SK HYNIX, INC.

Separate Financial Statements

December 31, 2018 and 2017

(With Independent Auditors' Report Thereon)

Contents

Independent Auditors' Report

Based on a report originally issued in Korean

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

Opinion

We have audited the accompanying separate financial statements of SK hynix, Inc. (the "Company"), which comprise the separate statements of financial position of the Company as of December 31, 2018 and 2017, the related separate statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes to the separate financial statements, including significant accounting policies and other explanatory information.

In our opinion, the accompanying separate financial statements present fairly, in all material respects, the separate financial position of the Company as of December 31, 2018 and 2017, and its separate financial performance and its separate cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-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 Separate Financial Statements section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the separate financial statements in the Republic of Korea, and we have fulfilled our ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the separate financial statements as of and for the year ended December 31, 2018. These matters were addressed in the context of our audit of the separate financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(I) Measurement of fair value of financial instruments.

As described in note 5 and note 11 to the separate financial statements, the acquisition costs of equity investment ("SPC1") and convertible bonds ("SPC2") acquired during 2018 relating to the Company's investment in Toshiba Memory Corporation ("TMC") were JPY 266,000 million and JPY 129,000 million, respectively. Those are measured at the fair value using significant unobservable inputs as of December 31, 2018 and amounts to ₩4,183,005 million in the aggregate.

Financial instruments measured at fair value through profit or loss can contain misstatements due to the involvement of significant judgments and the use of assumptions and estimates. Accordingly, we identified the measurement of fair value of financial instruments in connection with the investments in SPC1 and SPC2 as a key audit matter.

The primary procedures we performed to address this key audit matter included:

- Assessing the qualification and objectivity of the external institution engaged by the Company to assess the fair value of the financial instruments;
- Reading investment agreements to understand the relevant investment terms, identifying any conditions that were relevant to the valuation of financial instruments and confirming whether investment terms and conditions are considered in valuation;
- Engaging our internal valuation specialists to assist us in evaluating the valuation result from the report issued by the external institution, and the valuation models and assumptions used by the Company to value investments in SPC1 and SPC2;
- Performing sensitivity analysis of significant unobservable inputs used in estimating the fair value of investments in SPC1 and SPC2 and assessing the impact of changes in the inputs on the fair value measurement and whether there were any indicators of management bias; and
- Assessing the appropriate disclosures of the Company's separate financial statements for the valuation of fair value, key assumptions and source data in accordance with K-IFRS.

(II) Assessment and disclosure of contingencies for price-fixing class-action lawsuits in North America and the antitrust investigation in China.

As described in note 33, there are a number of ongoing legal disputes and regulatory investigations as of December 31, 2018, which included the price-fixing class-action lawsuits in North America and the antitrust investigation in China. As described in note 3-(17) to the separate financial statements, a provision should be recognized for these litigation and investigation if they represent a present obligation as a result of past event, and it is probable that an outflow of resources will occur, and reliable estimation of amounts can be made.

As the outcome of these litigation and regulatory investigation is uncertain, any position taking by management will involve significant judgment and estimation. The estimates underlying these contingent liabilities involve significant management judgment in interpreting various relevant regulations, laws, and practices, and evaluation of past cases of jurisdictions. Accordingly, we identified the assessment of contingent liabilities and related disclosures for the above litigation and regulatory investigation as a key audit matter.

The primary procedures we performed to address this key audit matter included:

- Discussing the status and potential exposures with the Company internal legal counsel and obtaining confirmation letters regarding the litigation and regulatory investigation from the Company's external legal counsels, including their views on the likely outcome of each litigation or regulatory investigation and whether the magnitude of potential exposure to the Company could be reliably estimated;
- Assessing the competence, capability and objectivity of external legal counsels, by considering professional qualifications, fee arrangements and other relevant factors;
- Assessing the recognition of provisions depending on whether those are a present obligation as a result of past event, probable that an outflow of resources, and reliable estimation of amounts in accordance with accounting standard; and
- Assessing whether the disclosures detailing the above litigation and regulatory investigation adequately disclose the potential liabilities of the Company.

Other Matter

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

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

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

In preparing the separate financial statements, management is responsible for assessing the Company'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 Company or to cease operations, or has no realistic alternative but to do so.

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

Auditors' Responsibility for the Audit of the Separate Financial Statements

Our objectives are to obtain reasonable assurance about whether these separate financial statements as a whole are free from material misstatements, whether due to fraud or error, and to issue an auditors' 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 aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these separate 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 separate 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 Company'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 Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, then we are required to draw attention in our auditors' report to the related disclosures in the separate 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 auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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 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 separate financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' 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 auditors' report is Seung Yeoul Yang.

KPMG Samjong Accounting Corp.
Seoul, Korea
February 25, 2019

This report is effective as of February 25, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying separate financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

SK HYNIX, INC.

Separate Statements of Financial Position

As of December 31, 2018 and 2017

(In millions of won)

	Note		2018	2017
Assets				
Current assets				
Cash and cash equivalents	*4,5*	₩	1,741,271	2,270,036
Short-term financial instruments	*4,5,6*		477,500	4,528,880
Short-term investment assets	*4,5*		2,919,140	580,449
Trade receivables, net	*4,5,7,32*		6,436,794	5,259,052
Loans and other receivables, net	*4,5,7,32*		19,454	41,049
Inventories, net	*8*		3,721,521	2,224,740
Other current assets	*9*		582,139	434,724
			15,897,819	15,338,930
Non-current assets				
Investments in subsidiaries, associates, and joint ventures	*10*		7,874,684	4,778,280
Long-term investment assets	*4,5,11*		4,249,518	37,593
Loans and other receivables, net	*4,5,7,32*		32,794	29,600
Other financial assets	*4,5,6*		11	11
Property, plant and equipment, net	*12,14,33*		29,842,654	21,322,943
Intangible assets, net	*13*		2,298,649	1,918,259
Investment property, net	*12,14*		1,400	2,468
Deferred tax assets	*20*		156,545	136,291
Employee benefit assets	*19*		4,581	13,385
Other non-current assets	*9,33*		621,953	735,086
			45,082,789	28,973,916
Total assets		₩	60,980,608	44,312,846

See accompanying notes to the separate financial statements.

SK HYNIX, INC.
Separate Statements of Financial Position, Continued
As of December 31, 2018 and 2017

(In millions of won)

	Note		2018	2017
Liabilities				
Current liabilities				
Trade payables	*4,5,32*	₩	1,505,170	1,107,029
Other payables	*4,5,32*		2,686,520	2,642,022
Other non-trade payables	*4,5,15,32*		1,704,766	1,204,808
Borrowings	*4,5,16,33*		1,028,170	634,768
Provisions	*18*		67,473	103,099
Current tax liabilities	*30*		4,530,712	2,354,425
Other current liabilities	*17*		158,479	30,063
			11,681,290	8,076,214
Non-current liabilities				
Other non-trade payables	*4,5,15*		16,104	4,406
Borrowings	*4,5,16,33*		3,546,141	3,394,588
Defined benefit liabilities, net	*19*		-	-
Other non-current liabilities	*17*		76,180	65,763
			3,638,425	3,464,757
Total liabilities			15,319,715	11,540,971
Equity				
Capital stock	*22*		3,657,652	3,657,652
Capital surplus	*22*		4,183,564	4,183,564
Other equity	*22,35*		(2,506,451)	(771,100)
Accumulated other comprehensive loss	*23*		-	(10,735)
Retained earnings	*24*		40,326,128	25,712,494
Total equity			45,660,893	32,771,875
Total liabilities and equity		₩	60,980,608	44,312,846

See accompanying notes to the separate financial statements.

SK HYNIX, INC.

Separate Statements of Comprehensive Income

For the years ended December 31, 2018 and 2017

(In millions of won, except per share information)

	Note		2018	2017
Revenue	*25,32,33*	₩	40,324,651	29,718,939
Cost of sales	*27,32*		15,704,210	12,980,539
Gross profit			24,620,441	16,738,400
Selling and administrative expense	*26,27*		4,041,363	3,397,609
Operating profit			20,579,078	13,340,791
Finance income	*4,28*		1,302,566	843,011
Finance expenses	*4,28*		743,455	1,075,823
Other income	*29*		67,592	76,569
Other expenses	*29*		178,379	112,548
Profit before income tax			21,027,402	13,072,000
Income tax expense	*30*		5,620,316	2,961,203
Profit for the year			15,407,086	10,110,797
Other comprehensive income (loss)				
Item that will never be reclassified to profit or loss:				
Remeasurements of defined benefit liability, net of tax	*19*		(76,715)	3,088
Items that are or may be reclassified to profit or loss:				
Loss on valuation of long-term investment assets, net of tax	*11, 23*		-	(10,735)
Other comprehensive loss for the year, net of tax			(76,715)	(7,647)
Total comprehensive income for the year		₩	15,330,371	10,103,150
Earnings per share	*31*			
Basic earnings per share (in won)	*31*		22,064	14,321
Diluted earnings per share (in won)	*31*		22,062	14,320

See accompanying notes to the separate financial statements.

SK HYNIX, INC.

Separate Statements of Changes in Equity

For the years ended December 31, 2018 and 2017

(In millions of won)

	Note		Capital stock	Capital surplus	Other equity	Accumulated other comprehensive income (loss)	Retained earnings	Total equity
Balance at January 1, 2017		₩	3,657,652	4,183,564	(771,913)	-	16,022,210	23,091,513
Total comprehensive income								
Profit for the year			-	-	-	-	10,110,797	10,110,797
Remeasurements of defined benefit liability, net of tax	*19*		-	-	-	-	3,088	3,088
Loss on valuation of long-term investment assets, net of tax	*11,23*		-	-	-	(10,735)	-	(10,735)
Total comprehensive income			-	-	-	(10,735)	10,113,885	10,103,150
Transactions with owners of the Company								
Dividends paid	*24*		-	-	-	-	(423,601)	(423,601)
Share-based payment transactions	*35*		-	-	813	-	-	813
Transactions with owners of the Company			-	-	813	-	(423,601)	(422,788)
Balance at December 31, 2017		₩	3,657,652	4,183,564	(771,100)	(10,735)	25,712,494	32,771,875
Adjustments on initial application of K-IFRS No.1109	*3*		-	-	-	10,735	(10,735)	-
Balance at January 1, 2018		₩	3,657,652	4,183,564	(771,100)	-	25,701,759	32,771,875
Total comprehensive income						-		
Profit for the year			-	-	-	-	15,407,086	15,407,086
Remeasurements of defined benefit liability, net of tax	*19*		-	-	-	-	(76,715)	(76,715)
Total comprehensive income			-	-	-	-	15,330,371	15,330,371
Transactions with owners of the Company								
Dividends paid	*24*		-	-	-	-	(706,002)	(706,002)
Acquisition of treasury shares			-	-	(1,736,514)	-	-	(1,736,514)
Share-based payment transactions	*35*		-	-	1,163	-	-	1,163
Transactions with owners of the Company			-	-	(1,735,351)	-	(706,002)	(2,441,353)
Balance at December 31, 2018		₩	3,657,652	4,183,564	(2,506,451)	-	40,326,128	45,660,893

See accompanying notes to the separate financial statements.

SK HYNIX, INC.
Separate Statements of Cash Flows
For the years ended December 31, 2018 and 2017

(In millions of won)

	Note		2018	2017
Cash flows from operating activities				
Cash generated from operating activities	*34*	₩	24,753,174	14,201,277
Interest received			68,935	38,564
Interest paid			(122,559)	(117,278)
Dividends received			49,018	17,619
Income tax paid			(3,435,185)	(569,595)
Net cash provided by operating activities			21,313,383	13,570,587
Cash flows from investing activities				
Net change in short-term financial instruments			4,051,380	(2,664,240)
Net change in short-term investment assets			(2,311,496)	(2,241)
Decrease in other financial assets			-	308
Collection of loans and other receivables			17,660	12,604
Increase in loans and other receivables			(15,963)	(15,876)
Proceeds from disposal of long-term investment assets			7,118	3,431
Acquisition of long-term investment assets			(3,945,228)	(24,530)
Cash inflows from derivative transactions			-	902
Cash outflows from derivative transactions			-	(1,201)
Proceeds from disposal of property, plant and equipment			147,869	318,376
Acquisition of property, plant and equipment			(13,840,825)	(8,290,404)
Proceeds from disposal of intangible assets			2,433	985
Acquisition of intangible assets			(899,077)	(765,784)
Receipt of government grants			-	4,900
Net change in investments in subsidiaries (MMT)			(2,108,768)	698,877
Acquisition of investments in subsidiaries			(858,748)	(490,208)
Acquisition of investments in associates			(110,880)	(113,960)
Net cash used in investing activities		₩	(19,864,525)	(11,328,061)

See accompanying notes to the separate financial statements.

(In millions of won)

	Note		2018	2017
Cash flows from financing activities				
Proceeds from borrowings	34	₩	2,402,196	685,084
Repayments of borrowings	34		(1,936,842)	(647,537)
Acquisition of treasury shares			(1,736,514)	-
Dividends paid			(706,002)	(423,601)
Net cash used in financing activities			(1,977,162)	(386,054)
Effect of movements in exchange rates on cash and cash equivalents			(461)	(63,353)
Net increase (decrease) in cash and cash equivalents			(528,765)	1,793,119
Cash and cash equivalents at beginning of the year			2,270,036	476,917
Cash and cash equivalents at end of the year		₩	1,741,271	2,270,036

See accompanying notes to the separate financial statements.

1. Reporting Entity

General information about SK hynix, Inc. ("the Company") is as follows:

The Company manufactures, distributes and sells semiconductor products and its shares have been listed on the Korea Exchange since 1996. The Company's headquarters is located at 2091 Gyeongchung-daero, Bubal-eup, Icheon-si, Gyeonggi-do, South Korea, and the Company has manufacturing facilities in Icheon-si and Cheongju-si, South Korea.

As of December 31, 2018, the shareholders of the Company are as follows:

Shareholder	Number of shares	Percentage of ownership (%)
SK Telecom Co., Ltd.	146,100,000	20.07
National Pension Service	65,890,385	9.05
Other investors	472,011,410	64.84
Treasury shares	44,000,570	6.04
	728,002,365	100.00

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

2. Basis of Preparation

The separate financial statements have been prepared in accordance with Korean International Financial Reporting Standards ("K-IFRS"), as prescribed in the *Act on External Audits of Corporations in the Republic of Korea*.

These financial statements are separate financial statements prepared in accordance with K-IFRS No. 1027, *'Separate Financial Statements'* presented by a parent, an investor in an associate or a venturer in a joint venture, in which the investments are accounted for on the basis of the direct equity interest rather than on the basis of the reported results and net assets of the investees.

The separate financial statements were authorized for issuance by the board of directors on January 23, 2019, which will be submitted for approval at the shareholders' meeting to be held on March 22, 2019.

This is the first set of the Company's annual financial statements in which K-IFRS No. 1115 *'Revenue from Contracts from Customers'* and K-IFRS No. 1109 *'Financial Instrument'* have been applied. Changes to significant accounting policies are described in note 3-(26).

(1) Basis of measurement

The separate financial statements have been prepared on the historical cost basis, except for the following material items in the separate statement 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

(2) Functional and presentation currency

These separate financial statements are presented in Korean won, which is the Company's functional currency and the currency of the primary economic environment in which the Company operates.

