,645	₩	512,458

(In millions of Korean won)

		December 31, 2020	
	Financial assets at amortized cost		Total
Cash and cash equivalents	₩ 2,975,989	₩	2,975,989
Short-term financial instruments	209,208		436,708
Short-term investment assets	-		1,535,518
Trade receivables ¹	4,418,864		4,931,322
Loans and other receivables	144,783		144,783
Other financial assets	383		383
Long-term investment assets	-		6,139,627
	₩ 7,749,227	₩	16,164,330

¹ The Group transferred certain portion of trade receivables, which are from specific customers, and derecognized the trade receivables from the financial statements as all the risks and rewards are substantially transferred. Accordingly, the Group recognized gain or loss on disposal of trade receivables.

(In millions of Korean won)

		December 31, 2019		
	Financial assets at fair value through profit or loss	Financial assets at amortized cost		Total
Cash and cash equivalents	₩ -	₩ 2,306,070	₩	2,306,070
Short-term financial instruments	-	298,350		298,350
Short-term investment assets	1,390,293	-		1,390,293
Trade receivables	-	4,306,449		4,306,449
Loans and other receivables	-	132,587		132,587
Other financial assets	-	931		931
Long-term investment assets	4,381,812	-		4,381,812
	₩ 5,772,105	₩ 7,044,387	₩	12,816,492

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Notes to the Consolidated Financial Statements
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5. Carrying Amounts of Financial Instruments by Categories, Continued

(2) Carrying amounts of financial liabilities by categories as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020		
	Financial liabilities at amortized cost	Other financial liabilities	Total
Trade payables	₩ 1,046,159	₩ -	₩ 1,046,159
Other payables	2,621,305	-	2,621,305
Other non-trade payables	1,397,116	-	1,397,116
Borrowings	11,251,648	-	11,251,648
Lease liabilities	1,643,716	-	1,643,716
Other financial liabilities	3,958	84,707	88,665
	₩ 17,963,902	₩ 84,707	₩ 18,048,609

(In millions of Korean won)

	December 31, 2019		
	Financial liabilities at fair value through profit or loss	Financial assets at amortized cost	Total
Trade payables	₩ -	₩ 1,042,542	₩ 1,042,542
Other payables	13,006	2,354,667	2,367,673
Other non-trade payables	-	1,276,161	1,276,161
Borrowings	-	10,523,506	10,523,506
Lease liabilities	-	1,666,999	1,666,999
Other financial liabilities	15,532	-	15,532
	₩ 28,538	₩ 16,863,875	₩ 16,892,413

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5. Categories of Financial Instruments, Continued

(3) Details of gain and loss on financial assets and liabilities by category for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Financial assets at amortized cost		
Interest income	₩ 27,872 ₩	30,062
Foreign exchange differences	(959,065)	229,649
Reversal of impairment	(550)	85
	<u>(931,743)</u>	<u>259,796</u>
Financial assets at fair value through profit or loss		
Dividend income	1,325	429
Gain on disposal	27,510	59,217
Gain (loss) on valuation	1,736,345	(227,423)
Foreign exchange differences	(40,222)	209,563
	<u>1,724,958</u>	<u>41,786</u>
Financial liabilities measured at amortized cost		
Interest expenses	(253,468)	(245,440)
Foreign exchange differences	809,001	(339,834)
	<u>555,533</u>	<u>(585,274)</u>
	<u>₩ 1,348,748 ₩</u>	<u>(283,692)</u>

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

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 Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Group's financial performance.

Risk management is carried out by the Parent Company's corporate finance division in accordance with policies approved by the board of directors. The Parent Company's corporate finance division identifies, evaluates and hedges financial risks in close cooperation with the Group's operating units. The board of directors provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, and credit risk, use of derivative financial instruments and non-derivative financial instruments, and investment of excess liquidity

(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, Japanese yen, Chinese yuan and Euro. 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 December 31, 2020 are as follows:

(In millions of Korean won and millions of foreign currencies)

	Assets		Liabilities	
	Foreign currencies	Korean won equivalent	Foreign currencies	Korean won equivalent
USD	10,370	₩ 11,283,027	10,913	₩ 11,873,394
JPY	385	4,062	140,716	1,483,515
CNY	1,779	297,021	27	4,525
EUR	10	12,791	34	45,167

Also, as described in note 23, the Company entered into a fixed-to-fixed cross currency swap and a floating-to-fixed cross currency interest rate swap to hedge foreign currency rate risk relating to bonds and borrowings denominated in foreign currencies

When the exchange rate of the functional currency for each foreign currency fluctuates by 10% as of December 31, 2020, the impact of the change in the exchange rate on profit before income tax expenses are as follows:

(In millions of Korean won)

	If increased by 10%	If decreased by 10%
USD	₩ 49,200	₩ (49,200)
JPY	(147,945)	147,945
CNY	29,250	(29,250)
EUR	(3,238)	3,238

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

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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 due to 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.

The Group is managing cash flow interest rate risk using floating-to-fixed cross currency interest rate swaps. These interest rate swaps have an economic effect of converting floating interest borrowings into fixed interest borrowings. Generally, the Group borrows at a floating interest rate and then swaps at a fixed rate. Under the swap agreement, the Group will settle the difference between fixed interest costs and the floating interest costs calculated according to the principal agreed upon for each counterparty and specific period (mainly quarterly).

The Group is partially exposed to the risk of changing net interest costs due to changes in interest rates as of December 31, 2020. The Group has signed a currency interest rate swap contract on floating interest rate borrowings of ₩544,000 million and interest rate swap contract on floating interest rate borrowings of ₩108,800. Therefore, the changes in interest costs subject to fluctuation of interest rates do not have an impact on the profit before income tax for the year ended December 31, 2020.

As of December 31, 2020, if interest rates on borrowings had been 100 basis points higher/lower with all other variables held constant, profit before income tax would have been ₩50,270 million (2019 : ₩55,093 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 December 31, 2020.

Equity investments that the Group owns are all unlisted equities and the effect of the equity investments on the Group's profit for the year and other comprehensive income are explained in note 12.

SK hynix Inc. and Subsidiaries

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December 31, 2020 and 2019

6. Financial Risk Management, Continued

(1) Financial risk management, continued

(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 continuously 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 overseas customers. The maximum exposure to credit risk as of December 31, 2020 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, long-term and short-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 December 31, 2020 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.

(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, and demand deposits choosing instruments with appropriate maturities or sufficient liquidity to provide sufficient headroom as determined by the above-mentioned forecasts.

SK hynix Inc. and Subsidiaries
Notes to the Consolidated Financial Statements
December 31, 2020 and 2019

6. Financial Risk Management, Continued

(1) Financial risk management, continued

The contractual maturity of financial liabilities held by the Group as of December 31, 2020 and 2019 term are as follows:

(In millions of Korean won)

December 31, 2020						
		Less than 1 year	1 - 2 years	2 - 5 years	More than 5 years	Total
Borrowings ¹	₩	3,309,009	2,317,331	5,136,314	1,121,480	11,884,134
Lease liabilities		352,201	250,840	391,356	848,315	1,842,712
Trade payables		1,046,159	-	-	-	1,046,159
Other payables		2,348,909	56,902	160,488	78,336	2,644,635
Other non-trade payables		1,346,254	17,896	12,028	-	1,376,178
Derivative Liabilities		(3,538)	(3,839)	77,573	13,460	83,656
Other financial liabilities		117,106	-	-	-	117,106
Financial guarantee contract		87,040	-	-	-	87,040
	₩	8,603,140	2,639,130	5,777,759	2,061,591	19,081,620

¹ The cash flow includes payment of interest under terms and conditions of borrowing.

(In millions of Korean won)

December 31, 2019						
		Less than 1 year	1 - 2 years	2 - 5 years	More than 5 years	Total
Borrowings ¹	₩	2,988,176	2,974,910	4,535,800	794,687	11,293,573
Lease liabilities		296,419	294,633	443,049	849,095	1,883,196
Trade payables		1,042,542	-	-	-	1,042,542
Other payables		2,367,673	-	-	-	2,367,673
Other non-trade payables		1,257,895	15,611	2,655	-	1,276,161
Other financial liabilities		(15,826)	(13,862)	(16,732)	5,522	(40,898)
Financial guarantee contract		69,468	-	-	-	69,468
	₩	8,006,347	3,271,292	4,964,772	1,649,304	17,891,715

¹ The cash flow includes payment of interest under terms and conditions of borrowing contracts.

The table above analyzes the Group's financial liabilities into relevant maturity groups based on the remaining period at the statement of financial position date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows and include estimated interest payments.

SK hynix Inc. and Subsidiaries

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6. Financial Risk Management, Continued

(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 and proceeds and repayments of borrowings, and issue new shares or sell assets to reduce debt.

The debt-to-equity ratio and net borrowing ratio as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Total liabilities (A)	₩ 19,264,756	₩ 17,312,468
Total equity (B)	51,909,097	47,935,882
Cash and cash equivalents, and others ¹ (C)	4,948,215	3,994,713
Total borrowings (D)	11,251,648	10,523,506
Debt-to-equity ratio (A/B)	37.11%	36.12%
Net borrowing ratio (D-C)/B	12.14%	13.62%

¹ Total amount of cash and cash equivalents, short-term investment assets and short-term financial instruments.

SK hynix Inc. and Subsidiaries
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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 that an entity can access at the measurement date.
- 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 December 31, 2020 and 2019:

(In millions of Korean won)

(in millions of Korean won)

		December 31, 2020			
	Carrying amounts	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Short-term financial instruments	₩ 227,500	₩ -	₩ -	₩ 227,500	₩ 227,500
Short-term investment assets	1,535,518	-	1,535,518	-	1,535,518
Trade receivables ¹	512,458	-	512,458	-	512,458
Long-term investment assets	6,139,627	-	-	6,139,627	6,139,627
	8,415,103	-	2,047,976	6,367,127	8,415,103
Financial assets not measured at fair value					
Cash and cash equivalents ²	2,975,989	-	-	-	-
Short-term financial instruments ²	209,208	-	-	-	-
Trade receivables ²	4,418,864	-	-	-	-
Loans and other receivables ²	144,783	-	-	-	-
Other financial assets ²	383	-	-	-	-
	7,749,227	-	-	-	-
Total financial asset	₩ 16,164,330	₩ -	₩ 2,047,976	₩ 6,367,127	₩ 8,415,103
Financial liabilities measured at fair value					
Other financial liabilities	₩ 84,707	₩ -	₩ 84,707	₩ -	₩ 84,707
Financial liabilities not measured at fair value					
Trade payables ²	1,046,159	-	-	-	-
Other payables ²	2,621,305	-	-	-	-
Other non-trade payables ²	1,397,116	-	-	-	-
Borrowings	11,251,648	-	11,372,509	-	11,372,509
Lease liabilities ²	1,643,716	-	-	-	-
Other financial liabilities ²	3,958	-	-	-	-
	17,963,902	-	11,372,509	-	11,372,509
Total financial liabilities	₩ 18,048,609	₩ -	₩ 11,457,216	₩ -	₩ 11,457,216

SK hynix Inc. and Subsidiaries
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6. Financial Risk Management, Continued

(3) Fair value, continued

¹ The Group transferred some of the trade receivables and majority of the risks and rewards to the customer. Accordingly, the Group derecognized trade receivables from the financial statement on the date of assets transfer and recognized gain or loss on disposal of trade receivables.

² The Group did not include fair values of financial assets and liabilities of which carrying amounts are considered to be a reasonable approximation of fair values.

(In millions of Korean won)

(In millions of Korean won)

		December 31, 2019			
	Carrying amounts	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Short-term investment asset	₩ 1,390,293	₩ -	₩ 1,390,293	₩ -	₩ 1,390,293
Long-term investment asset	4,381,812	-	-	4,381,812	4,381,812
	<u>5,772,105</u>	<u>-</u>	<u>1,390,293</u>	<u>4,381,812</u>	<u>5,772,105</u>
Financial assets not measured at fair value					
Cash and cash equivalents ¹	2,306,070	-	-	-	-
Short-term financial instruments ¹	298,350	-	-	-	-
Trade receivables ¹	4,306,449	-	-	-	-
Loans and other receivables ¹	132,587	-	-	-	-
Other financial assets ¹	931	-	-	-	-
	<u>7,044,387</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total financial asset	₩ <u>12,816,492</u>	₩ <u>-</u>	₩ <u>1,390,293</u>	₩ <u>4,381,812</u>	₩ <u>5,772,105</u>
Financial liabilities measured at fair value					
Other financial liabilities	15,532	-	15,532	-	15,532
Other payables	13,006	-	-	13,006	13,006
	₩ <u>28,538</u>	₩ <u>-</u>	₩ <u>15,532</u>	₩ <u>13,006</u>	₩ <u>28,538</u>
Financial liabilities not measured at fair value					
Trade payables ¹	1,042,542	-	-	-	-
Other payables ¹	2,354,667	-	-	-	-
Other non-trade payables ¹	1,276,161	-	-	-	-
Borrowings	10,523,506	-	10,585,029	-	10,585,029
Lease liabilities ¹	1,666,999	-	-	-	-
	<u>16,863,875</u>	<u>-</u>	<u>10,585,029</u>	<u>-</u>	<u>10,585,029</u>
Total financial liabilities	₩ <u>16,892,413</u>	₩ <u>-</u>	₩ <u>10,600,561</u>	₩ <u>13,006</u>	₩ <u>10,613,567</u>

¹ The Group did not include fair values of financial assets and liabilities of which carrying amounts are considered to be a reasonable approximation of fair values.

