LG Electronics Inc.

Separate Financial Statements December 31, 2019 and 2018

LG Electronics Inc.

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December 31, 2019 and 2018

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of LG Electronics Inc.

Opinion

We have audited the accompanying separate financial statements of LG Electronics Inc. (the "Company"), which comprise the separate statements of financial position as at December 31, 2019 and 2018, and the separate statements of profit or loss, separate statements of comprehensive income, separate statements of changes in equity and separate statements of cash flows for the years then ended, and notes to the separate financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying separate financial statements present fairly, in all material respects, the separate financial position of the Company as at December 31, 2019 and 2018, and its separate financial performance and its separate cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

We have also audited, in accordance with Korean Standards on Auditing, the Company's Internal Control over Financial Reporting as at December 31, 2019, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*, and our report dated March 16, 2020 expressed an unqualified opinion.

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 Financial Statements* section of our report. We are independent of the Company in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other Matter

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

Key Audit Matters

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

(a) Impairment of investments in associates

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

As disclosed in Note 13, the Company held 37.9% of shares of LG Display Co., Ltd. (hereinafter referred to as "LGD"), which was classified as an associate. As at December 31, 2019, the book amount of the LGD shares was $\[mathbb{W}\]$ 3,480,623 million.

The Company focused on the decline of the market value of the LGD shares during the current period and performed impairment testing in accordance with Korean IFRS 1036 *Impairment of Assets*.

We considered that the impairment of investments in associates was a key audit matter given the decline in the market value of LGD shares and the level of management's judgments involved in the value-in-use estimation of impairment testing are significant.

How our audit addressed the Key Audit Matter

We performed the following audit procedures on a valuation model, key assumptions and judgements related to value-in-use estimation performed by the Company. We also involved our valuation specialists when performing such audit procedures. Our audit procedures included:

- Obtaining an understanding of the accounting policies and internal controls of the Company related to impairment testing
- Testing internal controls such as the management's review and approval of business plan estimation and key assumptions of the valuation model for impairment testing
- Making inquiries on and obtaining an understanding of the valuation model used by the Company and assessing the consistency with the prior year
- Evaluating the appropriateness of the business plan estimation by management by comparing business plans of LGD used in the prior year impairment testing with actual business performance
- Obtaining an understanding of future cash flows of LGD, and confirming that such future cash flows forecasts are consistent with the corresponding information included in business plans approved by the management
- Evaluating appropriateness of key assumptions used in the valuation model such as discount rates, growth rates and others by comparing them with external benchmarks within the same industry and historical financial information of LGD
- Performing sensitivity analysis of key assumptions in order to quantify the downside changes in assumptions that could result in an impairment

In addition, we reviewed the workpapers on the audit procedures related to the goodwill impairment testing performed by the independent auditor of LGD (hereinafter referred to as the "component auditor") and the evaluation result of competence and objectivity of involved independent external experts in the goodwill impairment testing prepared by management of LGD.

(b) Capitalization of internally generated development costs and their impairment

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

As disclosed in Note 12, the book amount of internally generated development costs of the Company was \forall 692,180 million (including \forall 385,144 million of construction-in-progress) as at December 31, 2019, which was material in the separate financial statements of the Company.

The Company recognized internally generated development costs which meet certain conditions defined in Korean IFRS 1038 *Intangible Assets* and applied Korean IFRS 1036 *Impairment of Assets* to determine whether they are impaired.

We considered that the capitalization of internally generated development costs and their impairment was a key audit matter given that it is related to a significant level of judgments and estimations based on management's assumptions.

How our audit addressed the Key Audit Matter

We performed the following audit procedures relating to testing for the effectiveness of internal controls related to capitalization of internally generated development costs and their impairment:

- Evaluating whether the accounting policies of the Company were in compliance with the requirements for the recognition of Korean IFRS 1038 *Intangible Assets*
- Obtaining an understanding of the internal control related to capitalization of internally generated development costs and their impairment
- Testing internal controls such as the management's review and approval of business plan estimation of individual project and key assumptions of the valuation model

We also obtained a detailed schedule of capitalized development projects with the amounts of individual project, and reconciled them to the amounts recorded in the general ledger. For certain projects selected as samples, our audit procedures included:

- Obtaining management's analysis documentations, which included conclusions made by management, interviewing with the project managers to understand and evaluate whether each project met the criteria for capitalization, and confirming that the analyses are consistent with the explanations of the project managers
- Inspecting contracts with customers, purchase orders or quotations which represented future economic benefits
- Evaluating the appropriateness of key assumptions and raw data applied to impairment analysis
 and testing them by examining that they are consistent with the assumptions used in the
 business plans of each individual project, historical business performances, strategies of
 management, discount rate and others
- Testing the occurrence and the accuracy of aggregation and allocation of capitalized expenditures by vouching proper evidences

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

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

In preparing the 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.

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

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these 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 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 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.
- 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, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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

The engagement partner on the audit resulting in this independent auditor's report is Ki-Soo Hong, Certified Public Accountant.

Seoul, Korea March 16, 2020

This report is effective as at March 16, 2020, 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 there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

LG Electronics Inc. Separate Statements of Financial Position December 31, 2019 and 2018

(in millions of Korean won)	Notes	2019	2018
Assets			
Current assets			
Cash and cash equivalents	4,5,38	918,795	1,109,883
Deposits held by financial institutions	4,5,38	65,500	80,500
Trade receivables	4,6,38	3,665,619	3,726,012
Other receivables	4,6,38	845,345	545,431
Other financial assets	4,7,38	2,298	1,281
Inventories	8	1,195,260	1,505,385
Current tax assets Contract assets	9	1,985 420,426	3,157 465,307
Other current assets	10	584,975	401,387
Other current assets	10		
Non-current assets		7,700,203	7,838,343
Deposits held by financial institutions	4,5,38	1,489	1,211
Other receivables	4,6,38	159,525	243,485
Other financial assets	4,7,38	61,600	43,001
Property, plant and equipment	11	7,331,504	7,278,238
Intangible assets	12	1,440,219	1,671,617
Deferred tax assets	18	1,058,578	967,496
Investments in subsidiaries, associates and joint ventures	13	9,022,290	9,108,014
Investment properties	14	-	93,999
Contract assets	9 10	56,559	90,092
Other non-current assets	10	642,924	529,967
		19,774,688	20,027,120
Total assets		27,474,891	27,865,463
Liabilities			
Current liabilities			
Trade payables	4,38	5,227,643	5,553,794
Borrowings	4,15,38	1,054,088	768,275
Lease liabilities	4,16,38	68,278	-
Other payables	4,17,38	1,900,869	2,371,053
Other financial liabilities	4,7,38	7,351	6,453
Current tax liabilities	00	18,494	240.004
Provisions Contract liabilities	20 9	502,235 376,464	349,001
Other current liabilities	9 21	1,385,298	458,539 1,251,123
Other current habilities	21	10,540,720	10,758,238
Non-current liabilities		10,010,120	10,700,200
Borrowings	4,15,38	7,165,993	7,132,237
Lease liabilities	4,16,38	59,999	-
Other payables	4,17,38	410	1,011
Other financial liabilities	4,7,38	88,032	83,759
Net defined benefit liabilities	19	488,726	305,921
Provisions Contract liabilities	20 9	103,852	124,467 1,034
Other non-current liabilities	21	1,659 132,170	95,916
Other hon-current habilities	21	8,040,841	7,744,345
Takat BakiBelaa			
Total liabilities		18,581,561	18,502,583
Equity			
Paid-in capital:	22	004.400	004.400
Share capital		904,169	904,169
Share premium	23	3,088,179 5,006,105	3,088,179 5,460,710
Retained earnings Accumulated other comprehensive loss	23 24	(72,304)	(57,359)
Other components of equity	2 4 25	(32,819)	(32,819)
· · · · ·	20		
Total equity		8,893,330	9,362,880
Total liabilities and equity		27,474,891	27,865,463

LG Electronics Inc. Separate Statements of Profit or Loss Years Ended December 31, 2019 and 2018

(in millions of Korean won, except per share amounts)	Notes	2019	2018
Net sales	26	28,654,467	29,982,010
Cost of sales	27	22,202,787	23,613,681
Gross profit		6,451,680	6,368,329
Selling and marketing expenses Administrative expenses Research and development expenses Service costs	27,28 27,28 27,28 27,28	2,962,593 537,337 2,060,171 725,570	2,851,568 549,614 1,922,364 557,067
Operating profit Financial income Financial expenses Other non-operating income Other non-operating expenses Profit (loss) before income tax	29 30 31 32	166,009 129,072 377,562 1,078,951 1,155,608 (159,138)	487,716 203,001 409,487 802,410 1,016,086 67,554
Income tax expense Loss for the year	18 ₋	36,980 (196,118)	72,328 (4,774)
Earnings (loss) per share during the year (in Korean won)	33		
Loss per ordinary share Earnings (loss) per preferred share		(1,094) (1,044)	(31) 19

LG Electronics Inc. Separate Statements of Comprehensive Income Years Ended December 31, 2019 and 2018

(in millions of Korean won)	Notes	2019	2018
Loss for the year Other comprehensive loss, net of tax		(196,118)	(4,774)
Items that will not be reclassified subsequently to profit or loss: Remeasurements of the net defined benefit liability Financial assets at fair value through other comprehensive income Items that will be reclassified subsequently to profit or loss:	19 7	(120,558) 960	(76,428) (1,317)
Cash flow hedges	38	(15,905)	(30,114)
Other comprehensive loss for the year, net of tax		(135,503)	(107,859)
Total comprehensive loss for the year, net of tax	1	(331,621)	(112,633)

(in millions of Korean won)	Notes_	Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Other Components of Equity	Total
Balance at January 1, 2018		3,992,348	5,602,967	(17,639)	(32,819)	9,544,857
Changes in accounting policy		-	11,830	(8,289)	-	3,541
Restated total equity	_	3,992,348	5,614,797	(25,928)	(32,819)	9,548,398
Total comprehensive income (loss):		, ,	, ,	, ,	, ,	, ,
Loss for the year		-	(4,774)	-	-	(4,774)
Remeasurements of the net defined benefit liability	19	-	(76,428)	-	_	(76,428)
Financial assets at fair value through other						
comprehensive income	7	-	-	(1,317)	-	(1,317)
Cash flow hedges	38 _	<u>-</u> _		(30,114)		(30,114)
Total comprehensive loss	_	<u> </u>	(81,202)	(31,431)	<u> </u>	(112,633)
Transactions with owners:			(70.005)			(70.005)
Dividends	23 _	- -	(72,885)			(72,885)
Total transactions with owners	_		(72,885)	(57.050)	(00.040)	(72,885)
Balance at December 31, 2018	_	3,992,348	5,460,710	(57,359)	(32,819)	9,362,880
-		0.000.010	5 400 7 40	(57.050)	(00.040)	
Balance at January 1, 2019	•	3,992,348	5,460,710	(57,359)	(32,819)	9,362,880
Changes in accounting policy	2 _		(2,020)	(57.050)	(00.040)	(2,020)
Restated total equity		3,992,348	5,458,690	(57,359)	(32,819)	9,360,860
Total comprehensive income (loss):			(406 440)			(406 440)
Loss for the year Remeasurements of the net defined benefit liability	19	-	(196,118)	-	-	(196,118)
Financial assets at fair value through other	19	-	(120,558)	-	-	(120,558)
comprehensive income	7			960		960
Cash flow hedges	38	_	_	(15,905)	_	(15,905)
Total comprehensive loss	_		(316.676)	(14,945)		(331,621)
rotal comprehensive rocc	_		(010,010)	(11,010)		(001,021)
Transactions with owners:						
Dividends	23	_	(135,909)	=	_	(135,909)
Total transactions with owners	_		(135,909)			(135,909)
Balance at December 31, 2019	_	3,992,348	5,006,105	(72,304)	(32,819)	8,893,330
,	_	, , ,	,,	(, , , , ,		, ,

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LG Electronics Inc. Separate Statements of Cash Flows Years Ended December 31, 2019 and 2018

(in millions of Korean won)	Notes	2019	2018
Cash flows from operating activities			
Cash generated from operations	34	366,345	1,828,269
Interest received		15,804	22,798
Interest paid		(248,500)	(241,441)
Dividends received		285,807	221,115
Income tax paid		(70,392)	(14,060)
Net cash inflow from operating activities		349,064	1,816,681
Cash flows from investing activities			
Decrease in deposits held by financial institutions		15,000	574
Decrease in other receivables		78,113	98,640
Proceeds from redemption and disposal of other financial assets		5,019	877
Proceeds from disposal of property, plant and equipment		37,035	41,530
Proceeds from disposal of intangible assets		1,992	1,831
Proceeds from withdrawal and disposal of investments			
in subsidiaries, associates and joint ventures		260,280	1,544
Proceeds from disposal of investment properties		99,663	-
Proceeds from disposal of assets held for sale		-	3,850
Transfer of business	34	3,126	49,618
Increase in deposits held by financial institutions		(279)	-
Increase in other receivables		(50,565)	(44,417)
Acquisition of other financial assets		(16,591)	(14,904)
Acquisition of property, plant and equipment		(759,822)	(923,093)
Acquisition of intangible assets		(296,033)	(513,112)
Acquisition of investments in subsidiaries, associates			
and joint ventures		(33,953)	(1,341,887)
Net cash outflow from investing activities		(657,015)	(2,638,949)
Cash flows from financing activities			
Proceeds from borrowings		1,060,062	1,192,215
Repayments of borrowings		(767,743)	(771,082)
Repayments of lease liabilities		(39,037)	· · · · · · · · · · · · · · · · · · ·
Dividends paid	23	(135,909)	(72,885)
Net cash inflow from financing activities		117,373	348,248
Effects of exchange rate changes on cash and cash equivalents		(510)	(2,355)
Net decrease in cash and cash equivalents		(191,088)	(476,375)
Cash and cash equivalents at the beginning of the year	5	1,109,883	1,586,258
Cash and cash equivalents at the end of the year	5	918,795	1,109,883

1. General Information

LG Electronics Inc. (the "Company") was spun off from LG Electronics Investment Ltd. on April 1, 2002. The Company's shares were listed on the Korea Exchange on April 22, 2002, and some of its preferred shares, in the form of global depositary receipts ("GDRs"), are listed on the London Stock Exchange at the end of the reporting period. The Company is domiciled in Korea at Yeouidaero, Yeongdeungpo-gu, Seoul.

As at December 31, 2019, LG Corp. owns 33.7% of the Company's total shares, excluding preferred shares, while financial institutions, foreign investors and others own the rest.

The Company operates following major business segments: Home Appliance & Air Solution segment manufactures and sells refrigerators, washing machines, vacuum cleaners, and residential and commercial air conditioners; Home Entertainment segment manufactures and sells TVs, monitors, and digital media products; Mobile Communications segment manufactures and sells mobile communications equipment; Vehicle Components Solutions segment designs and manufactures automobile parts; and Business Solutions segment manufactures and sells information displays, solar panels and others. As at December 31, 2019, the Company operates manufacturing facilities mainly in Changwon, Pyeongtaek, Gumi and Incheon in the Republic of Korea.

2. Significant Accounting Policies

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

Basis of Preparation

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

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

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

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgment in applying the Company's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and

estimates are significant to the separate financial statements are disclosed in Note 3.

Changes in Accounting Policies and Disclosures

- (a) New and amended standards and interpretations effective for the financial year beginning January 1, 2019.
- Enactment of Korean IFRS 1116 Leases

Korean IFRS 1116 Leases replaces Korean IFRS 1017 Leases, Interpretation 2104 Determining whether an Arrangement contains a Lease, Interpretation 2015 Operating Leases-Incentives, and Interpretation 2027 Evaluating the Substance of Transactions Involving the Legal Form of a Lease.

At inception of a contract, the Company shall assess whether the contract is, or contains, a lease. Also, at the date of initial application, the Company shall assess whether the contract is, or contains, a lease in accordance with the standard. For a contract that is, or contains, a lease, a lessee or a lessor shall account for each lease component within the contract as a lease separately from non-lease components of the contract.

A lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. The Company elected not to apply the requirements to short-term lease (a lease term of 12 months or less at the commencement date) and low-value assets (e.g. underlying assets below \$5,000).

Lessor accounting treatment did not change significantly from current Korean IFRS 1017 Leases.

Lessee accounting

A lessee shall apply this standard to its leases either:

- retrospectively to each prior reporting period presented applying Korean IFRS 1008
 Accounting Policies, Changes in Accounting Estimates and Errors (Full retrospective application); or
- retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application ('Cumulative catch-up' transition method).

The Company applied Korean IFRS 1116 retrospectively with the cumulative effect of initially applying the standard as at January 1, 2019. The Company did not restate any comparative information. Instead, the cumulative effect of applying the standard was recognized as an adjustment to the opening balance of retained earnings at the date of initial application.

Under Korean IFRS 1116, with implementation of a single lease model, a lessee is required to recognize assets and liabilities for all lease whose lease terms are over 12 months and underlying assets are not low-value assets. A lessee is required to recognize a right-of-use asset and a lease liability representing its obligation to make lease payments.

On adoption of Korean IFRS 1116, the Company recognized right-of-use assets and lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of Korean IFRS 1017. These liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as at January 1, 2019. The lessee's weighted average incremental borrowing rate applied to the lease liabilities on January 1, 2019 was 3.15%.

For leases previously classified as 'finance leases', the Company recognized the carrying amount of the lease asset and lease liability immediately before transition as the carrying amount of the right-of-use asset and the lease liability at the date of initial application. The measurement principles of Korean IFRS 1116 are only applied after that date. The remeasurements to the lease liabilities were recognized as adjustments to the related right-of-use assets immediately after the date of initial application.

As at January 1, 2019, the date of initial application, further details on the impact of the application of the standard are as follows:

(in millions of Korean won)	January 1, 2019
Operating lease commitments disclosed as at December 31, 2018	122,531
Discounted amount using the lessee's incremental borrowing rate at the date of initial application	91,802
Add: finance lease liabilities recognized as at December 31, 2018	4,795
Less: short-term lease payments recognized on a straight-line basis as expenses	(21,777)
Less: low-value asset lease payments recognized on a straight-line basis as expenses	(713)
Lease liabilities recognized as at January 1, 2019	74,107
Of which are:	
Current lease liabilities	29,733
Non-current lease liabilities	44,374
Total	74,107

The associated right-of-use assets for leases were measured on a retrospective basis as if the new rules had always been applied using the lessee's incremental borrowing rate at the date of initial application. There were no onerous lease contracts that would have required an adjustment to the right-of-use assets at the date of initial application.