(3) Use of estimates and judgments

The preparation of the separate financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

(a) Critical judgments

Information about critical judgments in applying accounting policies that have the most significant effect on the amounts recognized in the separate financial statements is included in the following notes for classification of leases.

2. Basis of Preparation, Continued

(3) Use of estimates and judgments, Continued

(b) Assumptions and estimation uncertainties

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next fiscal year is included in the following notes for reserves in net realizable value of inventories, impairment of development costs and goodwill, recognition and measurement of provisions, measurement of defined benefit obligations, recognition of deferred tax assets, valuation of short and long-term investment assets.

(c) Fair value measurement

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

The valuation department regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation department assesses the evidence obtained from the third parties to support the conclusion that these valuations meet the requirements of IFRS, including the level in the fair value hierarchy in which the valuations should be classified.

The Company reports significant valuation issues to the audit committee.

When measuring the fair value of an asset or a liability, the Company uses observable market data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

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

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

Information about assumptions used for fair value measurements is included in note 5.

3. Significant Accounting Policies

The significant accounting policies applied by the Company in these separate financial statements are explained below. Except for the new accounting standards that are effective for annual periods beginning on or after January 1, 2018, the accounting policies set out below have been applied consistently to all periods presented in these separate financial statements.

(1) Operating segments

The Company presents disclosures relating to operating segments on its consolidated financial statements in accordance with K-IFRS No. 1108, '*Operating Segments*' and such disclosures are not separately disclosed on these separate financial statements.

(2) Investments in subsidiaries and associates

These separate financial statements are prepared and presented in accordance with K-IFRS No. 1027, '*Separate Financial Statements*'. The Company applied the cost method to investments in subsidiaries and associates in accordance with K-IFRS No. 1027. Dividends from a subsidiary or associate are recognized in profit or loss when the right to receive the dividend is established.

(3) 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, and are used by the Company in the management of its short-term commitments.

(4) 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.

3. Significant Accounting Policies, Continued

(5) Non-derivative financial assets

(a) Initial recognition and measurement

Trade and other receivables, and debt investment are initially recognized when they are originated. And other financial assets and financial liabilities are recognized when the Company 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 reclssified 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.

On initial recognition of an equity investment that is not held for trading, the Company 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 Company 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.

3. Significant Accounting Policies, Continued

(5) Non-derivative financial assets, Continued

(b) Classification and subsequent measurements, Continued

The Company 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 Company's continuing recognition of the assets.

For the purposes 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 Company 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 Company 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 Company'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.

3. Significant Accounting Policies, Continued

(5) 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 Company 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 Company neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Company 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.

(d) Offsetting between financial assets and financial liabilities

Financial assets and financial liabilities are offset and the net amount is presented in the separate statement of financial position only when the Company 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.

3. Significant Accounting Policies, Continued

(6) Derivative financial instruments

The Company enters into a derivative financial instruments to manage its exposure to interest. Embedded derivatives are separated from the host contract and accounted for separately only if the host contract is not a financial assets and certain criteria are met.

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and the changes therein are generally recognized in profit or loss.

The Company designates certain derivatives as hedging instruments to hedge the variability in cash flows associated with highly probable forecast transactions arising from changes in interest rates.

At inception of designated hedging relationships, the Company documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Company documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

(7) Impairment of financial assets

(a) Recognition of impairment on financial assets

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

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

The Company's impairment losses are likely to be recognized a lifetime ECL based on the extent of increase in credit risk since inception except for below asset to be recognized loss allowances measured on 12-month.

- 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 Company 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 Company 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 loss that resulted from all possible default events over the expected life of a financial instrument. And 12-month ECLs that resulted from possible default events within the 12 months (or a shorter period if the expected life of the instrument is less than 12 months) after the reporting date. The longest period to consider when measuring expected credit losses is the longest term for which the Company is exposed to credit risk.

3. Significant Accounting Policies, Continued

(7) Impairment of financial assets, Continued

(b) Measurement of ecpected 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 Company expects to receive). ECLs are discounted at the effective interest rate of 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 impaired if objective evidence indicates that the loss event had a negative effect on the estimated future cash flows of that asset that can be estimated reliably.

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 lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider;
- it becoming probable that the borrower will enter bankruptcy or other financial reorganization; or
- the disappearance of an active market for that financial asset because of financial difficulties

(d) Presentation of credit loss allowance on financial position

For loss allowance on financial assets measured at amortized cost is deducted from the carrying amount of the respective assets, while loss allowance on debt instruments at FVOCI is recognized in OCI.

(e) De-recognition

The Company derecognizes 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. The Company assess whether there are reasonable expectations of recovering the contractual cash flows from customers and individually assess the timing and amount of write-off. The Company does not expect that such write-off will be recovered but they may be subject to collection activity according to the Companys past due collection process.

3. Significant Accounting Policies, Continued

(8) 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 Company 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 Company's property, plant and equipment are as follows:

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

(9) Borrowing costs

The Company 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 Company borrows funds specifically for the purpose of obtaining a qualifying asset, the Company 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 Company borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Company 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 Company 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 Company capitalizes during a period does not exceed the amount of borrowing costs incurred during that period.

3. Significant Accounting Policies, Continued

(10) 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 Company's intangible assets are as follows:

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

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 Company 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.

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.

(11) Government grants

Government grants are not recognized unless there is reasonable assurance that the Company 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 Company 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 Company for expenses incurred are recognized in profit or loss by as deduction of the related expenses.

3. Significant Accounting Policies, Continued

(12) 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 Company 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 except for land, are depreciated on a straight-line basis over 10 to 50 years depending on the useful lives.

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.

(13) Impairment of non-financial assets

The carrying amounts of the Company'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 Company estimates the recoverable amount of an individual asset; however if it is impossible to measure the individual recoverable amount of an asset, the Company 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. The value in use is estimated by applying a pre-tax discount rate that reflect 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 in loss 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.

3. Significant Accounting Policies, Continued

(14) Leases

The Company classifies and accounts for leases as either a finance or operating lease, depending on the terms. Leases where the Company assumes substantially all of the risks and rewards of ownership are classified as finance leases. All other leases are classified as operating leases.

(a) Finance leases

At the commencement of the lease term, the Company recognizes as finance lease assets and finance lease liabilities in its separate statements of financial position, the lower amount of the fair value of the leased property and the present value of the minimum lease payments, each determined at the inception of the lease. Any initial direct costs are added to the amount recognized as an asset.

Minimum lease payments are apportioned between the finance expense and the reduction of the outstanding liability. The finance expense is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability. Contingent rents are charged as expenses in the periods in which they are incurred.

The depreciable amount of a leased asset is allocated to each accounting period during the period of expected use on a systematic basis consistent with the depreciation policy the lessee adopts for depreciable assets that are owned. If there is no reasonable certainty that the lessee will obtain ownership by the end of the lease term, the asset is fully depreciated over the shorter of the lease term and its useful life. The Company reviews whether the leased asset is impaired.

(b) Operating leases

Leases where the lessor retains a significant portion of the risks and rewards of ownership are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are recognized in profit or loss on a straight-line basis over the period of the lease.

(c) Determining whether an arrangement contains a lease

Determining whether an arrangement is, or contains, a lease is based on the substance of the arrangement and requires an assessment of whether fulfillment of the arrangement is dependent on the use of a specific asset or assets (the asset) and the arrangement conveys a right to use the asset.

At inception or reassessment of the arrangement, the Company separates payments and other consideration required by such an arrangement into those for the lease and those for other elements on the basis of their relative fair values. If the Company concludes for a financial lease that it is impracticable to separate the payments reliably, the Company recognizes an asset and a liability at an amount equal to the fair value of the underlying asset that was identified as the subject of the lease. Subsequently, the liability is reduced as payments are made and an imputed finance expense on the liability recognized using the purchaser's incremental borrowing rate of interest.

3. Significant Accounting Policies, Continued

(15) Non-derivative financial liabilities

The Company 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 Company recognizes financial liabilities in the separate statement of financial position when the Company 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 Company derecognizes financial liability when its contractual obligations are discharged, cancelled or expired. The Company 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 a 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 of liabilities assumed) is recognized in profit or loss.

(16) 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 Company during an accounting period, the Company 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.

3. Significant Accounting Policies, Continued

(16) Employee benefits, Continued

(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 Company 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.

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 Company 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 Company recognizes gain or loss 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 Company recognizes a liability and expense for termination benefits at the earlier of the period when the Company can no longer withdraw the offer of those benefits and the period when the Company 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.

3. Significant Accounting Policies, Continued

(17) Provisions

Provisions are recognized when the Company 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 Company 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.

(18) Emissions Rights

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

(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 is classified as intangible asset and is 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 Company 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.

3. Significant Accounting Policies, Continued

(19) Foreign currencies

Transactions in foreign currencies are translated to the functional currencies of the Company 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. 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.

(20) 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 Company 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 Company acquires and retains treasury shares, the consideration paid or received is directly recognized in equity.

(21) Share-based payment

The Company has granted shares or share options to its employees. For equity-settled share-based payment transactions, the Company 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 Company cannot reliably estimate the fair value of the goods or services received, the Company 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 Company 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 Company measures the goods or services acquired and the liability incurred at the fair value of the liability. Until the liability is settled, the Company 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.

3. Significant Accounting Policies, Continued

(22) Revenue from contracts with customers

The Company has initially applied K-IFRS No. 1115, *'Revenue from contracts with customers'* from January 1, 2018. The Company's accounting policies relating to revenue from contracts with customers are described in note 25 and the effect of the initial applying of K-IFRS No. 1115 is described in note 3-(26).

(23) Finance income and finance expenses

The Company'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 debt securities carried at amortised cost method; and
- The remeasurement gain on the previously held equity interest at the point of business combination

The Company uses effective interest rate method for recognizing interest income and expense. Dividend income is recognized in profit or loss on the date that the Company'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 amortised 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 amortised cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by appling the effective interest rate to the amortised cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

3. Significant Accounting Policies, Continued

(24) 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 profit 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 taxable profit 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.

The Company 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 Company 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 Company 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 Company expects, at the end of 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.

3. Significant Accounting Policies, Continued

(25) Earnings per share

The Company 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 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 convertible notes.

(26) Changes in accounting policies

The Company has initially adopted K-IFRS No. 1115 *'Revenue from Contracts from Customers'* and K-IFRS No. 1109 *'Financial Instruments'* from January 1, 2018. A number of other new standards are effective from January 1, 2018 and they do not have significant impact on the Company's separate financial statements.

(a) K-IFRS No. 1115, *'Revenue from Contracts with Customers'*

K-IFRS No. 1115 is a comprehensive framework for determining when and how much revenue is recognized. It replaced K-IFRS No. 1018 *'Revenue'*, K-IFRS No. 1011 *'Construction Contract'*, K-IFRS No. 2031 *'Revenue: Barter Transactions Involving Advertising Services'*, K-IFRS No. 2113 *'Customer Loyalty Program'*, K-IFRS No. 2115 *'Agreements for the construction of real estate'* and K-IFRS No. 2118 *'Transfers of assets from customers'*.

The Company has adopted K-IFRS No. 1115, *'Revenue from contracts with customers'* as of January 1, 2018 as the initial application date. The following summarizes the impact on the Company of adopting the standard.

(i) Sales with right of return
In general, the Company's contract with customers allows a customer to return the products. Under K-IFRS No. 1115, the Company initially recognizes revenue, which is measured at the gross transaction price, less the expected level of returns using the guidance on estimating variable considerations and the constraint. The expected level of returns is estimated by using the method the Company expects to better predict the amount of consideration to which it will be entitled. Also, the Company includes an amount of variable consideration in the transaction price only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the return period expires. The Company recognizes the amounts received or receivable for which the Company does not expect to be entitled as a refund liability.

(ii) Delivery of product ("C-terms")
When applying K-IFRS No. 1115, sales of products and delivery of products (i.e. shipping service) are identified as separate performance obligations in the contracts with customers. However, for transactions for which the customer obtains control over the products upon delivery, which is the Company's most common transaction term, those two performance obligations are not separately identified as the control over the products is transferred upon the completion of delivery. However, for the export transactions for which the shipping terms are on shipment basis ("C-terms"), the two performance obligations are separately accounted for because delivery of products is performed after the control over the products is transferred to the customer. The transaction price allocated to the performance obligation of delivery service is recognized when the obligation of delivery of the product is satisfied with the related shipping costs recognized as cost of sales.

3. Significant Accounting Policies, Continued

(26) Change in accounting policies, Continued

(a) K-IFRS No. 1115, *'Revenue from Contracts with Customers'*, Continued

The following tables summarize the impacts of adopting K-IFRS No. 1115 on the separate statement of financial position as of January 1, 2018.

(In millions of won)		December 31, 2017	Adjustments - Sales with right of return	January 1, 2018
Assets				
Current assets				
Other current assets	₩	434,724	26,183	460,907
Others		14,904,206	-	14,904,206
		15,338,930	26,183	15,365,113
Non-current assets		28,973,916	-	28,973,916
Total assets		44,312,846	26,183	44,339,029
Liabilities				
Current liabilities				
Provisions		103,099	(45,148)	57,951
Other current liabilities		30,063	71,331	101,394
Others		7,943,052	-	7,943,052
		8,076,214	26,183	8,102,397
Non-current liabilities		3,464,757	-	3,464,757
Total liabilities		11,540,971	26,183	11,567,154
Total equity		32,771,875	-	32,771,875
Total liabilities and equity	₩	44,312,846	26,183	44,339,029

3. Significant Accounting Policies, Continued

(26) Change in accounting policies, Continued

(a) K-IFRS No. 1115, *'Revenue from Contracts with Customers'*, Continued

Details of the impact on the separate statement of financial position as of December 31, 2018 are as follows:

(In millions of won)		As reported	Adjustments - Sales with right of return	Amounts without adoption of K-IFRS No. 1115
Assets				
Current assets				
Other current assets	₩	582,139	(34,008)	548,131
Others		15,315,680	-	15,315,680
		15,897,819	(34,008)	15,863,811
Non-current assets		45,082,789	-	45,082,789
Total assets		60,980,608	(34,008)	60,946,600
Liabilities				
Current liabilities				
Provisions		67,473	87,560	155,033
Other current liabilities		158,479	(121,568)	36,911
Others		11,455,338	-	11,455,338
		11,681,290	(34,008)	11,647,282
Non-current liabilities		3,638,425	-	3,638,425
Total liabilities		15,319,715	(34,008)	15,285,707
Total equity		45,660,893	-	45,660,893
Total liabilities and equity	₩	60,980,608	(34,008)	60,946,600

3. Significant Accounting Policies, Continued

(26) Change in accounting policies, Continued

(a) K-IFRS No. 1115, *'Revenue from Contracts with Customers'*, Continued

Details of the impact on the statement of comprehensive income year ended December 31, 2018, are as follows:

(In millions of won)

		As reported	Adjustments - Delivery of product	Amounts without adoption of K-IFRS No. 1115
Revenue	₩	40,324,651	-	40,324,651
Cost of sales		15,704,210	(23,424)	15,680,786
Gross profit		24,620,441	23,424	24,643,865
Selling and administrative expense		4,041,363	23,424	4,064,787
Operating profit		20,579,078	-	20,579,078
Finance income		1,302,566	-	1,302,566
Finance expenses		743,455	-	743,455
Other income		67,592	-	67,592
Other expenses		178,379	-	178,379
Profit before income tax		21,027,402	-	21,027,402
Income tax expense		5,620,316	-	5,620,316
Profit for the period		15,407,086	-	15,407,086
Other comprehensive loss		(76,715)	-	(76,715)
Total comprehensive income for the period	₩	15,330,371	-	15,330,371

3. Significant Accounting Policies, Continued

(26) Change in accounting policies, Continued

(b) K-IFRS No. 1109, *'Financial Instruments'*

K-IFRS No. 1109, *'Financial Instruments'* sets out requirements for recognizing and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items. This standard replaces K-IFRS No. 1039, *'Financial Instrument: Recognition and Measurement*'. The Company has taken advantage of the exemption allowing it not to restate the comparative information for prior periods with respect to classification and measurement (including impairment) changes.