(b) The valuation techniques

The valuation techniques of recurring and non-recurring fair value measurements and quoted prices classified as level 2 or level 3 are as follows:

SK hynix Inc. and Subsidiaries

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6. Financial Risk Management, Continued

(3) Fair value, continued

(In millions of Korean won)

	Fair value	Level	Valuation Techniques
Financial assets at fair value through profit or loss:			
Short-term investment assets	₩ 1,535,518	2	Present value technique
Long-term investment assets	6,139,627	3	Present value technique and others
Short-term financial instruments	227,500	3	Present value technique
Financial assets at fair value through other comprehensive income:			
Trade receivables	₩ 512,458	2	Present value technique
Financial liabilities at fair value through other comprehensive income:			
Other financial liabilities	₩ 84,707	2	Present value technique

Long-term investments measured at level 3 in the fair value hierarchy include investments in special purpose companies of BCPE Pangea Intermediate Holdings Cayman, L.P. ("SPC1") amounting to ₩3,595,494 million and BCPE Pangea Cayman2 Limited ("SPC2") amounting to ₩2,351,225 million in connection with the Group's investments in acquisition of KIOXIA Holdings Corporation ("KIOXIA", formerly Toshiba Memory Corporation) (see note 12). The fair value of the long-term investments is measured based on the equity value of the underlying asset, KIOXIA estimated utilizing present value discount model.

The fair value of equity investment in SPC1 is measured using an option pricing model allocating the estimated fair value of KIOXIA equity between investors based on distribution priority pursuant to the underlying investment arrangement together with consideration of expected KIOXIA initial public offering and SPC1 liquidation.

The fair value of debt investment in SPC2 convertible bonds is measured based on the estimated KIOXIA's equity value and SPC2' equity ownership in KIOXIA (15.0%).

SK hynix Inc. and Subsidiaries
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6. Financial Risk Management, Continued

(3) Fair value, continued

(b) Valuation techniques, Continued

The valuation techniques and key inputs used in valuation of the equity investment in SPC1 and investment in SPC2 convertible bonds are as follows:

(In millions of Korean won)

	Fair value	Valuation Techniques	Level 3 inputs	Input Range
Equity investment in SPC1	₩ 3,595,494	Present value technique and option-pricing method	Terminal growth rate	0%
			Weighted-average capital cost	7.8%
			Expected expiration(years)	2.92
			Volatility	42.0%
			Risk free rate	-0.13%
SPC2 convertible bonds	2,351,225	Present value technique	Terminal growth rate	0%
			Weighted-average capital cost	7.8%

In these level 3 significant unobservable inputs, the higher in terminal growth rate or the lower in weighted-average capital cost will result the higher fair value of the equity investment in SPC1, while any change in volatility and risk free rate may have either positive or negative impact on the fair value of the investment in SPC1. In addition, the higher in terminal growth rate and the lower in weighted-average capital cost will result in the higher fair value of the investment in SPC2 convertible bonds.

Any positive or negative changes in the above inputs will have a significant and direct impact on the fair value of investments in SPC1 and SPC2, respectively. They are significant, but unobservable. Accordingly, the investments are classified as fair value hierarchy level 3 and the above inputs may have a significant impact on the value of investments in SPC1 and SPC2.

The sensitivity analysis results for the effect of changes in each long-term investment input classified as Level 3 under sensitivity analysis on fair value are as follows:

(In millions of Korean won)

	Positive fluctuation	Negative fluctuation
Equity investment in SPC1 ¹	₩ 906,367	₩ (738,474)
SPC2 convertible bonds ¹	590,076	(456,627)

¹ The changes in fair value are calculated by increasing or decreasing the terminal growth rate and weighted-average capital costs, which are major unobservable inputs by 0.5%.

SK hynix Inc. and Subsidiaries
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6. Financial Risk Management, Continued

(3) Fair value, continued

- (c) There was no transfer between fair value hierarchy levels during the year ended December 31, 2020 and the changes in financial assets and financial liabilities classified as level 3 fair value measurements during the year ended December 31, 2020 are as follows:

(In millions of Korean won)

		Short-term financial instruments		Long-term investment assets		Other payables
Beginning balance	₩	-	₩	4,381,812	₩	13,006
Acquisition		-		95,332		-
Disposal		-		(706)		-
Payments		-		-		14,605
Valuation		-		1,733,783		-
Foreign exchange difference		-		(44,214)		(27,611)
Transfer ¹		227,500		(26,380)		-
Ending balance	₩	<u>227,500</u>	₩	<u>6,139,627</u>	₩	<u>-</u>

¹ Certain long-term investment assets were transferred to associates and joint ventures.

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7. Restricted Financial Instruments

Details of restricted financial instruments as of December 31, 2020 and 2019 are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020	December 31, 2019	Description
Short-term financial instruments	₩ 227,500 8,434 84,419 <u>320,353</u>	₩ 227,500 6,381 - <u>233,881</u>	Restricted for supporting small businesses Pledged for consumption tax Guarantee deposits for repayments of borrowings
Other financial assets	11 305 316 ₩ <u>320,669</u>	11 269 280 ₩ <u>234,161</u>	Bank overdraft guarantee deposit Others

SK hynix Inc. and Subsidiaries
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8. Trade Receivables, and Loans and Other Receivables

(1) Details of trade receivables as of December 31, 2020 and 2019 are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020	December 31, 2019
Current		
Trade receivables	₩ 4,873,602	₩ 4,175,470
Trade receivables to be collected from related parties	57,720	86,204
	<u>4,931,322</u>	<u>4,261,674</u>
Non-current		
Trade receivables	₩ -	₩ 44,775
	<u>₩ 4,931,322</u>	<u>₩ 4,306,449</u>

(2) Details of loans and other receivables as of December 31, 2020 and 2019 are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020	December 31, 2019
Current		
Other receivables	₩ 13,603	₩ 11,104
Accrued income	2,570	2,043
Short-term loans	5,045	6,816
Short-term guarantee and other deposits	47,976	3,545
	<u>69,194</u>	<u>23,508</u>
Non-current		
Long-term other receivables	2,977	2
Long-term loans	37,838	35,299
Guarantee deposits	34,558	73,550
Others	216	228
	<u>75,589</u>	<u>109,079</u>
	<u>₩ 144,783</u>	<u>₩ 132,587</u>

SK hynix Inc. and Subsidiaries
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8. Trade Receivables, and Loans and Other Receivables, Continued

(3) Trade receivables, and loans and other receivables, net of provision for impairment, as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020		
	Gross amount	Provision for impairment	Carrying amount
Trade receivables	₩ 4,931,366	₩ (44)	₩ 4,931,322
Current loans and other receivables	70,472	(1,278)	69,194
Non-current loans and other receivables	76,743	(1,154)	75,589
	₩ 5,078,581	₩ (2,476)	₩ 5,076,105

(In millions of Korean won)

	December 31, 2019		
	Gross amount	Provision for impairment	Carrying amount
Trade receivables	₩ 4,306,458	₩ (9)	₩ 4,306,449
Current loans and other receivables	24,788	(1,280)	23,508
Non-current loans and other receivables	110,241	(1,162)	109,079
	₩ 4,441,487	₩ (2,451)	₩ 4,439,036

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8. Trade Receivables, and Loans and Other Receivables, Continued

(4) Details of provision for impairment

Changes in the provision for impairment of trade receivables for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning balance	₩ 9	₩ 48
Bad debt expense	555	-
Reversal	-	(40)
Write-off	(517)	-
Foreign exchange difference	(3)	1
Ending balance	₩ 44	₩ 9

Changes in the provision for impairment of current loans and other receivables for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning balance	₩ 1,280	₩ 1,323
Reversal	(2)	(45)
Foreign exchange difference	-	2
Ending balance	₩ 1,278	₩ 1,280

Movements in the provision for impairment of non-current loans and other receivables for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning balance	₩ 1,162	₩ 1,117
Reversal	(3)	-
Write-off	64	-
Foreign exchange difference	(69)	45
Ending balance	₩ 1,154	₩ 1,162

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8. Trade Receivables, and Loans and Other Receivables, Continued

(5) The aging analysis of trade receivables, and loans and other receivables as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

December 31, 2020						
Not impaired						
Overdue						
Over 3 months						
	Not past due	Less than 3 months	and less than 6 months	Over 6 months	Impaired	Total
Trade receivables	₩ 4,931,328	-	-	-	38	4,931,366
Current loans and other receivables	69,194	-	-	-	1,278	70,472
Non-current loans and other receivables	75,589	-	-	-	1,154	76,743
	₩ 5,076,111	-	-	-	2,470	5,078,581

(In millions of Korean won)

December 31, 2019						
Not impaired						
Overdue						
Over 3 months						
	Not past due	Less than 3 months	and less than 6 months	Over 6 months	Impaired	Total
Trade receivables	₩ 4,306,453	-	-	-	5	4,306,458
Current loans and other receivables	23,508	-	-	-	1,280	24,788
Non-current loans and other receivables	109,079	-	-	-	1,162	110,241
	₩ 4,439,040	-	-	-	2,447	4,441,487

SK hynix Inc. and Subsidiaries
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9. Inventories

(1) Details of inventories as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

			December 31, 2020		
	Acquisition cost		Inventory valuation allowance		Carrying amount
Merchandise	₩ 2,197	₩	(24)	₩	2,173
Finished goods	1,293,801		(214,834)		1,078,967
Work-in-process	3,724,374		(139,419)		3,584,955
Raw materials	759,818		(35,336)		724,482
Supplies	619,382		(31,373)		588,009
Goods in transit	157,732		-		157,732
	₩ 6,557,304	₩	(420,986)	₩	6,136,318

(In millions of Korean won)

			December 31, 2019		
	Acquisition cost		Inventory valuation allowance		Carrying amount
Merchandise	₩ 2,843	₩	(21)	₩	2,822
Finished goods	1,253,542		(195,108)		1,058,434
Work-in-process	3,383,814		(395,052)		2,988,762
Raw materials	659,893		(34,114)		625,779
Supplies	544,271		(23,203)		521,068
Goods in transit	98,970		-		98,970
	₩ 5,943,333	₩	(647,498)	₩	5,295,835

(2) The amount of the inventories recognized as cost of sales and loss on valuation allowance of inventories charged to cost of sales are as follows:

(In millions of Korean won)

	2020	2019
Inventories recognized as cost of sales	₩ 21,313,696	18,547,022
Loss on valuation allowance of inventories	(226,512)	269,506

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10. Other Current and Non-current Assets

Details of other current and non-current assets as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Current		
Advance payments	₩ 51,047	₩ 64,429
Prepaid expenses	145,298	218,365
Value added tax refundable	235,602	343,434
Contract assets	53,605	55,715
Others	120	94
	<u>485,672</u>	<u>682,037</u>
Non-current		
Long-term advance payments	36,985	44,746
Long-term prepaid expenses	14,961	535,717
Others	3,083	-
	<u>55,029</u>	<u>580,463</u>
	<u>₩ 540,701</u>	<u>₩ 1,262,500</u>

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11. Investments in Associates and Joint Ventures

(1) General information of investments in associates and joint ventures is as follows:

Type	Investee	Location	Business
Associate	Stratio, Inc ¹ .	U.S.A	Development and manufacture of semiconductor parts
	SK China Company Limited ²	China	Consulting and investment
	Gemini Partners Pte. Ltd.	Singapore	Consulting
	TCL Fund ¹	China	Investment
	SK South East Asia Investment Pte. Ltd.	Singapore	Consulting and investment
	Hushan Xindu (Chengdu) Venture Investment Center(Smartsource) ²	China	Venture Capital
	Prume Social Farm, Co., Ltd ³ .	Korea	Growing crops
	Wuxi xinfu IC industry park., Ltd ⁴ .	China	Developing Science-Technological Park
	Magnus Private Investment Co.,Ltd ⁵	Korea	Investment
	L&S (No.10) Early Stage III Investment Association	Korea	Investment
	SiFive Inc. ⁷	U.S.A	Design and manufacture of semiconductor
	YD-SK-KDB Social Value ⁶	Korea	Investment
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd ⁸ .	China	Manufacture of semiconductor parts
	Hystars Semiconductor (Wuxi) Co., Ltd ⁸ .	China	Foundry factory construction
	Specialized Investment-type Private Equity Investment Trust For Growth Of Semiconductor ⁹	Korea	Investment
	Specialized Investment-type Private Equity Investment Trust For Win-win System Semiconductor ¹⁰	Korea	Investment

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11. Investments in Associates and Joint Ventures, Continued

(2) Details of investments in associates and joint ventures as of December 31, 2020 and 2019 are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020			December 31, 2019	
	Owners hip (%)	Net asset value	Carrying amount	Ownership (%)	Carrying amount
Investee					
Associate:					
Stratio, Inc. ¹	9.12	₩ 101	₩ 407	9.12	₩ 395
SK China Company Limited ²	11.87	204,877	257,474	11.87	259,272
Gemini Partners Pte. Ltd.	20.00	1,771	1,771	20.00	2,735
TCL Fund ¹	11.05	11,191	11,538	11.06	4,995
SK South East Asia Investment Pte. Ltd.	20.00	325,006	325,006	20.00	237,599
Hushan Xinju (Chengdu) Venture Investment Center (Smartsources) ²	16.67	7,970	7,970	16.67	5,659
Prume Social Farm, Co., Ltd. ³	35.52	1,657	2,221	31.95	1,000
Wuxi xinfu IC industry park., Ltd. ⁴	30.00	20,952	20,952	-	-
Magnus Private Investment Co., Ltd. ⁵	49.76	150,840	150,840	-	-
L&S (No.10) Early Stage III Investment Association ⁶	24.39	2,609	2,609	-	-
SiFive Inc. ⁷	7.87	8,062	34,372	-	-
YD-SK-KDB Social Value ⁶	23.26	2,566	2,566	-	-
Joint venture:					
HITECH Semiconductor (Wuxi) Co., Ltd. ⁸	45.00	115,367	113,430	45.00	114,518
Hystars Semiconductor (Wuxi) Co., Ltd. ⁸	50.10	193,833	195,423	50.10	142,594
Specialized Investment-type Private Equity Investment Trust For Growth Of Semiconductor ⁹	33.33	24,818	24,818	-	-
Specialized Investment-type Private Equity Investment Trust For Win-win System Semiconductor ¹⁰	37.50	14,847	14,847	-	-
		₩ 1,086,467	₩ 1,166,244		₩ 768,767

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 Management of the Group is able to exercise significant influence over the entity by participating Board of Directors. Accordingly, the investments in these investees have been classified as associates.