Separate statements of financial position at the date of initial application (January 1, 2019):

(in millions of Korean won)	December 31, 2018 (before adjustments)	K-IFRS 1116 Adjustments	January 1, 2019 (after adjustments)
Current assets			
Other assets	401,387	(5,039)	396,348
Current assets without financial effect	7,436,956	-	7,436,956
Total current assets	7,838,343	(5,039)	7,833,304
Non-current assets			
Property, plant and equipment	7,278,238	71,755	7,349,993
Deferred tax assets	967,496	743	968,239
Other assets	529,967	(167)	529,800
Non-current assets without financial effect	11,251,419		11,251,419
Total non-current assets	20,027,120	72,331	20,099,451
Total assets	27,865,463	67,292	27,932,755
Current liabilities			
Lease liabilities	-	29,733	29,733
Other payables	2,371,053	(4,795)	2,366,258
Current liabilities without financial effect	8,387,185		8,387,185
Total current liabilities	10,758,238	24,938	10,783,176
Non-current liabilities			
Lease liabilities	-	44,374	44,374
Non-current liabilities without financial effect	7,744,345		7,744,345
Total non-current liabilities	7,744,345	44,374	7,788,719
Total liabilities	18,502,583	69,312	18,571,895
Equity			
Retained earnings	5,460,710	(2,020)	5,458,690
Equity without financial effect	3,902,170		3,902,170
Total equity	9,362,880	(2,020)	9,360,860

In applying Korean IFRS 1116 for the first time, the Company has used the following practical expedients permitted by the standard:

- the use of a single discount rate to a portfolio of leases with reasonably similar characteristics
- reliance on previous assessments on whether leases are onerous
- the accounting for operating leases with a remaining lease term of less than 12 months as at January 1, 2019, as short-term leases
- the exclusion of initial direct costs for the measurement of the right-of-use asset at the date of initial application, and

 the use of hindsight in determining the lease term where the contract contains options to extend or terminate the lease

The Company has also elected not to reassess whether a contract is, or contains a lease at the date of initial application. Instead, for contracts entered into before the date of initial application, the Company relied on its assessment made applying Korean IFRS 1017 and Interpretation 2104 Determining whether an Arrangement contains a Lease.

Lessor accounting

There is no significant impact on the separate financial statements from applying the new standard as accounting for the Company, as a lessor, does not significantly change.

- Amendments to Korean IFRS 1109 Financial Instruments

The narrow-scope amendments made to Korean IFRS 1109 *Financial Instruments* enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. The amendment does not have a significant impact on the separate financial statements.

- Amendments to Korean IFRS 1019 Employee Benefits

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

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

The amendments clarify that an entity shall apply Korean IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. The amendments also clarify that Korean IFRS 1109 requirements are applied to long-term interests that form part of the entity's net investment in an associate or joint venture before applying the impairment requirements of Korean IFRS 1028. The amendment does not have a significant impact on the separate financial statements.

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

The interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed.

The enactment does not have a significant impact on the separate financial statements.

- (b) New, enacted and amended standards issued, but not effective for December 31, 2019, and not early adopted by the Company
- Amendments to Korean IFRS 1001 *Presentation of Financial Statements* and Korean IFRS 1008 *Accounting policies, changes in accounting estimates and errors*

The amendments clarify the explanation of the definition of materiality and amended Korean IFRS 1001 and Korean IFRS 1008 in accordance with the clarified definitions. Materiality is assessed by reference to omission or misstatement of material information as well as effects of immaterial information, and to the nature of the users when determining the information to be disclosed by the Company. These amendments should be applied for annual periods beginning on or after January 1, 2020, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

- Amendments to Korean IFRS 1103 Business Combination

To determine whether an acquired set of activities and assets is a business, the amended definition of a business requires an acquisition to include an input and a substantive process that together significantly contribute to the ability to create outputs and excludes economic benefits from the lower costs. An entity can apply a concentration test, an optional test, where substantially all of the fair value of gross assets acquired is concentrated in a single asset or a group of similar assets, the assets acquired would not represent a business. The Company does not expect that these amendments have a significant impact on the financial statements.

Investments in Subsidiaries, Associates and Joint ventures

In accordance with Korean IFRS 1027 Separate Financial Statements, the investments in subsidiaries, associates and joint ventures are recorded at acquisition cost on the basis of the direct equity interest. The Company recognizes dividend income from subsidiaries, associates and joint ventures in profit or loss when its right to receive the dividend is established.

Segment Reporting

Operating segments are established on the basis of business divisions whose internal reporting is provided to the chief operating decision-maker who is the chief executive officer. Segmental disclosures are disclosed in Note 4 of the consolidated financial statements in accordance with Korean IFRS 1108 *Operating Segment*.

Foreign Currency Translation

(a) Functional and presentation currency

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

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation in case of items subject to re-measurement. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies, are recognized in the separate statements of profit or loss, except cash flow hedges qualifying to be recognized in other comprehensive income.

Changes in the fair value of monetary debt securities denominated in foreign currency classified as financial assets at fair value through other comprehensive income are analysed between translation differences resulting from changes in the amortized cost of the security and other changes in the carrying amount of the security. Translation differences related to changes in amortized cost are recognized in profit or loss, and other changes in carrying amount are recognized in other comprehensive income.

Translation differences on non-monetary financial assets and liabilities are recognized in the separate statements of profit or loss as part of the fair value gain or loss. Translation differences arising from equities held at fair value through profit or loss are recognized in profit or loss, and those arising from equities held at fair value through other comprehensive income are recognized in other comprehensive income.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits at banks, and other short-term highly liquid investments with original maturities of three months or less.

Financial Instruments

Classification

(a) Financial assets

The Company classifies its financial assets in the following measurement categories:

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

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

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

For investments in equity instruments that are not held for trading, this will depend on whether the Company has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income. Changes in fair value of non-designated investments in equity instruments are recognized in profit or loss.

(b) Financial Liabilities

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

The Company classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost.

Recognition and Measurement

Typical purchases and sales of financial assets are recognized on the trade date. At initial recognition, the Company measures a financial asset and financial liabilities at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining

whether their cash flows are solely payment of principal and interest.

(a) Debt instruments

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

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

(b) Equity instruments

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

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other non-operating income and expenses' in the statement of profit or loss as applicable.

Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income is not reported separately from other changes in fair value.

Impairment

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

Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount is presented in the statements of financial position when there is a legally enforceable right to offset the recognized amounts and an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Company or the counterparty.

Derecognition

Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Company has transferred substantially all the risks and rewards of ownership.

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

Financial liabilities are derecognized from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

Derivative Financial Instruments

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value. The resulting gain or loss that does not meet the conditions for hedge accounting is recognized in 'other non-operating income (expenses)' or 'financial income (expenses)' according to the nature of transactions.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in the separate statements of profit or loss within 'other non-operating income (expenses)' or 'financial income (expenses)'.

Amounts accumulated in other comprehensive income are reclassified to profit or loss in the periods when the hedged item affects profit or loss. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to the separate statements of profit or loss within 'other non-operating income (expenses)' or 'financial income (expenses)'.

Trade Receivables

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. If the collection of trade receivables is expected in one year or less, they are classified as current assets. If not, they are presented as non-current assets. Trade receivables are recognized initially at fair value, less allowance for doubtful debts.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the weighted-average method, except for inventories in-transit whose cost is determined using the specific identification method. The cost of finished goods and work-in-process comprises of raw materials, direct labour, other direct costs and related production overheads (based on normal operating capacity). The Company periodically reviews a possibility of significant changes in net realizable value of inventories from not in use, decrease in market value and obsolescence, and recognizes as Allowances for Valuation of Inventories. Net realizable value is the estimated selling price in the ordinary course of business, less applicable selling expenses.

Assets Held for Sale and Discontinued Operations

Non-current assets (or disposal groups) are classified as 'assets held for sale' when their carrying amount is to be recovered principally through a sale transaction and a sale is considered highly probable. They are measured at the lower of carrying amount and the fair value less costs to sell.

When a component of discontinued operations or a component of the Company representing a separate major line of business or geographical area of operation has been disposed of, or is subject to a sale plan involving loss of control of a subsidiary, the Company discloses in the separate statements of profit or loss the post-tax profit or loss of discontinued operations and the post-tax gain or loss recognized on the measurement to fair value less costs to sell or on the disposal of the assets or disposal groups constituting the discontinued operation. The net cash flows attributable to the operating, investing and financing activities of discontinued operations are presented in the notes to the separate financial statements.

Property, Plant and Equipment

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

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Company and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. All other repairs and maintenance are charged to the separate statements of profit or loss during the financial period in which they are incurred.

Land is not depreciated. Depreciation of other property, plant and equipment is calculated using the straight-line method to allocate their acquisition cost or revalued amounts, net of their residual values, over their estimated useful lives, as follows:

Buildings and Structures	20, 40 years
Machinery	5, 10 years
Tools and Equipment	5 years
Supplies	5 years
Other	5 years

Each asset's depreciation method, residual values, and useful lives are reviewed and adjusted if necessary, at the end of each reporting period. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Gains and losses on disposals are determined by differences between the proceeds from the disposal of the asset and its carrying amount and are recognized within 'other non-operating income (expenses)' in the separate statements of profit or loss.

Borrowing Costs

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

Government Grants

Grants from a government are recognized at their fair value when there is a reasonable assurance that the grant will be received and the Company will comply with all attached conditions.

Government grants relating to income are deferred and recognized in the separate statements of profit or loss over the period necessary to match them with the costs that they are intended to compensate.

Government grants relating to property, plant and equipment are presented as a deduction of related assets and are credited to depreciation over the expected lives of the related assets.

Intangible Assets

(a) Goodwill

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recoded as goodwill. Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed.

(b) Industrial property rights

Industrial property rights are shown at historical cost. Industrial property rights have a limited useful life and are carried at cost less accumulated amortization. Amortization is calculated using the straight-line method to allocate the cost of industrial property rights over their estimated useful lives of ten years.

(c) Development costs

New product development project is processed through product planning, design planning, product design, mass production verification, production readiness approval, and shipment approval. The Company generally recognizes expenditures incurred during and after the product design phase as development costs, and expenditures incurred before the phase are recognized as expenses within research and development expenses. Costs recognized as development costs are controlled by the Company and directly attributable to identifiable development projects, and meet all of the following criteria.

- It is technically feasible to complete the intangible asset so that it will be available for use or sale;
- Management intends to complete the intangible asset to use or sell it;
- It has the ability to use or sell the intangible asset;
- It can be demonstrated how the intangible asset will generate probable future economic benefits;
- Adequate technical, financial and other resources to complete the development for using and selling the intangible asset are available; and
- The expenditure attributable to the intangible asset during its development phase can be reliably measured.

Amortization of development costs based on the straight-line method over their estimated useful lives of one or three years begins at the commencement of sale or use of the related products.

(d) Membership

Membership rights are regarded as intangible assets with an indefinite useful life and are not amortized because there is no foreseeable limit to the period over which the assets are expected to be utilized. All membership rights are tested annually for impairment and stated at acquisition cost less accumulated impairment losses.

(e) Other intangible assets

Other intangible assets such as customer relationships, values of techniques and software which meet the definition of an intangible asset are amortized using the straight-line method over their estimated useful lives of five or ten years.

Investment Property

Investment property is held to earn rentals or for capital appreciation or both. Investment property is measured initially at its cost including transaction costs incurred in acquiring the asset. After its initial recognition, investment property is carried at its cost less any accumulated depreciation and accumulated impairment losses.

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, only when it is probable that future economic benefits associated with the item will flow to the Company and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. All other repairs and maintenance are charged to the separate statements of profit or loss during the financial period in which they are incurred.

Land held for investment is not depreciated. Investment property, except for land, is depreciated using the straight-line method over their estimated useful lives of 20 or 40 years.

Management reviews the depreciation method, the residual value and the useful life of an asset at the end of each period. If it is decided that previous estimates should be adjusted, the adjustment is accounted for as a change in an accounting estimate.

Impairment of Non-Financial Assets

Goodwill and intangible assets that have indefinite useful lives are not subject to amortization and are tested annually for impairment. At the end of each reporting period, assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized as profit or loss for the year for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and its value-in-use. The value-in-use is measured by determining the estimated pre-tax cash flows based on past performance and its expectations of market development, and applying the pre-tax discount rates that reflect specific risks relating to the relevant operating segments. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets other than goodwill that

suffered impairment loss are reviewed for possible reversal of the impairment at the end of each reporting period.

Trade Payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade payables are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities. Trade payables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method. Current trade payables measured initially at fair value are not significantly different from amortized cost using the effective interest method.

Borrowings

Borrowings are recognized initially at fair value, net of transaction costs incurred. Borrowings are subsequently carried at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the separate statements of profit or loss over the period of the borrowings using the effective interest method. The Company classifies the liability as current as long as it does not have an unconditional right to defer its settlement over 12 months after the end of the reporting period.

Financial Guarantee Contracts

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due, in accordance with the original or modified terms of a debt instrument. Financial guarantees contracts provided by the Company are initially measured at fair value on the date the guarantee was given. Subsequent to initial recognition, the Company's liabilities under such guarantees are measured at the higher of the following amounts below and recognized as 'other financial liabilities':

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

Provisions

Provisions are recognized 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 can be reliably estimated. The Company recognizes a warranty provision, a provision for restoration, and a provision for litigation.

A warranty provision is accrued for the estimated costs of future warranty claims based on historical experience. Where the Company, as a tenant, is required to restore its leased assets to their original state at the end of the lease-term, the Company recognizes the present value of the estimated cost of restoration as a provision for restoration. When there is a probability that an outflow of economic benefits will occur from litigation or disputes, and whose amount is reasonably estimable, a corresponding amount of provision is recognized as a provision for litigation in the separate financial statements.

A contingent liability is disclosed (Note 35) when;

- a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or
- a present obligation that arises from past events but is not recognized because: it is not
 probable that an outflow of resources embodying economic benefits will be required to settle
 the obligation; or the amount of the obligation cannot be measured with sufficient reliability.

Current and Deferred Income Tax

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

The tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period in countries where the Company operates and generates taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is recognized on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the separate financial statements. It represents future tax consequences that will arise when recovering or settling the carrying amount of its assets and liabilities. However, the deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor tax profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the end of the reporting period and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Deferred tax assets are recognized only to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences can be utilized.

Deferred income tax liabilities are provided on taxable temporary differences arising on investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference is controlled by the Company, and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred income tax assets are recognized only to the extent that it is probable that the deductible temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes assets and liabilities relate to income taxes levied by the same taxation authority on either the taxable entity or different taxable entities where there is an intention either to settle the balances on a net basis.

Employee Benefits

(a) Post-employment benefits

The Company operates various pension schemes. The schemes are generally funded through payments to insurance companies or trustee-administered funds, determined by periodic actuarial calculations. The Company operates both defined contribution and defined benefit plans.

A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate fund. The Company has no legal or constructive obligations to pay further contributions even if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. For the defined contribution plan, the Company pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The contributions are recognized as employee benefit expenses when an employee has rendered service. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent qualified actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds and that have terms to maturity approximating to the terms of the related pension obligation. The remeasurements of the net defined benefit liabilities are recognized in other comprehensive income.

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

(b) Other long-term employee benefits

The Company provides other long-term employee benefits to their employees. The entitlement to these benefits is usually conditional on the employee working more than ten years. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Company recognizes past service cost, net interest on other long-term employee benefits and remeasurements as profit or loss for the year. These benefits are calculated annually by independent qualified actuaries.

(c) Termination benefits

Termination benefits are payable when employment is terminated by the Company before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Company recognizes termination benefits at the earlier of the following dates: when the entity can no longer withdraw the offer of those benefits or when the entity recognizes costs for a restructuring.

Share Capital

Ordinary shares and preferred shares without any obligation to repay are classified as equity.

Where the Company purchases its own ordinary shares, the consideration paid, including any directly attributable incremental costs, is deducted from equity attributable to owners of the Company until the shares are cancelled or reissued. Where such treasury shares are subsequently reissued, any consideration received is included in equity attributable to owners of the Company.

Revenue Recognition

(a) Identify performance obligation

The Company sells home appliances, mobile communications equipment, TVs, monitors, automobile parts, information displays and others. If the contract with a customer includes any separate services in addition to sales of goods, the Company identifies performance obligations of the services to be rendered from such sales contracts.

According to the rules and guidance on the terms and conditions of international trading (INCOTERMS 2010), the Company recognizes the transportation services as a separate performance obligation apart from the sale of goods, under the transactions with the rules where seller is responsible for paying shipping cost and insurance premium.

The Company determines standard warranty coverage periods per product and country, considering warranty periods required by law and others when entering into contracts with customers for the sales of products. If the Company provides an extended warranty beyond the standard warranty coverage periods or a customer has the option to purchase an additional warranty separately, the Company identifies the warranty as a separate performance obligation and recognizes revenue.

(b) A performance obligation satisfied at a point in time

Sales of goods are recognized when the Company has delivered products to the customer. Delivery does not occur until the products have been shipped to the specified location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the Company has objective evidence that all criteria for acceptance have been satisfied.

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

For royalty contracts, if there are no other goods or services provided to customer in the contracts other than obligations to provide license, the nature of the contracts are provision of right to use the Company's intellectual property that exist at the time of transfer. This means that the customer can direct the use of and obtain substantially all of the remaining benefits from the license at the point in time at which the license transfers. The Company determined the royalty income as a performance obligation satisfied at a point in time.

(c) A performance obligation satisfied over time

The Company builds and sells customized equipment and design plan for a customer. The revenue is recognized over time by measuring progress only if the Company's performance does not create an asset with an alternative use to the Company and the Company has an enforceable right to payment for performance completed to date. The Company performed an analysis on those contracts and determined the Company has an enforceable right to payment for performance completed to date; therefore, the revenue is recognized over time using input methods by measuring the percentage of completion.

When the outcome of a transaction involving the rendering of services provided separately to customers can be estimated reliably, revenue associated with such transaction is recognized by reference to the percentage of completion of the services. Any changes in expected revenue, cost or the amount of services rendered are accounted for as changes in estimates. These changes in estimates may bring adjustments to the expected revenue or cost which is recognized in the profit or loss in the period in which the management recognizes the changes in circumstances.

The Company receives licensing fees for the trademark held by the Company from subsidiaries and associates. The Company continues to develop the trademark's value and performs marketing activities through various media such as TV, internet, exhibitions, road shows and others. The nature of the Company's promise in granting a license is a promise to provide a right to access the Company's intellectual property over a license period; therefore, the Company determined the promised license is a performance obligation that is satisfied over time.