The following table summarizes the impact of transition to K-IFRS No. 1109 on the opening balance of equity as of January 1, 2018.

(In millions of won)

		Accumulated other comprehensive income (loss)	**Retained earnings**
Beginning equity under K-IFRS No. 1039	₩	(10,735)	25,712,494
Reclassification from available-to-sale to FVTPL		10,735	(10,735)
Beginning equity under K-IFRS No. 1109	₩	-	25,701,759

Details of reclassification of the financial asset categories upon adoption of K-IFRS No. 1109, which was initially adopted as of January 1, 2018, are as follows:

(In millions of won)

	Original Classification according to K-IFRS No. 1039	**New Classification according to K-IFRS No. 1109**		**Original carrying amount in accordance with K-IFRS No. 1039**	**New Carring amount in accordance with K-IFRS No. 1109**
Cash and cash equivalents	Loans and receivables	Amortized cost	₩	2,270,036	2,270,036
Short-term financial instruments	Loans and receivables	Amortized cost		4,528,880	4,528,880
Short-term investment assets	Financial assets at fair value through profit or loss	FVTPL		580,449	580,449
Trade receivables	Loans and receivables	Amortized cost		5,259,052	5,259,052
Other receivables	Loans and receivables	Amortized cost		70,649	70,649
Other financial assets	Loans and receivables	Amortized cost		11	11
Long-term investment assets[1]	Available-for-sale financial assets	FVTPL		37,593	37,593
			₩	12,746,670	12,746,670

[1] As of January 1, 2018, available-for-sale financial assets for equity investments amounting to ₩37,593 million were reclassified to financial assets measured at FVTPL. As the contractual terms of these assets do not give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding, these assets were not designated as financial assets measured at amortized cost. As a result of this reclassification, as at January 1, 2018, other comprehensive loss of ₩10,735 million was reclassified to retained earnings. There was no change in fair value of these financial assets for the year ended December 31, 2018.

3. Significant Accounting Policies, Continued

(27) Standards issued but not yet effective

The following new standards, amendments to standards are effective for annual periods beginning after January 1, 2018 and earlier application is permitted; however, the Company has not early adopted them in preparing these separate financial statements.

(a) K-IFRS No. 1116, '*Leases*'

K-IFRS No. 1116 introduces a comprehensive model for the identification of lease arrangements and accountings treatments for both lessors and lessees. K-IFRS No. 1116 will supersede the current lease guidance including K-IFRS No. 1017 Leases and the related interpretations when it becomes effective. The Company plans to apply K-IFRS No.1116 initially on January 1, 2019 using the modified retrospective approach. Therefore, the cumulative effect of adopting K-IFRS No.1116 will be recognized as an adjustment to the opening balance of retained earnings at January 1, 2019 with no restatement of comparative information.

K-IFRS No. 1116 distinguishes leases and service contracts on the basis of whether an identified asset is controlled by a customer. Distinctions of operating leases and finance leases are removed for lessee accounting, and is replaced by model where a right-of-use asset and corresponding liability have to be recognized for all leases by lessees except for short-term leases and leases of low value assets.

The right-of-use asset is initially measured at cost and subsequently measured at cost (subject to certain exceptions) less accumulated depreciation and impairment losses, adjusted for any remeasurement of the lease liability. The lease liability is initially measured at the present value of the lease payments that are not paid at that date. Subsequently, the lease liability is adjusted for interest and lease payments, as well as the impact of lease modifications, amongst others.

Furthermore, the classification of cash flows will also be affected as operating lease payments under K-IFRS No. 1017 are presented as operating cash flows; whereas under the K-IFRS No. 1116 model, the lease payments will be split into a principal and an interest portion which will be presented as financing and operating cash flows respectively.

In contrast to lessee accounting, K-IFRS No. 1116 substantially carries forward the lessor accounting requirements in K-IFRS No. 1017, and continues to require a lessor to classify a lease either as an operating lease or a finance lease.

As of December 31, 2018, the Company has non-cancellable operating lease commitments. A preliminary assessment indicates that these arrangements will meet the definition of a lease under K-IFRS No. 1116, and hence the Company will recognize a right-of-use asset and a corresponding liability in respect of all these leases unless they qualify for low value or short-term leases upon the application of K-IFRS No. 1116. The new requirement to recognize a right-of use asset and a related lease liability is expected to have a significant impact on the amounts recognized in the Company's separate financial statements and the Company is currently assessing its potential impact.

As of the end of reporting period, 1) for finance leases where the Company is a lessee and 2) for operating leases or finance leases where the Company is a lessor, it is unable to estimate the impact of the application of K-IFRS No. 1116 on the amounts recognized in the Company's financial statements.

3. Significant Accounting Policies, Continued

(27) Standards issued but not yet effective, Continued

(b) Other amendments
Management does not expect the following standards and interpretation will have a material impact on the Company's financial statement.

- K-IFRIC No. 2123 '*Uncertainty Over Income Tax Treatments*'
- K-IFRS No. 1109 '*Financial Instruments*' - Prepayment features with negative compensation
- K-IFRS No. 1028 '*Investment in Associates*' - Long term Interests in Associates and Joint Ventures
- K-IFRS No. 1019 '*Employee Benefit*' – Plan Amendment, Curtailment or Settlement
- Annual Improvements to K-IFRS 2015-2017 Cycle
- *Amendment of 'Conceptual Framework for Financial Reporting'*
- K-IFRS No. 1117 *'Insurance Contract'*

4. Categories of Financial Instruments

(1) Categories of financial assets as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018		
		Financial assets at fair value through profit or loss	**Financial assets at amortized cost**	**Total**
Cash and cash equivalents	₩	-	1,741,271	1,741,271
Short-term financial instruments		-	477,500	477,500
Short-term investment assets		2,919,140	-	2,919,140
Trade receivables		-	6,436,794	6,436,794
Loans and other receivables		-	52,248	52,248
Other financial assets		-	11	11
Long-term investment assets		4,249,518	-	4,249,518
	₩	7,168,658	8,707,824	15,876,482

(In millions of won)

		2017			
		Financial assets at fair value through profit or loss	**Available-for-sale financial assets**	**Loans and receivables**	**Total**
Cash and cash equivalents	₩	-	-	2,270,036	2,270,036
Short-term financial instruments[1]		-	-	4,528,880	4,528,880
Short-term investment assets[1]		580,449	-	-	580,449
Trade receivables		-	-	5,259,052	5,259,052
Loans and other receivables		-	-	70,649	70,649
Other financial assets		-	-	11	11
Long-term investment assets[1]		-	37,593	-	37,593
	₩	580,449	37,593	12,128,628	12,746,670

[1] Short-term financial instruments and available-for-sale financial assets as of December 31, 2017 were reclassified to conform with the classification as of December 31, 2018.

4. Categories of Financial Instruments, Continued

(2) Categories of financial liabilities as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018
		Financial liabilities measured at amortized cost
Trade payables	₩	1,505,170
Other payables		2,686,520
Other non-trade payables		1,720,870
Borrowings		4,574,311
	₩	10,486,871

(In millions of won)

		2017
		Financial liabilities measured at amortized cost
Trade payables	₩	1,107,029
Other payables		2,642,022
Other non-trade payables		1,209,214
Borrowings		4,029,356
	₩	8,987,621

4. Categories of Financial Instruments, Continued

(3) Details of gain and loss on financial assets and liabilities by category for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017[1]
Financial assets at amortized cost			
Interest income	₩	51,761	49,700
Foreign exchange differences		463,703	(615,109)
Reversal of impairment		4	1,452
		515,468	(563,957)
Financial assets at fair value through profit or loss			
Dividend income		2,121	-
Gain on disposal		23,559	38,238
Gain on valuation		190,857	449
Foreign exchange differences		122,375	-
		338,912	38,687
Financial liabilities measured at amortized cost			
Interest expenses		(90,907)	(120,624)
Foreign exchange differences		(251,235)	396,927
		(342,142)	276,303
Financial liabilities at fair value through profit or loss			
Loss on transaction from derivative instruments		-	(11)
	₩	512,238	(248,978)

[1] Gain and loss on financial assets and liabilities for the years ended December 31, 2017 were reclassified to conform with the classification for the year ended December 31, 2018.

5. Financial Risk Management

(1) Financial risk management

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

Risk management is carried out by the corporate finance division in accordance with policies approved by the board of directors. The Company's corporate finance division identifies, evaluates and hedges financial risks in close cooperation with the Company'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, credit risk; use of derivative financial instruments and non-derivative financial instruments; and the investment of excess liquidity.

(a) Market risk

(i) Foreign exchange risk

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

Monetary foreign currency assets and liabilities as of December 31, 2018 are as follows:

(In millions of won and millions of foreign currencies)

	Assets		Liabilities	
	Foreign currencies	Korean won equivalent	Foreign currencies	Korean won equivalent
USD	6,775	7,574,845	2,746	3,070,044
EUR	1	1,690	133	170,480
JPY	863	8,746	150,982	1,529,721

As of December 31, 2018, effects on profit before income tax as a result of change in exchange rate by 10% are as follows:

(In millions of won)

		If increased by 10%	If decreased by 10%
USD	₩	450,480	(450,480)
EUR		(16,879)	16,879
JPY		(152,098)	152,098

5. Financial Risk Management, Continued

(1) Financial risk management, Continued

(a) Market risk, Continued

(ii) Interest rate risk

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

As of December 31, 2018, the Company is partially exposed to a risk of increase in interest rates. If interest rates on borrowings were 100 basis points higher/lower with all other variables held constant, profit before income tax for the following year would be ₩20,516 million (2017: ₩19,178 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 Company invests in equity and debt securities resulted from its business needs and the purpose of liquidity management. The Company's equity and debt securities are exposed to price risk as of December 31, 2018.

(b) Credit risk

Credit risk is the risk of financial loss to the Company 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 Company periodically evaluates the credit worthiness of each customer or counterparty through the analysis of its financial information, historical transaction records and other factors, based on which the Company establishes credit limits for each customer or counterparty.

(i) Trade and other receivables

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

The Company reviews at the end of each reporting period whether trade and other receivables are impaired and maintains credit insurance policies to manage credit risk exposure from oversea customers. The maximum exposure to credit risk as of December 31, 2018 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; and deposits with banks and financial institutions as well as 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, 2018 is the carrying amount of those financial assets. The Company transacts only with banks and financial institutions with high credit ratings, and accordingly management does not expect any significant losses from non-performance by the counterparties.

5. Financial Risk Management, Continued

(1) Financial risk management, Continued

(c) Liquidity risk

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

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

Contractual maturities of financial liabilities as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018				
		Less than 1 year	1 - 2 years	2 - 5 years	More than 5 years	Total
Borrowings[1]	₩	1,126,900	976,113	2,570,868	94,208	4,768,089
Finance lease liabilities		10,379	10,379	31,137	24,369	76,264
Trade payables		1,505,170	-	-	-	1,505,170
Other payables		2,686,520	-	-	-	2,686,520
Other non-trade payables		1,689,911	1,096	9,265	-	1,700,272
Financial guarantee contract		4	-	-	-	4
	₩	7,018,884	987,588	2,611,270	118,577	10,736,319

(In millions of won)

		2017				
		Less than 1 year	1 - 2 years	2 - 5 years	More than 5 years	Total
Borrowings[1]	₩	732,770	1,155,876	2,247,391	80,505	4,216,542
Finance lease liabilities		10,379	10,379	31,137	34,748	86,643
Trade payables		1,107,029	-	-	-	1,107,029
Other payables		2,642,360	-	-	-	2,642,360
Other non-trade payables		1,182,008	-	4,406	-	1,186,414
Financial guarantee contract		8	-	-	-	8
	₩	5,674,554	1,166,255	2,282,934	115,253	9,238,996

[1] The cash flow includes payment of interest under terms and condition of borrowing contracts and excludes the amount of finance lease liabilities

5. Financial Risk Management, Continued

(1) Financial risk management, Continued

(c) Liquidity risk, Continued

The table above analyzes the Company's non-derivative 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.

(2) Capital management

The Company's objectives when managing capital are to safeguard the Company'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 Company may adjust the amount of dividends to shareholders, proceeds and repayments of borrowings, issue new shares or sell assets to reduce debt.

The debt-to-equity ratio and net borrowing ratio as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Total liabilities (A)	₩	15,319,715	11,540,971
Total equity (B)		45,660,893	32,771,875
Cash and cash equivalents; short-term financial instruments; and short-term investment asset (C)		5,137,911	7,379,365
Total borrowings (D)		4,574,311	4,029,356
Debt-to-equity ratio (A/B)		33.55%	35.22%
Net borrowing ratio (D-C)/B[1]		-	-

[1] Does not present net borrowing ratio as of December 31, 2018 and 2017 as the ratio was calculated as negative.

5. Financial Risk Management, Continued

(3) Fair value

Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in valuation techniques as follows:
- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

(a) The following table presents the carrying amounts and fair values of financial instruments by categories, including their levels in the fair value hierarchy, as of December 31, 2018 and 2017:

(In millions of won)

		2018			
	Carrying amounts	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Short-term investment assets	₩ 2,919,140	-	2,919,140	-	2,919,140
Long-term investment assets	4,249,518	-	-	4,249,518	4,249,518
	7,168,658	-	2,919,140	4,249,518	7,168,658
Financial assets not measured at fair value					
Cash and cash equivalents[1]	1,741,271	-	-	-	-
Short-term financial instruments[1]	477,500	-	-	-	-
Trade receivables[1]	6,436,794	-	-	-	-
Loans and other receivables[1]	52,248	-	-	-	-
Other financial assets[1]	11	-	-	-	-
	8,707,824	-	-	-	-
Financial liabilities not measured at fair value					
Trade payables[1]	1,505,170	-	-	-	-
Other payables[1]	2,686,520	-	-	-	-
Other non-trade payables[1]	1,720,870	-	-	-	-
Borrowings	4,574,311	-	4,592,699	-	4,592,699
	₩ 10,486,871	-	4,592,699	-	4,592,699

[1] Does not include fair values of financial assets and liabilities of which fair values have not been measured as carrying amounts are reasonable approximation of fair values.