³ WooYoung Farm Co., Ltd. has changed its name to "Prume Social Farm, Co., Ltd." during the year ended December 31, 2020.

⁴ The Group has acquired 30.00% of ownership in Wuxi xinfu IC industry park., Ltd. during the year ended December 31, 2020, and the Group has significant influence over Wuxi xinfu IC industry park., Ltd., accordingly, the investment in this investee has been classified as an associate.

⁵ The Group has acquired 49.76% of the Magnus Private Investment Co., Ltd.'s interest for the year ended December 31, 2020, and the entity has been classified as an associate as the Group has significant influence.

⁶ It has been reclassified from long-term investment assets to associates for the year ended December 31, 2020.

⁷ The Group has acquired 7.87% of ownership in SiFive during the year ended December 31, 2020. It has been classified as an associate since the Group is able to exercise significant influence through its right to appoint a director to the Board of Directors of the investee.

⁸ Since the relevant contract stipulates that important matters have to be resolved unanimously, the Group has classified it as a joint venture.

⁹ It was reclassified from long-term investment assets to joint venture for the year ended December 31, 2020, as it is stated in the agreement that unanimous vote is required for relevant activities.

¹⁰ The Group has acquired 37.5% of ownership in Specialized Investment-type Private Equity Investment Trust For Win-win System Semiconductor's interest during the year ended December 31, 2020. It has been classified as a joint venture since it is stated in the agreement that unanimous vote is required for relevant activities.

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11. Investments in Associates and Joint Ventures, Continued

(3) Changes in investments in associates and joint ventures for years ended December 31, 2020 and 2019 are as follows :

(In millions of Korean won)

	2020						
	Beginning balance	Acquisition	Transfer	Share of profit (loss)	Other equity movement	Dividend	Ending balance
Stratio, Inc.	₩ 395	₩ -	- ₩	₩ 19	₩ (7)	₩ -	₩ 407
SK China Company Limited	259,272	-	-	5,746	(7,544)	-	257,474
Gemini Partners Pte. Ltd.	2,735	-	-	(872)	(92)	-	1,771
TCL Fund	4,995	5,280	-	999	264	-	11,538
SK South East Asia Investment Pte. Ltd.	237,599	121,450	-	10,889	(44,932)	-	325,006
Hushan Xinju (Chengdu) Venture Investment Center (Smartsources)	5,659	2,565	-	(233)	(14)	(7)	7,970
Prume Social Farm, Co., Ltd.	1,000	1,000	-	221	-	-	2,221
Wuxi xinfu IC industry park., Ltd.	-	21,860	-	(86)	(822)	-	20,952
Magnus Private Investment Co., Ltd.	-	207,346	-	(56,506)	-	-	150,840
L&S (No.10) Early Stage III Investment Association	-	2,250	500	(141)	-	-	2,609
SiFive Inc.	-	35,709	-	(880)	(457)	-	34,372
YD-SK-KDB Social Value	-	1,400	1,400	(234)	-	-	2,566
HITECH Semiconductor (Wuxi) Co., Ltd.	114,518	-	-	21,241	(7,296)	(15,033)	113,430
Hystars Semiconductor (Wuxi) Co., Ltd.	142,594	69,377	-	(16,627)	79	-	195,423
Specialized Investment- type Private Equity Investment Trust For Growth Of Semiconductor	-	-	24,480	338	-	-	24,818
Specialized Investment- type Private Equity Investment Trust For Win-win System Semiconductor	-	15,000	-	(153)	-	-	14,847
	₩ 768,767	₩ 483,237	₩ 26,380	₩ (36,279)	₩ (60,821)	₩ (15,040)	₩ 1,166,244

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11. Investments in Associates and Joint Ventures, Continued

(3) Changes in investments in associates and joint ventures for the years ended December 31, 2020 and 2019 are as follows, Continued :

(In millions of Korean won)

		2019					
		Beginning balance	Acquisition	Share of profit (loss)	Other equity movement	Dividend	Ending balance
Stratio, Inc.	₩	2,079	₩	-	₩ 8	₩ 3	₩ -
SK China Company Limited		246,052	-	3,358	9,862	-	-
Gemini Partners Pte. Ltd.		2,601	-	(10)	144	-	-
TCL Fund		3,464	1,406	84	41	-	-
SK South East Asia Investment Pte. Ltd.		111,810	113,470	5,752	6,567	-	-
Hushan Xinju (Chengdu) Venture Investment Center (Smartsources)		3,241	2,531	(67)	(46)	-	-
WooYoung Farm Co., Ltd.		-	1,000	-	-	-	-
HITECH Semiconductor (Wuxi) Co., Ltd.		109,708	-	15,725	3,543	(14,458)	-
Hystars Semiconductor (Wuxi) Co., Ltd.		83,239	58,547	(522)	1,330	-	-
	₩	<u>562,194</u>	₩ <u>176,954</u>	₩ <u>24,328</u>	₩ <u>21,444</u>	₩ <u>(14,458)</u>	₩ <u>(1,695)</u>
							₩ <u>768,767</u>

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11. Investments in Associates and Joint Ventures, Continued

(4) Associates and joint ventures' summarized statements of financial position as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020			
	Current assets	Non-current assets	Current liabilities	Non-current liabilities
Stratio, Inc.	₩ 411	₩ 731	₩ 32	₩ -
SK China Company Limited	380,413	1,706,634	51,485	308,147
Gemini Partners Pte. Ltd.	4,419	4,532	96	-
TCL Fund	42,747	63,649	5,117	-
SK South East Asia Investment Pte. Ltd.	797,045	1,672,412	67	-
Hushan Xinju (Chengdu) Venture Investment Center(Smartsource)	3,943	43,904	27	-
Prume Social Farm, Co., Ltd.	2,972	2,007	315	-
Wuxi xinfa IC industry park., Ltd.	69,823	2	(17)	-
Magnus Private Investment Co., Ltd.	175,007	522,600	85,754	461,012
L&S (No.10) Early Stage III Investment Association	945	9,751	-	-
SiFive Inc.	134,171	42,432	45,152	29,050
YD-SK-KDB Social Value HITECH Semiconductor (Wuxi) Co., Ltd.	49	10,986	2	-
Hystars Semiconductor (Wuxi) Co., Ltd.	208,103	380,648	129,135	203,246
Specialized Investment-type Private Equity Investment Trust For Growth Of Semiconductor	89,629	555,551	31,557	226,732
Specialized Investment-type Private Equity Investment Trust For Win-win System Semiconductor	38,920	36,162	629	-
	27,236	12,800	443	-

(In millions of Korean won)

	December 31, 2019			
	Current assets	Non-current assets	Current liabilities	Non-current liabilities
Stratio, Inc.	₩ 431	₩ 715	₩ 169	₩ -
SK China Company Limited	604,127	1,357,238	46,747	170,812
Gemini Partners Pte. Ltd.	6,851	6,912	54	33
TCL Fund	12,652	35,809	3,256	-
SK South East Asia Investment Pte. Ltd.	108,465	1,705,297	91	-
Hushan Xinju (Chengdu) Venture Investment Center (Smartsource)	20,623	13,657	329	-
WooYoung Farm Co., Ltd.	1,016	610	2	222
HITECH Semiconductor (Wuxi) Co., Ltd.	193,377	442,510	84,071	297,330
Hystars Semiconductor (Wuxi) Co., Ltd.	167,238	388,318	48,984	225,075

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11. Investments in Associates and Joint Ventures, Continued

(5) Associates and joint ventures' summarized statements of comprehensive income (loss) for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020		2019	
	Revenue	Profit (loss) for the period	Revenue	Profit (loss) for the period
Stratio, Inc.	₩ 341	₩ 208	₩ 242	₩ 81
SK China Company Limited	154,355	48,427	120,317	28,309
Gemini Partners Pte. Ltd.	-	(4,361)	-	(49)
TCL Fund	-	9,141	-	759
SK South East Asia Investment Pte. Ltd.	9,467	54,448	10,294	28,763
Hushan Xinju (Chengdu) Venture Investment Center(Smartsources)	-	(1,395)	-	(837)
Prume Social Farm, Co., Ltd.	-	763	19	(105)
Wuxi xinfu IC industry park., Ltd.	-	(288)	-	-
Magnus Private Investment Co., Ltd.	164,662	(56,505)	-	-
L&S (No.10) Early Stage III Investment Association	9	(579)	-	-
SiFive Inc.	101,602	(11,182)	-	-
YD-SK-KDB Social Value	15	(1,006)	-	-
HITECH Semiconductor (Wuxi) Co., Ltd.	622,653	51,871	657,741	36,398
Hystars Semiconductor (Wuxi) Co., Ltd.	-	(33,188)	-	(1,044)
Specialized Investment-type Private Equity Investment Trust For Growth Of Semiconductor	391	(240)	-	-
Specialized Investment-type Private Equity Investment Trust For Win-win System Semiconductor	37	(407)	-	-

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12. Long-term Investment Assets

(1) Details of long-term investment assets as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	Ownership (%)/ Type	December 31, 2020		December 31, 2019
		Acquisition cost	Book value	Book value
ProMOS Technologies Inc.	Equity securities	₩ 21,847	₩ -	₩ -
Intellectual Discovery	Equity securities	4,000	2,182	2,392
China Walden Venture Investments II, L.P.	Certificate	8,496	10,965	9,138
China Walden Venture Investments III, L.P.	Certificate	6,522	7,085	5,790
Keyssa, Inc.	Equity securities	6,174	189	822
BCPE Pangea Intermediate Holdings Cayman, L.P. ¹	Certificate	2,738,393	3,595,494	2,780,758
BCPE Pangea Cayman2, Ltd. ¹	Convertible bond	1,281,780	2,351,225	1,435,460
FemtoMetrix, Inc.	Convertible bond	4,387	4,387	4,387
GigaIO Networks, Inc.	Equity securities	4,066	3,103	4,066
Inpria Corporation	Equity securities	4,753	4,729	1,214
Shanghai IoT Phase II Venture Capital Fund Partnership, L.P.	Certificate	8,266	13,262	7,729
Beijing Horizon Robotics Technology Co., Ltd.	Equity securities	55,091	56,190	63,550
Shanghai Citrus Microelectronics Technology Co., Ltd.	Equity securities	5,254	1,314	1,360
Jiangsu Jiequan Junhai Rongxin Investment Partnership	Certificate	20,506	20,035	-
Impact Venture Capital I, L.P.	Certificate	4,223	5,881	4,010
Lion Semiconductor Inc.	Equity securities	4,077	3,754	3,474
Others	-	58,663	59,832	57,662
		₩ 4,236,498	₩ 6,139,627	₩ 4,381,812

¹ In 2017, the Group participated in a consortium that includes Bain Capital in connection with acquisition of a stake in Toshiba Memory Corporation ("TMC"). On March 1, 2019 Toshiba Memory Holdings Corporation ("TMCHD") was established as the holding company for TMC. Subsequently TMCHD and TMC were renamed KIOXIA Holdings Corporation ("KIOXIA") and KIOXIA Corporation respectively. As of December 31, 2020, the Group holds equity interests in SPC1, which holds equity interests in KIOXIA, and convertible bonds issued by SPC2, which may be later convertible to 15% stake in KIOXIA. Management and decision-making rights of the Group for SPC1 and SPC2 are limited. Accordingly, the Group does not control or have any significant influence on SPC1 and SPC2. The investments in SPC1 and SPC2 are classified as financial assets which are debt instruments measured at fair value through profit or loss.

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12. Long-term Investment Assets, Continued

(2) Changes in the carrying amount of long-term investment assets for the years ended December 30, 2020 and 2019 are as follows:

(In millions of Korean won)

		2020		2019
Beginning balance	₩	4,381,812	₩	4,325,550
Acquisition		95,332		82,861
Disposal		(706)		(3,884)
Profit and loss on valuation		1,733,783		(233,234)
Foreign exchange difference		(44,214)		210,519
Transfer ¹		(26,380)		-
Ending balance	₩	<u>6,139,627</u>	₩	<u>4,381,812</u>

¹ Certain long-term investment assets were transferred to associates and joint ventures.