Income from rental, lease, extended guarantees and others is recognized on a straight-line basis over the period of the contract.

(d) Variable consideration

The Company estimates an amount of variable consideration by using the expected value which the Company expects to better predict the amount of consideration. The Company recognizes revenue with transaction price including variable consideration 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 refund period has lapsed. The refund liability is measured at the amount of consideration received for which the Company does not expect to be entitled.

(e) Allocating the transaction price

The transaction price in an arrangement must be allocated to each separate performance obligation based on the relative stand-alone selling prices of the goods or services being provided to a customer. The Company determines the stand-alone selling price for each separate performance obligation by using an 'adjusted market assessment approach'. In limited circumstances, the Company plans to use an 'expected cost plus a margin approach' to estimate expected cost plus a reasonable margin.

(f) Returns

A gross contract liability (refund liability) for the expected returns to customers is recognized as adjustment to revenue, and the Company has a right to recover the product from the customer when the customer exercises his right of return and recognizes an asset and a corresponding adjustment to cost of sales. A right to recover the products is measured at former carrying amount of the product less the costs to recover the products.

(g) Significant financing component

In general, the period between the transfer of the promised goods or services to the customer and the payment made by the customer is less than one year. In this case, the Company uses the practical expedient in which the Company does not adjust the promised amount of consideration for the effects of a significant financing component.

Leases

The Company leases various offices, warehouses, retail stores, equipment and cars. A lease term is normally determined considering non-cancellable period of a lease and its extension options. Lease conditions are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

Lessee accounting

Until the 2018 financial year, leases of property, plant and equipment were classified as either finance or operating leases. Payments made under operating leases (net of any incentives received from the lessor) were charged to profit or loss on a straight-line basis over the period of the lease.

From January 1, 2019, leases are recognized as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Company. Each lease payment is allocated to the repayment of lease liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the lease liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

(a) Right-of-use assets

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- · any initial direct costs, and
- estimated restoration costs

(b) Lease liabilities

The lease liabilities are initially measured at the present value of the lease payments that are not paid at the commencement date. The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

At the commencement date, the lease payments included in the measurement of the lease liability comprise the following payments:

- fixed lease payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payments that are based on an index or a rate

- amounts expected to be payable by the lessee under residual value guarantees
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option

However, payments associated with short-term leases and leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT-equipment whose underlying assets are values below US\$ 5,000, and others.

Lessor accounting

There is no significant impact on the separate financial statements from applying the new standard as the current lease accounting treatment for the Company, as a lessor, does not significantly change.

A lessor classifies each of its leases as either an operating lease or a finance lease. A lease that transfers substantially all the risks and rewards incidental to ownership of underlying asset is classified as a finance lease, and a lease other than a finance lease is classified as an operating lease.

At the commencement date, a lessor recognizes assets held under a finance lease in its statement of financial position and presents them as a receivable at an amount equal to the net investment in the lease using the interest rate implicit in the lease. Under an operating lease, a lessor recognizes lease payments from operating leases as income on either a straight-line basis or other systematic base.

Dividend Distribution

A dividend liability is recognized when the dividends are approved by the shareholders at their general meeting.

Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to shareholders of the Company by the weighted average number of shares issued excluding shares purchased by the Company that are held as treasury shares. Preferred shares have a right to participate in the profits of the Company. These participation rights have been considered in presenting the EPS for ordinary shares and preferred shares.

Greenhouse Gas Emissions Rights (Allowances) and Obligations

Emission rights are defined as allowed amount of emissions that can be released, allocated by the Korean government as 'Act on the Allocation and Trading of Greenhouse-Gas Emission Permits' takes effect. Emission rights that are received free of charge from the government are measured at zero, while the rights purchased additionally from trading market such as the Korea Exchange are measured at acquisition cost. Emission rights are subsequently stated as acquisition cost less accumulated impairment loss. Emission liabilities are measured as the sum of the carrying amount of emission rights to be delivered to the government to settle the obligation for emissions occurred and expected expenditure required at the end of reporting period for any excess emissions. The emission rights and liabilities are classified as 'intangible assets' and 'provisions', respectively, in the separate statement of financial position.

Business Combination

The acquisition method of accounting is used to account for the acquisition of subsidiaries by the Company. The cost of an acquisition is measured as the fair value of the assets given, equity instruments issued and liabilities incurred or assumed at the date of exchange. The consideration transferred in a business combination includes fair values of the assets and liabilities from arrangements for contingent payments. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the cost of acquisition over the fair value of the Company's share of the identifiable net assets acquired is recorded as goodwill.

3. Critical Accounting Estimates and Judgments

Estimates and judgments are continuously evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable.

The Company makes estimates and assumptions concerning the future. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing adjustments to the carrying amounts of assets and liabilities after the end of the reporting period are addressed below.

(a) Revenue Recognition

The Company recognizes revenue over time using the percentage of completion method for the rendering of service such as equipment production and installation. The Company measures the percentage of completion by estimating cost for the completion of the transaction, and the factors for the estimation of revenue may vary.

(b) Impairment of Goodwill and others

The Company tests goodwill and others regularly for impairment. The recoverable amounts of cashgenerating units have been determined based on fair value less costs of disposal or value in use calculations. These calculations require estimates.

(c) Income Taxes

The Company recognizes assets and liabilities for anticipated tax audit issues based on the best estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made.

(d) Fair Value of Financial Instruments

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

(e) Provisions

The Company recognizes provisions for product warranties and others based on their historical data.

(f) Net Defined Benefit Liabilities

The present value of the defined benefit liability depends on various factors that are determined on an actuarial basis. The assumptions used in determining the net cost (income) for pensions include the discount rate, which is the interest rate that is used to determine the present value of estimated future cash outflows expected to be required to settle the defined benefit liability. In determining the appropriate discount rate, the Company considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability. Other key assumptions for defined benefit liability are based on current market conditions.

(g) Development Costs

The Company capitalizes development costs when there is a reasonable assurance that projects have technical feasibility and the possibility of generating future economic benefits, and performs periodic impairment test. The recoverable amount of each project has been calculated on a basis of the value-in-use reflecting historical experience and future business plans. These calculations require estimates.

LG Electronics Inc. Notes to the Separate Financial Statements

December 31, 2019 and 2018

(h) Lease

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

The assessment of reasonable certainty to exercise (or not exercise) an extension option is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

4. Financial Instruments by Category and Offsetting Financial Assets and Financial Liabilities

(a) Categorizations of financial instruments as at December 31, 2019 and 2018, are as follows:

	December 31, 2019					
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total	
Cash and cash equivalents	918,795	-	-	-	918,795	
Deposits held by financial institutions	66,989	-	-	-	66,989	
Trade receivables	3,647,265	18,354	-	-	3,665,619	
Other receivables	1,004,870	-	-	-	1,004,870	
Other financial assets	-	38,514	21,282	4,102	63,898	
Total	5,637,919	56,868	21,282	4,102	5,720,171	

	December 31, 2019						
(in millions of Korean won)	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other	Total			
Trade payables	5,227,643	-	-	5,227,643			
Borrowings	8,220,081	-	-	8,220,081			
Lease labilities	-	-	128,277	128,277			
Other payables	1,901,279	-	-	1,901,279			
Other financial liabilities	-	-	95,383	95,383			
Total	15,349,003		223,660	15,572,663			

	December 31, 2018						
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	Financial assets at fair value through profit or loss	Other	Total		
Cash and cash equivalents	1,109,883	-	-	-	1,109,883		
Deposits held by financial institutions	81,711	-	-	-	81,711		
Trade receivables	3,678,401	47,611	-	-	3,726,012		
Other receivables	788,916	-	-	-	788,916		
Other financial assets	-	30,025	12,685	1,572	44,282		
Total	5,658,911	77,636	12,685	1,572	5,750,804		

	December 31, 2018						
		Financial liabilities at					
(in millions of Korean won)	Financial liabilities at amortized cost	fair value through profit or loss	Other	Total			
Trade payables	5,553,794	-	-	5,553,794			
Borrowings	7,900,512	-	-	7,900,512			
Other payables	2,372,064	-	-	2,372,064			
Other financial liabilities	-	1,862	88,350	90,212			
Total	15,826,370	1,862	88,350	15,916,582			

(b) Net gains or losses on each category of financial instruments for the years ended December 31, 2019 and 2018, are as follows:

	2019						
(in millions of Korean won)	Financial assets at amortized cost	Financial assets at fair value through other comprehensive income	fair value through	Other	Total		
Interest income	18,566	-	-	-	18,566		
Exchange differences	132,027	-	-	-	132,027		
Bad debts expense	(37,206)	-	-	-	(37,206)		
Loss on disposal of trade receivables	(2,113)	(2,825)	-	-	(4,938)		
Dividend income	-	242	273	-	515		
Gain on valuation of financial assets at fair value through profit or loss	-	-	17	-	17		
Fair value gain, net of tax (through other comprehensive income)	-	960	-	-	960		
Gain on derivatives, net of tax (through other comprehensive income)	-	-	-	86	86		
Others	(11,508)	-	-	-	(11,508)		

	2019						
		Financial liabilities at					
(in millions of Korean won)	Financial liabilities at amortized cost	fair value through profit or loss	Other	Total			
Interest expense	(241,691)	-	(6,983)	(248,674)			
Exchange differences	(160,952)	-	20,036	(140,916)			
Gain on derivatives (through profit or loss)	-	345	-	345			
Loss on derivatives, net of tax (through other comprehensive income)	-	-	(15,991)	(15,991)			
Others	-	-	(9,118)	(9,118)			

	2018						
	Financial assets						
	at amortized		rough other		through		
(in millions of Korean won)	cost	comprehe	nsive income	profit	or loss	Other	Total
Interest income	29,051		-		-	-	29,051
Exchange differences	182,440		-		-	-	182,440
Bad debts expense	(6,974)		-		-	-	(6,974)
Loss on disposal of trade receivables	(1,931)		(2,577)		-	-	(4,508)
Dividend income	-		192		-	-	192
Loss on valuation of financial assets at fair value through profit or loss Fair value loss, net of tax	-		-		(2,002)	-	(2,002)
(through other comprehensive income) Gain on derivatives, net of tax	-		(1,317)		-	-	(1,317)
(through other comprehensive income)	-		-		-	597	597
Others	(8,126)		-		-	-	(8,126)
				2018			
	Financial liabi		inancial liabili fair value thro				
(in millions of Korean won)	amortized	cost	profit or los	ss	Other		Total
Interest expense	(2	231,692)		-	(9,9	93)	(241,685)
Exchange differences	(2	214,251)		-	33,0	616	(180,635)
Gain on derivatives (through profit or loss)		-		851		-	851
Loss on derivatives, net of tax (through other comprehensive income)	e	-		-	(30,7	'11)	(30,711)
Others		-		-	1,2	235	1,235

(c) Recognized financial instruments that are subject to enforceable master netting arrangements or similar arrangements as at December 31, 2019 and 2018, are as follows:

	2019						
		D	Net amounts presented in the statement of financial position	Amounts r	Amounts not offset		
(in millions of Korean won)	Recognized financial instrument	Recognized financial instrument offset		Financial instruments	Cash collateral	Net amount	
Financial assets							
Trade receivables	63,679	(63,679)	-	-	-	-	
Financial liabilities							
Trade payables	115,590	(63,679)	51,911	-	-	51,911	

	2018							
Recognized financial (in millions of Korean won) instrument		Recognized	Net amounts presented in	Amounts not offset		_		
	financial instrument offset	the statement of financial position	Financial instruments	Cash collateral	Net amount			
Financial assets								
Trade receivables	77,777	(77,392)	385	-	-	385		
Financial liabilities								
Trade payables	143,868	(77,392)	66,476	-	-	66,476		

5. Cash and Cash Equivalents and Deposits held by Financial Institutions

(a) Cash and cash equivalents

Cash and cash equivalents in the separate statements of financial position are equal to the cash and cash equivalents in the separate statements of cash flows. Details are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Cash on hand	49	10
Bank deposits	918,746	1,109,873
Total	918,795	1,109,883

(b) Deposits held by financial institutions

The deposits held by financial institutions restricted in use as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Current		
Fund for business cooperation	65,500	80,500
Non-current		
Deposit for checking account	33	33
National project	1,456	1,178
Subtotal	1,489	1,211
Total	66,989	81,711

6. Trade Receivables and Other Receivables

(a) Trade receivables and other receivables, net of allowance for doubtful accounts, as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	De	December 31, 2019			December 31, 2018			
	Allowance			Allowance				
	Original _ amount	for doubtful accounts	Carrying amount	Original amount	for doubtful accounts	Carrying amount		
Trade receivables	3,727,941	(62,322)	3,665,619	3,756,499	(30,487)	3,726,012		
Other receivables								
Current	854,985	(9,640)	845,345	551,698	(6,267)	545,431		
Non-current	160,067	(542)	159,525	243,494	(9)	243,485		

(b) Details of other receivables as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Current		
Loans	12,870	11,470
Non-trade receivables	627,422	404,491
Accrued income	105,778	84,015
Deposits	99,275	45,455
Subtotal	845,345	545,431
Non-current		
Loans	85,921	82,887
Non-trade receivables	-	2,512
Deposits	73,604	158,086
Subtotal	159,525	243,485
Total	1,004,870	788,916

(c) The aging analysis of trade receivables and other receivables as at December 31, 2019 and 2018, is as follows:

(in millions of Korean won)		December 31, 2019						
	Trade	Trade Other receivables			Trade	Other i	receivables	
	receivables	Current	Non-current	Total	receivables	Current	Non-current	Total
Receivables not past due	3,195,394	695,353	142,751	4,033,498	3,446,476	417,134	230,670	4,094,280
Past due but not impaired								
Up to 6 months	353,752	53,804	13,886	421,442	210,170	13,555	11,711	235,436
7 to 12 months	35,054	15,660	1,844	52,558	77,215	23,499	610	101,324
Over 1 year	43,775	79,694	1,586	125,055	11,527	90,332	503	102,362
Subtotal	432,581	149,158	17,316	599,055	298,912	127,386	12,824	439,122
Impaired	99,966	10,474		110,440	11,111	7,178		18,289
Total	3,727,941	854,985	160,067	4,742,993	3,756,499	551,698	243,494	4,551,691
	3,727,941	854,985	160,067	4,742,993	3,756,499	551,698	243,494	

Current

Non-current

- (d) The allowance for doubtful accounts is recognized based on aging analysis and historical experience.
- (e) The Company classifies individually impaired receivables as defaulted receivables if the receivables are impaired due to reasons including bankruptcy and insolvency of the debtors. Defaulted receivables are classified into two categories of rehabilitation related receivables and other defaulted receivables. The Company performs impairment test on rehabilitation related receivables based on expected repayment amount and recognizes impairment loss on other defaulted receivables based on types and values of collaterals.
- (f) Movements in allowance for doubtful accounts for the years ended December 31, 2019 and 2018, are as follows:

		20	19	
(in millions of Korean won)	At January 1	Addition (Reversal)	Write-off and other	At December 31
Trade receivables	30,487	33,144	(1,309)	62,322
Other receivables				
Current	6,267	3,529	(156)	9,640
Non-current	9	533	-	542
		20	18	
(in millions of Korean won)	At January 1	Addition (Reversal)	Write-off and other	At December 31
Trade receivables	22,716	7,903	(132)	30,487
Other receivables				

Bad debt expenses for trade receivables are included in 'selling and marketing expenses' in the separate statement of profit or loss and those for other receivables are included in 'other non-operating expenses'. Allowance for doubtful accounts decrease when reasons for allowance are resolved or when the receivables are written off as there is no reasonable expectation of recovery.

(427)

(502)

6,267

9

6.694

511

(g) There are no transferred financial assets that are not derecognized in their entirety, nor any associated liabilities recognized at the end of the reporting period.

7. Other Financial Assets and Liabilities

(a) Details of other financial assets and liabilities as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Other financial assets		
Derivatives	4,102	1,572
Financial assets at fair value through other comprehensive income	38,514	30,025
Financial assets at fair value through profit or loss	21,282	12,685
Total	63,898	44,282
Current	2,298	1,281
Non-current	61,600	43,001
(in millions of Korean won)	December 31, 2019	December 31, 2018
Other financial liabilities		
Derivatives	78,865	75,860
Financial guarantee liability	16,518	14,352
Total	95,383	90,212
Current	7,351	6,453
Non-current	88,032	83,759

(b) Details of derivatives as at December 31, 2019 and 2018, are as follows:

	December :	31, 2019	December 31, 2018		
(in millions of Korean won)	Assets	Liabilities	Assets	Liabilities	
Current					
Currency swap	2,298	-	1,281	-	
Non-current					
Currency swap	1,804	8,633	291	20,920	
Interest rate swap	-	70,232	-	53,078	
Share purchase contract	-	-	-	1,862	
Subtotal	1,804	78,865	291	75,860	
Total	4,102	78,865	1,572	75,860	

The details of major derivative contracts at the end of the reporting period are presented in Note 38.

LG Electronics Inc.

Notes to the Separate Financial Statements December 31, 2019 and 2018

- (c) Financial assets at fair value through other comprehensive income and financial assets at fair value through profit or loss
 - i) Changes in carrying amount of financial assets at fair value through other comprehensive income for the years ended December 31, 2019 and 2018, are as follows:

			2019		
(in millions of Korean won)	At January 1	Acquisition	_Disposals_	Valuation	At December 31
Listed equity securities	13,265	-	(769)	(1,661)	10,835
Unlisted equity securities	16,760	10,919	(2,978)	2,978	27,679
Total	30,025	10,919	(3,747)	1,317	38,514
			2018		
(in millions of Korean won)	At January 1	Acquisition	2018 Disposals	Valuation	At December 31
(in millions of Korean won) Listed equity securities	At January 1 13,842	Acquisition		Valuation (577)	At December 31 13,265
1/					

ii) Changes in carrying amount of financial assets at fair value through profit or loss for the years ended December 31, 2019 and 2018, are as follows:

	-		2019		
(in millions of Korean won)	At January 1	Acquisition	Disposals	Valuation	At December 31
Unlisted equity securities	12,685	9,852	(1,272)	17	21,282
			2018		
(in millions of Korean won)	At January 1	Acquisition	Disposals	Valuation	At December 31
Unlisted equity securities	10,399	4,288	-	(2,002)	12,685

8. Inventories

(a) Inventories as at December 31, 2019 and 2018, consist of:

	December 31, 2019			December 31, 2018		
(in millions of Korean won)	Cost	Valuation allowance	Carrying amount	Cost	Valuation allowance	Carrying amount
Finished products and merchandise	623,726	(40,988)	582,738	664,581	(38,222)	626,359
Work-in-process	69,214	(2,641)	66,573	132,285	(3,346)	128,939
Raw materials and supplies	554,777	(118,424)	436,353	674,854	(43,914)	630,940
Other	139,581	(29,985)	109,596	141,705	(22,558)	119,147
Total	1,387,298	(192,038)	1,195,260	1,613,425	(108,040)	1,505,385

- (b) The cost of inventories recognized as an expense under cost of sales during the year ended December 31, 2019 amounted to ₩ 20,633,139 million (2018: ₩ 22,177,103 million). These were included in 'cost of sales'. Loss on valuation of inventories during the year ended December 31, 2019 amounted to ₩ 124,284 million (2018: ₩ 17,441 million).
- (c) There is no inventory provided as collateral for borrowings as at December 31, 2019.