5. Financial Risk Management, Continued

(3) Fair value, Continued

(In millions of won)

		2017			
	Carrying amounts	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Short-term investment assets	₩ 580,449	-	580,449	-	580,449
Long-term investment assets	37,593	-	-	37,593	37,593
	618,042	-	580,449	37,593	618,042
Financial assets not measured at fair value					
Cash and cash equivalents[1]	2,270,036	-	-	-	-
Short-term financial instruments[1]	4,528,880	-	-	-	-
Trade receivables[1]	5,259,052	-	-	-	-
Loans and other receivables[1]	70,649	-	-	-	-
Other financial assets[1]	11	-	-	-	-
	12,128,628	-	-	-	-
Financial liabilities not measured at fair value					
Trade payables[1]	1,107,029	-	-	-	-
Other payables[1]	2,642,022	-	-	-	-
Other non-trade payables[1]	1,209,214	-	-	-	-
Borrowings	4,029,356	-	4,037,013	-	4,037,013
	₩ 8,987,621	-	4,037,013	-	4,037,013

[1] Does not include fair values of financial assets and liabilities of which fair values have not been measured as carrying amounts are reasonable approximation of fair values.

5. Financial Risk Management, Continued

(3) Fair value, Continued

(b) 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:

(In millions of won)

		Fair value	Level	Valuation Techniques
Financial assets at fair value through profit or loss:				
Short-term investment assets	₩	2,919,140	2	Present value technique
Long-term investment assets		4,249,518	3	Present value technique and others

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 ₩2,721,554 million and BCPE Pangea Cayman2 Limited ("SPC2") amounting to ₩1,461,451 million in connection with the acquisition of Toshiba Corporation’s semiconductor memory business, or Toshiba Memory Corporation ("TMC") (see note 11). The fair value of the long-term investments is measured based on the equity value of the underlying asset, TMC, which is based on estimated future cash flows based on expected sales and cost structures, and discounted at weighted average capital costs, considering capital structures.

The fair value of equity investment in SPC1 is measured using probability-weighted expected return method that represents the probability-weighted average of possible future cash flows. The fair values of different scenarios (such as initial public offering, merger and acquisition, and liquidation) are determined using either market approach, option-pricing method or present value method based on the TMC's equity value. TMC's estimated equity value is allocated to shareholder’s value of each class of shares depending the capital structure of the investment. For the allocation, a waterfall approach is used, which allocates value based on the distribution priority described in SPC1 investment agreement depending on the nature of liquidity transaction or an ultimate liquidation.

The fair value of debt investment in SPC2 convertible bonds is measured based on TMC's equity value, in combination of the value of debenture and the value of conversion right using binomial model.

5. 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 won)

		Fair value	Valuation Techniques	Level 3 inputs	Input Range
Equity investment in SPC1	₩	2,721,554	Present value technique, probability-weighted expected return method, market approach, and option-pricing method	Terminal growth rate	0%
				Weighted-average capital cost	8.7%
				EV/EBITDA multiples	4.6 ~ 5.3
				Cost of equity	10.3%
SPC2 convertible bonds		1,461,451	Present value technique and binomial model	Terminal growth rate	0%
				Weighted-average capital cost	8.7%
				Volatility	18.4%
				Risk free rate	0.13%

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

Any positive or negative changes in the above inputs will have a 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. The changes in these key inputs may have a significant impact on the fair value of investments in SPC1 and SPC2.

5. Financial Risk Management, Continued

(3) Fair value, Continued

(c) There was no transfer between fair value hierarchy levels for the year ended December 31, 2018 and the changes in financial assets classified as level 3 fair value measurements during the year ended December 31, 2018 are as follows:

(In millions of won)

		Beginning Balance[1]	Acquisition	Disposals	Gain on Valuation	Foreign Exchange Differences	Ending Balance
Long-term investment assets	₩	37,593	3,945,228	(1,614)	181,717	86,594	4,249,518

[1] Beginning balance includes equity instruments amounting to ₩27,340 million which do not have quoted price in an active market for the identical instruments (inputs for level 1). Those are measured at cost in accordance with K-IFRS No. 1039, *'Financial Instrument: Recognition and Measurement'* as fair values of such equity instruments cannot be reliably measured using other valuation techniques as of December 31, 2018.

6. Restricted Financial Instruments

Details of restricted financial instruments as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017	Description
Short-term financial instruments	₩	227,500	227,500	Restricted for supporting small businesses
Other financial assets		11	11	Bank overdraft guarantee deposit
	₩	227,511	227,511	

7. Trade Receivables and Loans and Other Receivables

(1) Details of trade receivables as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Trade receivables	₩	50,089	115,782
Trade receivables to be collected from related parties		6,386,705	5,143,270
		6,436,794	5,259,052

(2) Details of loans and other receivables as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Current			
Other receivables	₩	15,818	15,348
Accrued income		3,456	20,630
Short-term loans		180	5,071
		19,454	41,049
Non-current			
Long-term loans		1,531	2,160
Guarantee deposits		31,263	27,440
		32,794	29,600
	₩	52,248	70,649

(3) Trade receivables and loans and other receivables, net of provision for impairment, as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018		
		Gross amount	Provision for impairment	Carrying amount
Trade receivables	₩	6,436,794	-	6,436,794
Current loans and other receivables		20,736	(1,282)	19,454
Non-current loans and other receivables		32,896	(102)	32,794
	₩	6,490,426	(1,384)	6,489,042

(In millions of won)

		2017		
		Gross amount	Provision for impairment	Carrying amount
Trade receivables	₩	5,259,052	-	5,259,052
Current loans and other receivables		42,335	(1,286)	41,049
Non-current loans and other receivables		29,702	(102)	29,600
	₩	5,331,089	(1,388)	5,329,701

7. Trade Receivables and Loans and Other Receivables, Continued

(4) Details of provision for impairment

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

(In millions of won)

		2018	2017
Beginning balance	₩	-	1,069
Reversal		-	(1,069)
Ending balance	₩	-	-

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

(In millions of won)

		2018	2017
Beginning balance	₩	1,286	1,371
Reversal		(4)	(85)
Ending balance	₩	1,282	1,286

Movements in the provision for impairment of non-current loans and other receivables for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Beginning balance	₩	102	399
Reversal		-	(297)
Ending balance	₩	102	102

7. Trade Receivables and Loans and Other Receivables, Continued

(5) The aging analyses of trade receivables and loans and other receivables as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018					
		Not impaired					
			Overdue				
		Not past due	Less than 3 months	Over 3 months and less than 6 months	Over 6 months	Impaired	Total
Trade receivables	₩	6,436,794	-	-	-	-	6,436,794
Current loans and other receivables		19,454	-	-	-	1,282	20,736
Non-current loans and other receivables		32,794	-	-	-	102	32,896
	₩	6,489,042	-	-	-	1,384	6,490,426

(In millions of won)

		2017					
		Not impaired					
			Overdue				
		Not past due	Less than 3 months	Over 3 months and less than 6 months	Over 6 months	Impaired	Total
Trade receivables	₩	5,257,491	1,560	-	1	-	5,259,052
Current loans and other receivables		41,049	-	-	-	1,286	42,335
Non-current loans and other receivables		29,600	-	-	-	102	29,702
	₩	5,328,140	1,560	-	1	1,388	5,331,089

8. Inventories

(1) Details of inventories as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018		
		Acquisition Cost	**Inventory valuation allowance**	**Carrying amount**
Finished goods	₩	1,312,745	(106,701)	1,206,044
Work-in-process		2,048,275	(207,462)	1,840,813
Raw materials		407,127	(23,346)	383,781
Supplies		284,180	(6,820)	277,360
Goods in transit		13,523	-	13,523
	₩	4,065,850	(344,329)	3,721,521

(In millions of won)

		2017		
		Acquisition Cost	**Inventory valuation allowance**	**Carrying amount**
Finished goods	₩	520,895	(105,601)	415,294
Work-in-process		1,432,927	(29,096)	1,403,831
Raw materials		251,791	(25,960)	225,831
Supplies		176,006	(7,040)	168,966
Goods in transit		10,818	-	10,818
	₩	2,392,437	(167,697)	2,224,740

(2) The amount of the inventories recognized as cost of sales and loss on valuation allowance of inventories charged to cost of sales for the years ended December 2018 and 2017 are as follows:

(In millions of won)

		2018	**2017**
Inventories recognized as cost of sales	₩	15,561,633	12,906,368
Loss on valuation allowance of inventories		176,632	107,047

9. Other Current and Non-current Assets

Details of other current and non-current assets as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Current			
Advance payments	₩	92,704	33,859
Prepaid expenses		243,320	205,823
Value added tax refundable		211,899	191,996
Contract assets		34,008	-
Others		208	3,046
		582,139	434,724
Non-current			
Long-term advance payments		96,817	183,489
Long-term prepaid expenses		525,136	551,597
		621,953	735,086
	₩	1,204,092	1,169,810

10. Investments in Subsidiaries, Associates and Joint Ventures

(1) Investments in subsidiaries, associates and joint ventures as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Investments in subsidiaries	₩	7,411,833	4,426,309
Investments in associates and joint ventures		462,851	351,971
	₩	7,874,684	4,778,280

(2) Details of investments in subsidiaries as of December 31, 2018 and 2017 are as follows:

(In millions of won)

	Location	Percentage of ownership (%) in 2018		Book value 2018	Book value 2017
SK hyeng Inc.	Korea	100.00	₩	7,521	7,521
SK hystec Inc.	Korea	100.00		6,760	6,760
Siliconfile Technologies Inc. [1]	Korea	-		-	30,756
Happymore Inc.	Korea	100.00		7,400	7,400
SK hynix system ic Inc. [1,2]	Korea	100.00		404,928	290,172
Happynarae Co., Ltd. [3]	Korea	100.00		63,147	-
SK hynix America Inc.	U.S.A.	97.74		31	31
SK hynix Deutschland GmbH	Germany	100.00		22,011	22,011
SK hynix Asia Pte. Ltd.	Singapore	100.00		52,380	52,380
SK hynix Semiconductor Hong Kong Ltd.	Hong Kong	100.00		32,623	32,623
SK hynix U.K. Ltd.	U.K.	100.00		1,775	1,775
SK hynix Semiconductor Taiwan Inc.	Taiwan	100.00		37,562	37,562
SK hynix Japan Inc.	Japan	100.00		42,905	42,905
SK hynix Semiconductor (Shanghai) Co., Ltd.	China	100.00		4,938	4,938
SK hynix Semiconductor India Private Ltd.	India	1.00		5	5
SK hynix (Wuxi) Semiconductor Sales Ltd.	China	100.00		237	237
SK hynix Semiconductor (China) Ltd. [4,5]	China	100.00		3,533,222	2,847,911
SK hynix Semiconductor (Wuxi) Ltd. [4]	China	-		-	238,271
SK hynix Italy S.r.l	Italy	100.00		18	18
SK hynix memory solutions America Inc. [6]	U.S.A.	100.00		311,283	311,283
SK hynix memory solutions Taiwan Ltd. [7]	Taiwan	100.00		7,819	7,819
SK hynix memory solutions Eastern Europe LLC. [8]	Belarus	99.93		14,579	14,579
SK APTECH Ltd. [9]	Hong Kong	100.00		373,300	166,299
SK hynix Ventures Hong Kong Ltd. [10]	Hong Kong	100.00		60,613	3,053
MMT (Money Market Trust) [11]	Korea	100.00		2,426,776	300,000
			₩	7,411,833	4,426,309

[1] SK hynix system ic Inc. merged Siliconfile Technologies Inc. during the year ended December 31, 2018.
[2] Additional acquisition of ₩84,000 million occurred due to capital contribution during the year ended December 31, 2018.
[3] The Company obtained control over Happynare Co., Ltd. as of December 28, 2018 by acquisition of 100% its shares from SK telecom Co., Ltd and others.
[4] SK hynix Semiconductor (China) Ltd. merged SK hynix Semiconductor (Wuxi) Ltd. during the year ended December 31, 2018.
[5] Additional acquisition of ₩447,040 million occurred due to capital contribution during the year ended December 31, 2018.

10. Investments in Subsidiaries, Associates and Joint Ventures, Continued

(2) Details of investments in subsidiaries as of December 31, 2018 and 2017 are as follows, Continued:

[6] Name of the subsidiary is changed from SK hynix memory solutions Inc. to SK hynix memory solutions America Inc. during the year ended December 31, 2018.
[7] Name of the subsidiary is changed from SK hynix Flash Solution Taiwan to SK hynix memory solutions Taiwan Ltd. during the year ended December 31, 2018.
[8] Name of the subsidiary is changed from Softeq Flash Solutions LLC. To SK hynix memory solutions Eastern Europe LLC. during the year ended December 31, 2018.
[9] Additional acquisition of ₩207,001 million occurred due to capital contribution during the year ended December 31, 2018.
[10] Additional acquisition of ₩57,560 million occurred due to capital contribution during the year ended December 31, 2018.
[11] The Company disposed all existing MMT and acquired new MMT during the year ended December 31, 2018.

(3) Details of investments in associates and joint ventures as of December 31, 2018 and 2017 are as follows:

(In millions of won)

Type	Investee	Ownership (%) in 2018		Carrying amount 2018	Carrying amount 2017
Associate	Stratio, Inc. [1]	9.12	₩	2,194	2,194
	SK China Company Limited [1]	11.87		257,169	257,169
	SK South East Asia Investment Pte. Ltd. [2]	20.00		110,880	-
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	45.00		92,608	92,608
			₩	462,851	351,971

[1] The Company 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 associate.
[2] The Company acquired 20.00% shares in SK South East Asia Investment Pte. Ltd. during the year ended December 31, 2018. The investments have been classified as associate as the Company is able to exercise significant influence.

11. Long-term investment assets

(1) Details of Long-term investment assets as of December 31, 2018 and 2017 are as follows:

(In millions of won)

	2018			2017
	Ownership (%)/ Type	Acquisition cost	Book value	Book value
ProMOS Technologies Inc.	0.88	₩ 21,847	-	-
JNT Frontier Private Equity Unit	Certificate	684	684	684
Daishin Aju IB Investment Co., Ltd. Equity Unit	Certificate	453	453	483
Seoul Investment Early & Green Venture Fund	Certificate	1,180	1,180	1,513
TS 2011-4 Technology Transfer & Business Equity Unit	Certificate	144	144	318
L&S Venture Capital Equity Unit	Certificate	1,121	1,121	1,170
KTC-NP-Growth Equity Unit	Certificate	1,685	1,685	2,155
Intellectual Discovery, Ltd.	7.05	4,000	1,376	1,699
Semiconductor Growth Fund	Certificate	25,000	24,878	17,250
Exnodes Inc.	Convertible Bond	716	716	716
Keyssa, Inc.	2.26	6,174	838	832
MEMS DRIVE, INC.	2.86	2,246	919	844
CHINA WALDEN VENTURE INVESTMENTS II, L.P.	Certificate	7,611	7,611	6,116
AutoTech Fund I, L.P.	Certificate	2,871	2,789	1,444
IMEC.XPAND COMM.VA	Certificate	1,607	1,607	1,607
RENO SUB-SYSTEM, INC.	2.68	2,246	226	204
NetSpeed Systems, Inc.[1]	-	-	-	558
CHINA WALDEN VENTURE INVESTMENTS III, L.P.	Certificate	3,470	3,487	-
TransLinK Capital Partners IV L.P.	Certificate	1,627	1,627	-
Impact venture Capital I, LP	Certificate	2,199	2,707	-
BCPE Pangea Intermediate Holdings Cayman, L.P.[2]	Certificate	2,637,097	2,721,554	-
BCPE Pangea Cayman2 Limited[2]	Convertible Bond	1,278,893	1,461,451	-
FemtoMetrix, Inc	Convertible Bond	3,209	3,209	-
TidalScale, Inc	4.26	3,360	3,360	-
GigaIO Networks, Inc	6.00	1,678	1,678	-
Aeye, Inc.	1.50	2,819	2,819	-
AutoTech Fund II, L.P.	Certificate	281	281	-
Nautilus Ventures Partners Fund II, L.P.	Certificate	1,118	1,118	-
		₩ 4,015,336	4,249,518	37,593

[1]The Company sold whole amount of NetSpeed Systems, Inc.'s preferred stock (book value of ₩558 million) and recognized the gain on disposal of long-term investment assets with amount of ₩5,255 million during the year ended December 31, 2018.