13. Property, Plant and Equipment

(1) Changes in property, plant and equipment for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		2020						
		Land	Buildings	Structures	Machinery	Vehicles	Others	Construction -in-progress
Beginning balance	₩	1,041,771	5,547,744	1,619,064	26,974,270	43,096	764,043	3,959,952
Changes during 2020								
Acquisitions		38,075	476,831	284,113	6,044,813	55	192,353	3,012,558
Disposals		(9,231)	(327)	(73)	(17,095)	-	(884)	(37,850)
Depreciation		-	(233,909)	(114,307)	(7,888,654)	(3,351)	(274,913)	-
Transfers ¹		(96,096)	1,222,639	21,076	1,367,213	753	45,476	(2,767,284)
Exchange differences and others		(2,913)	5,271	2,234	10,495	4	(1,250)	4,800
Ending balance		<u>971,606</u>	<u>7,018,249</u>	<u>1,812,107</u>	<u>26,491,042</u>	<u>40,557</u>	<u>724,825</u>	<u>4,172,176</u>
Acquisition cost		971,606	8,459,016	2,494,982	74,141,182	48,860	2,045,915	4,172,176
Accumulated depreciation		-	(1,401,792)	(663,771)	(47,485,857)	(8,292)	(1,321,067)	-
Accumulated impairment		-	(23,699)	(19,104)	(162,276)	-	(23)	-
Government grants		-	(15,276)	-	(2,007)	(11)	-	-
	₩	<u>971,606</u>	<u>7,018,249</u>	<u>1,812,107</u>	<u>26,491,042</u>	<u>40,557</u>	<u>724,825</u>	<u>4,172,176</u>
	₩							₩
								<u>41,230,562</u>

¹ Includes transfers between investment property and property, plant and equipment during the year ended December 31, 2020.

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13. Property, Plant and Equipment, Continued

(In millions of Korean won)

2019								
	Land	Buildings	Structures	Machinery	Vehicles	Others	Construction -in-progress	Total
Beginning balance	₩ 1,020,229	4,529,947	1,281,816	22,642,498	11,315	623,311	4,843,501	₩ 34,952,617
Impacts on transition to K-IFRS No. 1116	-	-	-	(73,069)	-	-	-	(73,069)
Beginning balance after transition adjustments	1,020,229	4,529,947	1,281,816	22,569,429	11,315	623,311	4,843,501	34,879,548
Changes during 2019								
Acquisitions	16,882	375,243	325,189	8,428,185	1,715	328,079	3,100,165	12,575,458
Disposals	(48)	(447)	(432)	(37,468)	(3)	(1,110)	(337)	(39,845)
Depreciation	-	(211,287)	(95,114)	(6,952,920)	(2,124)	(250,349)	-	(7,511,794)
Transfers ¹	3,051	848,071	106,110	2,982,080	32,184	62,397	(4,032,788)	1,105
Exchange differences and others	1,657	6,217	1,495	(15,036)	9	1,715	49,411	45,468
Ending balance	<u>1,041,771</u>	<u>5,547,744</u>	<u>1,619,064</u>	<u>26,974,270</u>	<u>43,096</u>	<u>764,043</u>	<u>3,959,952</u>	<u>39,949,940</u>
Acquisition cost	1,041,771	6,794,238	2,193,817	67,650,975	48,061	1,882,254	3,959,952	83,571,068
Accumulated depreciation	-	(1,207,184)	(555,649)	(40,510,568)	(4,949)	(1,118,187)	-	(43,396,537)
Accumulated impairment	-	(23,699)	(19,104)	(163,270)	-	(24)	-	(206,097)
Government grants	-	(15,611)	-	(2,867)	(16)	-	-	(18,494)
	<u>₩ 1,041,771</u>	<u>5,547,744</u>	<u>1,619,064</u>	<u>26,974,270</u>	<u>43,096</u>	<u>764,043</u>	<u>3,959,952</u>	<u>₩ 39,949,940</u>

¹ Certain investment property was transferred to property, plant and equipment during the year ended December 31, 2019.

(2) Details of depreciation expense allocation for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Cost of sales	₩ 7,749,569	₩ 6,878,303
Selling and administrative expenses	725,791	574,961
Other expenses	7,418	14,923
Development costs and other	32,356	43,607
	<u>₩ 8,515,134</u>	<u>₩ 7,511,794</u>

(3) Certain property, plant and equipment are pledged as collaterals for borrowings of the Group as of December 31, 2020 (Note 35).

(4) The Group capitalized borrowing costs amounting to ₩53,311 million (2019: ₩36,302 million) on qualifying assets during the year ended December 31, 2020. Borrowing costs were calculated using a capitalization rate of 1.93% (2019: 2.84%) for the year ended December 31, 2020.

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13. Property, Plant and Equipment, Continued

(5) Details of insured assets as of December 31, 2020 are as follows:

(In millions of Korean won)

	Insured assets	Insured amount	Insurance Company
Package insurance	Property, plant and equipment; investment property; inventories; and business interruption	₩ 105,295,336	Hyundai Marine & Fire Insurance Co., Ltd. and others
Fire insurance	Property, plant and equipment; investment property	73,349	
Erection all risks insurance	Property, plant and equipment	5,448,476	
		₩ 110,817,161	

Addition to the assets stated above, vehicles are insured by vehicle comprehensive insurance and liability insurance.

(6) The Group provides certain property, plant, and equipment as operating leases. Rental income from the property, plant and equipment during the year ended December 31, 2020 are ₩27,737 million (2019: ₩29,746 million).

14. Leases

(1) Leases as lessee

(a) Changes in right-of-use assets for the year ended December 31, 2020 are as follows

(In millions of Korean won)

		2020					
		Properties	Structures	Machinery	Vehicles	Others	Total
Beginning balance	₩	97,855	975,996	609,529	11,491	11,787	₩ 1,706,658
Increase		26,358	159,166	52,849	25,881	20,212	284,466
Others		6,607	(7,706)	15,823	(4,746)	-	9,978
Depreciation		(18,686)	(83,522)	(172,750)	(14,436)	(6,824)	(296,218)
Foreign exchange difference		(274)	4,274	(912)	17	(344)	2,761
Ending balance		111,860	1,048,208	504,539	18,207	24,831	1,707,645
Acquisition cost		169,300	1,210,800	811,315	29,684	40,787	2,261,886
Accumulated depreciation		(26,193)	(162,592)	(306,776)	(11,477)	(15,956)	(522,994)
Government grants		(31,247)	-	-	-	-	(31,247)
	₩	111,860	1,048,208	504,539	18,207	24,831	₩ 1,707,645

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14. Leases, Continued

(In millions of Korean won)

	2019					
	Properties	Structures	Machinery	Vehicles	Others	Total
Beginning balance	₩ -	-	-	-	-	₩ -
Adjustment on initial application of K-IFRS No.1116	31,652	867,864	279,952	10,688	3,214	1,193,370
Impacts of changes in accounting policies (Interpretation of lease period)	-	-	435,423	-	-	435,423
Beginning balance after transition adjustments	31,652	867,864	715,375	10,688	3,214	1,628,793
Increase	79,295	170,887	105,729	11,776	-	367,687
Others	4,163	-	-	1,250	13,647	19,060
Depreciation	(16,949)	(67,586)	(211,551)	(12,255)	(5,074)	(313,415)
Foreign exchange difference	(306)	4,831	(24)	32	-	4,533
Ending balance	97,855	975,996	609,529	11,491	11,787	1,706,658
Acquisition cost	144,208	1,058,738	757,107	17,959	16,330	1,994,342
Accumulated depreciation	(14,546)	(82,742)	(147,578)	(6,468)	(4,543)	(255,877)
Government grants	(31,807)	-	-	-	-	(31,807)
	₩ 97,855	975,996	609,529	11,491	11,787	₩ 1,706,658

(b) Changes in right-of-use assets for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning balance	₩ 1,666,999	₩ -
Impacts on transition to Korean IFRS 1116	-	1,191,579
Impacts of changes in accounting policies (Interpretation of lease period)	-	435,423
Beginning balance after transition adjustments	1,666,999	1,627,002
Acquisition	284,466	367,687
Others	9,389	19,357
Interest expenses	34,435	32,588
Payments	(326,665)	(401,058)
Foreign exchange difference	(24,908)	21,423
Ending balance	₩ 1,643,716	₩ 1,666,999

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14. Leases, Continued

(c) The details of the minimum lease payment to be paid in the future for each period in connection with lease liabilities, present value and current/non-current classification of lease liabilities as of December 31, 2020 are as follows:

(In millions of Korean won)

		2020
Less than 1 year	₩	352,201
1~5 years		642,196
More than 5 years		848,315
Total lease liabilities undiscounted as of December 31, 2020		1,842,712
Present value of lease liabilities recognized as of December 31, 2020		1,643,716
Current lease liabilities		347,464
Non-current lease liabilities		1,296,252

(d) The amounts recognized in profit or loss in relation to right-of-use assets and lease liabilities for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		2020		2019
Depreciation of right-to-use assets	₩	296,218	₩	313,415
Interest expenses of lease liabilities		34,435		32,588
Expenses relating to short-term leases		17,911		14,489
Expenses relating to leases of low-value assets		1,733		1,234

The total cash outflow from leases during the year ended December 31, 2020 is ₩ 346,309 million (2019: ₩416,781 million).

(2) Leases as lessor

The Group provides certain property, plant, and equipment and investment property as leases (See note 13,16). All leases are classified as operating leases.

Details of the undiscounted operating lease payments to be received in the future periods subsequent to December 31, 2020 are as follows:

(In millions of Korean won)

		Property, Plant and Equipment	Investment Property		Total
Less than 1 year	₩	11,503	9,857	₩	21,360
1~2 years		9,476	9,763		19,239
2~3 years		3,948	9,763		13,711
3~4 years		-	9,763		9,763
	₩	24,927	39,146	₩	64,073

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15. Intangible Assets

(1) Changes in intangible assets for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

2020					
	Goodwill	Industrial property rights	Development costs	Others	Total
Beginning balance	₩ 720,197	85,724	931,788	833,340	₩ 2,571,049
Changes during 2020					
Internal development	-	-	259,020	-	259,020
External acquisition	-	13,693	-	412,524	426,217
Disposals	-	(3,782)	-	(8,504)	(12,286)
Amortization	-	(16,001)	(576,334)	(368,215)	(960,550)
Impairment	-	-	(16,544)	-	(16,544)
Transfers	-	6,493	-	(9,720)	(3,227)
Others ¹	(18,601)	-	-	1,155,200	1,136,599
Ending balance	<u>701,596</u>	<u>86,127</u>	<u>597,930</u>	<u>2,014,625</u>	<u>₩ 3,400,278</u>
Acquisition cost	701,596	195,637	3,185,403	3,110,632	7,193,268
Accumulated amortization and impairment	-	(109,510)	(2,587,473)	(1,096,007)	(3,792,990)
	₩ <u>701,596</u>	<u>86,127</u>	<u>597,930</u>	<u>2,014,625</u>	₩ <u>3,400,278</u>

¹ Others include reclassification of license assets and increasing or decreasing amount due to exchange rate fluctuations and others.

(In millions of Korean won)

2019					
	Goodwill	Industrial property rights	Development costs	Others	Total
Beginning balance	₩ 709,811	96,065	1,153,956	718,938	₩ 2,678,770
Impacts on transition to K-IFRS No. 1116	-	-	-	(5,582)	(5,582)
Beginning balance after transition adjustments	709,811	96,065	1,153,956	713,356	2,673,188
Changes during 2019					
Internal development	-	-	332,888	-	332,888
External acquisition	-	9,626	-	331,704	341,330
Business combination	-	-	-	18,333	18,333
Disposals	-	(3,964)	-	(6,589)	(10,553)
Amortization	-	(16,003)	(555,056)	(224,110)	(795,169)
Impairment	-	-	-	(71)	(71)
Others	10,386	-	-	717	11,103
Ending balance	<u>720,197</u>	<u>85,724</u>	<u>931,788</u>	<u>833,340</u>	<u>₩ 2,571,049</u>
Acquisition cost	720,197	184,942	2,926,382	1,568,718	5,400,239
Accumulated amortization and impairment	-	(99,218)	(1,994,594)	(735,378)	(2,829,190)
	₩ <u>720,197</u>	<u>85,724</u>	<u>931,788</u>	<u>833,340</u>	₩ <u>2,571,049</u>

(2) Details of amortization expense allocation for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Cost of sales	₩ 219,851	₩ 88,445
Selling and administrative expenses	739,247	705,383
Development costs	1,452	1,341
	₩ <u>960,550</u>	₩ <u>795,169</u>

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15. Intangible Assets, Continued

(3) Goodwill impairment tests

The Group performs goodwill impairment tests annually. For the purpose of impairment tests, goodwill is allocated to CGU. The recoverable amount of the CGU as of December 31, 2020 was determined based on fair value less costs to sell, which was determined using the current stock price as of December 31, 2020. No impairment loss of goodwill was recognized since the recoverable amount is higher than the carrying value of the CGU as of December 31, 2020.

(4) Details of development costs

(a) Detailed criteria for capitalization of development costs

The Group's development projects for a new product proceeds in the process of review and planning phases (Phase 0 ~ 4) and product design and mass production phases (Phase 5 ~ 8). The Group recognizes expenditures incurred after Phase 4 in relation with the development for new technology is recognized as an intangible asset. Expenditures incurred at phase 0 through 4 are recognized as expenses.

(b) Development cost capitalized and expenses on research and development

Among costs associated with development activities, ₩259,020 million (2019: ₩332,888 million) that met capitalization criteria, were capitalized as development cost for the year ended December 31, 2020. In addition, costs associated with research activities and other development expenditures that did not meet the criteria in the amount of ₩3,111,298 million (2019: ₩2,855,643 million) were recognized as expenses for the year ended December 31, 2020.