9. Contract Assets and Contract Liabilities

(a) Contract assets as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Due from customers	399,802	454,920
(Less: allowance for doubtful accounts)	(2,999)	(2,400)
Right to recover returned products	704	799
Costs to fulfil contracts and others	79,478	102,080
_Total	476,985	555,399
Current	420,426	465,307
Non-current	56,559	90,092

(b) Contract liabilities as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Expected promotional incentives for customers	147,279	140,200
Expected returns from customers	1,099	1,221
Customer loyalty program	34,446	51,015
Rendering of warranty services	8	55
Due to customers and others	195,291	267,082
_Total	378,123	459,573
Current	376,464	458,539
Non-current	1,659	1,034

(c) Revenue recognized in relation to contract liabilities for the years ended December 31, 2019 and 2018, is as follows:

(in millions of Korean won)	2019	2018
Revenue recognized that was included in the contract		
liability amount at the beginning of the period:		
Due to customers and others	243,618	239,261
Customer loyalty program	51,015	35,830
Rendering of warranty services	48	52
Total	294,681	275,143
Revenue recognized from performance obligations satisfied in previous periods	3,306	1,252

(d) Unsatisfied long-term contracts

At the end of the reporting period, the total amount of transaction price allocated to the unsatisfied or partially unsatisfied performance obligations is $\forall 739,683$ million which are expected to be satisfied by 2021, at the latest. Also, as a practical expedient, the Company excluded performance obligation which is part of a contract that has an original expected duration of one year or less.

For the year ended December 31, 2019, the Company recognized an impairment loss amounting to \forall 70 million (2018: \forall 2,397 million) in relation to due from customers and an amortization of \forall 118,752 million (2018: \forall 30,673 million) in relation to costs to fulfil a contract.

10. Other Assets

Details of other assets as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Current:		
Advances	144,493	59,027
Prepaid expenses	333,884	268,137
Prepaid value added tax	106,598	74,223
Subtotal	584,975	401,387
Non-current:		
Long-term prepaid expenses	409,388	283,200
Long-term advances	233,536	246,767
Subtotal	642,924	529,967
Total	1,227,899	931,354

11. Property, Plant and Equipment, and Intangible Assets

(a) Details of property, plant and equipment as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At December 31, 2019									
Acquisition cost	2,293,817	4,539,412	203,583	2,644,824	1,964,604	378,052	896,792	111,320	13,032,404
Accumulated depreciation	(14)	(1,200,118)	(119,724)	(1,780,777)	(1,717,607)	(299,637)	(285,924)	-	(5,403,801)
Accumulated impairment losses		(138,532)	(3,102)	(143,521)	(7,219)	(4,511)	(214)		(297,099)
Net book amount	2,293,803	3,200,762	80,757	720,526	239,778	73,904	610,654	111,320	7,331,504
At December 31, 2018	-								
Acquisition cost	2,291,002	4,340,352	204,629	2,551,262	1,960,251	380,773	627,606	63,181	12,419,056
Accumulated depreciation	-	(1,012,600)	(116,487)	(1,630,251)	(1,689,594)	(302,834)	(154,126)	-	(4,905,892)
Accumulated impairment losses		(151,908)	(76)	(78,717)	(3,062)	(941)	(222)		(234,926)
Net book amount	2,291,002	3,175,844	88,066	842,294	267,595	76,998	473,258	63,181	7,278,238

(b) Changes in property, plant and equipment for the years ended December 31, 2019 and 2018, are as follows:

					2019				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1, 2019	2,291,002	3,175,844	88,066	842,294	267,595	76,998	473,258	63,181	7,278,238
Changes in accounting policy ¹	14	60,759	701	449	5,125	3,036	1,671	-	71,755
Restated net book amount	2,291,016	3,236,603	88,767	842,743	272,720	80,034	474,929	63,181	7,349,993
Acquisitions ²	4,850	112,772	2,143	90,110	96,482	26,328	302,296	229,213	864,194
Transfer-in (out)	-	35,815	1,390	111,987	31,514	287	81	(181,074)	-
Disposals and others	(2,058)	(9,113)	(363)	(19,970)	(8,217)	(399)	(14,947)	-	(55,067)
Decrease due to transfer of business	-	-	-	(74)	(388)	(37)	-	-	(499)
Depreciation	(5)	(164,849)	(8,076)	(226,797)	(146,306)	(28,634)	(151,562)	-	(726,229)
Impairment losses ³	-	(10,466)	(3,104)	(77,473)	(6,027)	(3,675)	(143)	-	(100,888)
At December 31, 2019	2,293,803	3,200,762	80,757	720,526	239,778	73,904	610,654	111,320	7,331,504

					2018				
(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total
At January 1, 2018	2,121,661	3,085,712	93,627	912,396	293,363	88,222	294,918	252,407	7,142,306
Acquisitions ²	(8,832)	95,931	2,423	114,739	102,721	17,708	276,435	295,351	896,476
Transfer-in (out)	187,212	149,010	967	93,035	43,242	471	10,640	(484,577)	-
Disposals and others	(9,039)	(3,829)	(573)	(7,880)	(11,738)	(370)	(13,960)	-	(47,389)
Decrease due to transfer of business	-	-	-	(3,361)	(318)	(10)	-	-	(3,689)
Depreciation	-	(129,944)	(8,290)	(248,517)	(159,532)	(28,948)	(93,707)	-	(668,938)
Impairment losses ³	-	(21,036)	(88)	(18,118)	(143)	(75)	(1,068)	-	(40,528)
At December 31, 2018	2,291,002	3,175,844	88,066	842,294	267,595	76,998	473,258	63,181	7,278,238

¹ Property, plant and equipment as at January 1, 2019, amounting to ₩ 71,755 million, was newly recognized upon adoption of Korean IFRS 1116 *Leases*.

² It includes settlement of land purchase price.

³ Some of separate cash-generating units under MC, VS and BS segment were tested for impairment as accumulation of operating losses has been experienced and a future downturn in sales is expected. And impairment loss of ₩ 73,303 million (MC: ₩ 16,314 million, VS: ₩ 11,368 million, BS: ₩ 45,621 million) (2018: nil) was recognized as 'other non-operating expenses'. This impairment loss was allocated to machinery, equipment and others after reducing goodwill allocated to the cash-generating units. The recoverable amount was measured at the higher of fair value less costs of disposal or value in use, and the fair value amount is categorized within 'level 3' of fair value hierarchy.

(c) Line items including depreciation in the separate statements of profit or loss for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Cost of sales	579,932	564,211
Selling and marketing expenses	30,799	10,149
Administrative expenses	29,886	17,310
Research and development expenses	66,926	65,162
Service costs	13,429	5,272
Other non-operating expenses	5,257	6,834
Total	726,229	668,938

(d) Changes of right-of-use assets for the year ended December 31, 2019, are as follows:

(in millions of Korean won)	Land	Buildings	Structures	Machinery	Tools	Equipment	Other	Construction -in-progress	Total					
At January 1, 2019	14	60,759	701	449	5,125	3,036	10,652	-	80,736					
Acquisitions	-	58,166	-	-	-	2,709	43,029	976	104,880					
Transfer-in (out)	-	976	-	-	-	-	-	(976)	-					
Disposals and others	-	(6,640)	-	-	-	-	(1,186)	-	(7,826)					
Depreciation	(5)	(28,547)	(165)	(283)	(1,098)	(1,997)	(12,162)		(44,257)					
At December 31, 2019	9	84,714	536	166	4,027	3,748	40,333		133,533					

The amount recognized as lease income in relation to sublease of the above right-of-use assets for the year ended December 31, 2019, was \forall 11,596 million (2018: \forall 12,593 million).

(e) Capitalized borrowing costs and capitalization rates for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Capitalized borrowing costs	2,030	4,890
Capitalization rate (%)	3.07	3.15

(f) There is no property, plant and equipment pledged as a collateral for borrowings from banks.

12. Intangible assets

(a) Details of intangible assets are as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	Goodwill	Industrial property rights	Development costs ¹	Membership rights	Other	Construction -in-progress ¹	Total
At December 31, 2019							
Acquisition cost	86,528	869,355	2,944,921	64,992	679,958	604,213	5,249,967
Accumulated amortization and impairment losses	(31,108)	(439,678)	(2,531,139)	(1,315)	(603,008)	(203,500)	(3,809,748)
Net book amount	55,420	429,677	413,782	63,677	76,950	400,713	1,440,219

(in millions of Korean won) At December 31, 2018	Goodwill	Industrial property rights	Development costs ¹	Membership rights	Other	Construction -in-progress ¹	Total
Acquisition cost	86,528	827,062	2,660,126	66,237	667,563	662,263	4,969,779
Accumulated amortization and impairment losses	(1,214)	(404,604)	(2,303,842)	(2,244)	(563,837)	(22,421)	(3,298,162)
Net book amount	85,314	422,458	356,284	63,993	103,726	639,842	1,671,617

¹ As at December 31, 2019, internally generated development costs are included in development costs and construction-in-progress amounting to ₩ 307,036 million and ₩ 385,144 million (2018: ₩ 235,231 million and ₩ 623,303 million), respectively.

(b) Changes in intangible assets for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction -in-progress	Total
At January 1, 2019	85,314	422,458	356,284	63,993	103,726	639,842	1,671,617
Acquisitions	-	123,675	13,551	-	12,480	30,109	179,815
Acquisitions by internal development	-	-	4,421	-	-	239,825	244,246
Transfer-in (out)	-	-	311,463	-	685	(312,148)	-
Disposals and others	-	(27,554)	(191)	(316)	(39)	(4,159)	(32,259)
Decrease due to transfer of business	-	(546)	(38)	-	(138)	-	(722)
Amortization	-	(83,680)	(204,988)	-	(35,432)	-	(324,100)
Impairment losses 1,2	(29,894)	(4,676)	(66,720)	-	(4,332)	(192,756)	(298,378)
At December 31, 2019	55,420	429,677	413,782	63,677	76,950	400,713	1,440,219

(in millions of Korean won)	Goodwill	Industrial property rights	Development costs	Membership rights	Other	Construction -in-progress	Total
At January 1, 2018	87,235	430,392	285,466	63,949	98,744	508,415	1,474,201
Acquisitions	190	108,393	9,463	2,044	45,788	40,043	205,921
Acquisitions by internal development	-	-	2,739	-	-	417,059	419,798
Transfer-in (out)	-	-	300,411	-	1,475	(301,886)	-
Disposals and others	-	(34,070)	(75)	(720)	(628)	(1,368)	(36,861)
Decrease due to transfer of business	-	(183)	-	-	-	-	(183)
Amortization	-	(82,074)	(210,436)	-	(41,653)	-	(334,163)
Impairment losses 2,3	(2,111)	-	(31,284)	(1,280)	-	(22,421)	(57,096)
At December 31, 2018	85,314	422,458	356,284	63,993	103,726	639,842	1,671,617

¹ Some of cash-generating units under MC, VS and BS segment were tested for impairment as accumulation of operating losses has been experienced and a future downturn in sales is expected. And impairment loss of ₩ 44,896 million (MC: ₩ 40,041 million, VS: ₩ 1,894 million, BS: ₩ 2,961 million) (2018: nil) was recognized as 'other non-operating expenses'. This impairment loss was allocated to goodwill, industrial property rights and development costs. The recoverable amount was measured at the higher of fair value less costs of disposal or value in use, and the fair value amount is categorized within 'level 3' of fair value hierarchy.

(c) Line items including amortization of intangible assets for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018	
Cost of sales	194,008	189,272	
Selling and marketing expenses	13,214	15,389	
Administrative expenses	49,364	60,017	
Research and development expenses	66,805	68,720	
Service costs	702	764	
Other non-operating expenses	7	1	
Total	324,100	334,163	

(d) Capitalized borrowing costs and capitalization rates for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019 2018 45				
Capitalized borrowing costs	524	455			
Capitalization rate (%)	3.07	3.15			

² As a result of an impairment test for all projects related to internally generated development costs and others, an impairment loss of development costs relating to certain projects determined to have less business value was recognized as 'other non-operating expenses'.

³ In 2018, the Company disposed of Membrane business under other segments, and an impairment loss on goodwill amounting to ₩ 2,111 million, based on the recoverable amount, was recognized as 'other non-operating expenses' before disposal.

- (e) There are no intangible assets pledged as a collateral for borrowings as at December 31, 2019.
- (f) Impairment tests for goodwill
 - i) Goodwill is allocated among the Company's cash-generating units (CGUs) under each operating segment. As at December 31, 2019, goodwill amounting to ₩ 55,420 million is allocated to Home Appliance & Air Solution business segment.
 - ii) The recoverable amount of CGUs has been determined based on value-in-use or fair value less costs of disposal. These calculations use pre-tax cash flow projections based on financial budgets approved by the management covering a five-year period. Cash flows beyond the five-year period are extrapolated using the estimated growth rate which does not exceed the long-term average growth rate for the industry in which the identified CGUs operate.
 - iii) Management determined the estimated pre-tax cash flow based on past performance and its expectations of market development. Discount rates used for calculating the value-in-use are the pre-tax discount rates reflecting specific risks relating to CGUs identified in Home Appliance & Air Solution business segment of 12.3% and nominal permanent growth rates of 0.0%.

(g) Research and development expenses

Research and development expenses for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Uncapitalized research and development expenditures	3,059,311	2,885,587
Amortization from internally generated development costs	149,440	143,911
Total	3,208,751	3,029,498

13. Investments in Subsidiaries, Associates and Joint Ventures

(a) Investments in subsidiaries, associates and joint ventures as at December 31, 2019 and 2018, are as follows:

		Percentage of		Carrying amount		
		Closing	ownership at December 31,	December 31,		
(in millions of Korean won)	Location	month	2019 (%)	2019	2018	
Subsidiaries						
LG Electronics U.S.A., Inc.(LGEUS)	USA	December	100.0	955,542	955,542	
ZKW Holding GmbH (ZKW)	Austria	December	70.0	943,468	943,468	
LG Innotek Co., Ltd.	Korea	December	40.8	541,538	541,538	
LG Electronics India Pvt. Ltd.(LGEIL)	India	March	100.0	311,746	311,746	
LG Electronics do Brasil Ltda.(LGEBR)	Brazil	December	100.0	270,631	270,631	
LG Electronics Mlawa Sp. z.O.O.(LGEMA)	Poland	December	100.0	214,091	214,091	
LG Electronics Tianjin Appliances Co., Ltd.(LGETA)	China	December	70.0	161,331	161,331	
LG Electronics European Holding B.V.(LGEEH)	Netherlands	December	100.0	148,551	148,551	
Hiplaza Co., Ltd.	Korea	December	100.0	136,459	136,459	
LG Electronics Egypt S.A.E(LGEEG)	Egypt	December	100.0	110,245	110,245	
Taizhou LG Electronics Refrigeration Co., Ltd.(LGETR)	China	December	88.4	97,608	97,608	
P.T. LG Electronics Indonesia(LGEIN)	Indonesia	December	100.0	94,118	94,118	
LG Electronics Vietnam Haiphong Co., Ltd.(LGEVH)	Vietnam	December	100.0	84,784	84,784	
LG Electronics Panama, S.A.(LGEPS)	Panama	December	100.0	79,222	79,222	
LG Electronics Wroclaw Sp. z.O.O.(LGEWR)	Poland	December	100.0	70,014	70,014	
LG Electronics Mexico S.A. DE C.V.(LGEMS)	Mexico	December	100.0	68,721	68,721	
LG Electronics Shenyang Inc.(LGESY)	China	December	56.3	62,033	62,033	
LG Electronics Thailand Co., Ltd.(LGETH)	Thailand	December	100.0	55,578	55,578	
LG Electronics Australia Pty, Ltd.(LGEAP)	Australia	December	100.0	50,664	50,664	
Inspur LG Digital Mobile Communications Co., Ltd.(LGEYT)	China	December	60.0	48,624	48,624	
LG Electronics Ticaret A.S.(LGETK)	Turkey	December	100.0	47,320	47,320	
LG Electronics RUS, LLC(LGERA)	Russia	December	100.0	43,645	43,645	
LG Electronics Huizhou Ltd.(LGEHZ)	China	December	45.0	41,984	41,984	
LG Electronics Nanjing New Technology co., Ltd (LGENT)	China	December	45.0	38,744	38,744	
ZKW Austria Immobilien Holding GmbH ¹	Austria	December	70.0	35,640	35,640	
LG Electronics S.A. (Pty) Ltd.(LGESA)	Republic of South Africa	December	100.0	32,112	32,112	
NanJing LG-Panda Appliances Co., Ltd.(LGEPN)	China	December	50.0	26,614	26,614	
LG Electronics Colombia Limitada (LGECB)	Colombia	December	60.7	25,215	25,215	
LG Electronics Peru S.A.(LGEPR)	Peru	December	100.0	25,043	25,043	