11. Long-term investment assets, Continued

(1) Details of Long-term investment assets as of December 31, 2018 and 2017 are as follows, Continued:

[2] In 2017, pursuant to the approval from the Board of Directors, the Company participated in a consortium that includes Bain Capital ("Bain Consortium") in connection with the acquisition of a stake in TMC. During the year ended December 31, 2018, the acquisition of TMC was completed and the Company made investment amounting to JPY 266,000 million in SPC1, which holds equity interests in TMC, as a limited partner and acquired convertible bonds of JPY 129,000 million issued by SPC2, which may be later convertible to 15% stake in TMC upon certain events. The Company does not control or have any significant influence on SPC1 or SPC 2 as its management and decision-making rights for SPC1 and SPC2 are limited. Accordingly, the investments in both SPC1 and SPC2 are accounted for as debt instruments and classified as financial assets measured at fair value through profit or loss.

(2) Changes in the carrying amount of long-term investment assets for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Beginning balance	₩	37,593	143,590
Acquisition		3,945,228	24,530
Disposal		(1,614)	(115,720)
Gain(Loss) on valuation		181,717	(10,735)
Foreign exchange difference		86,594	(4,072)
Ending balance	₩	4,249,518	37,593

12. Property, Plant and Equipment

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

(In millions of won)

		2018							
		Land	**Buildings**	**Structures**	**Machinery**	**Vehicles**	**Others**	**Construction-in-progress**	**Total**
Beginning net book amount	₩	577,877	2,688,853	645,389	14,237,939	661	369,452	2,802,772	21,322,943
Changes during 2018									
Acquisitions		278,813	784,443	325,931	9,307,943	10,835	274,980	2,732,543	13,715,488
Disposals		-	(25,106)	(2,398)	(124,471)	-	(378)	(28,562)	(180,915)
Depreciation		-	(130,148)	(49,289)	(4,687,495)	(817)	(148,097)	-	(5,015,846)
Transfers[1]		124,290	640,108	81,447	1,427,834	-	15,133	(2,287,828)	984
Ending net book amount		980,980	3,958,150	1,001,080	20,161,750	10,679	511,090	3,218,925	29,842,654
Acquisition cost		980,980	4,819,978	1,375,767	47,077,791	12,755	1,306,913	3,218,925	58,793,109
Accumulated depreciation		-	(838,129)	(355,583)	(26,752,065)	(2,076)	(795,802)	-	(28,743,655)
Accumulated impairment		-	(23,699)	(19,104)	(160,317)	-	(21)	-	(203,141)
Government grants		-	-	-	(3,659)	-	-	-	(3,659)
	₩	980,980	3,958,150	1,001,080	20,161,750	10,679	511,090	3,218,925	29,842,654

[1] Investment property was transferred to property, plant and equipment during the year ended December 31, 2018.

12. Property, Plant and Equipment, Continued

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

(In millions of won)

		2017							
		Land	Buildings	Structures	Machinery	Vehicles	Others	Construction-in-progress	Total
Beginning net book amount	₩	571,924	2,260,102	315,476	11,083,284	918	351,223	1,488,354	16,071,281
Changes during 2017									
Acquisitions		7,677	196,675	258,856	6,110,034	55	136,294	2,665,669	9,375,260
Disposals		(2,220)	-	(2,962)	(244,054)	-	(101)	(46,690)	(296,027)
Depreciation		-	(98,027)	(33,644)	(3,517,102)	(312)	(123,237)	-	(3,772,322)
Transfers		496	330,103	107,663	852,420	-	5,674	(1,296,356)	-
Others		-	-	-	(46,643)	-	(401)	(8,205)	(55,249)
Ending net book amount		577,877	2,688,853	645,389	14,237,939	661	369,452	2,802,772	21,322,943
Acquisition cost		577,877	3,425,917	980,859	37,131,679	1,920	1,026,747	2,802,772	45,947,771
Accumulated depreciation		-	(713,365)	(316,366)	(22,727,928)	(1,259)	(657,270)	-	(24,416,188)
Accumulated impairment		-	(23,699)	(19,104)	(161,305)	-	(25)	-	(204,133)
Government grants		-	-	-	(4,507)	-	-	-	(4,507)
	₩	577,877	2,688,853	645,389	14,237,939	661	369,452	2,802,772	21,322,943

(2) Details of depreciation expense allocation for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Cost of sales	₩	4,563,485	3,395,214
Selling and administrative expenses		339,227	268,982
Other expenses		5,962	2,661
Development costs and other		107,172	105,465
	₩	5,015,846	3,772,322

(3) Certain property, plant and equipment are pledged as collaterals for borrowings of the Company as of December 31, 2018 (see note 33).

(4) The Company capitalized borrowing costs amounting to ₩33,086 million (2017: ₩3,964 million) on qualifying assets for the year ended December 31, 2018. Borrowing costs were calculated using a capitalization rate of 3.08% (2017: 1.53%) for the year ended December 31, 2018.

12. Property, Plant and Equipment, Continued

(5) The Company leases certain machinery and others from Hansu Technical Service Ltd. under finance lease agreements.

The book value of the machinery and others subject to finance lease agreement amounted to ₩71,699 million as of December 31, 2018 (as of December 31, 2017: ₩77,434 million). The machinery and others are pledged as collateral for the finance lease liabilities.

The Company provides SK hyeng Inc. and others with certain machinery and others under operating lease agreements. The book value of the machinery and others subject to operating lease agreement amounted to ₩221,509 million as of December 31, 2018. (as of December 31, 2017: ₩35,244 million).

The Company leases certain machinery and others from Macquarie Capital under operating lease agreements. The payment schedule of minimum lease payments under operating lease agreements as of December 31, 2018 is as follows:

(In millions of won)

		Minimum lease payments
No later than 1 year	₩	144,260
Later than 1 year		151,748
	₩	296,008

(6) Details of insured assets as of December 31, 2018 is as follows:

(In millions of won)

	Insured assets		Insured amount	Insurance company
Package insurance	Property, plant and equipment; investment property; Inventories; and business interruption	₩	68,507,329	Hyundai Marine & Fire Insurance Co., Ltd. and others
Erection all risks insurance	Property, plant and equipment		11,659,003	
		₩	80,166,332	

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

13. Intangible Assets

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

(In millions of won)

		2018				
		Goodwill	Industrial property rights	Development costs	Others	Total
Beginning net book amount	₩	419,046	104,565	882,250	512,398	1,918,259
Changes during 2018						
Internal development		-	-	610,954	-	610,954
External acquisition		-	12,721	-	275,402	288,123
Disposals		-	(5,165)	-	(2,677)	(7,842)
Amortization		-	(16,331)	(334,766)	(155,266)	(506,363)
Impairment		-	-	(4,482)	-	(4,482)
Ending net book amount		419,046	95,790	1,153,956	629,857	2,298,649
Acquisition cost		419,046	185,477	2,593,442	1,057,357	4,255,322
Accumulated amortization and impairment		-	(89,687)	(1,439,486)	(427,500)	(1,956,673)
	₩	419,046	95,790	1,153,956	629,857	2,298,649

(In millions of won)

		2017				
		Goodwill	Industrial property rights	Development costs	Others	Total
Beginning net book amount	₩	419,046	98,929	629,882	398,876	1,546,733
Changes during 2017						
Internal development		-	-	511,647	-	511,647
External acquisition		-	26,536	-	227,601	254,137
Disposals		-	(4,847)	-	(984)	(5,831)
Amortization		-	(15,776)	(259,279)	(112,712)	(387,767)
Impairment		-	-	-	(383)	(383)
Others		-	(277)	-	-	(277)
Ending net book amount		419,046	104,565	882,250	512,398	1,918,259
Acquisition cost		419,046	184,425	1,986,970	784,766	3,375,207
Accumulated amortization and impairment		-	(79,860)	(1,104,720)	(272,368)	(1,456,948)
	₩	419,046	104,565	882,250	512,398	1,918,259

13. Intangible Assets, Continued

(2) Details of amortization expense allocation for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Cost of sales	₩	55,951	38,423
Selling and administrative expenses		448,471	348,481
Development costs		1,941	863
	₩	506,363	387,767

(3) Goodwill impairment tests

Goodwill impairment tests are undertaken annually. For the purpose of impairment tests, goodwill is allocated to the related CGU. As the Company has only one CGU, goodwill was allocated to one CGU. Recoverable amount of the CGU was determined based on fair value less costs to sell, which was determined using the current stock price as of December 31, 2018. No impairment loss of goodwill was recognized since the recoverable amount is higher than carrying value of the CGU as of December 31, 2018.

(4) Details of development cost

(a) Detailed criteria for capitalization of development costs
The Company'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 Company 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, ₩610,954 million (2017: ₩511,647 million) that met capitalization criteria, were capitalized as development cost for the year ended December 31, 2018. In addition, costs associated with research activities and other development expenditures that did not meet the criteria in the amount of ₩2,290,406 million (2017: ₩1,992,157 million) were recognized as expenses for the year ended December 31, 2018.

(c) Details of development costs as of December 31, 2018 and 2017 are as follows:
(In millions of won)

	2018			
	Individual Asset		Book value	Residual amortization period
DRAM	1xnm B	₩	112,681	7 months
	1ynm [1]		345,001	23 months
	1znm [2]		7,261	-
NAND	3D(72)		37,055	6 months
	3D(96) [2]		406,615	-
	3D(128) [2]		167,043	-
CIS	Hi-1333		4,298	13 months
	Hi-1336 [2]		30,599	-
	Hi-1631 [2]		43,403	-
		₩	1,153,956	

[1] The name of development cost is changed from 1xynm to 1ynm during the year ended December 31, 2017.
[2] Amortization has not started as of December 31, 2018.

13. Intangible Assets, Continued

(4) Details of development cost, Continued

(c) Details of development costs as of December 31, 2018 and 2017 are as follows, Continued:

(In millions of won)

	2017			
	Individual Asset		**Book value**	**Residual amortization period**
DRAM	1xnm B	₩	305,848	19 months
	1xynm [1]		192,260	-
NAND	F14		3,990	4 months
	3D(48)		42,343	9 months
	3D(72)		111,164	18 months
	3D(96) [1]		186,488	-
	3D(128) [1]		8,635	-
CIS	Hi-1332		2,520	9 months
	Hi-1333 [1]		7,695	-
	Hi-1336 [1]		7,235	-
	Hi-1221 [1]		3,431	-
	Hi-1631 [1]		10,641	-
		₩	882,250	

[1] Amortization has not started as of December 31, 2017.

(d) The Company recognizes ₩4,482 million as an impairment loss in development costs for the year ended December 31, 2018. Meanwhile, there is no impairment losses and reversals of impairment in development costs for the year ended December 31, 2017. There are no accumulated impairment losses in development costs as of December 31, 2018 and 2017 by writing off recognized impairment loss with acquisition cost.

14. Investment Property

(1) Changes in investment property for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Beginning balance	₩	2,468	2,573
Depreciation		(84)	(105)
Transfer[1]		(984)	-
Ending balance		1,400	2,468
Acquisition cost		2,911	5,170
Accumulated depreciation		(1,511)	(2,702)
	₩	1,400	2,468

[1] Investment property was transferred to property, plant and equipment during the year ended December 31, 2018.

(2) The depreciation expense of ₩84 million was charged to cost of sales for the year ended December 31, 2018 (2017: ₩105 million).

(3) Rental income from investment property for the year ended December 31, 2018 was ₩308 million (2017: ₩495 million).

15. Other Payables

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

(In millions of won)

		2018	2017
Current			
Accrued expenses	₩	1,704,766	1,204,808
Non-current			
Rent deposits payable		15,008	4,406
Long-term accrued expenses		1,096	-
		16,104	4,406
	₩	1,720,870	1,209,214

16. Borrowings

(1) Details of borrowings as of December 31, 2018 and 2017, are as follows:

(In millions of won)

		2018	2017
Current			
Short-term borrowings	₩	-	107,140
Current portion of long-term borrowings		578,320	307,792
Current portion of debentures		449,850	219,836
		1,028,170	634,768
Non-current			
Long-term borrowings		2,040,073	2,077,431
Debentures		1,506,068	1,317,157
		3,546,141	3,394,588
	₩	4,574,311	4,029,356

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

(In millions of won)

	Financial institutions	Interest rate per annum in 2018 (%)		2018	2017
General borrowings	The Export-Import Bank of Korea	-	₩	-	107,140

16. Borrowings, Continued

(3) Details of long-term borrowings as of December 31, 2018 and 2017 are as follows:

(In millions of won)	Financial institutions	Interest rate per annum in 2018 (%)[1]		2018	2017
Local currency borrowings:					
Funds for equipment	Korea Development Bank	2.02~2.50	₩	500,000	500,000
Finance lease liabilities	Hansu Technical Service Ltd.	3.56~3.71		66,757	74,557
				566,757	574,557
Foreign currency borrowings:					
General borrowings	The Export-Import Bank of Korea	3M USD LIBOR + 1.00~1.40		866,529	910,690
		3M JPY LIBOR+ 0.57		810,544	-
	Woori Bank	-		-	107,140
		3M USD LIBOR + 0.98		125,786	160,710
Funds for equipment	Korea Development Bank	3M USD LIBOR + 1.15		55,905	107,140
		3M USD LIBOR + 0.95		125,786	160,710
		-		-	214,280
	KEB Hana Bank	3M USD LIBOR + 1.23		44,724	85,712
	NongHyup Bank	3M USD LIBOR + 1.33		22,362	64,284
				2,051,636	1,810,666
				2,618,393	2,385,223
Less: Current maturities				(578,320)	(307,792)
			₩	2,040,073	2,077,431

[1] As of December 31, 2018, the benchmark interest rates are as follows:

Type	Interest rate per annum as of December 31, 2018
3M USD LIBOR	2.80%
3M JPY LIBOR	-0.08%

16. Borrowings, Continued

(4) Details of debentures as of December 31, 2018 and 2017 are as follows:

(In millions of won)	Maturity date	Interest rate per annum in 2018 (%)		2018	2017
Unsecured notes in local currency:					
212th	May 30, 2019	5.35	₩	450,000	450,000
214-1st	Aug. 26, 2020	2.27		210,000	210,000
214-2nd	Aug. 26, 2022	2.63		140,000	140,000
215-1st	Nov. 25, 2018	-		-	70,000
215-2nd	Nov. 25, 2020	2.56		100,000	100,000
215-3rd	Nov. 25, 2022	2.75		10,000	10,000
216-1st	Feb. 19, 2018	-		-	70,000
216-2nd	Feb. 19, 2021	2.22		180,000	180,000
216-3rd	Feb. 19, 2023	2.53		80,000	80,000
217-1st	May 27, 2018	-		-	80,000
217-2nd	May 27, 2021	2.30		150,000	150,000
218th	Mar 14, 2023	3.01		300,000	-
219-1st	Aug. 27, 2023	2.48		250,000	-
219-2nd	Aug. 27, 2025	2.67		90,000	-
				1,960,000	1,540,000
Less: Discounts on debentures				(4,082)	(3,007)
Current portion				(449,850)	(219,836)
			₩	1,506,068	1,317,157

16. Borrowings, Continued

(5) Finance lease liability

Lease liabilities are effectively secured as the rights to the leased asset belong to the lessor.