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15. Intangible Assets, Continued

(4) Details of development costs, Continued

(c) Details of development costs as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		2020	
	Book value	Residual amortization period	
DRAM	₩ 46,995	11 months	
	60,549	1	
NAND	296,317	18 months	
	124,328	1	
CIS	43,883	2~12 months	
	25,858	1	
	₩ 597,930		

¹ Amortization has not started as of December 31, 2020

(In millions of Korean won)

		2019	
	Book value	Residual amortization period	
DRAM	₩ 263,262	11 ~23 months	
	1,068	1	
NAND	203,307	12 months	
	351,745	1	
CIS	19,613	1~14 months	
	92,793	1	
	₩ 931,788		

¹ Amortization has not started as of December 31, 2019

(d) The Group recognized ₩16,544 million impairment loss in development costs for the year ended December 31, 2020. There are no accumulated impairment losses in development costs as of December 31, 2020 since impairment loss recognized during the year ended December 31, 2020 was written off with acquisition cost. The Group did not recognize impairment loss in development costs for the year ended December 31, 2019.

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16. Investment Property

(1) Changes in investment property for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning net book amount	₩ 258	₩ 1,400
Depreciation	(291)	(37)
Transfer ¹	209,450	(1,105)
Ending net book amount	<u>209,417</u>	<u>258</u>
Acquisition cost	249,135	511
Accumulated depreciation	(39,718)	(253)
Ending net book amount	₩ <u>209,417</u>	₩ <u>258</u>

¹ Certain investment property was transferred to property, plant and equipment and certain property, plant and equipment was transferred to investment property during the year ended December 31, 2020. Certain investment property was transferred to property, plant and equipment during the year ended December 31, 2019.

(2) The depreciation expense of ₩291 million was charged to cost of sales for the year ended December 31, 2020 (2019: ₩37 million).

(3) Rental income from investment property during the year ended December 31, 2020 was ₩1,235 million (2019: ₩123 million).

17. Other Payables

Details of other payables as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Current		
Accrued expenses	₩ 1,367,193	₩ 1,257,895
Non-current		
Rent deposits payable	6,360	13,487
Long-term accrued expenses	23,563	4,779
	<u>29,923</u>	<u>18,266</u>
	₩ <u>1,397,116</u>	₩ <u>1,276,161</u>

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18. Borrowings

(1) Details of borrowings as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Current		
Short-term borrowings	₩ 179,579	₩ 1,168,354
Current portion of long-term borrowings	2,604,724	1,259,593
Current portion of debentures	329,947	309,823
	<u>3,114,250</u>	<u>2,737,770</u>
Non-current		
Long-term borrowings	4,526,968	5,040,371
Debentures	3,610,430	2,745,365
	<u>8,137,398</u>	<u>7,785,736</u>
	<u>₩ 11,251,648</u>	<u>₩ 10,523,506</u>

(2) Details of short-term borrowings as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	Financial Institutions	Maturity date	Interest rate per annum in 2020 (%)¹		December 31, 2020	December 31, 2019
General borrowings	Shinhan Bank	2021.09.27	2.47 ~ 2.52	₩	4,000	₩ 4,000
	Hyundai Card	2020.01.17 ~ 2020.03.18	-		-	215,073
Usance	Hana Bank and others	2020.04.20 ~ 2020.05.15	-		-	569,164
	Cypress	2021.12.31	4.60		6,924	-
	Industrial & Commercial Bank of China	2021.01.20	3M USD LIBOR + 0.60		32,682	-
	China Construction Bank and others	2021.02.26	3M USD LIBOR + 0.60		76,258	-
Foreign general borrowings	City Bank	2021.07.14 ~ 2021.11.25	3M USD LIBOR + 1.00		59,715	22,536
	The Export-Import Bank of China	2020.11.24 ~ 2020.12.04	-		-	107,731
	Bank of China and others	2020.08.14 ~ 2020.11.11	-		-	249,850
					<u>-</u>	<u>249,850</u>
				₩	<u>179,579</u>	<u>₩ 1,168,354</u>

SK hynix Inc. and Subsidiaries

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December 31, 2020 and 2019

18. Borrowings, Continued

(3) Details of long-term borrowings as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	Financial institutions	Maturity date	Interest rate per annum in 2020 (%) ¹	December 31, 2020	December 31, 2019
Local currency borrowings:					
Funds for equipment	Korea Development Bank	2021.09.29 ~ 2025.04.14	1.98 ~ 2.50	₩ 725,000	500,000
	The Export-Import Bank of Korea	2022.10.23 ~ 2025.05.15	1.31 ~ 2.00	600,000	-
	Shinhan Bank and others	2025.03.31 ~ 2026.12.19	1.00 ~ 2.96	3,573	2,008
Commercial Paper	Shinhan Bank General Finance Department	2023.11.19	CD(91 days) + 0.67	300,000	-
				<u>1,628,573</u>	<u>502,008</u>
Foreign currency borrowings:					
General borrowings	The Export-Import Bank of Korea	2021.05.31	3M JPY LIBOR + 0.57	843,408	850,776
	The Export-Import Bank of Korea	2023.02.03	3M USD LIBOR + 1.30	108,800	-
Funds for equipment	The Export-Import Bank of Korea	2021.02.25 ~ 2022.03.10	3M USD LIBOR + 1.10 ~ 1.40	244,800	607,845
	The Export-Import Bank of Korea	2021.12.25 ~ 2021.12.27	3M USD LIBOR + 1.30	272,349	289,059
	Woori Bank	2020.03.11	-	-	43,417
	Korea Development Bank	2026.10.02	3M USD LIBOR + 1.10	544,000	622,318
	China Development Bank	2023.05.25 ~ 2023.11.27	6M USD LIBOR + 1.00	212,432	-
	China Bank	2022.11.28	3M USD LIBOR + 0.80 ~ 1.70	187,376	124,873
Syndicated loan	Industrial & Commercial Bank of China and others	2024.04.24	3M USD LIBOR + 1.65	3,097,974	3,272,146
				<u>5,511,139</u>	<u>5,810,434</u>
				<u>7,139,712</u>	<u>6,312,442</u>
Less: Current portion				(2,604,724)	(1,259,593)
Less: Present value discount				(8,020)	(12,478)
				<u>₩ 4,526,968</u>	<u>5,040,371</u>

¹ As of December 31, 2020, the annual interest rates are as follows:

Type	Interest rate per annum as of December 31, 2020 (%)
3M USD LIBOR	0.24
3M JPY LIBOR	-0.08
CD(91 Days)	0.66

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18. Borrowings, Continued

(4) Details of debentures as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	Maturity date	Interest rate per annum in 2020 (%)	December 31, 2020	December 31, 2019
Unsecured notes in local currency:				
Unsecured corporate bonds 214-1st	2020.08.26	-	₩ -	₩ 210,000
Unsecured corporate bonds 214-2nd	2022.08.26	2.63	140,000	140,000
Unsecured corporate bonds 215-2nd	2020.11.25	-	-	100,000
Unsecured corporate bonds 215-3rd	2022.11.25	2.75	10,000	10,000
Unsecured corporate bonds 216-2nd	2021.02.19	2.22	180,000	180,000
Unsecured corporate bonds 216-3rd	2023.02.19	2.53	80,000	80,000
Unsecured corporate bonds 217-2nd	2021.05.27	2.30	150,000	150,000
Unsecured corporate bonds 218th	2023.03.14	3.01	300,000	300,000
Unsecured corporate bonds 219-1st	2023.08.27	2.48	250,000	250,000
Unsecured corporate bonds 219-2nd	2025.08.27	2.67	90,000	90,000
Unsecured corporate bonds 220-1st	2022.05.09	1.96	410,000	410,000
Unsecured corporate bonds 220-2nd	2024.05.09	1.99	200,000	200,000
Unsecured corporate bonds 220-3rd	2027.05.09	2.17	120,000	120,000
Unsecured corporate bonds 220-4th	2029.05.09	2.54	250,000	250,000
Unsecured corporate bonds 221-1st	2023.02.14	1.61	340,000	-
Unsecured corporate bonds 221-2nd	2025.02.14	1.72	360,000	-
Unsecured corporate bonds 221-3rd	2027.02.14	1.93	130,000	-
Unsecured corporate bonds 221-4th	2030.02.14	2.21	230,000	-
Unsecured corporate bonds 222-1st	2030.11.10	2.33	70,000	-
Unsecured corporate bonds 222-2nd	2035.11.10	2.73	100,000	-
			<u>3,410,000</u>	<u>2,490,000</u>
Unsecured notes in foreign				
Unsecured global bonds 9th	2024.09.17	3.00	544,000	578,900
			<u>3,954,000</u>	<u>3,068,900</u>
Less: Discounts on debentures			(13,623)	(13,712)
Less: Current portion			(329,947)	(309,823)
			<u>₩ 3,610,430</u>	<u>₩ 2,745,365</u>

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19. Other Current and Non-current Liabilities

Details of other current and non-current liabilities as of December 31, 2020 and 2019 are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020	December 31, 2019
Current		
Advance receipts	₩ 13,006	₩ 9,901
Unearned income	404	190
Withholdings	67,043	59,186
Deposits received	14,063	1,341
Contract liabilities	96,378	86,999
Others	6,501	5,380
	<u>197,395</u>	<u>162,997</u>
Non-current		
Other long-term employee benefits	94,026	82,873
Long-term advance receipts	4,901	4,900
	<u>98,927</u>	<u>87,773</u>
	<u>₩ 296,322</u>	<u>₩ 250,770</u>

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20. Provisions

(1) Changes in provisions for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		2020				
	Beginning Balance	Increase	Utilization	Reversal	Ending Balance	
Warranty	₩ 4,081	₩ 1,087	₩ (2,153)	₩ -	₩ 3,015	
Emission allowances	6,620	13,070	(8,908)	-	10,782	
	₩ 10,701	₩ 14,157	₩ (11,061)	₩ -	₩ 13,797	

(In millions of Korean won)

		2019				
	Beginning Balance	Increase	Utilization	Reversal	Ending Balance	
Warranty	₩ 3,992	₩ 15,811	₩ (15,722)	₩ -	₩ 4,081	
Legal claims	5,881	-	(5,881)	-	-	
Emission allowances	46,335	-	(2,702)	(37,013)	6,620	
	₩ 56,208	₩ 15,811	₩ (24,305)	₩ (37,013)	₩ 10,701	

(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.

SK hynix Inc. and Subsidiaries

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December 31, 2020 and 2019

21. Defined Benefit Liabilities

Under the defined benefit plan, the Group pays employee benefits to retired employees in the form of a lump sum based on their salaries and years of service at the time of their retirement. Accordingly, the Group is exposed to a variety of actuarial assumption risks such as risk associated with expected years of service, interest risk, and market (investment) risk.

(1) Details of defined benefit liabilities as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Present value of defined benefit obligations	₩ 2,169,154	₩ 1,936,868
Fair value of plan assets	(2,228,377)	(1,886,650)
Net defined benefit liabilities	₩ (59,223)	₩ 50,218
Defined benefit liabilities	2,739	53,624
Defined benefit assets ¹	(61,962)	(3,406)

¹ The Parent Company and certain subsidiaries' fair value of plan assets in excess of the present value of defined benefit obligations amounted to ₩61,962 million and ₩3,406 million as of December 31, 2020 and 2019 are presented as defined benefit assets.

(2) Principal actuarial assumptions as of December 31, 2020 and 2019 are as follows:

	December 31, 2020 (%)	December 31, 2019 (%)
Discount rate for defined benefit obligations	1.96 ~ 3.56	1.92 ~ 3.47
Expected rate of salary increase	3.00 ~ 5.51	2.70 ~ 5.94

(3) Weighted average durations of defined benefit obligations as of December 31, 2020 and 2019 are 11.77 and 11.48 years, respectively.

(4) Changes in defined benefit obligations for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning balance	₩ 1,936,868	₩ 1,609,055
Current service cost	250,098	220,870
Past service cost	(714)	-
Interest expense	65,002	59,683
Transfer from associates	(2,205)	2,408
Remeasurements:	(25,036)	97,434
Demographic assumption	39,198	67
Financial assumption	(35,429)	76,241
Adjustment based on experience	(28,805)	21,126
Benefits paid	(54,824)	(52,609)
Effect of movements in exchange rates	(35)	27
Ending balance	₩ 2,169,154	₩ 1,936,868

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21. Defined Benefit Liabilities, Continued

(5) Changes in plan assets for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Beginning balance	₩ 1,886,650	₩ 1,608,832
Contributions	355,664	279,751
Interest income	62,834	59,554
Transfer from associates	231	3,430
Benefits paid	(53,588)	(38,008)
Remeasurements	(23,373)	(26,909)
Foreign exchange differences	(41)	-
Ending balance	₩ 2,228,377	₩ 1,886,650

(6) The amounts recognized in profit or loss for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Current service cost	₩ 250,098	₩ 220,870
Past service cost	(714)	-
Net interest expense	2,168	129
	₩ 251,552	₩ 220,999

(7) The amounts in which defined benefit plan related expenses are included for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Cost of sales	₩ 135,999	₩ 120,736
Selling and administrative expenses	115,553	100,263
	₩ 251,552	₩ 220,999

(8) Details of plan assets as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Deposits	₩ 2,227,196	₩ 1,884,630
Others	1,181	2,020
	₩ 2,228,377	₩ 1,886,650

Actual return on plan assets for the years ended December 31, 2020 and 2019 amounted to ₩39,461 million and ₩32,645 million, respectively.