Immillions of Korean won) Location month December 31, 2019 (%)				Percentage of ownership at	Carrying amount		
United Arab FZE(LGEOT) China December 100.0 22,538 22,538 22,538 China December 100.0 China December 100.0 China December 100.0 China China December 100.0 China China China December 100.0 China	(in millions of Korean won)	Location	-	December 31,	•	,	
Co., Ltd.(LGEQD)	LG Electronics Overseas Trading	United Arab					
Care		China	December	60.0	22,142	22,142	
Co., Ltd.(LGEQA) LG Soft India Private Limited.(LGSI) HI Entech Co., Ltd ³ Korea December 63,118 LG Hitachi Water Solution Co., Ltd. ³ Korea December 9,180 LG Electronics Nanjing Battery Pack Co., Ltd. (LGENB) ⁴ Co., Ltd. (LGENB) ⁴ LGE Alliance Fund ⁵ Korea December 6,636 Co., Ltd. (LGENB) ⁴ LGE Alliance Fund II ⁵ Korea December 6,200 LGE Alliance Fund II ⁵ Korea December 6,200 LGE Alliance Fund II ⁵ Korea December 6,200 LGE Alliance Fund II ⁵ Korea December 1,314 Others LG Display Co., Ltd. Korea December 37.9 Sosociates LG Display Co., Ltd. Korea December 49.0 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 Hitachi-LG Data Storage Inc. (HLDS) Robostar Co., Ltd. Korea December 25.0 Sasson-LG Co., Ltd. Korea December 25.0 Sasson-LG Co., Ltd. Korea December 25.0 Sasson-LG Co., Ltd. Korea December 8.5 9,000 P,000 Korea Information Certificate Authority Inc. ⁶ Korea December 8.5 Sound 9,000 Korea Information Certificate Authority Inc. ⁶ Korea December 14.5 CG Fuel Cell Systems Inc. ⁵⁷ USA December 14.5 CG Fuel Cell Systems Inc. ⁵⁷ USA December 50.0 LG Holdings (HK) Ltd. ⁸ Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE LTD. Singapore December 49.0 EIC PROPERTIES PTE LTD. Singapore December 49.0 EIC PROPERTIES PTE LTD. Singapore December 49.0 EIC PROPERTIES PTE LTD. CG-UTA Passenger Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 EIC PLAT Aircraft Solutions GmbH ² Germany December 49.0 E	LG Electronics Fund I LLC ²	USA	December	100.0	22,083	6,943	
Hi Entech Co., Ltd. ³ Korea December 63,118 LG Hitachi Water Solution Co., Ltd. ³ Korea December 9,180 LG Electronics Nanjing Battery Pack Co., Ltd. (LGENB) ⁴ LGE Alliance Fund ⁵ Korea December 6,636 LGE Alliance Fund II ⁵ Korea December 6,200 LGE Alliance Fund II ⁵ Korea December - 1,1314 Others 216,237 216,237 Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc. (HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd. Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. Korea December 8.5 9,000 9,000 Korea Information Certificate Authority Inc. ⁵ Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret A.S. (LGEAT) EIC PROPERTIES PTE LTD. Singapore December 49.0 5,085 - 1 GUANGDONG SMART LIFE China December 49.0 5,085 - 1 GUANGDONG SMART LIFE China December 49.0 5,085 - 1 GUANGDONG SMART LIFE China December 49.0 4,553 - 1 GUANGDONG SMART LIFE China December 49.0 4,553 - 1		China	December	100.0	20,615	20,615	
LG Hitachi Water Solution Co., Ltd.³ Korea December - - 9,180 LG Electronics Nanjing Battery Pack Co., Ltd. (LGENB)⁴ China December 50.0 - 6,636 LGE Alliance Fund⁵ Korea December - - - 6,200 LGE Alliance Fund II⁵ Korea December - - 1,314 Others 216,237 216,237 216,237 Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc. (HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 25.0 38,834 38,834 Kiwigrid GmbH⁰ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd.⁴ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 6.5 2,088 2,088 Acryl Inc.²⁶	LG Soft India Private Limited.(LGSI)	India	March	100.0	20,105	20,105	
LG Electronics Nanjing Battery Pack Co., Ltd. (LGENB)⁴ China December 50.0 - 6,636 LGE Alliance Fund⁵ Korea December - - 6,200 LGE Alliance Fund II⁵ Korea December - - 6,200 LGE Alliance Fund II⁵ Korea December - - - 1,314 Others Z16,237 216,237 216,237 216,237 216,237 Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 25.0 38,834 38,834 38,834 Kiwigrid GmbH³ Germany December 8.5 9,000 9,000 Korea Information Certificate Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 4.5 2,008 2,088<	Hi Entech Co., Ltd ^{.3}	Korea	December	-	-	63,118	
Co.,Ltd.(LGENB) ⁴ China December 50.0 - 6,836 LGE Alliance Fund ⁵ Korea December - - 6,200 LGE Alliance Fund II ⁵ Korea December - - 1,314 Others 216,237 216,237 216,237 Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 131,378 131,378 Robostar Co.,Ltd. ² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁸ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 14.5 2,088 2,088 Acryl Inc. ^{2,6} Korea December 14	LG Hitachi Water Solution Co., Ltd.3	Korea	December	-	-	9,180	
LGE Alliance Fund Π⁵ Korea December - - 1,314 Others 216,237 216,237 216,237 Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd.⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 6.5 2,088 2,088 Acryl Inc.²⁶ Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc.⁵¹ USA December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret Turkey December <		China	December	50.0	-	6,636	
Others 216,237 216,237 216,237 Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 6.5 2,088 2,088 Actyl Inc. ^{2,6} Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret Turkey December 50.0 40,844 40,844 LG-LHT Aircraft Solutions GmbH ² Germany De	LGE Alliance Fund⁵	Korea	December	-	-	6,200	
Associates LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 6.5 2,088 2,088 Acryl Inc. ^{2,6} Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret Turkey December 50.0 40,844 40,844 A.S.(LGEAT) Turkey December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH	LGE Alliance Fund Π^5	Korea	December	-	-	1,314	
LG Display Co., Ltd. Korea December 37.9 3,480,623 3,480,623 Hitachi-LG Data Storage Inc.(HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 6.5 2,088 2,088 Authority Inc. ⁶ Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{6,7} USA December - - - Joint ventures LG Holdings (HK) Ltd. ⁸ China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret Turkey December 50.0 40,844 40,844 A.S. (LGEAT)	Others				216,237	216,237	
Hitachi-LG Data Storage Inc. (HLDS) Japan December 49.0 131,378 131,378 Robostar Co., Ltd.² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Korea December 6.5 2,088 2,088 Acryl Inc. ^{2,6} Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December - - - Joint ventures LG Holdings (HK) Ltd. ⁸ China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret Turkey December 50.0 40,844 40,844 A.S. (LGEAT) Turkey December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH ²	Associates						
Robostar Co.,Ltd.² Korea December 33.4 88,112 82,045 Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Authority Inc. ⁶ Korea December 6.5 2,088 2,088 Acryl Inc. ^{2,6} Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December - - - Joint ventures LG Holdings (HK) Ltd. ⁸ China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) Turkey December 50.0 40,844 40,844 EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH ² Germany December 49.0 5,085 - LG-L	LG Display Co., Ltd.	Korea	December	37.9	3,480,623	3,480,623	
Ericsson-LG Co., Ltd. Korea December 25.0 38,834 38,834 Kiwigrid GmbH ⁶ Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Authority Inc. ⁶ Korea December 6.5 2,088 2,088 Acryl Inc. ^{2,6} Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December - - - Joint ventures LG Holdings (HK) Ltd. ⁸ China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) Turkey December 50.0 40,844 40,844 EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH ² Germany December 49.0 4,553 - LG-LHT Passenger Solutions GmbH ² Germany December 49.0 4,553 -	Hitachi-LG Data Storage Inc.(HLDS)	Japan	December	49.0	131,378	131,378	
Kiwigrid GmbH6 Germany December 16.3 13,019 13,019 ROBOTIS Co., Ltd.6 Korea December 8.5 9,000 9,000 Korea Information Certificate Authority Inc.6 Korea December 6.5 2,088 2,088 Acryl Inc.26 Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc.57 USA December - - - Joint ventures LG Holdings (HK) Ltd.8 China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) Turkey December 50.0 40,844 40,844 EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH2 Germany December 49.0 5,085 - LG-LHT Passenger Solutions GmbH2 Germany December 49.0 4,553 - GUANGDONG SMART LIFE TECHNOLOGY CO., LTD2 China December 35.0 591 -	Robostar Co.,Ltd. ²	Korea	December	33.4	88,112	82,045	
ROBOTIS Co., Ltd. ⁶ Korea December 8.5 9,000 9,000 Korea Information Certificate Authority Inc. ⁶ Korea December 6.5 2,088 2,088 Acryl Inc. ^{2,6} Korea December 14.5 2,000 1,000 LG Fuel Cell Systems Inc. ^{5,7} USA December - - - Joint ventures LG Holdings (HK) Ltd. ⁸ China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) Turkey December 50.0 40,844 40,844 EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH ² Germany December 49.0 5,085 - LG-LHT Passenger Solutions GmbH ² Germany December 49.0 4,553 - GUANGDONG SMART LIFE TECHNOLOGY CO., LTD ² China December 35.0 591 -	Ericsson-LG Co., Ltd.	Korea	December	25.0	38,834	38,834	
Korea Information Certificate Authority Inc. ⁶ Acryl Inc. ^{2,6} Acryl Inc. ^{2,6} LG Fuel Cell Systems Inc. ^{5,7} USA December LG Holdings (HK) Ltd. ⁸ China ElC PROPERTIES PTE LTD. LG-LHT Aircraft Solutions GmbH ² SURA Singapore China December December December 49.0 40.844 40,844 40,844 40,844 ElC PROPERTIES PTE LTD. Singapore December A9.0 Singapore December 49.0 50.0 40,844 40,844 40,844 40,844 AS.(LGEAT) ElC PROPERTIES PTE LTD. Singapore December 49.0 50.0 50.0 40,844 40,844 40,844 AS.(LGEAT) ElC PROPERTIES PTE LTD. Singapore December 49.0 50.0 60.0	Kiwigrid GmbH ⁶	Germany	December	16.3	13,019	13,019	
Authority Inc. 6 Acryl Inc. 2.6 Acryl Inc. 2.	ROBOTIS Co., Ltd.6	Korea	December	8.5	9,000	9,000	
LG Fuel Cell Systems Inc. ^{5,7} Joint ventures LG Holdings (HK) Ltd. ⁸ Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE LTD. Singapore December December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH ² LG-LHT Passenger Solutions GmbH ² Germany Guangdong SMART LIFE TECHNOLOGY CO., LTD ² December China December		Korea	December	6.5	2,088	2,088	
LG Holdings (HK) Ltd.8 China December 49.0 53,277 84,989 Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH² Germany December 49.0 5,085 LG-LHT Passenger Solutions GmbH² Germany December 49.0 4,553 GUANGDONG SMART LIFE TECHNOLOGY CO., LTD² China December 35.0 591	Acryl Inc. ^{2,6}	Korea	December	14.5	2,000	1,000	
LG Holdings (HK) Ltd.8 Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE LTD. LG-LHT Aircraft Solutions GmbH² LG-LHT Passenger Solutions GmbH² Germany GUANGDONG SMART LIFE TECHNOLOGY CO., LTD² China December 49.0 53,277 84,989 40,844 40,844 40,844 40,844 40,844 40,844 40,844 40,844 40,844 Augusta	LG Fuel Cell Systems Inc.5,7	USA	December	-	-	-	
Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT) EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH² Germany December 49.0 5,085 LG-LHT Passenger Solutions GmbH² Germany December 49.0 4,553 GUANGDONG SMART LIFE TECHNOLOGY CO., LTD² Technology Co., LTD² Technology Co., LTD²	Joint ventures						
A.S.(LGEAT) EIC PROPERTIES PTE LTD. Singapore December 38.2 7,881 7,881 LG-LHT Aircraft Solutions GmbH ² Germany December 49.0 5,085 LG-LHT Passenger Solutions GmbH ² Germany December 49.0 4,553 GUANGDONG SMART LIFE TECHNOLOGY CO., LTD ² China December 35.0 591	LG Holdings (HK) Ltd.8	China	December	49.0	53,277	84,989	
LG-LHT Aircraft Solutions GmbH² Germany December 49.0 5,085 - LG-LHT Passenger Solutions GmbH² Germany December 49.0 4,553 - GUANGDONG SMART LIFE TECHNOLOGY CO., LTD² China December 35.0 591 -	•	Turkey	December	50.0	40,844	40,844	
LG-LHT Passenger Solutions GmbH² Germany December 49.0 4,553 - GUANGDONG SMART LIFE TECHNOLOGY CO., LTD² China December 35.0 591 -	EIC PROPERTIES PTE LTD.	Singapore	December	38.2	7,881	7,881	
GUANGDONG SMART LIFE TECHNOLOGY CO., LTD ² China December 35.0 591	LG-LHT Aircraft Solutions GmbH ²	Germany	December	49.0	5,085	-	
TECHNOLOGY CO., LTD ² China December 35.0 591 -	LG-LHT Passenger Solutions GmbH ²	Germany	December	49.0	4,553	-	
Total 9,022,290 9,108,014		China	December	35.0	591	-	
	Total				9,022,290	9,108,014	

¹ Mommert Gewerbeimmobilien Verwaltungs GmbH changed its name to ZKW Austria Immobilien Holding GmbH in 2019.

² It was additionally acquired in 2019.

³ It was disposed in 2019.

⁴ It was impaired in 2019.

⁵ It was liquidated in 2019.

⁶ Classified as an associate although the percentage of ownership is less than 20% because the Company can exercise a significant influence in the Board of Directors of the investee.

(b) Changes in investments in subsidiaries, associates and joint ventures for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Opening carrying amount	9,108,014	8,066,087
Acquisitions	32,436	1,344,600
Disposal and others	(111,524)	(1,536)
Impairment loss	(6,636)	(301,137)
Closing carrying amount	9,022,290	9,108,014

- (c) Impairment test for investments in subsidiaries, associates and joint ventures
 - i) The Company records the investments in subsidiaries, associates and joint ventures at acquisition cost on the basis of the direct equity interest and assesses at the end of each reporting period whether there is any indication that asset may be impaired. If any such indication exists, the Company estimates the recoverable amount of the asset by future cash flow projection technique. And if the recoverable amount of an asset is less than its carrying amount, the Company recognizes an impairment loss immediately by reducing its carrying amount to its recoverable amount.
 - ii) The difference of ₩ 6,636 million between recoverable amount and carrying amount relating to LG Electronics Nanjing Battery Pack Co., Ltd.(LGENB), a subsidiary, is recognized in the separate statement of profit or loss within 'other non-operating expenses' for the year ended December 31, 2019.
- (d) Details of marketable investments in subsidiaries and associates as at December 31, 2019 and 2018, are as follows:

	December 31, 2019						
	Туре	Shares held (Unit: shares)	Price per share (Unit: won)	Fair value (in millions o	Book amount f Korean won)		
LG Display Co., Ltd.	Associate	135,625,000	16,250	2,203,906	3,480,623		
LG Innotek Co., Ltd.	Subsidiary	9,653,181	140,000	1,351,445	541,538		
Robostar Co.,Ltd.	Associate	3,256,500	17,400	56,663	88,112		
ROBOTIS Co., Ltd.	Associate	961,550	12,400	11,923	9,000		
Korea Information Certificate Authority Inc	Associate	2,010,247	3,785	7,609	2,088		

⁷ It was impaired in 2018.

⁸ Conducted capital reduction with consideration in 2019.

		December 31, 2018						
	Туре	Shares held (Unit: shares)	Price per share (Unit: won)	Fair value (in millions o	Book amount f Korean won)			
LG Display Co., Ltd.	Associate	135,625,000	18,050	2,448,031	3,480,623			
LG Innotek Co., Ltd.	Subsidiary	9,653,181	86,400	834,035	541,538			
Robostar Co.,Ltd.	Associate	2,927,735	24,000	70,266	82,045			
ROBOTIS Co., Ltd.	Associate	961,550	17,200	16,539	9,000			
Korea Information	Associate	2,010,247	3,775	7,589	2,088			

14. Investment Properties

Depreciation

At December 31

(a) Details of investment properties as at December 31, 2019 and 2018, are as follows:

_		December 31, 2019		
(in millions of Korean won)	Land Buildings		Total	
Acquisition cost	-	-	-	
Accumulated depreciation	<u>-</u>	<u>-</u>	_	
Net book amount	<u>-</u>	<u>-</u>	<u>-</u>	
_		December 31, 2018		
(in millions of Korean won)	Land	Buildings	Total	
Acquisition cost	63,670	52,695	116,365	
Accumulated depreciation	<u>-</u>	(22,366)	(22,366)	
Net book amount	63,670	30,329	93,999	

(b) Changes in investment properties for the years ended December 31, 2019 and 2018, are as follows:

	2019				
(in millions of Korean won)	Land	Buildings	Total		
At January 1	63,670	30,329	93,999		
Depreciation	-	(654)	(654)		
Disposal and others	(63,670)	(29,675)	(93,345)		
At December 31		<u> </u>	<u>-</u>		
		2018			
(in millions of Korean won)	Land	Buildings	Total		
At January 1	63.670	31.637	95.307		

(c) Rental income amounting to ₩ 683 million (2018: ₩ 744 million) and rental expenses amounting to ₩ 1,155 million (2018: ₩ 1,771 million) are recognized in the separate statement of profit or loss relating to investment properties for the year ended December 31, 2019.

63,670

(1,308)

(1,308)

30,329

(d) Gains on disposal amounting to \forall 6,318 million are recognized relating to investment properties for the year ended December 31, 2019.