Details of future minimum lease payments to the lessor as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Total minimum lease payment			
No later than 1 year	₩	10,379	10,379
Between 1 and 5 years		41,516	41,516
Later than 5 years		24,369	34,748
		76,264	86,643
Discount on present value		(9,507)	(12,086)
Net minimum lease payment			
No later than 1 year		10,177	10,177
Between 1 and 5 years		37,204	37,204
Later than 5 years		19,376	27,176
	₩	66,757	74,557

17. Other Current and Non-current Liabilities

Details of other current and non-current liabilities as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Current			
Advance receipts	₩	225	196
Unearned income		44	81
Withholdings		36,641	29,767
Deposits received		-	19
Contract liabilities		121,569	-
		158,479	30,063
Non-current			
Other long-term employee benefits		71,280	60,863
Long-term advance receipts		4,900	4,900
		76,180	65,763
	₩	234,659	95,826

18. Provisions

(1) Details of changes in provisions for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018			
		Beginning balance	Increase	Utilization	Ending balance
Purchase commitments	₩	7,316	4,029	-	11,345
Warranty		3,763	6,695	(6,546)	3,912
Sales returns[1]		-	-	-	-
Legal claims		9,460	5,881	(9,460)	5,881
Emission allowances		37,412	8,923	-	46,335
	₩	57,951	25,528	(16,006)	67,473

[1] Upon adoption of K-IFRS No. 1115, the amount expected to be incurred for future returns and the Company's right to collect the product from the customer have been recognized as other current liabilities and other current assets respectively.

(In millions of won)

		2017			
		Beginning balance	Increase	Utilization	Ending balance
Purchase commitments	₩	163	7,153	-	7,316
Warranty		2,988	1,030	(255)	3,763
Sales returns[1]		16,346	160,927	(132,125)	45,148
Legal claims		400	9,460	(400)	9,460
Emission allowances		26,108	11,999	(695)	37,412
	₩	46,005	190,569	(133,475)	103,099

[1] The Company estimated the expected sales returns based on historical results and adjusts sales and cost of sales, respectively. Accordingly, related gross profit and estimated expenses related to the return (such as transportation costs) are recorded as provisions for sales returns.

(2) Accrual for loss on purchase commitment

The Company is committed to purchase wafers (semi-finished goods) from its overseas subsidiary, SK hynix Semiconductor (China) Ltd. for the work-in-process that will be purchased from the subsidiary, the Company records provisions for expected losses if the total manufacturing costs are expected to exceed the sale price of finished goods at the end of reporting period.

(3) Provisions for warranty

The Company estimates the expected warranty costs based on historical results and accrues provisions for warranty.

18. Provisions, Continued

(4) Provisions for legal claims
The Company recognizes provisions for legal claims when the Company 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.

(5) Provision for emission allowances
The Company recognizes estimated future payment for the number of emission certificates required to settle the Company'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.

19. Defined Benefit Liabilities

Under the defined benefit plan, the Company 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 Company 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, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Present value of defined benefit obligations	₩	1,550,464	1,285,003
Fair value of plan assets		(1,555,045)	(1,298,388)
Net defined benefit liabilities (assets)	₩	(4,581)	(13,385)
Defined benefit liabilities		-	-
Defined benefit assets[1]		4,581	13,385

[1] The Company's fair value of plan assets in excess of the present value of defined benefit obligations amounted to ₩4,581 million and ₩13,385 million as of December 31, 2018 and 2017 is presented as defined benefit assets.

(2) Principal actuarial assumptions as of December 31, 2018 and 2017 are as follows:

	2018(%)	2017(%)
Discount rate for defined benefit obligations	3.78	4.31
Expected rate of salary increase	5.55	5.46

(3) Weighted average durations of defined benefit obligations as of December 31, 2018 and 2017 are 11.67 and 11.48 years, respectively.

(4) Changes in defined benefit obligations for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Beginning balance	₩	1,285,003	1,157,053
Current service cost		170,942	150,850
Interest cost		54,507	45,426
Transferred from (to) associates		777	(2,059)
Remeasurements:		74,229	(23,238)
Demographic assumption		3,197	-
Financial assumption		99,514	(44,898)
Adjustment based on experience		(28,482)	21,660
Benefits paid		(34,994)	(43,029)
Ending balance	₩	1,550,464	1,285,003

19. Defined Benefit Liabilities, Continued

(5) Changes in plan assets for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Beginning balance	₩	1,298,388	859,100
Contributions		265,000	450,000
Interest income		55,107	33,842
Transferred from associates		1,578	326
Benefits paid		(33,445)	(25,902)
Remeasurements		(31,583)	(18,978)
Ending balance	₩	1,555,045	1,298,388

(6) The amounts recognized in profit or loss for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Current service cost	₩	170,942	150,850
Net interest cost		(600)	11,584
	₩	170,342	162,434

(7) The accounts in which defined benefit plan related expenses are included for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Cost of sales	₩	95,042	90,029
Selling and administrative expenses		75,300	72,405
	₩	170,342	162,434

(8) Details of plan assets as of December 31, 2017 and December 31, 2017 are as follows:

(In millions of won)

		2018	2017
Deposits	₩	1,553,765	1,297,024
Other		1,280	1,364
	₩	1,555,045	1,298,388

Actual return on plan assets for the years ended December 31, 2018 and 2017 amounted to ₩23,524 million and ₩14,864 million, respectively.

19. Defined Benefit Liabilities, Continued

(9) As of December 31, 2018, the Company funded defined benefit obligations through insurance plans with Mirae Asset Life Insurance Co., Ltd. and other insurance companies. The Company's reasonable estimation of contribution to the plan assets for the year ending December 31, 2019 is ₩350,000 million under the assumption that the Company maintains the defined benefit plan.

(10) The sensitivity analysis of the defined benefit obligations as of December 31, 2018 to changes in the principal assumptions is as follows:

(In millions of won)

		Effects on defined benefit obligation	
		Increase of rate	**Decrease of rate**
Discount rate (if changed by 1%)	₩	(159,929)	188,385
Expected salary increase rate (if changed by 1%)		188,046	(162,566)

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, 2018 is as follows:

(In millions of won)

		2018				
		Less than 1 year	**1 - 5 years**	**5 - 10 years**	**10 - 20 years**	**Total**
Benefits paid	₩	45,043	341,490	868,410	3,162,860	4,417,803

Information about the maturity profile is based on undiscounted amount of defined benefit obligation and classified to employee's expected years of remaining services

(12) The Company adopted defined contribution plan for retirement benefit for employees subject to peak wage system. Contributions to defined contribution plans amounting to ₩192 million (2017: ₩70 million) was recognized as cost of sales for the year ended December 31, 2018.

20. Deferred income tax

(1) Changes in deferred income tax assets and liabilities for the years ended December 31, 2018 and 2017, are as follows:

(In millions of won)

		2018			
		January 1, 2018	**Profit or loss**	**Equity**	**December 31, 2018**
Inventories, net	₩	45,272	51,572	-	96,844
Property, plant and equipment, net		(47,173)	1,082	-	(46,091)
Defined benefits liabilities, net		-	(29,098)	29,098	-
Short-term investment assets, long-term investment assets, and others		43,191	(76,176)	-	(32,985)
Employee benefits		33,272	5,703	-	38,975
Provisions		15,937	2,618	-	18,555
Other assets and other liabilities		12,415	11,664	-	24,079
Accrued expenses		13,641	35,242	-	48,883
Others		19,736	(11,451)	-	8,285
Deferred tax assets recognized	₩	136,291	(8,844)	29,098	156,545

(In millions of won)

		2017			
		January 1, 2017	**Profit or loss**	**Equity**	**December 31, 2017**
Inventories, net[1]	₩	15,952	29,320	-	45,272
Property, plant and equipment, net[1]		(35,139)	(12,034)	-	(47,173)
Defined benefits liabilities, net		59,370	(58,199)	(1,171)	-
Short-term investment assets, long-term investment assets, and others[1]		34,334	4,785	4,072	43,191
Employee benefits		27,798	5,474	-	33,272
Provisions [1]		11,133	17,219	-	28,352
Accrued expenses[1]		26,004	(12,363)	-	13,641
Others[1]		21,041	(1,305)	-	19,736
Deferred tax assets for temporary differences, net		160,493	(27,103)	2,901	136,291
Tax credit carryforwards recognized		352,866	(352,866)	-	-
Deferred tax assets recognized	₩	513,359	(379,969)	2,901	136,291

[1] Inventories, property, plant and equipment, short-term and long-term investment assets, provisions, accrued expenses and others as of December 31, 2017 are reclassified to conform with the classification as of December 31, 2018.

(2) As of December 31, 2018, the deductible temporary differences that are not recognized as deferred tax assets (liabilities) are as follows:

(In millions of won)

		2018	**2017**
Investments in subsidiaries, associates, and joint ventures and others	₩	1,559,065	1,543,180

21. Derivative Financial Instruments

(1) There was no derivative financial instruments as of December 31, 2018 and December 31, 2017.

(2) Details of gains and losses from derivative instruments for the year ended December 31, 2017 are as follows (2018: nil):

(In millions of won)

		2017			
		Gain on valuation	**Loss on valuation**	**Gain on transaction**	**Loss on transaction**
Interest rates swap	₩	-	-	902	913

22. Capital Stock, Capital Surplus and Other Equity

(1) The Company has 9,000,000,000 authorized shares and the face value per share is ₩5,000 as of December 31, 2018. Details of the number of shares issued, common stock, capital surplus and other equity as of December 31, 2018 and 2017 are as follows:

(In millions of won and thousands of shares)

		2018	**2017**
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		557,767	557,767
		4,183,564	4,183,564
Other equity:			
Acquisition cost of treasury shares		(2,508,427)	(771,913)
Stock option		1,976	813
	₩	(2,506,451)	(771,100)
Number of treasury shares		44,001	22,001

[1] As of December 31, 2018, the number of outstanding shares is 728,002 thousand shares, which differs from total issued shares due to the effect of stock retirement.

(2) The Company's number of outstanding shares is decreased to 684,002 thousand shares as of ended December 31,2018 due to acquisition of treasury shares.

23. Accumulated other comprehensive income

(1) Details of accumulated other comprehensive income as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Loss on valuation of available-for-sale financial assets[1]	₩	-	(10,735)

[1] Due to the application of K-IFRS No. 1109, available-for-sale financial assets for equity investments were reclassified to financial assets measured at financial assets at fair value through profit or loss. As a result of this reclassification, as at January 1, 2018, other comprehensive loss of ₩10,735 million was reclassified to retained earnings.

(2) There was no changes in accumulated other comprehensive income as of December 31, 2018.

24. Retained Earnings and Dividends

(1) Details of retained earnings as of December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Legal reserve[1]	₩	178,954	108,354
Discretionary reserve[2]		235,506	235,506
Unappropriated retained earnings		39,911,668	25,368,634
	₩	40,326,128	25,712,494

[1] The Commercial Code of the Republic of Korea requires the 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 a reserve for technology development.

(2) Statement of Appropriations of Retained Earnings

(In millions of won, except for cash dividend per common stock)

		2018	2017
Retained earnings before appropriations			
Unappropriated retained earnings carried over from the prior year	₩	24,592,032	15,254,749
Remeasurements of defined benefit liability		(76,715)	3,088
Adjustments on initial application of K-IFRS No. 1109		(10,735)	-
Profit for the year		15,407,086	10,110,797
		39,911,668	25,368,634
Appropriation of retained earnings[1]			
Earned surplus reserve		102,600	70,600
Cash dividend (2018: ₩1,500 per share, 30% on par value, 2017: ₩1,000 per share, 20% on par value)		1,026,003	706,002
		1,128,603	776,602
Unappropriated retained earnings carried forward to the subsequent year	₩	38,783,065	24,592,032

[1] For the years ended December 31, 2018 and 2017, the date of appropriation is March 22, 2019 and March 28, 2018, respectively.

24. Retained Earnings and Dividends, Continued

(3) Dividends

(a) Details of dividends for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won and in thousands of shares)

		2018	2017
Type of dividends		Cash dividends	Cash dividends
Outstanding ordinary shares		684,002	706,002
Par value (in won)	₩	5,000	5,000
Dividend rate		30%	20%
Total dividends	₩	1,026,003	706,002

(b) Dividend payout ratio for the years ended December 31, 2018 and 2017 is as follows:

(In millions of won)

		2018	2017
Dividends	₩	1,026,003	706,002
Profit for the year		15,407,086	10,110,797
Dividend payout ratio		6.66%	6.98%

(c) Dividend yield ratio for the years ended December 31, 2018 and 2017 is as follows:

(In won)

		2018	2017
Dividends per share	₩	1,500	1,000
Closing stock price		60,500	76,500
Dividend yield ratio		2.48%	1.31%

25. Revenue

The nature and impact on the company of initial adopting the K-IFRS No. 1115 *'Revenue from contracts with customers'* are described in note 3-(26). Comparative information has not been restated to reflect the new requirement under the method of application of the standard.

(1) Details of the Company's revenue for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Sale of goods	₩	40,121,456	29,583,769
Providing services		203,195	135,170
	₩	40,324,651	29,718,939

(2) Details of the Company's revenue by product and service types for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
DRAM	₩	32,440,910	22,614,917
NAND Flash		7,211,006	6,551,763
Others		672,735	552,259
	₩	40,324,651	29,718,939

(3) Details of the Company's revenue by the timing of revenue recognition are as follows:

(In millions of won)

		2018	2017
Performance obligations satisfied at a point in time	₩	40,121,456	29,583,769
Performance obligations satisfied over time		203,195	135,170
	₩	40,324,651	29,718,939

25. Revenue, Continued

(4) Revenue recognition policies and performance obligation

Revenue is measured based on promised consideration in a contract with a customer. The Company recognizes revenue when (or as) the Company transfers a promised good to a customer.

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

	Nature of goods or services and timing of performance obligation satisfaction.	Revenue recognition under K-IFRS No. 1115.
Sale of goods	Revenue is recognized when (or as) goods are transferred to a customer and 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 has 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 on settling the refund liability is recognized as asset and Refund liability is recognized as well. Settling a refund liability shall initially be measured by reference to the former carrying amount of the product less any expected costs to recover those products. Refund liability is included in other current liabilities (See note 17) and right to recover products from customers on settling the refund liability is included in other current assets (See note 9).The Company updates the measurement of the asset arising from changes in expectations about products to be returned at the end of each reporting period.