(9) As of December 31, 2020, the Group funded defined benefit obligations through insurance plans with Mirae Asset Life Insurance Co., Ltd. and other insurance companies. The Group's reasonable estimation of contribution to the plan assets for the year ending December 31, 2021 is ₩326,470 million under the assumption that the Group maintains the defined benefit plan.

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21. Defined Benefit Liabilities, Continued

(10) The sensitivity analysis of the defined benefit obligations as of December 31, 2020 to changes in the principal assumptions is as follows:

(In millions of Korean won)

		Effects on defined benefit obligation	
		Increase of rate	Decrease of rate
Discount rate (if changed by 1%)	₩	(228,838)	270,446
Expected rate of salary increase (if changed by 1%)		269,436	(232,219)

The sensitivity analysis does not consider dispersion of all cash flows that are expected from the plan and provides approximate values of sensitivity for the assumptions used.

(11) Information about the maturity profile of the defined benefit obligation as of December 31, 2020 is as follows:

(In millions of Korean won)

		Less than 1 year	2 - 5 years	6 - 10 years	More than 11 years	Total
Benefits paid	₩	122,429	321,072	644,612	2,353,885	3,441,998

Information about the maturity profile is based on the undiscounted and vested amount of defined benefit obligation as of December 31, 2020 and classified by employee's expected years of remaining services.

(12) The Group adopted defined contribution plan for retirement benefit for employees subject to peak wage system. Contributions to defined contribution plans amounting to ₩931 million (2019: ₩455 million) was expensed for the year ended December 31, 2020.

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22. Deferred Income Tax

(1) Changes in deferred income tax assets and liabilities for the years ended December 31, 2020 and 2019 without taking into consideration the offsetting of balances within the same tax authority, are as follows:

(In millions of Korean won)

	2020					
	Beginning	Adjustment	Profit or loss	Equity	Foreign exchange differences	Ending
Inventories, net	₩ 176,742	-	(52,937)	-	(464)	123,341
Property, plant and equipment, net	208,478	27,188	201,165	-	(159)	436,672
Defined benefits liabilities, net	7,756	-	(9,798)	169	(3)	(1,876)
Short-term and long-term investment assets and others	(27,555)	-	(514,745)	-	-	(542,300)
Employee benefits	46,537	-	12,936	-	(2)	59,471
Provisions	3,589	-	(13,006)	-	(24)	(9,441)
Other assets and other liabilities	11,629	-	7,632	-	117	19,378
Accrued expenses	92,408	-	8,306	-	-	100,714
Others	14,681	-	(2,410)	-	(456)	11,815
Deferred tax assets for temporary differences, net	534,265	27,188	(362,857)	169	(991)	197,774
Tax credit carryforwards recognized	6,251	-	(2,192)	-	(160)	3,899
Tax loss carryforwards recognized	117,381	-	(24,561)	-	(4,939)	87,881
Deferred tax assets recognized, net	₩ 657,897	27,188	(389,610)	169	(6,090)	289,554

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22. Deferred Income Tax, Continued

(In millions of Korean won)

	2019				
	Beginning	Profit or loss	Equity	Foreign exchange differences	Ending
Inventories, net	₩ 102,812	73,691	-	240	176,743
Property, plant and equipment, net	140,762	74,433	-	(6,718)	208,477
Defined benefits liabilities, net	(609)	(25,776)	34,132	10	7,757
Short-term and long-term investment assets and others	(32,984)	5,429	-	-	(27,555)
Employee benefits	39,954	6,583	-	-	46,537
Provisions	19,169	(15,599)	-	19	3,589
Other assets and other liabilities	24,583	(12,872)	-	(82)	11,629
Accrued expenses	48,883	43,526	-	-	92,409
Others	56,653	(35,239)	-	(6,734)	14,680
Deferred tax assets for temporary differences, net	399,223	114,176	34,132	(13,265)	534,266
Tax credit carryforwards recognized	15,189	(9,542)	-	604	6,251
Tax loss carryforwards recognized	123,007	(10,023)	-	4,396	117,380
Deferred tax assets recognized, net	₩ 537,419	94,611	34,132	(8,265)	657,897

(2) As of December 31, 2020 and 2019, the temporary differences that are not recognized as deferred tax assets (liabilities) are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Deductible temporary differences	₩ 2,637,294	₩ 2,443,911
Taxable temporary differences	(3,130,362)	(2,788,357)
Investments in subsidiaries, associates, and joint ventures	₩ (493,068)	₩ (344,446)
Other deductible temporary differences	₩ 12,790	₩ 18,863

(3) Details of period when the deferred income tax assets (liabilities) are recovered (settled) as of December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	December 31, 2020	December 31, 2019
Deferred income tax assets to be recovered after more than 12 months	₩ 1,410,835	₩ 1,110,617
Deferred income tax assets to be recovered within 12 months	142,651	202,665
Deferred income tax assets recognized	1,553,486	1,313,282
Deferred income tax liabilities to be recovered after more than 12 months	(1,263,264)	(655,003)
Deferred income tax liabilities to be settled within 12 months	(668)	(382)
Deferred income tax liabilities recognized	₩ (1,263,932)	₩ (655,385)
Net income deferred tax assets (liabilities) recognized	289,554	657,897

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23. Derivative Financial Instruments

(1) Details of derivative financial instruments applying cash flow hedge accounting as of December 31, 2020 are as follows:

(In thousands of foreign currencies)

Hedged items			Hedging instruments		
Borrowing date	Financial instrument	Hedged risk	Type of contract	Financial institution	Contract period
2019.09.17	Foreign currency denominated bond with fixed rate (Par value: USD 500,000)	Foreign currency risk	Fixed-to-fixed cross currency swap	Kookmin Bank and others	2019.09.17 ~ 2024.09.17
2019.10.02	Foreign currency denominated borrowing for equipment with floating rate (Par value: USD 500,000)	Foreign currency and interest rate risk	Floating-to-fixed cross currency interest rate swap	Korea Development Bank	2019.10.02 ~ 2026.10.02
2020.02.03	Foreign currency denominated borrowing with floating rate (Par value: USD 50,000)	Interest rate risk	Interest rate swap	Woori Bank	2020.02.03 ~ 2023.02.03
2020.03.18	Foreign currency denominated borrowing with floating rate (Par value: USD 50,000)	Interest rate risk	Interest rate swap	Woori Bank	2020.03.18 ~ 2023.02.03

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23. Derivative Financial Instruments, Continued

(2) The derivative financial instruments held by the Group are presented in non-current other financial assets and non-current other financial liabilities in the consolidated financial statements of financial position as of December 31, 2020, and the details are as follows:

(In millions of Korean won and thousands of foreign currencies)

Type of contract	Hedged items		Cash flow hedge	Fair value
Financial liabilities				
Fixed-to-fixed cross currency swap	Foreign currency denominated bond with fixed rate (Par value: USD 500,000)	₩	23,018	23,018
Floating-to-fixed cross currency interest rate swap	Foreign currency denominated borrowing for equipment with floating rate (Par value: USD 500,000)		59,478	59,478
Interest rate swap	Foreign currency denominated borrowing with floating rate (Par value: USD 50,000)		1,539	1,539
Interest rate swap	Foreign currency denominated borrowing with floating rate (Par value: USD 50,000)		672	672
			₩	<u>84,707</u>

As of December 31, 2020, changes of fair value of the derivative is recognized in other comprehensive income or loss as all of designated hedging instruments are effective for foreign currency risk or foreign currency and interest rate risk.

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24. 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 December 31, 2020. The number of shares issued, common stock, capital surplus and other capital as of December 31, 2020 and 2019, are as follows:

<i>(In millions of Korean won and thousands of shares)</i>	December 31, 2020	December 31, 2019
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	5,305	3,714
	<u>₩ (2,503,122)</u>	<u>₩ (2,504,713)</u>
Number of treasury shares	44,001	44,001

¹ As of December 31, 2020, the number of outstanding shares is 728,002 thousand shares, which differs from total issued shares due to share retirement.

(2) The number of outstanding shares, which deducted treasury shares held by the Parent Company from listed shares, is 684,002 thousands as of December 31, 2020 and 2019.

25. Accumulated Other Comprehensive Loss

(1) Details of accumulated other comprehensive loss as of December 31, 2020 and 2019 are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020	December 31, 2019
Equity-accounted investees – share of other comprehensive income (loss)	₩ (57,542)	₩ 3,278
Foreign operations – foreign currency translation differences	(360,247)	(314,966)
Gain (loss) on valuation of derivatives	12,336	12,753
	<u>₩ (405,453)</u>	<u>₩ (298,935)</u>

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25. Accumulated Other Comprehensive Loss, Continued

(2) Changes in accumulated other comprehensive loss for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		2020		
		Beginning	Change	Ending
Equity-accounted investees – share of other comprehensive income (loss)	₩	3,278	₩ (60,820)	₩ (57,542)
Foreign operations – foreign currency translation differences		(314,966)	(45,281)	(360,247)
Gain (loss) on valuation of derivatives		12,753	(417)	12,336
	₩	<u>(298,935)</u>	₩ <u>(106,518)</u>	₩ <u>(405,453)</u>

(In millions of Korean won)

		2019		
		Beginning	Change	Ending
Equity-accounted investees – share of other comprehensive income (loss)	₩	(18,166)	₩ 21,444	₩ 3,278
Foreign operations – foreign currency translation differences		(464,653)	149,687	(314,966)
Gain on valuation of derivatives		-	12,753	12,753
	₩	<u>(482,819)</u>	₩ <u>183,884</u>	₩ <u>(298,935)</u>

26. Retained Earnings

Retained earnings as of December 31, 2020 and 2019, are as follows:

<i>(In millions of Korean won)</i>	December 31, 2020	December 31, 2019
Legal reserve ¹	₩ 349,954	₩ 281,555
Discretionary reserve ²	235,506	235,506
Unappropriated retained earnings	46,410,268	42,406,301
	₩ <u>46,995,728</u>	₩ <u>42,923,362</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.

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26. Retained Earnings, Continued

(2) Dividends of the Parent Company

(a) Details of dividends for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won and In thousands of shares)

	2020	2019
Type of dividends	Cash Dividends	Cash Dividends
Outstanding ordinary shares	684,002	684,002
Par value (in won)	₩ 5,000	₩ 5,000
Dividend rate	23%	20%
Total dividends	₩ 800,282	₩ 684,002

(b) Dividend payout ratio for the years ended December 31, 2020 and 2019 is as follows:

(In millions of Korean won)

	2020	2019
Dividends	₩ 800,282	₩ 684,002
Profit attributable to owners of the Parent Company	4,755,102	2,005,975
Dividend payout ratio	16.83%	34.10%

(c) Dividend yield ratio for the years ended December 31, 2020 and 2019 is as follows:

(In won)

	2020	2019
Dividends per share	₩ 1,170	₩ 1,000
Closing stock price	118,500	94,100
Dividend yield ratio	0.99%	1.06%

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27. Revenue

(1) Details of the Group's revenue for years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Sale of goods	₩ 31,837,538	₩ 26,922,416
Providing services	62,880	68,317
	<u>₩ 31,900,418</u>	<u>₩ 26,990,733</u>

(2) Details of the Group's revenue by product and service types for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
DRAM	₩ 22,536,404	₩ 20,292,687
NAND Flash	7,471,242	5,139,563
Others	1,892,772	1,558,483
	<u>₩ 31,900,418</u>	<u>₩ 26,990,733</u>

(3) The Group's revenue information by region based on the location of selling entities for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Korea	₩ 1,452,006	₩ 1,446,997
China	12,217,634	12,570,278
Taiwan	1,905,650	1,444,188
Asia (other than China and Taiwan)	2,416,321	2,301,314
U.S.A.	12,686,108	8,141,151
Europe	1,222,699	1,086,805
	<u>₩ 31,900,418</u>	<u>₩ 26,990,733</u>

(4) Details of the Group's revenue by the timing of revenue recognition during the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Performance obligations satisfied at a point in time	₩ 31,837,538	₩ 26,922,416
Performance obligations satisfied over time	62,880	68,317
	<u>₩ 31,900,418</u>	<u>₩ 26,990,733</u>

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28. Selling and Administrative Expenses

Selling and administrative expenses for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Selling and administrative expenses:		
Salaries	₩ 592,894 ₩	516,226
Defined benefit plan	40,927	34,692
Employee benefits	159,600	141,104
Commission	334,570	460,644
Depreciation	245,858	206,429
Amortization	719,652	687,365
Freight and custody charge	48,617	40,222
Legal cost	20,323	31,679
Rental	8,944	6,933
Taxes and dues	56,934	54,525
Training	67,626	43,217
Advertising	95,158	92,792
Utilities	13,688	12,193
Supplies	100,748	99,029
Repair	26,541	29,546
Travel and transportation	4,692	16,731
Others	149,935	123,770
	<u>2,686,707</u>	<u>2,597,097</u>
Research and development:		
Expenditure on research and development	3,370,318	3,188,531
Development cost capitalized	(259,020)	(332,888)
	<u>3,111,298</u>	<u>2,855,643</u>
	<u>₩ 5,798,005 ₩</u>	<u>5,452,740</u>

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29. Expenses by Nature

Nature of expenses for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Changes in finished goods and work-in-process	₩ (616,725)	₩ (523,777)
Raw materials, supplies and consumables	7,649,164	6,787,445
Employee benefit	3,833,439	3,411,234
Depreciation and others	9,764,776	8,605,492
Commission	2,149,025	2,113,753
Utilities	1,459,346	1,366,041
Repair	1,129,642	1,080,705
Outsourcing	1,188,589	1,128,458
Others	639,284	650,002
Transfer: capitalized development cost and others	(308,746)	(347,799)
Total ¹	₩ 26,887,794	₩ 24,271,554

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

30. Finance Income and Expenses

Finance income and expenses for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Finance income:		
Interest income	₩ 27,872	₩ 30,062
Dividend income	1,325	429
Foreign exchange differences ¹	1,527,580	1,143,099
Gain on valuation of short-term investment assets	2,592	5,811
Gain on valuation of long-term investment assets	1,741,026	8,237
Gain on disposal of short-term investment assets	27,510	58,784
Gain on disposal of long-term investment assets	-	1,218
	3,327,905	1,247,640
Finance expenses:		
Interest expenses	253,468	245,440
Foreign exchange differences ¹	1,717,989	1,043,720
Loss on disposal of long-term investment assets	-	786
Loss on valuation of long-term investment assets	7,273	241,471
Loss on valuation of financial liabilities	1,681	-
	1,980,411	1,531,417
Net finance income (expenses)	₩ 1,347,494	₩ (283,777)

¹ For the year ended December 31, 2020, the foreign exchange difference gain/loss from long-term investment assets amounting to ₩ 44,214 million (2019: ₩ 210,519 million) is included.