15. Borrowings

(a) The carrying amounts of borrowings as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Current		
Short-term borrowings	233,537	-
Current portion of long-term borrowings	178,679	25,000
Current portion of debentures	641,872	743,275
Subtotal	1,054,088	768,275
Non-current		
Long-term borrowings	2,687,110	2,596,536
Debentures	4,478,883	4,535,701
Subtotal	7,165,993	7,132,237
Total	8,220,081	7,900,512

- (b) Details of borrowings as at December 31, 2019 and 2018, are as follows:
 - i) Short-term borrowings

	Annual in	terest rate	Carrying amount		
(in millions of Korean won)	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018	
Foreign currency loans					
LG Electronics European Shared Service Center B.V. (LGESC)	3M EURIBOR+1.10	-	233,537	-	
, ,			233,537		

ii) Long-term borrowings

	Annual interest			cember 31, 20)19
(in millions of Korean won)	Maturity date	rate at December 31, 2019 (%)	Total	Current	Non-current
Local currency loans					
Kookmin Bank	2027.01.28	3M CD+0.91	190,000	20,357	169,643
Kookmin Bank	2029.04.30	3M CD+1.14	190,000	20,000	170,000
Nonghyup Bank	2030.07.07	3M CD+1.05	190,000	4,750	185,250
Woori Bank	2030.04.15	3M CD+0.82	390,000	19,500	370,500
Bank of China	2027.01.15	3M CD+0.95	100,000	10,500	89,500
KEB Hana Bank	2024.01.03	3M CD+0.98	185,000	25,000	160,000
Korea Development Bank	2023.12.19	2.65	120,000	30,000	90,000
Korea Development Bank	2023.12.19	2.69	80,000	20,000	60,000
Korea Development Bank	2025.09.09	3.00	200,000	-	200,000
The Export-Import Bank of Korea	2026.07.29	2.21	100,000	14,286	85,714
The Export-Import Bank of Korea	2026.07.29	2.21	100,000	14,286	85,714
The Export-Import Bank of Korea	2027.05.25	2.75	135,000	-	135,000
The Export-Import Bank of Korea	2027.05.25	2.75	50,000	-	50,000
The Export-Import Bank of Korea	2027.05.25	2.75	15,000	-	15,000
The Export-Import Bank of Korea	2030.08.01	3.50	200,000	-	200,000
Foreign currency loans					
KEB Hana Bank	2025.04.23	3M LIBOR+1.2	115,780	-	115,780
KEB Hana Bank	2027.05.17	3M LIBOR+1.6	115,780	-	115,780
The Export-Import Bank of Korea	2030.08.01	2.50	129,743	-	129,743
LGESC	2022.05.02	3M EURIBOR+1.10	259,486		259,486
Total			2,865,789	178,679	2,687,110

		Annual interest	December 31, 2010		
(in millions of Korean won)	Maturity date	rate at December 31, 2018 (%)	Total	Current	Non-current
Local currency loans					
Kookmin Bank	2027.01.28	3M CD+0.91	190,000	-	190,000
Kookmin Bank	2029.04.30	3M CD+1.14	200,000	10,000	190,000
Nonghyup Bank	2030.07.07	3M CD+1.05	190,000	-	190,000
Woori Bank	2030.04.15	3M CD+0.82	390,000	-	390,000
Bank of China	2027.01.15	3M CD+0.95	100,000	-	100,000
KEB Hana Bank	2024.01.03	3M CD+0.98	200,000	15,000	185,000
Korea Development Bank	2023.12.19	2.65	120,000	-	120,000
Korea Development Bank	2023.12.19	2.69	80,000	-	80,000
Korea Development Bank	2025.09.09	3.00	200,000	-	200,000
The Export-Import Bank of Korea	2026.07.29	2.21	100,000	-	100,000
The Export-Import Bank of Korea	2026.07.29	2.21	100,000	-	100,000
The Export-Import Bank of Korea	2027.05.25	2.75	135,000	-	135,000
The Export-Import Bank of Korea	2027.05.25	2.75	50,000	-	50,000
The Export-Import Bank of Korea	2027.05.25	2.75	15,000	-	15,000
The Export-Import Bank of Korea	2030.08.01	3.50	200,000	-	200,000
Foreign currency loans					
KEB Hana Bank	2025.04.23	3M LIBOR+1.2	111,810	-	111,810
KEB Hana Bank	2027.05.17	3M LIBOR+1.6	111,810	-	111,810
The Export-Import Bank of Korea	2030.08.01	2.50	127,916	-	127,916
Total			2,621,536	25,000	2,596,536

The Company entered into interest rate swap and cross-currency swap contracts to hedge cash flow risks related to floating interest rates and foreign exchange rates of some of these borrowings (Note 38).

iii) Debentures

		Annual Interest rate	December 31, 2019		
(in millions of Korean won)	Maturity date	at December 31, 2019 (%)	Total	Current	Non-current
Fixed rate notes in local currency		, , ,			
Private, non-guaranteed bonds(68-1 st)	2020.05.23	3.29	100,000	100,000	-
Private, non-guaranteed bonds(68-2 nd)	2020.05.24	3.29	20,000	20,000	-
Private, non-guaranteed bonds(68-3 rd)	2023.05.22	3.68	50,000	-	50,000
Private, non-guaranteed bonds(68-4 th)	2023.05.23	3.68	30,000	-	30,000
Public, non-guaranteed bonds(69-3 rd)	2020.07.31	3.85	150,000	150,000	-
Public, non-guaranteed bonds(71-2 nd)	2020.10.18	3.82	110,000	110,000	-
Public, non-guaranteed bonds(71-3 rd)	2023.10.18	4.25	90,000	-	90,000
Public, non-guaranteed bonds(73-3 rd)	2021.01.24	3.95	160,000	-	160,000
Public, non-guaranteed bonds(73-4 th)	2024.01.24	4.44	120,000	-	120,000
Public, non-guaranteed bonds(74-2 nd)	2021.05.29	3.52	130,000	-	130,000
Public, non-guaranteed bonds(74-3 rd)	2024.05.29	4.04	210,000	-	210,000
Public, non-guaranteed bonds(74-4 th)	2029.05.29	4.44	60,000	-	60,000
Private, non-guaranteed bonds(75 th)	2026.07.16	3.96	100,000	-	100,000
Private, non-guaranteed bonds(76-1st)	2028.11.17	3.79	40,000	-	40,000
Private, non-guaranteed bonds(76-2 nd)	2028.11.18	3.79	60,000	-	60,000
Public, non-guaranteed bonds(77-1st)	2020.02.02	2.28	210,000	210,000	-
Public, non-guaranteed bonds(77-2 nd)	2022.02.02	2.51	230,000	-	230,000
Public, non-guaranteed bonds(77-3 rd)	2025.02.02	2.97	210,000	-	210,000
Public, non-guaranteed bonds(77-4 th)	2030.02.02	3.45	100,000	-	100,000
Public, non-guaranteed bonds(78-2 nd)	2021.02.24	2.14	200,000	-	200,000
Public, non-guaranteed bonds(78-3 rd)	2023.02.24	2.45	140,000	-	140,000
Public, non-guaranteed bonds(79-2 nd)	2021.09.06	1.75	90,000	-	90,000
Public, non-guaranteed bonds(79-3 rd)	2023.09.06	2.08	130,000	-	130,000
Public, non-guaranteed bonds(79-4 th)	2026.09.06	2.67	150,000	-	150,000
Private, non-guaranteed bonds(81st)	2027.03.10	3.42	50,000	-	50,000
Private, non-guaranteed bonds(82 nd)	2027.03.22	3.29	50,000	-	50,000
Public, non-guaranteed bonds(83-1st)	2022.04.28	2.36	160,000	-	160,000
Public, non-guaranteed bonds(83-2 nd)	2024.04.28	2.79	130,000	-	130,000
Public, non-guaranteed bonds(83-3 rd)	2027.04.28	3.20	70,000	-	70,000
Private, non-guaranteed bonds(85-1st)	2027.11.17	3.62	30,000	-	30,000
Private, non-guaranteed bonds(85-2 nd)	2032.11.17	4.03	20,000	-	20,000
Private, non-guaranteed bonds(87-1st)	2026.01.04	3.26	120,000	-	120,000
Private, non-guaranteed bonds(87-2 nd)	2028.01.04	3.55	10,000	-	10,000
Private, non-guaranteed bonds(88-1st)	2033.01.31	4.21	60,000	-	60,000
Private, non-guaranteed bonds(89-1st)	2026.03.16	3.39	80,000	-	80,000
Private, non-guaranteed bonds(89-2 nd)	2028.03.16	3.71	10,000	-	10,000
Private, non-guaranteed bonds(90 th)	2038.04.03	4.20	20,000	-	20,000
Public, non-guaranteed bonds(91-1 st)	2025.05.28	3.00	60,000	-	60,000
Public, non-guaranteed bonds(91-2 nd)	2028.05.28	3.52	200,000	-	200,000

		Annual Interest rate at December	Decemb		er 31, 2019	
(in millions of Korean won)	Maturity date	31, 2019 (%)	Total	Current	Non-current	
Public, non-guaranteed bonds(93-1st)	2024.02.21	2.08	50,000	-	50,000	
Public, non-guaranteed bonds(93-2 nd)	2026.02.21	2.29	60,000	-	60,000	
Public, non-guaranteed bonds(93-3 rd)	2029.02.21	2.58	280,000	-	280,000	
Public, non-guaranteed bonds(93-4 th)	2034.02.21	2.95	110,000	-	110,000	
Private, non-guaranteed bonds(94th)	2034.04.03	2.79	70,000	-	70,000	
Floating rate notes in foreign currency						
Private, non-guaranteed bonds(80 th)	2022.02.02	1M LIBOR+0.90	115,780	-	115,780	
Private, guaranteed bonds(84 th)	2023.02.24	3M EURIBOR+0.75	129,743	-	129,743	
Private, non-guaranteed bonds(86-1st)	2020.11.22	1M LIBOR+0.78	52,101	52,101	-	
Private, non-guaranteed bonds(86-2 nd)	2022.11.22	1M LIBOR+0.86	98,413	-	98,413	
Private, non-guaranteed bonds(92 th)	2028.06.08	3M LIBOR+1.61	115,780	-	115,780	
Less: discount on debentures			(11,062)	(229)	(10,833)	
Total			5,120,755	641,872	4,478,883	

		Annual Interest rate	December 31, 2018		2018
(in millions of Korean won)	Maturity date	at December 31, 2018 (%)	Total	Current	Non-current
Fixed rate notes in local currency	-				
Private, non-guaranteed bonds(68-1st)	2020.05.23	3.29	100,000	-	100,000
Private, non-guaranteed bonds(68-2 nd)	2020.05.24	3.29	20,000	-	20,000
Private, non-guaranteed bonds(68-3 rd)	2023.05.22	3.68	50,000	-	50,000
Private, non-guaranteed bonds(68-4 th)	2023.05.23	3.68	30,000	-	30,000
Public, non-guaranteed bonds(69-3 rd)	2020.07.31	3.85	150,000	-	150,000
Public, non-guaranteed bonds(71-2 nd)	2020.10.18	3.82	110,000	-	110,000
Public, non-guaranteed bonds(71-3 rd)	2023.10.18	4.25	90,000	-	90,000
Public, non-guaranteed bonds(73-2 nd)	2019.01.24	3.60	120,000	120,000	-
Public, non-guaranteed bonds(73-3 rd)	2021.01.24	3.95	160,000	-	160,000
Public, non-guaranteed bonds(73-4 th)	2024.01.24	4.44	120,000	-	120,000
Public, non-guaranteed bonds(74-1st)	2019.05.29	3.30	200,000	200,000	-
Public, non-guaranteed bonds(74-2 nd)	2021.05.29	3.52	130,000	-	130,000
Public, non-guaranteed bonds(74-3 rd)	2024.05.29	4.04	210,000	-	210,000
Public, non-guaranteed bonds(74-4 th)	2029.05.29	4.44	60,000	-	60,000
Private, non-guaranteed bonds(75 th)	2026.07.16	3.96	100,000	-	100,000
Private, non-guaranteed bonds(76-1st)	2028.11.17	3.79	40,000	-	40,000
Private, non-guaranteed bonds(76-2 nd)	2028.11.18	3.79	60,000	-	60,000
Public, non-guaranteed bonds(77-1st)	2020.02.02	2.28	210,000	-	210,000
Public, non-guaranteed bonds(77-2 nd)	2022.02.02	2.51	230,000	-	230,000
Public, non-guaranteed bonds(77-3 rd)	2025.02.02	2.97	210,000	-	210,000
Public, non-guaranteed bonds(77-4 th)	2030.02.02	3.45	100,000	-	100,000
Public, non-guaranteed bonds(78-1st)	2019.02.24	1.88	110,000	110,000	-
Public, non-guaranteed bonds(78-2 nd)	2021.02.24	2.14	200,000	-	200,000
Public, non-guaranteed bonds(78-3 rd)	2023.02.24	2.45	140,000	-	140,000
Public, non-guaranteed bonds(79-1st)	2019.09.06	1.48	90,000	90,000	-

		Annual Interest rate	Dec	cember 31,	2018
(in millions of Korean won)	Maturity date	at December 31, 2018 (%)	Total	Current	Non-current
Public, non-guaranteed bonds(79-2 nd)	2021.09.06	1.75	90,000	-	90,000
Public, non-guaranteed bonds(79-3 rd)	2023.09.06	2.08	130,000	-	130,000
Public, non-guaranteed bonds(79-4th)	2026.09.06	2.67	150,000	-	150,000
Private, non-guaranteed bonds(81st)	2027.03.10	3.42	50,000	-	50,000
Private, non-guaranteed bonds(82 nd)	2027.03.22	3.29	50,000	-	50,000
Public, non-guaranteed bonds(83-1st)	2022.04.28	2.36	160,000	-	160,000
Public, non-guaranteed bonds(83-2 nd)	2024.04.28	2.79	130,000	-	130,000
Public, non-guaranteed bonds(83-3 rd)	2027.04.28	3.20	70,000	-	70,000
Private, non-guaranteed bonds(85-1st)	2027.11.17	3.62	30,000	-	30,000
Private, non-guaranteed bonds(85-2 nd)	2032.11.17	4.03	20,000	-	20,000
Private, non-guaranteed bonds(87-1st)	2026.01.04	3.26	120,000	-	120,000
Private, non-guaranteed bonds(87-2 nd)	2028.01.04	3.55	10,000	-	10,000
Private, non-guaranteed bonds(88-1st)	2033.01.31	4.21	60,000	-	60,000
Private, non-guaranteed bonds(89-1st)	2026.03.16	3.39	80,000	-	80,000
Private, non-guaranteed bonds(89-2 nd)	2028.03.16	3.71	10,000	-	10,000
Private, non-guaranteed bonds(90 th)	2038.04.03	4.20	20,000	-	20,000
Private, non-guaranteed bonds(91-1st)	2025.05.28	3.00	60,000	-	60,000
Private, non-guaranteed bonds(91-2 nd)	2028.05.28	3.52	200,000	-	200,000
Public, non-guaranteed bonds(91-3 rd)	2033.05.28	3.75	90,000	-	90,000
Floating rate notes in foreign currency					
Private, guaranteed bonds(70 th)	2019.01.31	3M LIBOR+1.60	223,620	223,620	-
Private, non-guaranteed bonds(80 th)	2022.02.02	1M LIBOR+0.90	111,810	-	111,810
Private, guaranteed bonds(84th)	2023.02.24	3M EURIBOR+0.75	127,916	-	127,916
Private, non-guaranteed bonds(86-1st)	2020.11.22	1M LIBOR+0.78	50,315	-	50,315
Private, non-guaranteed bonds(86-2 nd)	2022.11.22	1M LIBOR+0.86	95,038	-	95,038
Private, non-guaranteed bonds(92 th)	2028.06.08	3M LIBOR+1.61	111,810	-	111,810
Less: discount on debentures			(11,533)	(345)	(11,188)
Total			5,278,976	743,275	4,535,701

The Company entered into interest rate swap and cross-currency swap contracts to hedge cash flow risk related to floating interest rate and foreign exchange rate of the debentures (Note 38).

The principal and interests of private guaranteed bonds (84th) are guaranteed by Shinhan Bank (Note 35).

16. Lease Liabilities

(a) Details of lease liabilities as at December 31, 2019 and January 1, 2019, are as follows:

(in millions of Korean won)	December 31, 2019	January 1, 2019
Lease liabilities		
Current	68,278	29,733
Non-current	59,999	44,374
Total	128,277	74,107

(b) The amounts recognized in the separate statement of profit or loss relating to leases are as follows:

(in millions of Korean won)	2019
Interest expense on lease liabilities	2,891
Short-term lease payments (included in cost of sales, selling and marketing expenses, administrative expenses, and others)	69,805
Payments for leases of low-value assets that are not short-term	
leases (included in cost of sales, selling and marketing	15,515
expenses, administrative expenses, and others)	

Total expenses for leases including short-term leases and leases of low-value assets are $\mbox{$W$}$ 125,981 million.

17. Other Payables

Details of other payables as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Current		
Non-trade payables	1,466,445	1,868,774
Accrued expenses	420,604	489,703
Leasehold deposits received	13,820	12,576
Subtotal	1,900,869	2,371,053
Non-current		
Leasehold deposits received	410	1,011
Total	1,901,279	2,372,064

18. Current and Deferred Income Tax

Income tax expense

(a) Details of income tax expense for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Current income taxes		
Current tax on profits for the year	76,427	47,251
Adjustments in respect of prior years	545	(19,993)
Deferred tax		
Changes in temporary differences	(108,278)	32,417
Changes in tax credit carryforwards	73,909	86,946
Changes in tax loss carryforwards	(5,623)	(74,293)
Income tax expense	36,980	72,328

(b) The reconciliation between profit(loss) before income tax and income tax expense for the years ended December 31, 2019 and 2018, is as follows:

(in millions of Korean won)	2019	2018
Profit (loss) before income tax	(159,138)	67,554
Tax expense (income) based on statutory tax rate	(38,511)	16,348
Income not subject to tax	(6,847)	(7,513)
Expenses not deductible for tax purposes	18,721	17,913
Recognition of deferred tax asset on tax credits	(68,317)	(64,077)
Adjustments in respect of prior years	545	(19,993)
Changes in unrecognized deferred tax assets and others	131,389	129,650
Income tax expense	36,980	72,328
Effective tax rate	1	107.1%

¹ Effective tax rate is not calculated for the year ended December 31, 2019 due to the net loss before income tax of the Company.

Deferred income tax

(a) Deferred tax assets and deferred tax liabilities after offsetting as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Deferred tax assets:		
Deferred tax asset to be recovered within 12 months	485,970	551,933
Deferred tax asset to be recovered after more than 12 months	1,852,337	1,628,624
Deferred tax assets before offsetting	2,338,307	2,180,557
Deferred tax liabilities:		
Deferred tax liability to be settled within 12 months	1,429	1,945
Deferred tax liability to be settled after more than 12 months	1,278,300	1,211,116
Deferred tax liabilities before offsetting	1,279,729	1,213,061
Deferred tax assets after offsetting	1,058,578	967,496

(b) Changes in deferred tax assets and liabilities for the years ended December 31, 2019 and 2018, are as follows:

	2019				
(in millions of Korean won)	At January 1	Charged (credited) to statement of profit or loss	Charged to other comprehensive income	At December 31	
Changes in temporary differences					
Investments in subsidiaries, associates and joint ventures	(254,930)	(37,636)	-	(292,566)	
Property, plant and equipment	(66,201)	29,498	-	(36,703)	
Accrued expenses	250,226	3,751	-	253,977	
Provisions	96,147	34,610	-	130,757	
Other ¹	227,603	78,055	50,347	356,005	
Subtotal	252,845	108,278	50,347	411,470	
Tax credit carryforwards	625,076	(73,909)	-	551,167	
Tax loss carryforwards	90,318	5,623	-	95,941	
Deferred tax assets (liabilities)	968,239	39,992	50,347	1,058,578	

	2018				
(in millions of Korean won)	At January 1	Charged (credited) to statement of profit or loss	Charged to other comprehensive income	At December 31	
Changes in temporary differences					
Investments in subsidiaries, associates and joint ventures	(289,666)	34,736	-	(254,930)	
Property, plant and equipment	(93,202)	27,001	-	(66,201)	
Accrued expenses	386,821	(136,595)	-	250,226	
Provisions	89,645	6,502	-	96,147	
Other	152,312	35,939	38,609	226,860	
Subtotal	245,910	(32,417)	38,609	252,102	
Tax credit carryforwards	712,022	(86,946)	-	625,076	
Tax loss carryforwards	16,025	74,293	-	90,318	
Deferred tax assets (liabilities)	973,957	(45,070)	38,609	967,496	
·					

¹ Deferred tax assets as at January 1, 2019, amounting to ₩ 743 million, was newly recognized upon adoption of Korean IFRS 1116 *Leases*.