26. Selling and Administrative Expenses

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

(In millions of won)

		2018	2017
Selling and administrative expenses:			
Salaries	₩	416,894	344,712
Defined benefit plan		25,291	24,395
Employee benefits		79,492	61,262
Commission		338,696	212,295
Depreciation		115,005	82,302
Amortization		436,615	342,270
Freight and custody charges		12,870	27,904
Legal cost		33,025	32,723
Rental		2,275	3,148
Taxes and dues		5,590	5,708
Training		29,772	25,187
Advertising		91,591	83,408
Utilities		7,428	10,665
Supplies		92,764	77,590
Repair		22,078	34,093
Travel and transportation		9,230	7,024
Sales promotion		4,552	4,286
Sales repair		6,695	1,030
Others		21,094	25,450
		1,750,957	1,405,452
Research and development:			
Expenditure on research and development		2,901,360	2,503,804
Development cost capitalized		(610,954)	(511,647)
		2,290,406	1,992,157
	₩	4,041,363	3,397,609

27. Expenses by Nature

Nature of expenses for the years ended December 31, 2018 and 2017 is as follows:

(In millions of won)

		2018	2017[2]
Changes in finished goods and work-in-process	₩	(1,227,731)	(471,863)
Raw materials, supplies and consumables		7,038,896	5,536,397
Employee benefit		3,080,045	2,609,456
Depreciation and amortization		5,407,218	4,051,205
Royalty		172,615	221,789
Commission		1,360,983	1,020,366
Utilities		927,478	786,027
Repair		797,887	779,239
Outsourcing		1,367,439	1,129,552
Other		820,743	715,980
Total[1]	₩	19,745,573	16,378,148

[1] Total expenses consist of cost of sales and selling and administrative expenses.
[2] Expenses for the year ended December 31, 2017 were reclassified to conform with the classification for the year ended December 31, 2018.

28. Finance Income and Expenses

Finance income and expenses for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Finance Income:			
Interest income	₩	51,761	49,700
Dividend income		49,017	17,619
Foreign exchange differences[1]		986,705	735,945
Gain from derivative instruments		-	902
Gain on valuation of short-term investment assets[2]		9,140	449
Gain on valuation of long-term investment assets[2]		182,384	-
Gain on disposal of short-term investment assets[2]		18,055	7,318
Gain on disposal of long-term investment assets[2]		5,504	31,078
		1,302,566	843,011
Finance Expenses:			
Interest expense		90,907	120,624
Foreign exchange differences[1]		651,881	954,128
Loss on valuation of long-term investment assets[2]		667	-
Loss on disposal of short-term investment assets[2]		-	158
Loss on derivative instruments		-	913
		743,455	1,075,823
Net finance income(expenses)	₩	559,111	(232,812)

[1] The foreign exchange differences of long-term investment assets amounting to ₩86,594 million are included.
[2] Gain(Loss) related to investment assets for the year ended December 31, 2017 were reclassified to conform with the classification for the year ended December 31, 2018.

29. Other Income and Expenses

(1) Other income for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Gain on disposal of property, plant and equipment	₩	40,674	38,563
Gain on disposal of investment in subsidiaries and associates		18,008	8,877
Others		8,910	29,129
	₩	67,592	76,569

(2) Other expenses for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Loss on disposal of property, plant and equipment	₩	73,550	16,214
Loss on disposal of intangible assets		5,409	4,846
Loss on disposal of trade receivables		1,598	1,515
Loss on impairment of intangible assets		4,482	383
Donations		60,642	75,150
Others		32,698	14,440
	₩	178,379	112,548

30. Income Tax Expense

(1) Income tax expense for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Current tax:			
Current tax on profits for the year	₩	5,630,654	2,637,306
Adjustments for the current tax liabilities attributable to prior year, but recognized in current year		(19,182)	(56,072)
		5,611,472	2,581,234
Deferred tax:			
Changes in net deferred tax assets		8,844	379,969
Income tax expense	₩	5,620,316	2,961,203

(2) The relationship between tax expense and accounting profit for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Profit before income tax	₩	21,027,402	13,072,000
Tax calculated at statutory income tax rates		5,772,173	3,162,962
Tax effects of:			
Tax-exempt income		(35,291)	(157)
Non-deductible expenses		5,208	2,135
Change in unrecognized deferred tax assets		4,368	(5,786)
Tax credit		(136,587)	(117,281)
Adjustments for the current tax liabilities attributable to prior year, but recognized in current year		(19,182)	(56,072)
Others		29,627	(24,598)
Income tax expense	₩	5,620,316	2,961,203

(3) Income taxes recognized in other comprehensive income (loss) for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Remeasurements of defined benefit liabilities	₩	29,098	(1,171)
Loss on valuation of long-term financial assets		-	4,072
	₩	29,098	2,901

31. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to ordinary shareholders of the Company by the weighted average number of outstanding ordinary shares during the years.

(1) Basic earnings per share for the years ended December 31, 2018 and 2017 are as follows:

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

		2018	2017
Profit attributable to ordinary shareholders	₩	15,407,086	10,110,797
Weighted average number of outstanding ordinary shares[1]		698,278,083	706,001,795
Basic earnings per share (in won)	₩	22,064	14,321

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

(In shares)

	2018	2017
Outstanding ordinary shares	728,002,365	728,002,365
Acquisition of treasury shares	(29,724,282)	(22,000,570)
Weighted average number of outstanding ordinary shares	698,278,083	706,001,795

(2) Diluted earnings per share for the years ended December 31, 2018 and 2017 are as follows:

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

		2018	2017
Profit attributable to ordinary shareholders	₩	15,407,086	10,110,797
Weighted average number of diluted outstanding ordinary shares[1]		698,364,251	706,038,232
Diluted earnings per share (in won)	₩	22,062	14,320

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

(In shares)

	2018	2017
Weighted average number of outstanding ordinary shares	698,278,083	706,001,795
Stock options	86,168	36,437
Weighted average number of diluted outstanding ordinary shares	698,364,251	706,038,232

32. Transactions with Related Parties and Others

(1) Details of related parties as of December 31, 2018 are as follows:

Type	Name of related parties
Subsidiaries	SK Hynix America In. and other 29 entities[1]
Associates[2]	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(Smartsource)
Joint venture[3]	HITECH Semiconductor (Wuxi) Co., Ltd., Hystars Semiconductor (Wuxi) Co., Ltd.
Other related parties	SK Telecom Co., Ltd., which has significant influence over the Company, SK Holdings Co., Ltd., which has control over SK Telecom Co., Ltd., and their subsidiaries

[1] MMT (Money Market Trust) was excluded from related to party transactions.
[2] Associates of subsidiaries are included.
[3] Joint venture of subsidiaries are included.

32. Transactions with Related Parties and Others, Continued

(2) Subsidiaries of the Company as of December 31, 2018 are as follows:

Company	Controlling company	Remarks
SK hyeng Inc.	SK hynix, Inc.	Domestic subsidiary
SK hystec Inc.	SK hynix, Inc.	Domestic subsidiary
Happymore Inc.	SK hynix, Inc.	Domestic subsidiary
SK hynix system ic Inc.	SK hynix, Inc.	Domestic subsidiary
Happynarae Co., Ltd.	SK hynix, Inc.	Domestic subsidiary
SK hynix America Inc.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Deutschland GmbH	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Asia Pte. Ltd.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Semiconductor Hong Kong Ltd.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix U.K. Ltd.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Semiconductor Taiwan Inc.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Japan Inc.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Semiconductor (Shanghai) Co., Ltd.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Semiconductor India Private Ltd.	SK hynix Asia Pte. Ltd.	Overseas sales subsidiary
SK hynix (Wuxi) Semiconductor Sales Ltd.	SK hynix, Inc.	Overseas sales subsidiary
SK hynix Semiconductor (China) Ltd.	SK hynix, Inc.	Overseas manufacturing subsidiary
SK hynix Semiconductor (Chongqing) Ltd.	SK APTECH Ltd.	Overseas manufacturing subsidiary
SK hynix Italy S.r.l	SK hynix, Inc.	Overseas R&D center
SK hynix memory solutions America Inc.	SK hynix, Inc.	Overseas R&D center
SK hynix memory solutions Taiwan Ltd.	SK hynix, Inc.	Overseas R&D center
SK hynix memory solutions Eastern Europe LLC.	SK hynix, Inc.	Overseas R&D center
SK APTECH Ltd.	SK hynix, Inc.	Overseas investing subsidiary
SK hynix Ventures Hong Kong Ltd.	SK hynix, Inc.	Overseas investing subsidiary
SK hynix (Wuxi) Investment Ltd.	SK hynix Semiconductor (China) Ltd.	Overseas investing subsidiary
SK hynix (Wuxi) Industry Development Ltd.	SK hynix (Wuxi) Investment Ltd.	Other overseas subsidiary
SK hynix Happiness (Wuxi) Hospital Management Ltd.	SK hynix (Wuxi) Investment Ltd.	Other overseas subsidiary
SK hynix system ic (Wuxi) Co., Ltd.	SK hynix system ic Inc.	Overseas manufacturing subsidiary
SK hynix happy (Wuxi) cleaning Ltd.	SK hynix (Wuxi) Investment Ltd.	Other overseas subsidiary
SUZHOU HAPPYNARAE Co., Ltd.	Happynarae Co., Ltd.	Other overseas subsidiary
CHONGQING HAPPYNARAE Co., Ltd.	SUZHOU HAPPYNARAE Co., Ltd.	Other overseas subsidiary

32. Transactions with Related Parties and Others, Continued

(3) Significant transactions for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

	Company	2018 Operating revenue and others	Operating expense and others	Asset acquisition	Dividend income
Subsidiaries	Domestic subsidiary	₩ 238,253	1,161,402	241,285	22,500
	Overseas sales subsidiaries	39,637,916	244,322	2,319,396	11,056
	Overseas manufacturing subsidiaries [1]	32,753	2,645,213	86,880	-
	Overseas R&D centers	110	234,484	117	219
Associates	SK China Company Limited	-	9,699	-	-
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	3,329	621,980	1,901	13,120
Other related parties	SK Telecom Co., Ltd.[2]	313	161,158	42,287	-
	SK Holdings Co., Ltd.[3]	383	202,256	495,995	-
	ESSENCORE Limited	940	-	-	-
	SK Engineering & Construction Co., Ltd.	304	25,461	2,111,699	-
	SK Energy Co., Ltd.	1,106	70,636	-	-
	SK Networks Co., Ltd.	-	2,702	10,600	-
	SKC Solmics Co., Ltd.	-	5,778	1,098	-
	Chungcheong energy service Co., Ltd.	-	18,945	203	-
	SK Materials Co., Ltd.	-	57,530	-	-
	SK Siltron Co., Ltd	3,100	167,952	-	-
	Others	117	270,468	53,282	-
		₩ 39,918,624	5,899,986	5,364,743	46,895

[1] Operating revenue and others in overseas manufacturing subsidiaries for the year ended December 31, 2018 include proceeds from asset disposal that amount to ₩27,119 million.
[2] Operating expense and others include dividend payments of ₩146,100 million.
[3] For the year ended December 31, 2018 royalty on the use of the SK brand amounted to ₩60,374 million.

32. Transactions with Related Parties and Others, Continued

(3) Significant transactions for the years ended December 31, 2018 and 2017 are as follows, Continued:

(In millions of won)

		2017			
	Company	Operating revenue and others	Operating expense and others	Asset acquisition	Dividend income
Subsidiaries	Domestic subsidiary	₩ 336,993	855,154	174,638	-
	Overseas sales subsidiaries	28,585,234	171,418	1,598,690	2,494
	Overseas manufacturing subsidiaries [1]	82,850	2,414,166	63,973	-
	Overseas R&D centers	88	202,919	41	297
Associates	SK China Company Limited	-	5,836	-	-
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.	5,752	582,745	-	14,828
Other related parties	SK Telecom Co., Ltd.[2]	251	96,074	23,006	-
	SK Holdings Co., Ltd.[3]	207	151,222	132,134	-
	ESSENCORE Limited	15,148	-	-	-
	SK Engineering & Construction Co., Ltd.	257	6,819	1,421,459	-
	SK Energy Co., Ltd.	1,235	54,617	-	-
	SK Networks Co., Ltd.	-	1,878	-	-
	SKC Solmics Co., Ltd.	-	14,558	906	-
	Chungcheong energy service Co., Ltd.	10	16,052	-	-
	SK Materials Co., Ltd.	-	38,014	-	-
	SK Siltron Co., Ltd	1,222	48,251	-	-
	Others	37	132,028	14,990	-
		₩ 29,029,284	4,791,751	3,429,837	17,619

[1] Operating revenue and others in overseas manufacturing subsidiaries for the year ended December 31, 2017 include proceeds from asset disposal that amount to ₩78,255 million.
[2] Operating expense and others include dividend payments of ₩87,660 million.
[3] For the year ended December 31, 2017 royalty on the use of the SK brand amounted to ₩34,004 million.

32. Transactions with Related Parties and Others, Continued

(4) The balances of significant transactions as of December 31, 2018 and 2017 are as follows:

(In millions of won)

	2018			
	Company		Trade receivables and others	Other payables and others
Subsidiaries	Domestic subsidiaries	₩	19,940	246,165
	Overseas sales subsidiaries		6,290,142	766,016
	Overseas manufacturing subsidiaries		117,893	600,493
	Overseas R&D centers		25	40,567
Associates	SK China Company Limited		-	9,060
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.		5	102,733
Other related parties	SK Telecom Co., Ltd.		89	12,840
	SK Holdings Co., Ltd.		21	138,453
	SK Engineering & Construction Co., Ltd.		28	668,307
	SK Energy Co., Ltd.		33	9,005
	SK Networks Co., Ltd.		-	962
	SKC Solmics Co., Ltd.		-	3,771
	Chungcheong energy service Co., Ltd.		-	3,644
	SK Materials Co., Ltd.		-	16,630
	SK Siltron Co., Ltd.		150,246	15,960
	Others		1	91,203
		₩	6,578,423	2,725,809

32. Transactions with Related Parties and Others, Continued

(4) The balances of significant transactions as of December 31, 2018 and 2017 are as follows, Continued:

(In millions of won)

	2017				
	Company		Trade receivables and others	Loans	Other payables and others
Subsidiaries	Domestic subsidiaries [1]	₩	37,295	4,920	221,050
	Overseas sales subsidiaries [1]		5,081,829	-	466,164
	Overseas manufacturing subsidiaries		32,850	-	438,892
	Overseas R&D centers		22	-	28,511
Associates	SK China Company Limited		-	-	5,610
Joint venture	HITECH Semiconductor (Wuxi) Co., Ltd.		-	-	90,782
Other related parties	SK Telecom Co., Ltd.		94	-	2,803
	SK Holdings Co., Ltd.		5,365	-	105,960
	SK Engineering & Construction Co., Ltd.		21	-	941,843
	SK Energy Co., Ltd.		93	-	10,505
	SK Networks Co., Ltd.		-	-	1,033
	SKC Solmics Co., Ltd.		-	-	1,576
	Chungcheong energy service Co., Ltd.		11	-	2,127
	SK Materials Co., Ltd.		-	-	9,889
	SK Siltron Co., Ltd. [2]		150,384	-	10,429
	Others		2	-	84,669
		₩	5,307,966	4,920	2,421,843

[1] The Company made a repayment of loan during the year ended December 31, 2018, amounting to ₩4,920 million borrowed from Happymore Inc. for the year ended December 31, 2017.