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31. Other Income and Expenses

(1) Other income for years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Gain on disposal of property, plant and equipment	₩ 38,585	₩ 26,158
Others	46,188	62,021
	<u>₩ 84,773</u>	<u>₩ 88,179</u>

(2) Other expenses for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Loss on disposal of property, plant and equipment	₩ 44,955	₩ 11,531
Loss on disposal of intangible assets	4,841	7,668
Loss on disposal of trade receivables	6,320	8,564
Loss on impairment of intangible assets	16,544	71
Donation	70,461	59,522
Others	28,454	26,219
	<u>₩ 171,575</u>	<u>₩ 113,575</u>

32. Income Tax Expense

(1) Income tax expense for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Current tax:		
Current tax on profits for the year	₩ 1,113,166	₩ 603,692
Adjustments for the current tax liabilities attributable to prior year, but recognized in current year	(24,653)	(85,520)
	<u>1,088,513</u>	<u>518,172</u>
Deferred tax:		
Changes in net deferred tax assets	389,610	(94,611)
Income tax expense	<u>₩ 1,478,123</u>	<u>₩ 423,561</u>

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32. Income Tax Expense, continued

(2) The relationship between tax expense and accounting profit for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Profit before income tax	₩ 6,237,037	₩ 2,432,639
Tax calculated at domestic tax rates applicable to profits in the respective countries	1,704,823	658,614
Tax effects of:		
Tax-exempt income	(70,922)	(36,618)
Non-deductible expenses	19,977	11,694
Change in unrecognized deferred tax assets	8,667	(93,041)
Tax credits	(118,011)	(102,755)
Adjustments for the current tax liabilities attributable to prior year, but recognized in current year	(24,653)	(85,520)
Others	(41,758)	71,187
Income tax expense	₩ 1,478,123	₩ 423,561

(3) Income taxes recognized in other comprehensive income (loss) for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020	2019
Remeasurements of defined benefit liabilities	₩ 169	₩ 34,132
Gain(loss) on valuation of derivatives	(680)	(4,837)
	₩ (511)	₩ 29,295

33. 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 for years ended December 31, 2020 and 2019.

(1) Basic earnings per share for the years ended December 31, 2020 and 2019 are as follows:

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

	2020	2019
Profit attributable to ordinary shareholders of the Parent Company	₩ 4,755,102	₩ 2,005,975
Weighted average number of outstanding ordinary shares ¹	684,001,795	684,001,795
Basic earnings per share (in Korean won)	₩ 6,952	₩ 2,933

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

(In shares)

	2020	2019
Outstanding ordinary shares	728,002,365	728,002,365
Acquisition of treasury shares	(44,000,570)	(44,000,570)
Weighted average number of outstanding ordinary shares	684,001,795	684,001,795

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33. Earnings per Share, Continued

(2) Diluted earnings per share for the years ended December 31, 2020 and 2019 are as follows:

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

	2020	2019
Profit attributable to ordinary shareholders of the Parent Company	₩ 4,755,102	2,005,975
Weighted average number of diluted outstanding ordinary shares ¹	684,139,222	684,089,944
Diluted earnings per share (in won)	₩ 6,950	2,932

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

(In shares)

	2020	2019
Weighted average number of outstanding ordinary shares	684,001,795	684,001,795
Stock options	137,427	88,149
Weighted average number of diluted outstanding ordinary shares	684,139,222	684,089,944

34. Transactions with Related Parties and Others

(1) Details of related parties as of December 31, 2020 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 Xinju (Chengdu) Venture Investment Center (Smartsources), Prume Social Farm, Co., Ltd, Wuxi xinfu IC industry park., Ltd., Magnus Private Investment Co., Ltd., L&S (No.10) Early Stage III Investment Association, SiFive Inc., YD-SK-KDB Social Value
Joint ventures	HITECH Semiconductor (Wuxi) Co., Ltd., Hystars Semiconductor (Wuxi) Co., Ltd. Specialized Investment-type Private Equity Investment Trust For Growth Of Semiconductor, Specialized Investment-type Private Equity Investment Trust For Win-win System Semiconductor
Other related parties	SK Telecom Co., Ltd., which has significant influence over the Group, and its subsidiaries, SK Holdings Co., Ltd., which has control over SK Telecom Co., Ltd., and its subsidiaries

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34. Transactions with Related Parties and Others, Continued

(2) Significant transactions for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

		For the year ended December 31, 2020			
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend received
Associate	SK China Company Limited	₩ 18	₩ 8,019	₩ -	₩ -
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	4,766	543,575	21,780	15,033
	Hystars Semiconductor (Wuxi) Co., Ltd.	168	-	-	-
Other related parties	SK Telecom Co., Ltd. ¹	135,050	166,019	82,044	-
	SK Holdings Co., Ltd. ²	20,905	264,994	272,980	-
	ESSENCE Limited	675,915	-	-	-
	SK Engineering & Construction Co., Ltd.	42,814	8,507	1,375,083	-
	SK Energy Co., Ltd.	50,035	72,386	-	-
	SK Networks Co., Ltd.	6,638	9,434	526	-
	SKC Solmics Co., Ltd.	623	93,862	178	-
	Chungcheong energy service Co., Ltd.	118	24,335	-	-
	SK Materials Co., Ltd.	4,349	95,007	-	-
	SK Siltron Co., Ltd.	32,429	380,571	-	-
	SK Airgas Co., Ltd.	13,220	75,990	110,858	-
	Others	173,971	631,656	65,385	-
		₩ 1,161,019	₩ 2,374,355	₩ 1,928,834	₩ 15,033

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

² For the year ended December 31, 2020, royalty paid for the use of the SK brand amounted to ₩54,434 million.

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34. Transactions with Related Parties and Others, Continued

(In millions of Korean won)

		For the year ended December 31, 2019			
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend received
Associate	SK China Company Limited	₩ 15	₩ 10,954	₩ -	₩ -
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	4,362	656,911	1,616	14,458
	Hystars Semiconductor (Wuxi) Co., Ltd.	238	-	-	-
Other related parties	SK Telecom Co., Ltd. ¹	167,878	242,559	10,699	-
	SK Holdings Co., Ltd. ²	25,912	265,496	259,280	-
	ESSENCE Limited	708,497	-	-	-
	SK Engineering & Construction Co., Ltd.	60,886	1,249	1,851,230	-
	SK Energy Co., Ltd.	62,220	73,717	-	-
	SK Networks Co., Ltd.	12,704	12,698	-	-
	SKC solmics Co., Ltd.	676	82,814	1,067	-
	Chungcheong energy service Co., Ltd.	215	27,215	-	-
	SK Materials Co., Ltd.	4,118	79,000	-	-
	SK Siltron Co., Ltd.	32,411	397,327	-	-
	SK Airgas Co., Ltd.	106	72,675	-	-
	Others	163,648	484,678	68,445	-
		₩ 1,243,886	₩ 2,407,293	₩ 2,192,337	₩ 14,458

¹ Operating expense includes dividend of ₩219,200 million paid.

² For the year ended December 31, 2019, royalty paid for the use of the SK brand amounted to ₩82,629 million.

The above related party transactions include transactions executed based on agreements executed in the course of the Group's business activities such as purchase or construction of property, plant and equipment, procurements of gas and raw materials, and system developments and maintenance services.

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34. Transactions with Related Parties and Others, Continued

(3) The balances from significant transactions as of December 31, 2020 and December 31, 2019 are as follows:

(In millions of Korean won)

		December 31, 2020	
	Company	Trade receivables and others	Other payables and others
Associate	SK China Company Limited	₩ 7	₩ 8,771
Joint ventures	HITECH Semiconductor (Wuxi) Co., Ltd.	198	417,730
	Hystars Semiconductor (Wuxi) Co., Ltd.	7	-
Other related parties	SK Telecom Co., Ltd.	10,747	7,920
	SK Holdings Co., Ltd.	1,757	176,752
	ESSENCE Limited	55,500	-
	SK Engineering & Construction Co., Ltd.	3,397	592,630
	SK Energy Co., Ltd.	1,204	22,328
	SK Networks Co., Ltd.	289	1,712
	SKC Solmics Co., Ltd.	74	24,128
	Chungcheong energy service Co., Ltd.	69	3,295
	SK Materials Co., Ltd.	411	10,130
	SK Siltron Co., Ltd. ¹	44,847	36,792
	SK Airgas Co., Ltd.	12	390,967
	Others	31,324	124,499
		₩ 149,843	₩ 1,817,654

¹ Trade receivable and others include ₩42,432 million of advance paid for the purchase of wafers (Note 35-(9)).

(In millions of Korean won)

		December 31, 2019	
	Company	Trade receivables and others	Other payables and others
Associate	SK China Company Limited	₩ 1	₩ 10,883
Joint ventures	HITECH Semiconductor (Wuxi) Co., Ltd.	357	799,545
Other related parties	SK Telecom Co., Ltd.	9,334	7,342
	SK Holdings Co., Ltd.	3,668	151,940
	ESSENCE Limited	37,823	-
	SK Engineering & Construction Co., Ltd.	6,012	855,621
	SK Energy Co., Ltd.	3,207	24,203
	SK Networks Co., Ltd.	897	7,243
	SKC solmics Co., Ltd.	55	17,463
	Chungcheong energy service Co., Ltd.	13	3,599
	SK Materials Co., Ltd.	360	7,681
	SK Siltron Co., Ltd. ¹	99,203	36,395
	SK Airgas Co., Ltd.	43	277,059
	Others	20,486	102,535
		₩ 181,459	₩ 2,301,509

¹ Trade receivable and others include ₩96,216 million of advance paid for the purchase of wafers.

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34. 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 years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

Details	2020	2019
Salaries	₩ 5,006	₩ 3,849
Defined benefit plan related expenses	545	406
Share-based payment	1,156	954
	₩ 6,707	₩ 5,209

(5) The significant transactions between the Group and the entity, which belongs to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act, not the related party of the Group in accordance with Korean IFRS 1024, for the years ended December 31, 2020 and 2019, are as follows:

(In millions of Korean won)

Name of entity	2020		
	Operating revenue and others	Operating expense and others	Asset acquisition
SK Chemicals Co., Ltd.	₩ 10,338	₩ 1,465	₩ -
SK Bioscience Co., Ltd.	1,944	298	-
AnTS Co., Ltd.	4	8,179	-
SMCore Co., Ltd.	-	633	17,874
Korea Nexlene Company	4,099	-	-
Others	3,644	964	-
	₩ 20,029	₩ 11,539	₩ 17,874

(In millions of Korean won)

Name of entity	2019	
	Operating revenue and others	Operating expense and others
SK Chemicals Co., Ltd.	₩ 8,676	₩ 1,507
SK Bioscience Co., Ltd.	4,216	281
AnTS Co., Ltd.	9	8,411
Others	3,934	102
	₩ 16,835	₩ 10,301

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34. Transactions with Related Parties and Others, Continued

(6) The balances of significant transactions between the Group and the entity, which belongs to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act, not the related party of the Group in accordance with Korean IFRS 1024, for the years ended December 31, 2020 and 2019, are as follows:

(In millions of Korean won)

Name of entity	December 31, 2020	
	Trade receivables and others	Other payables and others
SK Chemicals Co., Ltd.	₩ 789	₩ 115
SK Bioscience Co., Ltd	128	15
ANTS Co., Ltd.	1	542
SMCore. Inc	-	3,439
Korea Nexlene Company	157	-
Others	204	88
	₩ 1,279	₩ 4,199

(In millions of Korean won)

Name of entity	December 31, 2019	
	Trade receivables and others	Other payables and others
SK Chemicals Co., Ltd.	₩ 886	₩ 114
SK Bioscience Co., Ltd	177	20
ANTS Co., Ltd.	1	942
Others	645	-
	₩ 1,709	₩ 1,076

(7) The right-of-use assets and lease liabilities recognized regarding the lease agreements entered with the Joint venture, HITECH Semiconductor (Wuxi) Co., Ltd, for the year ended December 31, 2020 amount to ₩17,051 million and ₩17,051 million, respectively, and lease payments to the related parties amount to ₩90,627 million for the year ended December 31, 2020. The right-of-use assets and lease liabilities recognized regarding the lease agreements entered with SK Air Gas Co., and other related parties for the year ended December 31, 2020 amount to ₩132,080 million and ₩132,080 million, respectively, and lease payments to the related parties amount to ₩41,593 million for the year ended December 31, 2020.