(c) Tax effects recognized in other comprehensive income directly for the years ended December 31, 2019 and 2018, are as follows:

	2019			2018		
(in millions of Korean won)	Before tax	Tax effects	After tax	Before tax	Tax effects	After tax
Remeasurements of net defined benefit liabilities	(165,351)	44,793	(120,558)	(103,560)	27,132	(76,428)
Cash flow hedges	(21,816)	5,911	(15,905)	(41,094)	10,980	(30,114)
Financial assets at fair value through other comprehensive income	1,317	(357)	960	(1,814)	497	(1,317)
Total	(185,850)	50,347	(135,503)	(146,468)	38,609	(107,859)

(d) Details of deductible (taxable) temporary differences and tax credit carryforward unrecognized as deferred tax assets (liabilities) as at December 31, 2019, are as follows:

(in millions of Korean won)	Amount	Remark
Taxable temporary difference (investment in subsidiary)	(1,229,335)	Permanent reinvestment of undistributed profit planned
Deductible temporary difference (investment in subsidiary)	1,308,213	Unlikely to reverse (dispose of) in the foreseeable future
Tax credit carryforwards	316,209	Uncertainty of future taxable profit

(e) Expirations of unrecognized tax credit carryforwards as at December 31, 2019, are as follows:

(in millions of Korean won)	1 year or less	1 to 2 years	2 to 3 years	Over 3 years
Tax credit carryforwards	20,500	178,989	115,810	910

19. Post-employment Benefits

Defined Benefit Plan

(a) The amounts of net defined benefit liabilities as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Present value of funded obligations	2,961,034	2,610,800
Fair value of plan assets	(2,472,308)	(2,304,879)
Net defined benefit liability	488,726	305,921

(b) The amounts recognized in the separate statements of profit or loss for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018	
Current service cost	305,543	260,305	
Past service cost	(11,847)	(3,689)	
Net interest cost	10,349	6,670	
Operating management cost	2,137	2,073	
Total	306,182	265,359	

(c) Line items in which expenses are included for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018	
Cost of sales	150,217	140,814	
Selling and marketing expenses	37,558	33,415	
Administrative expenses	20,237	18,547	
Research and development expenses	79,554	69,344	
Service costs	18,616	3,239	
Total	306,182	265,359	

(d) Movements in the present value of defined benefit obligations for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018	
At January 1	2,610,800	2,378,703	
Current service cost	305,543	260,305	
Past service cost	(11,847)	(3,689)	
Interest cost	63,487	69,936	
Remeasurements for:			
 Actuarial loss arising from changes in demographic assumptions 	132,227	23,982	
 Actuarial loss or gain arising from changes in financial assumptions 	68,329	112,326	
 Actuarial gain arising from experience adjustments 	(40,412)	(57,171)	
Benefits paid	(145,043)	(135,526)	
Decrease due to plan liquidation	(22,050)	(38,066)	
At December 31	2,961,034	2,610,800	

(e) Movements in the fair value of plan assets for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
At January 1	2,304,879	2,158,093
Interest income	53,138	63,266
Remeasurements of plan assets	(5,207)	(24,423)
Employer contributions	250,000	250,000
Benefits paid	(106,918)	(104,836)
Decrease due to plan liquidation	(21,447)	(35,148)
Operating management cost	(2,137)	(2,073)
At December 31	2,472,308	2,304,879

(f) The significant actuarial assumptions used as at December 31, 2019 and 2018, are as follows:

	December 31, 2019	December 31, 2018	
Discount rate	2.3%	2.6%	
Expected salary growth rate	5.0%	5.0%	

(g) The sensitivity analysis of the defined benefit obligation to changes in principal assumptions as at December 31, 2019, is as follows:

(in millions of Korean won)	1%p increase	1%p decrease	
Discount rate	(264,692)	303,333	
Expected salary growth rate	292.212	(260.937)	

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Above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations.

(h) Plan assets consist of:

	Decen	nber 31, 2019	December 31, 2018		
(in millions of Korean won)	n) Amount Com		Amount	Composition (%)	
Securities combined with derivatives (guaranteed)	854,516	34.6	996,958	43.3	
Time deposits and others	1,617,792	65.4	1,307,921	56.7	
Total	2,472,308	100.0	2,304,879	100.0	

(i) The weighted average duration of the defined benefit obligations is 10.1 years. Expected maturity analysis of undiscounted pension benefits as at December 31, 2019, is as follows:

					Over 10	
(in millions of Korean won)	Within 1 year	1 to 2 years	2 to 5 years	5 to 10 years	years	Total
Pension benefits	118.220	256.858	519.784	951.285	1.819.956	3.666.103

The Company evaluates the fund contribution level annually, and if there is a shortfall in the funds, the Company has a policy to finance the funds. Expected contributions to post-employment benefit plans for the year ending December 31, 2019, are orall 350,000 million.

Defined Contribution Plan

The expense recognized in the current year in relation to defined contribution plan was \forall 13,983 million (2018: \forall 9,476 million).

20. Provisions

(a) Changes in provisions for the years ended December 31, 2019 and 2018, are as follows:

	2019				
	Litigation				
(in millions of Korean won)	Warranty	Restoration	and others	Total	
At January 1 ¹	379,493	10,626	68,834	458,953	
Additions ²	527,868	897	35,055	563,820	
Utilizations	(388,978)	(1,199)	(26,509)	(416,686)	
At December 31	518,383	10,324	77,380	606,087	
Current	494,524	7,711	-	502,235	
Non-current	23,859	2,613	77,380	103,852	

	2018			
			Litigation	
(in millions of Korean won)	Warranty	Restoration	and others	Total
At January 1	325,984	12,517	69,127	407,628
Additions ²	386,201	522	32,725	419,448
Utilizations	(332,612)	(2,413)	(18,503)	(353,528)
Decrease due to transfer of business	(80)	-	-	(80)
At December 31	379,493	10,626	83,349	473,468
Current	348,818	183	- -	349,001
Non-current	30,675	10,443	83,349	124,467

¹ Provision for "litigation and others" related to income tax as at January 1, 2019, amounting to ₩ 14,515 million, was reclassified to current income tax liabilities.

(b) Greenhouse Gas Emission Liabilities

As at December 31, 2019, emission rights received free of charge for each reporting period and greenhouse gas emission estimated by management, are as follows:

(in tons)	2019	2018
Emission rights received free of charge ¹	1,574,419	1,291,910

¹ Emission rights received free of charge are defined as allowed amount of emissions that can be released, allocated by the Korean government for free in accordance with 'Act on the Allocation and Trading of Greenhouse-Gas Emission Permits'.

In 2019, there is no emission right that the Company additionally purchased from the market, and there is no recognized emission liability as greenhouse gas emission estimated by management is 850,000 tons.

21. Other Liabilities

Other liabilities as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Current		
Advances from customers	256,800	221,806
Withholding	118,941	120,958
Accrued expenses	1,009,557	908,359
Subtotal	1,385,298	1,251,123
Non-current		
Accrued expenses	132,170	95,916
Total	1,517,468	1,347,039

² Net amount of additional provisions equals to additional provisions less reversed amounts.

22. Paid-in Capital

(a) As at December 31, 2019 and 2018, the number of shares authorized is 600 million.

		December 31, 2019		December	31, 2018
	Par value per share	Number of shares issued	Amount (in millions of Korean won)	Number of shares issued	Amount (in millions of Korean won)
Ordinary shares	5,000	163,647,814	818,239	163,647,814	818,239
Preferred shares	5,000	17,185,992	85,930	17,185,992	85,930
Total		180,833,806	904,169	180,833,806	904,169

The preferred shareholders have no voting rights and are entitled to preferred dividends at a rate of one percentage point over that of ordinary shares. This preferred dividend rate is not applicable to stock dividends. In addition, the preferred shareholders have same rights on the remaining assets as ordinary shareholders. Repayment and conversion are not applicable to preferred shares.

(b) Share premium balance as at December 31, 2019, is ₩ 3,088,179 million. The share premium of ₩ 1,876,153 million was recognized, which is ₩2,815,707 million of the carrying amount of net assets acquired from the entity split-off back on April 1, 2002, less the Company's capital of ₩ 783,961 million and less the Company's capital adjustment of ₩ 155,593 million. In addition, the amount of ₩ 331,766 million paid in excess of par value due to issuance of ordinary shares (merger with LG IBMPC Co., Ltd.) and the exercise of conversion options in 2005 and 2006 are included. The excess in paid-in capital amounting to ₩ 880,260 million over the par value was recognized as the share premium due to the issuance of ordinary shares in 2011.

23. Retained Earnings and Dividends

(a) Retained earnings as at December 31, 2019 and 2018, consist of:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Legal reserves ¹	195,933	182,342
Discretionary reserves	5,128,769	5,347,641
Undisposed accumulated deficit	(318,597)	(69,273)
Total	5,006,105	5,460,710

¹ The Commercial Code of the Republic of Korea requires the Company to appropriate, 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 the payment of cash dividends, but may be transferred to capital stock or used to reduce accumulated deficit.

(b) Appropriation of retained earnings for the years ended December 31, 2019 and 2018, is as follows:

(in millions of Korean won)	2019	2018
Deficit for disposition		
Unappropriated retained earnings carried over from prior year	99	99
Changes in accounting policy	(2,020)	11,830
Remeasurement of net defined benefit liability	(120,558)	(76,428)
Loss for the year	(196,118)	(4,774)
_	(318,597)	(69,273)
Transfer from discretionary reserve		
Reserve for research and manpower development	5,128,769	5,347,641
Total	4,810,172	5,278,368
Appropriation of retained earnings		
Earned profit reserves	13,591	13,591
Reserve for research and manpower development	4,660,573	5,128,769
Dividends	135,909	135,909
Ordinary Share :		
₩ 750 (15%) in 2019		
₩ 750 (15%) in 2018		
Preferred share :		
₩ 800 (16%) in 2019		
₩ 800 (16%) in 2018		
	4,810,073	5,278,269
Unappropriated retained earnings to be carried forward to subsequent year	99	99

(c) Dividends

Details of dividends per share and a total dividend in respect of the year ended December 31, 2019, which is to be proposed at the annual general meeting on March 26, 2020, are as follows. These separate financial statements do not reflect this dividend payable.

_	2019		2018	
_	Ordinary shares	Preferred shares	Ordinary shares	Preferred shares
Outstanding shares	163,647,814	17,185,992	163,647,814	17,185,992
Treasury shares	(763,173)	(4,692)	(763,172)	(4,692)
Numbers of shares for dividend	162,884,641	17,181,300	162,884,642	17,181,300
Par value (in Korean won)	5,000	5,000	5,000	5,000
Dividend rate	15%	16%	15%	16%
Dividends per share (in Korean won)	750	800	750	800
Total dividend amount (in millions of Korean won)	122,164	13,745	122,164	13,745
Dividend payout ratio ¹ (Dividends/Net profit)	-	-	-	-
Stock price ² (in Korean won)	72,050	28,925	62,025	25,913
Dividend yield ratio (Dividend per share/ Market price)	1.04%	2.77%	1.21%	3.09%

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24. Accumulated Other Comprehensive Income

Accumulated other comprehensive income as at December 31, 2019 and 2018, consist of:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Cash flow hedge	(73,051)	(57,146)
Financial assets at fair value through other comprehensive income	747	(213)
Total	(72,304)	(57,359)

25. Other Components of Equity

Other components of equity as at December 31, 2019 and 2018, consist of:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Treasury shares ¹	(44,893)	(44,893)
Consideration for conversion rights	9,891	9,891
Gain on disposal of treasury shares	2,183	2,183
At December 31	(32,819)	(32,819)

¹ At the end of the reporting period, the Company has treasury shares consisting of 763,173 ordinary shares (December 31, 2018: 763,172 shares) and 4,692 preferred shares (December 31, 2018: 4,692 shares). The Company intends to either grant these treasury shares to employees and directors as compensation or sell them in the future.

26. Net Sales

(a) Details of net sales for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Revenue from contracts with customers:		
Sales of goods	27,265,057	28,942,637
Rendering of services	451,752	443,066
Royalty income	475,103	275,953
Subtotal	28,191,912	29,661,656
Revenue from other sources:		
Rental income and others	462,555	320,354
Total	28,654,467	29,982,010

¹ Dividend payout ratio is not calculated for the year ended December 31, 2019 due to the net loss of the Company.

² Average of prices in the stock market for one week preceding the two business days before the record date of the shareholders' list for the general meeting of shareholders related to above dividends.

(b) Details of revenue from contracts with customers for the year ended December 31, 2019 are as follows:

	2019							
(in millions of Korean won)	H&A	HE	мс	VS	BS	Other segments	Inter- segment transactions	Total
Revenue from contracts with customers:								
External sales	11,823,096	6,008,811	4,255,358	2,512,943	1,625,092	1,966,612	-	28,191,912
Internal sales	18,496	563	-	-	-	109,294	(128,353)	-
	11,841,592	6,009,374	4,255,358	2,512,943	1,625,092	2,075,906	(128,353)	28,191,912
By type of products:								
Refrigerators/washing machine/air conditioners and others	9,751,372	-	-	-	-	-	(7,296)	9,744,076
TV/monitor/PC and others	-	5,458,290	-	-	_	-	-	5,458,290
Mobile communications	-	-	4,255,358	-	_	-	-	4,255,358
In-vehicle infotainment	-	-	-	2,065,631	-	-	-	2,065,631
Information display	-	-	-	-	692,733	-	-	692,733
Others	2,090,220	551,084	-	447,312	932,359	2,075,906	(121,057)	5,975,824
Domestic / Export:								
Domestic	6,747,225	1,925,948	1,258,529	493,153	256,223	596,662	(128,353)	11,149,387
Export	5,094,367	4,083,426	2,996,829	2,019,790	1,368,869	1,479,244	-	17,042,525
Timing of transfer:								
Transferred at a point in time	11,433,987	5,750,414	4,116,552	2,479,548	1,595,702	75,894	(42,914)	25,409,183
Transferred over time	407,605	258,960	138,806	33,395	29,390	2,000,012	(85,439)	2,782,729

	2018							
						Other	Inter- segment	
(in millions of Korean won)	H&A	HE	МС	VS	BS	segments	transactions	Total
Revenue from contracts with customers:								
External sales	10,844,871	6,466,714	5,453,187	2,590,737	1,450,324	2,855,823	-	29,661,656
Internal sales	35,461	-	-	-		157,751	(193,212)	_
	10,880,332	6,466,714	5,453,187	2,590,737	1,450,324	3,013,574	(193,212)	29,661,656
By type of products: Refrigerators/washing								
machine/air conditioners and others	8,978,490	-	-	-	-	-	(11,060)	8,967,430
TV/monitor/PC and others	-	5,766,844	-	-	-	-	-	5,766,844
Mobile communications	-	-	5,453,187	-	-	-	-	5,453,187
In-vehicle infotainment	-	-	-	1,966,106	-	-	-	1,966,106
Information display	-	-	-	-	606,730	-	-	606,730
Others	1,901,842	699,870	-	624,631	843,594	3,013,574	(182,152)	6,901,359
Domestic / Export:								
Domestic	6,195,727	1,811,573	1,234,852	500,662	304,077	1,539,998	(193,212)	11,393,677
Export	4,684,605	4,655,141	4,218,335	2,090,075	1,146,247	1,473,576	-	18,267,979
Timing of transfer:								
Transferred at a point in time	10,516,587	6,243,889	5,404,618	2,560,743	1,428,941	103,985	(66,533)	26,192,230
Transferred over time	363,745	222,825	48,569	29,994	21,383	2,909,589	(126,679)	3,469,426

(c) Changes in the estimates of total contract revenue and total contract costs

Due to the factors causing the changes in the costs of other segments in 2019, the estimated total revenue and total costs for contracts in progress have changed. Details of changes in estimated total contract revenue and costs and the impact on profit or loss for the year and the succeeding year are as follows:

	Changes in total	Changes in total	Impact on profit or loss	Impact on profit or loss for the
(in millions of Korean won)	_contract revenue	_ contract cost	for the year	succeeding year
Other segments	40,358	39,916	(5,823)	6,265

27. Expenses by Nature

Expenses that are recorded by nature for the years ended December 31, 2019 and 2018, consist of:

(in millions of Korean won)	2019	2018
Changes in finished goods and work-in-process	76,479	(55,161)
Raw materials and merchandise used	16,470,805	18,258,714
Employee benefit expense	4,274,736	3,752,534
Depreciation and amortization	1,045,719	997,574
Advertising expense	591,513	676,017
Promotion expense	265,216	304,898
Freight expense	634,565	542,221
Commission expense	1,822,738	1,637,371
Other expenses	3,306,687	3,380,126
Total ¹	28,488,458	29,494,294

¹ Cost of sales, selling and marketing expenses, administrative expenses, research and development expenses and service costs are included.