[2] The Company has paid ₩150,000 million in advance for the purchase price of wafers during the year ended December 31, 2017 (See note 33).

(5) Key management compensation

Key management includes directors, members of the board of directors, chief financial officer and internal auditors. The compensation paid to key management for employee services for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

Details		2018	2017
Salaries	₩	106,408	106,291
Defined benefit plan related expenses		10,516	8,840
Share-based payment		1,163	813
Others		19	13
	₩	118,106	115,957

32. Transactions with Related Parties and Others, Continued

(6) The significant transactions between the Company and the companies that are in the same conglomerate group according to '*Fair Trade Law*' as of December 31, 2018 and 2017 are as follows. These entities are not related parties according to K-IFRS No. 1024, '*Related Party Disclosures*'.

(In millions of won)

	2018					
	Company		Operating revenue and others	Operating expense and others	Asset acquisition	Dividend income
Companies in the Conglomerate	SK Chemicals Co., Ltd.	₩	-	1,208	-	-
	SK Bioscience Co., Ltd		-	32	-	-
		₩	-	1,240	-	-

(In millions of won)

	2017					
	Company		Operating revenue and others	Operating expense and others	Asset acquisition	Dividend income
Companies in the Conglomerate	SK Discovery Co., Ltd	₩	-	1,072	-	-
	SK Chemicals Co., Ltd.		-	38	-	-
		₩	-	1,110	-	-

(7) The balances of significant transactions between the Company and the companies that are in the same conglomerate group designated by '*Fair Trade Law*'. The details of the balances as of December 31, 2018 and 2017 are as follows. These entities are not related parties according to K-IFRS No. 1024, '*Related Party Disclosures*'.

(In millions of won)

	2018		
	Company		Other payables and others
Companies in the Conglomerate	SK Chemicals Co., Ltd.	₩	331

(In millions of won)

	2017		
	Company		Other payables and others
Companies in the Conglomerate	SK Discovery Co., Ltd	₩	228
	SK Chemicals Co., Ltd.		38
		₩	266

(8) The Company's acquisitions of and additional contributions to subsidiaries and assciates during the year ended December 31, 2018 are presented in note 10.

33. Commitments and Contingencies

(1) The details of litigations and claims of the Company as of December 31, 2018 are as follows:

(a) Lawsuit from Netlist, Inc.
Netlist, Inc. filed a lawsuit against the Company and its subsidiaries including SK hynix America Inc. alleging infringement of multiple patents to U.S. District Court for the Central District of California, USA, on August 31, 2016 and June 14, 2017, to US International Trade Commission on September 1, 2016 and on October 31, 2017, to the German District court of Munich and the Beijing Intellectual Property Court, respectively on July 11, 2017. As of December 31, 2018, the patent infringement lawsuits filed by Netlist, Inc. in the U.S. have not been finalized and the final result cannot be predicted.

Meanwhile, the lawsuit filed to the U.S. International Trade Commission on September 1, 2016 was finalized on January 16, 2018 with the conclusion that the Company and its subsidiaries did not infringe the patents of Netlist, Inc. Netlist, Inc. filed a petition on March 26, 2018.

Regarding the lawsuit filed to the Beijing Intellectual Property Court on July 11, 2017, the Patent Reexamination Board ("PRB") determined that the patent was invalid on May 30, 2018. Accordingly, the patent infringement lawsuit was dismissed on June 26, 2018. Netlist, Inc. did not appeal PRB's decision that invalidated the patent and the decision was finalized.

In addition, regarding the lawsuit filed to the German District court of Munich on July 11, 2017, the Court determined that the Company did not infringe the patent litigation of Netlist, Inc. on January 31, 2019.

(b) Price-fixing class-action lawsuits in North America
On April 27, 2018, a purported class-action lawsuit was filed against the Company and its subsidiary, SK hynix America Inc. in the U.S. District Court for the Northern District of California asserting claims based on alleged price-fixing of DRAM products during the period from June 1, 2016 to February 1, 2018. Similar lawsuits were subsequently filed in federal court in the U.S., as well as in Canadian courts in British Columbia, Quebec and Ontario. As of December 31, 2018, the lawsuits filed have not been finalized and the Company is unable to predict the outcome of these matters and therefore cannot estimate the range of possible loss.

(c) The antitrust investigation in China
The State Administration for Market Regulation of China initiated to investigate the violation of the antitrust law regarding on primary DRAM businesses' sales in China in May 2018. The pending case currently is under investigation. As of December 31, 2018, the Company is unable to predict the outcome of these matters and therefore cannot estimate the range of possible loss.

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

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

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

33. Commitments and Contingencies, Continued

(4) Post- process service contract with HITECH Semiconductor (Wuxi) Co., Ltd.(HITECH)
The Company has entered into an agreement with HITECH to be provided with post-process service by HITECH. The conditions of the service provided includes package, package test, modules and others. According to the agreement, the Company is liable to guarantee a certain level of margin to HITECH.

(5) Assets provided as collateral
Details of assets provided as collateral as of December 31, 2018 are as follows:

(In millions of won)

		Book value	Pledged amount	Remark
Machinery[1]	₩	599,550	935,430	Borrowings for equipment and others

[1] Other than the above assets provided as collateral, the finance lease assets of the Company are pledged as collateral for the finance lease liabilities in accordance with the finance lease contracts.

(6) Financing agreements
Details of credit lines with financial institutions as of December 31, 2018 are as follows:

(In millions of won, millions of U.S. dollars)

Financial institution	Commitment	Currency	Amount
KEB Hana Bank and others	Import finance including usance	USD	225
	Export finance including bills bought	USD	50
	Comprehensive limit contract for import and export	USD	960
	Accounts receivable factoring contracts which have no right to recourse	KRW	140,000

(7) Details of guarantees provided to others as of December 31, 2018 are as follows:

(In millions of won)

		Amount	Remark
Employees	₩	4	Guarantees for employees' borrowings relating to employee stock ownership

(8) Capital commitments
The Company's unrecorded commitments in relation to the capital expenditures on property, plant and equipment as of December 31, 2018 are ₩1,638,776 million (as of December 31, 2017: ₩557,400 million).

(9) Long-term purchase agreement for raw materials
The Company has entered into a procurement agreement with SK Siltron Co., Ltd. from 2019 to 2023 for stable supply of wafer with an advanced payment of ₩150,000 million during the year ended December 31, 2017. In addition, SK Siltron Co., Ltd. has committed to provide certain portion of its investment assets as collateral to secure the advanced payment of ₩150,000 million prepaid by the Company.

(10) Agreement with SK hynix system ic Inc.
The Company has entered into an agreement of Wafer Foundry supply with SK hynix system ic Inc., a subsidiary, to receive related services. In addition, the Company has provided SK hynix system ic Inc. with the related services such as manufacturing products, equipment operation, development and management support and others in accordance with the arrangement for operation agency and shared service.

33. Commitments and Contingencies, Continued

(11) Investment in TMC

In regards to the Company's interests in TMC through its investments in SPC1 and SPC2, equity shares in TMC owned, directly or indirectly, by the Company are limited to a certain percentage during certain periods after the date of acquisition. In addition, during the periods, the Company does not have the right in appointing TMC's directors and is unable to exercise significant influence over decision-making for TMC's operation and management.

34. Statements of Cash Flows

(1) Reconciliations between profit for the year and net cash inflow from operating activities for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Profit for the year	₩	15,407,086	10,110,797
Adjustment			
Income tax expense		5,620,316	2,961,203
Defined benefit plan		170,342	162,434
Depreciation		5,015,846	3,772,322
Depreciation of investment property		84	105
Amortization		506,363	387,767
Share-based compensation expenses		1,163	813
Loss on disposal of property, plant and equipment		73,550	16,214
Loss on disposal of intangible assets		5,409	4,846
Loss on impairment of intangible assets		4,482	383
Loss on valuation of long-term investment assets		667	-
Interest expense		90,907	120,624
Loss on foreign currency translation		147,174	228,210
Gain on disposal of investments in subsidiaries and associates		(18,008)	(8,877)
Gain on disposal of property, plant and equipment		(40,674)	(38,563)
Gain on disposal of short-term investment assets		(18,055)	(7,318)
Gain on valuation of short-term investment assets		(9,140)	(449)
Gain on disposal of long-term investment assets		(5,504)	(31,078)
Gain on valuation of long-term investment assets		(182,384)	-
Loss on derivative instruments, net		-	11
Interest income		(51,761)	(49,700)
Gain on foreign currency translation		(102,489)	(277,275)
Dividend income		(49,017)	(17,619)
Others, net		1,764	213
Changes in operating assets and liabilities			
Increase in trade receivables		(1,227,813)	(2,465,578)
Decrease (Increase) loans and other receivables		(501)	6,945
Increase in inventories		(1,496,781)	(607,829)
Increase in other assets		(35,777)	(265,698)
Increase (decrease) in trade payables		401,190	(19,394)
Increase (decrease) in other payables		198,695	(301)
Increase in other non-trade payables		506,536	625,715
Increase (decrease) in provisions		(35,645)	57,382
Increase (decrease) in other liabilities		148,634	(578)
Payment of defined benefit liabilities		(8,485)	(14,450)
Contribution to plan assets		(265,000)	(450,000)
Cash generated from operating activities	₩	24,753,174	14,201,277

34. Statements of Cash Flows, Continued

(2) Details of significant transactions without inflows and outflows of cash for the years ended December 31, 2018 and 2017 are as follows:

(In millions of won)

		2018	2017
Transfer of business to SK hynix system ic Inc.	₩	-	132,841
In-kind contribution for SK China Company Limited		-	143,209
Increase in other payables related to acquisition of property, plant and equipment		-	1,079,972
Transfer of investment property to property, plant and equipment		984	-

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

(In millions of won)

		2018	2017
Beginning balance	₩	4,029,356	4,215,787
Cash flows from financing activities			
Proceeds from borrowings		2,402,196	685,084
Repayments of borrowings		(1,936,842)	(647,537)
Foreign currency differences		77,989	(225,688)
Present value discount (interest expense)		1,612	1,710
Ending Balance	₩	4,574,311	4,029,356

35. Share-based Payment

(1) The Company granted equity-settled share options to the Company's key management during the year ended December 31, 2018 and the details of the share options as of December 31, 2018 are as follows:

(In shares)

	Total numbers of share option granted	Exercised	Forfeited or Cancelled	Outstanding at December 31, 2017
1st	99,600	-	-	99,600
2nd	99,600	-	-	99,600
3rd	99,600	-	-	99,600
4th	7,747	-	-	7,747
5th	7,223	-	-	7,223
	313,770	-	-	313,770

	Grant date	Service Period for Vesting	Exercisable Period	Exercise price (in won)
1st	March 24, 2017	March 24, 2017 - March 24, 2019	March 25, 2019 - March 24, 2022	48,400
2nd	March 24, 2017	March 24, 2017 - March 24, 2020	March 25, 2020 - March 24, 2023	52,280
3rd	March 24, 2017	March 24, 2017 - March 24, 2021	March 25, 2021 - March 24, 2024	56,460
4th	January 01, 2018	January 1, 2018 - December 31, 2019	January 1, 2020 - December 31, 2022	77,440
5th	March 28, 2018	March 28, 2018 - March 28, 2020	March 29, 2020 - March 28 2023	83,060

(2) Measurement of fair value

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

	1st	2nd	3rd	4th	5th
Expected volatility	23.23%	23.23%	23.23%	22.50%	25.30%
Estimated fair value of share option (in won)	10,026	9,613	9,296	16,687	18,362
Dividend yield ratio	1.20%	1.20%	1.20%	0.78%	1.23%
Risk free ratio	1.86%	1.95%	2.07%	2.38%	2.46%

(3) The compensation expense for the year ended December 31, 2018 and 2017 were ₩1,163 million and ₩813 million.

Independent Auditors' Review Report on Internal Accounting Control System

English translation of a Report Originally Issued in Korean

To the Representative Director of
SK hynix, Inc.

We have reviewed the accompanying Report on the Operation of Internal Accounting Control System ("IACS") of SK hynix, Inc (the "Company") as of December 31, 2018. The Company's management is responsible for designing and maintaining effective IACS and for its assessment of the effectiveness of IACS. Our responsibility is to review management's assessment and issue a report based on our review. In the acCompanying report of management's assessment of IACS, the Company's management stated: "Based on the assessment results, we believe that the Company's ICFR, as of Dec 31, 2018, is effectively designed and operating, in all material respects, in conformity with the Best Practice Guideline."

We conducted our review in accordance with IACS Review Standards, issued by the Korean Institute of Certified Public Accountants. Those Standards require that we plan and perform the review to obtain assurance of a level less than that of an audit as to whether Report on the Operations of Internal Accounting Control System is free of material misstatement. Our review consists principally of obtaining an understanding of the Company's IACS, inquiries of Company personnel about the details of the report, and tracing to related documents we considered necessary in the circumstances. We have not performed an audit and, accordingly, we do not express an audit opinion.

A Company's IACS is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of separate financial statements for external purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, however, IACS may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on our review, nothing has come to our attention that Report on the Operations of Internal Accounting Control System as of December 31, 2018 is not prepared in all material respects, in accordance with IACS Framework issued by the Internal Accounting Control System Operation Committee.

This report applies to the Company's IACS in existence as of December 31, 2018. We did not review the Company's IACS subsequent to December 31, 2018. This report has been prepared for Korean regulatory purposes, pursuant to the External Audit Law, and may not be appropriate for other purposes or for other users.

KPMG Samjong Accounting Corp.
Seoul, Korea
February 25, 2019

Notice to Readers
This report is annexed in relation to the audit of the separate financial statements as of December 31, 2018 and the review of internal accounting control system pursuant to Article 2-3 of the Act on External Audit for Stock Companies of the Republic of Korea.

<u>Report on the Effectiveness of the Internal Control over Financial Reporting</u>

To the Shareholders, Board of Directors and Audit Committee of SK HYNIX INC.

We, as the Chief Executive Officer and the Internal Control over Financial Reporting ("ICFR") Officer of SK HYNIX INC. ("the Company"), assessed the effectiveness of the design and operation of the Company's ICFR for the year ended Dec 31, 2018.

The Company's management, including ourselves, is responsible for designing and operating an ICFR. We assessed the design and operational effectiveness of the ICFR in the prevention and detection of an error or fraud which may cause a misstatement in the preparation and disclosure of reliable financial statements. We followed the Best Practice Guideline which is established by the Operating Committee of Internal Control over Financial Reporting in Korea (the "ICFR Committee") to evaluate the effectiveness of the ICFR design and operation.

Based on the assessment results, we believe that the Company's ICFR, as of Dec 31, 2018, is effectively designed and operating, in all material respects, in conformity with the Best Practice Guideline.

We certify that this report does not contain any untrue statement of a fact, or omit to state a fact necessary to be presented herein. We also certify that this report does not contain or present any statements which might cause material misunderstandings of the readers, and we have reviewed and verified this report with sufficient care.

Jan 18, 2019

Seok Hee Lee Chief Executive Officer Seokhee Lee

Jin Seok Cha, ICFR Officer