(8) The Group provides a payment guarantee amounting to RMB 701 million to Hystars Semiconductor (Wuxi) Co., Ltd., a joint venture (Note 35-(7)).

(9) The establishment of the subsidiary is explained in Note 1, and the acquisitions and additional investments of associates and joint ventures are explained in Note 11.

SK hynix Inc. and Subsidiaries

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December 31, 2020 and 2019

35. Commitments and Contingencies

(1) Significant pending litigations and claims of the Group as of December 31, 2020 are as follows:

(a) Lawsuit from Netlist, Inc. ("Netlist")

Netlist filed a lawsuit against the Parent Company and its subsidiaries including SK hynix America Inc. and SK hynix memory solutions America Inc. alleging infringement of multiple patents to the U.S. International Trade Commission ("U.S. ITC"), on September 1, 2016 and on October 31, 2017.

The lawsuit filed to the U.S. ITC on September 1, 2016 was provisionally concluded on January 16, 2018 that the Parent Company and its subsidiaries, SK hynix America Inc. and SK hynix memory solutions America Inc., did not infringe the patents of Netlist. Netlist filed an appeal against the conclusion; however, the U.S. Federal Court of Appeals rejected the petition on December 12, 2019; accordingly, it is finally concluded that the Parent Company and its subsidiaries, SK hynix America Inc. and SK hynix memory solutions America Inc. did not infringe the patents.

Regarding the patent infringement case that was filed on October 31, 2017, the U.S. ITC determined that the Group and its subsidiaries, SK Hynix America Inc. and SK Hynix memory solutions America Inc. did not infringe the patents of Netlist on April 7, 2020. Netlist filed for an appeal on April 29, 2020 and withdrew the appeal on June 23, 2020; accordingly, it is finally concluded that the Parent Company and its subsidiaries, SK hynix America Inc. and SK hynix memory solutions America Inc. did not infringe the patents.

In addition, Netlist filed lawsuits against the Parent Company and its subsidiaries, SK hynix America Inc. and SK hynix memory solutions America Inc., with the U.S. District Court for the Central District of California on August 31, 2016 and June 14, 2017, and filed a lawsuit against the Parent Company and its subsidiary, SK hynix America Inc., with the U.S. District Court for the Western District of Texas on March 17, 2020 and June 15, 2020 for infringement of U.S. patent of Netlist. As of December 31, 2020, the litigation value has not been determined and the final results cannot be predicted.

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

On April 27, 2018, a class action lawsuit against the Parent Company and its subsidiary, SK hynix America Inc., for price fixing by major DRAM companies (period from June 1, 2016 to February 1, 2018) was filed with the U.S. District Court for the Northern District of California. Similar class action lawsuits have been filed with the U.S. District Court for the Northern District of California, the Supreme Court of British Columbia, the Quebec District Court, the Ontario Federal and District Court and the Israel Court. In December 2020, the U.S. District Court in Northern California ruled against all lawsuits filed by plaintiffs, but due to the possibility of plaintiffs' disobedience, the Group cannot predict the outcome of these lawsuits as of December 31, 2020.

(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, and the investigation has been started. The pending case currently is under investigation. As of December 31, 2020, the Group cannot predict the outcome of these investigation.

SK hynix Inc. and Subsidiaries
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35. Commitments and Contingencies, Continued

(1) Significant pending litigations and claims of the Group as of December 31, 2020 are as follows:, Continued

(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 recognizes liabilities 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 royalty payables are recognized as intangible assets, and the amount is amortized on a straight-line basis for the patent license agreement period and recognized as amortization expense.

(3) Contract for supply of industrial water

The Group has entered into a renewal contract with Veolia Water Industrial Development Co., Ltd. ("Veolia") under which the Group purchases industrial water from Veolia during the 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) Back-end process service contract with HITECH Semiconductor (Wuxi) Co., Ltd. ("HITECH")

The Group has entered into an agreement with HITECH to be provided with back-end 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 as the Group has priority to use HITECH's equipment.

(5) Assets provided as collateral

Details of assets provided as collateral as of December 31, 2020 are as follows:

(In millions of Korean won and millions of foreign currencies)

Category	Book value		Pledged amount			Remark
	Currency	Amount	Currency	Amount in USD	Amount in KRW	
Land and buildings	KRW	55,526	USD	54	58,422	Borrowings for equipment and others
Machinery	KRW		KRW	-	5,854	
			USD	7,328	7,973,377	
		5,115,322	KRW	-	1,020,000	
			USD	7,382	8,031,799	
	KRW	5,170,848	KRW	-	1,025,854	

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35. Commitments and Contingencies, Continued

(6) Financing agreements

Details of credit lines with financial institutions as of December 31, 2020 are as follows:

(In millions of Korean won and millions of foreign currencies)

	Financial Institution	Commitment	Currency	Amount
		Import finance including usance Comprehensive limit contract for import and export including usance	USD	465
The Parent Company	Hana Bank and others	Overdrafts with banks	USD	1,010
		Accounts receivable factoring contracts which have no right to recourse	KRW	20,000
SK hynix Semiconductor (China) Ltd.	Agricultural Bank of China and others		KRW	140,000
			RMB	2,450
SK hynix America Inc. and other sales entities	Citibank and others	Import finance including usance	USD	490
		Accounts receivable factoring contracts which have no right to recourse	USD	757
		Import finance including usance	USD	45
Domestic subsidiaries	Hana Bank and others	Loans	KRW	20,000

SK hynix Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2020 and 2019

35. Commitments and Contingencies, Continued

(7) Details of guarantees provided to others as of December 31, 2020 are as follows:

<i>(In thousands of foreign currencies)</i>	Currency	Amount	Remark
Taiwan Semiconductor Manufacturing Company, Limited. ¹	USD	80	Guarantees for supply agreement
Wuxi Xinfu Group Co., Ltd. ²	RMB	701	Guarantees for borrowing

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

² The Group provides a payment guarantee to Wuxi Xinfu Group Co., Ltd. for borrowings of Hystars Semiconductor (Wuxi) Co., Ltd., a joint venture of the Group.

(8) Capital commitments

The Group's unrecorded commitments in relation to the capital expenditures on property, plant and equipment and intangible assets as of December 31, 2020 are ₩3,404,386 million (as of December 31, 2019: ₩232,387 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 made in 2017. The advanced payment used in connection with the purchase of wafer during the current period is ₩53,784 million, and the balance of the advance payment as of December 31, 2020, is ₩42,432 million. Meanwhile, SK Siltron Co., Ltd. is providing a certain portion of its property, plant and equipment as collateral to secure the advanced payment.

(10) Investment in KIOXIA Holdings Corporation ("KIOXIA")

In regard to the Group's interests in KIOXIA through its investments in BCPE Pangea Intermediate holdings Cayman, L.P. and BCPE Pangea Cayman2 Limited, equity shares in KIOXIA 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 same periods, the Group does not have the right in appointing KIOXIA's directors and is unable to exercise significant influence over decision-making for KIOXIA's operations and management.

(11) Acquisition of the entire NAND business division of Intel Corporation

In accordance with the resolution of Board of Directors on October 20, 2020, the Group decided to acquire the entire NAND business division of Intel Corporation excluding the Optane division of Non-Volatile Memory Solutions Group; accordingly, the Group entered into a business transfer agreement with Intel Corporation. The entire business division and assets are expected to be transferred in two separate processes through subsidiaries that will be newly established overseas, and payment will be made in two installments. Total consideration amount of US\$ 9 billion will be paid with the first installment of US\$ 7 billion by the end of 2021 and the second installment of US\$ 2 billion by March 2025. The closing of the business transfer depends on the satisfaction of an agreed upon set of conditions that include regulatory approvals of governmental authorities and the agreed termination fee shall be paid when the contract is terminated under certain circumstances.

SK hynix Inc. and Subsidiaries
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36. Cash Flows

(1) Reconciliations between profit for the period and cash generated from operations for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020		2019
Profit for the year	₩ 4,758,914	₩	2,009,078
Adjustment			
Income tax expense	1,478,123		423,561
Defined benefit plan	251,552		220,999
Depreciation on property, plant and equipment	8,515,134		7,511,794
Depreciation of investment property	291		37
Amortization	960,550		795,169
Depreciation of right-of-use assets	296,218		313,415
Share-based compensation expenses	1,591		1,738
Loss on disposal of property, plant and equipment	44,955		11,531
Loss on disposal of intangible assets	4,841		7,668
Loss on impairment of intangible assets	16,544		71
Loss on valuation of long-term investment asset	7,273		241,471
Impairment loss on associate investment	-		1,695
Loss on valuation of financial liabilities	1,681		-
Interest expense	253,468		245,440
Loss on foreign currency translation	375,504		250,974
Loss on disposal of trade receivables	6,320		8,564
Gain(Loss) on equity method investments, net	36,279		(24,328)
Gain on disposal of property, plant and equipment	(38,585)		(26,158)
Gain on disposal of intangible assets	(122)		-
Gain on disposal of short-term investment assets	(27,510)		(58,784)
Gain on valuation of short-term investment assets	(2,592)		(5,811)
Gain on disposal of long-term investment assets	-		(1,218)
Gain on valuation of long-term investment assets	(1,741,026)		(8,237)
Interest income	(27,872)		(30,062)
Gain on foreign currency translation	(595,266)		(263,012)
Others, net	(9,646)		99
Changes in operating assets and liabilities			
Decrease (increase) in trade receivables	(935,346)		2,214,776
Decrease in loans and other receivables	5,303		41,676
Increase in inventories	(843,842)		(851,735)
Decrease in other assets	47,350		114,792
Increase (decrease) in trade payables	222,036		(278,529)
Decrease in other payables	(6,583)		(16,623)
Increase (decrease) in other non-trade payables	158,514		(645,164)
Increase (decrease) in provisions	12,008		(42,787)
Increase in other liabilities	46,961		17,605
Payment of defined benefit liabilities	(585)		(4,120)
Contributions to plan assets	(355,664)		(279,751)
Cash generated from operations	₩ 12,916,771	₩	11,895,834

SK hynix Inc. and Subsidiaries
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36. Cash Flows, Continued

(2) Details of significant transactions without inflows and outflows of cash for the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020		2019
Increase in other payables related to acquisition of property, plant and equipment	₩ 1,721,481	₩	1,786,787
Transfer of investment property to property, plant and equipment	-		1,105
Transfer of property, plant and equipment to investment property	209,450		-

(3) Changes in liabilities arising from financing activities during the years ended December 31, 2020 and 2019 are as follows:

(In millions of Korean won)

	2020		2019
Beginning balance	₩ 12,190,505	₩	5,281,937
Adjustments on initial application of K-IFRS No.1116 ¹	-		1,123,422
Impacts of changes in accounting policies ²	-		435,423
	<u>12,190,505</u>		<u>6,840,782</u>
Beginning balance after adjustments			
Cash flows from financing activities			
Proceeds from borrowings	5,173,016		9,833,882
Repayments of borrowings	(3,921,310)		(4,585,425)
Payments of lease liabilities	(319,740)		(390,501)
Increase of lease liabilities	293,855		367,687
Foreign currency differences and others	(557,923)		100,129
Present value discount (interest expense)	43,885		34,508
Interest paid	(6,924)		(10,557)
Ending balance	₩ <u>12,895,364</u>	₩	<u>12,190,505</u>

¹ Lease liabilities are recognized upon adoption of K-IFRS 1116 as of January 1, 2019.

² Lease liabilities are adjusted considering the enforceable period of lease contracts upon adoption of K-IFRS 1116 interpretation.

SK hynix Inc. and Subsidiaries
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37. Share-based Payment

(1) The Parent Company granted equity-settled share options to the Parent Company's key management during the year ended December 31, 2020 and the details of the share options as of December 31, 2020 are as follows:

(In shares)

	Total numbers of share option granted	Forfeited or Cancelled	Exercised	Outstanding at December 31, 2020
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
10 th	54,020	-	-	54,020
11 th	6,397	-	-	6,397
	<u>566,819</u>	<u>8,171</u>	<u>-</u>	<u>558,648</u>

	Grant date	Service Period for Vesting	Exercisable Period	Exercise price (in Korean won)
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
10 th	March 20, 2020	March 20, 2020 - March 20, 2023	March 21, 2023 - March 20, 2027	84,730
11 th	March 20, 2020	March 20, 2020 - March 20, 2023	March 21, 2023 - March 20, 2027	84,730

SK hynix Inc. and Subsidiaries
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37. Share-based Payment, Continued

(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 each 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	10 th	11 th
Expected volatility	23.23%	23.23%	23.23%	22.50%	25.30%	25.60%	26.17%	26.17%	26.17%	26.15%	26.15%
Estimated fair value of share option (in Korean won)	10,026	9,613	9,296	16,687	18,362	16,505	17,744	16,888	16,093	11,786	11,786
Dividend yield ratio	1.20%	1.20%	1.20%	0.78%	1.23%	1.36%	1.98%	1.98%	1.98%	2.10%	2.10%
Risk free ratio	1.86%	1.95%	2.07%	2.38%	2.46%	1.89%	1.82%	1.88%	1.91%	1.59%	1.59%

(3) The compensation expense for the year ended December 31, 2020 was ₩1,591 million (2019: ₩1,738 million).