28. General Operating Expenses (Selling and Marketing expenses, Administrative Expenses, Research and Development Expenses, and Service Costs)

Details of general operating expenses for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
Salaries	1,642,104	1,379,200
Post-employment benefits	165,360	131,167
Employee welfare benefits	305,768	240,971
Freight expense	625,269	532,367
Rental expense	61,810	112,172
Commission expense	1,284,897	1,150,609
Depreciation	141,694	99,201
Amortization	130,085	144,890
Taxes and dues	20,305	19,004
Advertising expense	591,513	676,017
Promotional expense	265,216	304,898
R&D expense	444,685	407,701
Direct service costs	391,578	383,051
Bad debts expense	33,214	10,300
Others	182,173	289,065
Total	6,285,671	5,880,613

29. Financial Income

Financial income for the years ended December 31, 2019 and 2018, consists of:

(in millions of Korean won)	2019	2018
Interest income	18,566	29,051
Exchange differences	107,856	166,920
Others	2,650	7,030
Total	129,072	203,001

30. Financial Expenses

Financial expenses for the years ended December 31, 2019 and 2018, consist of:

(in millions of Korean won)	2019	2018
Interest expense	248,674	241,685
Exchange differences	100,674	149,373
Loss on disposal of trade receivables	4,938	4,508
Others	23,276	13,921
Total	377,562	409,487

31. Other Non-operating Income

Other non-operating income for the years ended December 31, 2019 and 2018, consists of:

(in millions of Korean won)	2019	2018
Dividend income	283,999	225,095
Exchange differences	613,949	517,709
Gain on disposal of property, plant and equipment	11,492	13,124
Gain on disposal of intangible assets	766	-
Gain on disposal of assets held for sale	-	1,391
Gain on valuation of financial assets at fair value through profit or loss	17	-
Gain on disposal of investments in subsidiaries, associates and joint ventures	153,235	8
Gain on transfer of business	-	38,789
Gain on derivatives	345	851
Others	15,148	5,443
Total	1,078,951	802,410

32. Other Non-operating Expenses

Other non-operating expenses for the years ended December 31, 2019 and 2018, consist of:

_(in millions of Korean won)	2019	2018
Exchange differences	630,412	521,320
Loss on disposal of property, plant and equipment	19,562	18,505
Impairment loss on property, plant and equipment	100,888	40,528
Loss on disposal of intangible assets	30,021	35,032
Impairment loss on intangible assets	298,378	57,096
Loss on valuation of financial assets at fair value through profit or loss	-	2,002
Loss on disposal of investments in subsidiaries, associates and joint ventures	2,530	-
Impairment loss on investments in subsidiaries, associates and joint ventures	6,636	301,137
Others	67,181	40,466
Total	1,155,608	1,016,086

33. Earnings per Share

The Company has no potential dilutive ordinary shares. Accordingly, basic loss per share is identical to diluted loss per share.

(a) Basic loss per ordinary share for the years December 31, 2019 and 2018, is as follows:

	2019	2018
Loss attributable to ordinary shares ¹ (in millions of Korean won)	(178,182)	(5,095)
Weighted average number of ordinary shares outstanding (unit: shares) ²	162,884,641	162,884,641
Basic loss per ordinary share (in Korean won)	(1,094)	(31)

(b) Basic earnings (loss) per preferred share for the years December 31, 2019 and 2018, is as follows:

	2019	2018
Profit (loss) attributable to preferred shares ¹ (in millions of won)	(17,936)	321
Weighted average number of preferred shares outstanding <i>(unit: shares)</i> ²	17,181,300	17,181,300
Basic earnings (loss) per preferred share (in Korean won)	(1,044)	19

¹ Profit (loss) attributable to ordinary and preferred shares are as follows:

(in millions of Korean won)	2019	2018
Loss for the year (A)	(196,118)	(4,774)
Ordinary share dividends (B)	122,164	122,164
Preferred share dividends (C)	13,745	13,745
Undistributed loss (D=A-B-C)	(332,027)	(140,683)
Undistributed loss available for ordinary shares (E)	(300,346)	(127,259)
Undistributed loss available for preferred shares (F)	(31,681)	(13,424)
Loss attributable to ordinary shares (G=B+E)	(178,182)	(5,095)
Profit (loss) attributable to preferred shares (H=C+F)	(17,936)	321

²Weighted average numbers of shares outstanding are calculated as follows:

(unit: shares)	2019	2018
Ordinary shares issued	163,647,814	163,647,814
Ordinary treasury shares	(763,173)	(763,173)
Ordinary shares outstanding	162,884,641	162,884,641
Weighted average number of ordinary shares outstanding	162,884,641	162,884,641
Preferred shares issued	17,185,992	17,185,992
Preferred treasury shares	(4,692)	(4,692)
Preferred shares outstanding	17,181,300	17,181,300
Weighted average number of preferred shares outstanding	17,181,300	17,181,300

34. Cash Flow Information

Cash flows from operating activities are presented using the indirect method. Details of cash generated from operations for the years ended December 31, 2019 and 2018, are as follows:

(a) Cash generated from operations

(in millions of Korean won)	2019	2018
Loss for the year	(196,118)	(4,774)
Adjustments:		
Interest expense, net	230,108	212,634
Exchange differences, net	(20,769)	13,881
Depreciation	726,229	668,938
Amortization	324,100	334,163
Loss on disposal of property, plant and equipment and intangible assets, net	37,325	40,413
Provisions for severance benefits	306,182	265,359
Additional provisions, net	563,820	419,448
Dividend income	(283,999)	(225,095)
Income tax expense	36,980	72,328
Gain on disposal of investments in subsidiaries, associates and joint ventures	(150,705)	(8)
Impairment loss on investments in subsidiaries, associates and joint ventures	6,636	301,137
Others	618,192	134,042
	2,394,099	2,237,240
Changes in operating assets and liabilities:		
Decrease (increase) in trade receivables	(12,475)	1,659,763
Increase in other receivables	(234,516)	(93,113)
Decrease (increase) in inventories	178,991	(182,802)
Decrease (increase) in contract assets	67,197	(201,494)
Increase in other assets	(426,617)	(59,989)
Decrease in trade payables	(272,596)	(544,264)
Increase (decrease) in other payables	(494,495)	25,505
Decrease in provisions	(416,686)	(368,042)
Increase (decrease) in contract liabilities	(86,087)	26,151
Increase (decrease) in other liabilities	200,170	(345,534)
Payment of defined benefit liability	(38,728)	(33,608)
Deposit in plan assets, net	(295,794)	(286,770)
	(1,831,636)	(404,197)
Cash generated from operations	366,345	1,828,269

(b) Changes in liabilities arising from financing activities

	2019						
			Non-cash transactions				
		Net cash flow from financing	Addition and	Exchange	Amortization		
(in millions of Korean won)	At January 1	activities	others	differences	and others	At December 31	
Short-term borrowings	-	231,554	-	1,983	-	233,537	
Long-term borrowings	2,621,536	235,750	-	8,503	-	2,865,789	
Debentures	5,278,976	(174,985)	-	13,988	2,776	5,120,755	
Lease liabilities	74,107	(39,037)	92,876	14	317	128,277	
Total	7,974,619	253,282	92,876	24,488	3,093	8,348,358	

	2018				
		Non-cash transactions			
		Net cash flow from	Exchange		
(in millions of Korean won)	At January 1	financing activities	differences	Amortization	At December 31
Short-term borrowings	127,925	(131,082)	3,157	-	-
Long-term borrowings	2,177,140	438,541	5,855	-	2,621,536
Debentures	5,136,775	113,674	24,988	3,539	5,278,976
Total	7,441,840	421,133	34,000	3,539	7,900,512

(c) Significant non-cash transactions

(in millions of Korean won)	2019	2018
Reclassification of construction-in-progress to property, plant and equipment	181,074	484,577
Reclassification of construction-in-progress to intangible assets	312,148	301,886
Reclassification of current portion of borrowings and debentures	820,776	757,135
Other payables to acquire property, plant and equipment	92,255	104,187
Other payables to acquire intangible assets	24,261	19,908
Acquisition of right-of-use assets	104,880	-

(d) Assets and liabilities arising from the transfer of business

- Transfer of vehicle rear lamp business
- i) On December 19, 2019, vehicle rear lamp business was transferred to ZKW Holding GmbH.

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ii) Total consideration received and assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	2,597
Other payables	1,443
Assets of the transferred business:	
Inventories	6,883
Property, plant and equipment	499
Intangible assets	722
Other assets	1,013
Liabilities of the transferred business:	
Other liabilities	2,623

- Transfer of Membrane business
- iii) On December 17, 2018, Membrane business was transferred to LG Chem Ltd.
- iv) Total consideration received and assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	3,488
Other receivables ¹	529
Assets of the transferred business:	
Inventories	2,175
Property, plant and equipment	3,680
Intangible assets	183
Other assets	75
Liabilities of the transferred business:	
Other payables	510
Provisions	80
Other liabilities	399

¹ Collected during the three-month period ended March 31, 2019.

- Transfer of OLED T-Con Chip design business
- i) On July 1, 2018, OLED T-Con Chip design business was transferred to Silicon Works Co., Ltd.

ii) Total consideration received and assets and liabilities of the transferred business are as follows:

(in millions of Korean won)	Amount
Total consideration	
Cash and cash equivalents	46,130
Assets of the transferred business:	
Trade receivables	7,880
Inventories	2,508
Property, plant and equipment	9
Liabilities of the transferred business:	
Trade payables	2,592
Contract liabilities	452
Other liabilities	12

35. Contingencies

(a) At the end of the reporting period, the Company is provided with performance guarantees of ₩ 240,968 million (December 31, 2018: ₩ 218,461 million) from Seoul Guarantee Insurance and one other financial institution relating to the performance guarantees. The Company is also provided with guarantee of principal amounting to EUR 100 million (December 31, 2018: US\$ 200 million and EUR 100 million) and interests from Shinhan Bank for the guaranteed private placement bonds.

(b) At the end of the reporting period, the financial guarantees provided by the Company to related parties amount to ₩ 3,874,217 million (December 31, 2018: ₩ 3,846,637 million) on the indebtedness of its subsidiaries. Details are as follows:

(in millions of Korean won)	Beneficiary	December 31, 2019	December 31, 2018
LG Electronics European Shared Service Center B.V.(LGESC)	Citibank and others	963,997	820,985
LG Electronics do Brasil Ltda.(LGEBR)	CHUBB and others	705,447	743,021
LG Electronics U.S.A., Inc.(LGEUS)	Citibank and others	551,509	531,098
LG Electronics (China) Co., Ltd.(LGECH)	Citibank and others	271,457	263,743
LG Electronics Peru S.A.(LGEPR)	Scotiabank and others	199,659	190,332
LG Electronics Algeria SARL(LGEAS)	Citibank and others	139,809	105,881
LG Electronics Inc Chile Ltda.(LGECL)	Scotiabank and others	126,445	127,169
LG Electronics Ticaret A.S.(LGETK)	HSBC and others	111,189	216,421
LG Electronics Morocco S.A.R.L.(LGEMC)	Citibank and others	92,877	90,175
LG Electronics Colombia Ltda.(LGECB)	Citibank and others	92,663	90,015
LG Electronics Vietnam Haiphong Co., Ltd.(LGEVH)	HSBC and others	86,640	154,715
LG Electronics RUS, LLC(LGERA)	Citibank and others	83,652	76,884
LG Electronics Almaty Kazakhstan(LGEAK)	Citibank	57,890	71,558
LG Electronics India Pvt. Ltd.(LGEIL)	Citibank and others	57,509	52,435
LG Electronics Philippines Inc.(LGEPH)	ANZ and others	54,173	44,389
LG Electronics Egypt S.A.E(LGEEG)	Credit Agricole and others	53,384	95,880
LG Electronics (M) Sdn. Bhd(LGEML)	Citibank	35,298	10,042
LG Electronics Thailand Co., Ltd.(LGETH)	Citibank	27,022	25,797
LG Electronics Italia S.P.A.(LGEIS)	Intesa	25,949	25,583
LG Electronics Australia Pty, Ltd.(LGEAP)	Citibank	24,263	23,525
Others	Citibank and others	113,385	86,989
Total		3,874,217	3,846,637

- (c) At the end of the reporting period, the Company is providing KEB Hana Bank with a payment guarantee for buyers up to \forall 46,000 million (December 31, 2018: \forall 46,000 million).
- (d) At the end of the reporting period, there are a number of legal actions, disputes and investigations arising from the normal course of business that remain pending. The ultimate effect of those lawsuits on the financial position of the Company cannot reflect a reasonable expectation. Management does not expect the outcome of the litigations will have a material effect on the Company's financial position.

36. Commitments

- (a) At the end of the reporting period, the Company has overdraft facility agreements with various banks, including Shinhan Bank, with a limit of ₩ 165,500 million (December 31, 2018: ₩ 165,500 million).
- (b) At the end of the reporting period, the Company has sales agreements for export trade receivables with KEB Hana Bank and 19 other banks amounting to $\mbox{$\mathbb{H}$}$ 1,895,310 million (December 31, 2018: $\mbox{$\mathbb{H}$}$ 1,926,486 million) and has sales agreements for domestic trade receivables with MUFG Bank and one other bank amounting to $\mbox{$\mathbb{H}$}$ 900,000 million (December 31, 2018: $\mbox{$\mathbb{H}$}$ 690,000 million).
- (c) At the end of the reporting period, the Company has corporate electronic settlement services contracts and vendor prepayment services contracts with Shinhan Bank and seven other banks for up to \forall 1,210,000 million (December 31, 2018: \forall 1,160,000 million) in connection with the payment of trade payables.
- (d) At the end of the reporting period, the Company has other trade financing agreements and loan commitments with financial institutions, including Shinhan Bank, of up to \forall 688,936 million (December 31, 2018: \forall 601,258 million).
- (e) Contractual commitments for the acquisition of assets

The assets contracted for, but not yet acquired at the end of the reporting period, are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Property, plant and equipment	167,585	107,768
Intangible assets	118,014	40,223
Investments in subsidiaries, associates and joint ventures	88,968	9,863
Total	374,567	157,854

- (f) Operating lease commitments the Company as lessor
 - i) The Company has non-cancellable operating lease agreements regarding healthcare rental business that lends water purifiers and others to customers. The future aggregate lease receipts under operating leases at the end of the reporting period, are as follows:

	December 31, 2019				
					Total lease
(in millions of Korean won)	1 year or less	1 to 2 years	2 to 3 years	3 to 4 years	payments
Healthcare rental	517,235	396,557	195,920	28,150	1,137,862

ii) The Company recognized ₩ 439,416 million (2018: ₩ 292,467 million) in lease income for the year ended December 31, 2019.

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iii) Details of assets subject to operating lease are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Acquisition cost	746,379	653,110
Accumulated depreciation	(237,963)	(149,127)
Accumulated impairment losses	(67)	(105)
Net book amount	508,349	503,878

iv) Changes in net book amount of assets subject to operating lease for the years ended December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	2019	2018
At January 1	503,878	332,003
Acquisition	249,388	274,383
Disposal	(112,208)	(13,846)
Depreciation	(132,709)	(87,594)
Impairment loss	<u> </u>	(1,068)
At December 31	508,349	503,878

(g) Trademark license agreements

At the end of the reporting period, the Company has various agreements as follows:

Purpose	Related products	Provided by	Used by
Use of license	Home appliance/ Mobile	Qualcomm Incorporated and others	LG Electronics Inc.
Provision for license	Home appliance/ Mobile	LG Electronics Inc.	Panasonic Corporation and others

37. Related Party

- (a) Major transactions for the years ended December 31, 2019 and 2018, and balances of receivables and payables from transaction with related parties as at December 31, 2019 and 2018, are as follows:
 - i) Major income and expense transactions with related parties

(in millions of K	orean won)	2019									
		Inco	me transacti	ions	Expense transactions						
Classification	Name	Sales	Others	Total	Purchases	Others ⁵	Total				
Significantly influencing the Company	LG Corp.	903	-	903	-	174,069	174,069				
Subsidiaries	LG Innotek Co., Ltd.	86,623	40,919	127,542	348,608	10,740	359,348				
	Hiplaza Co., Ltd.	2,001,483	12,816	2,014,299	-	31,854	31,854				
	LG Electronics U.S.A., Inc.	4,281,603	4,718	4,286,321	3,010	73,460	76,470				
	Inspur LG Digital Mobile Communications Co., Ltd. LG Electronics Vietnam	240,044	134	240,178	44,965	8,610	53,575				
	Haiphong Co., Ltd. LG Electronics do Brasil	1,740,057	20,244	1,760,301	267,946	22,277	290,223				
	Ltda.	490,626	1,395	492,021	3,065	4,403	7,468				
	LG Electronics Canada, Inc.	285,586	20	285,606	-	6,600	6,600				
	Qingdao LG Inspur Digital Communication Co., Ltd. LG Electronics (Kunshan)	259,232	11	259,243	104,234	921	105,155				
	Co., Ltd.	107,319	217	107,536	6,297	1,183	7,480				
	LG Electronics Australia Pty, Ltd.	277,708	113	277,821	106	5,067	5,173				
	LG Electronics RUS, LLC	374,003	259	374,262	1,087	4,805	5,892				
	LG Electronics India Pvt. Ltd.	288,524	14,501	303,025	5,849	3,311	9,160				
	LG Electronics Deutschland GmbH	133,821	6,910	140,731	14,321	45,220	59,541				
	LG Electronics Japan, Inc.	331,243	82	331,325	4,649	26,022	30,671				
	LG Electronics Reynosa S.A. DE C.V. LG Electronics Mlawa Sp.	357,953	97	358,050	966	31	997				
	z.O.O.	382,244	99	382,343	8,352	4,675	13,027				
	LG Electronics Egypt S.A.E	90,939	1,383	92,322	-	2,142	2,142				
	LG Electronics Nanjing New Technology Co.,Ltd.	285,240	-	285,240	449,078	2,801	451,879				
	LG Electronics Mexicali, S.A. DE C.V. LG Electronics Polska Sp.	182,234	41	182,275	375	2	377				
	Z.O.O	137,313	773	138,086	1,775	4,811	6,586				
	LG Electronics Panama, S.A.	87,055	183	87,238	2	917	919				
	P.T. LG Electronics Indonesia	141,680	134	141,814	62,894	381	63,275				
	LG Electronics (Hangzhou) Co., Ltd.	190,360	64	190,424	29,438	5,367	34,805				
	LG Electronics Inc Chile Limitada	12,793	90	12,883	-	370	370				

(in millions of K	orean won)	2019								
		Inco	me transact	tions	Ехреі	nse transact	ions			
Classification	Name	Sales	Others	Total	Purchases	Others ⁵	Total			
	LG Electronics Colombia Limitada	52,220	28	52,248		872	872			
	LG Electronics Tianjin Appliances Co., Ltd.	61,031	1,484	62,515	179,978	135	180,113			
	LG Electronics Vehicle Components U.S.A, LLC	318,398	900	319,298	2,675	37,284	39,959			
	Hi-M.Solutek	65,436	230	65,666	217,077	45,492	262,569			
	Others	3,340,798	27,409	3,368,207	524,705	392,458	917,163			
	Subtotal	16,603,566	135,254	16,738,820	2,281,452	742,211	3,023,663			
Associates	LG Display Co., Ltd. and its subsidiaries	887,903	97,409	985,312	943,410	3,999	947,409			
	Ericsson-LG Co., Ltd. and its subsidiaries Hitachi-LG Data Storage	106	-	106	-	-	-			
	Inc.(HLDS) and its subsidiaries	2,329	-	2,329	30,513	320	30,833			
	LG Fuel Cell Systems Inc. and its subsidiaries	77	510	587	13	69	82			
	Robostar Co.,Ltd.	2	-	2	46,517	6,601	53,118			
	Kiwigrid GmbH	-	-	-	-	479	479			
	ROBOTIS Co., Ltd.	-	-	-	-	205	205			
1	Korea Information Certificate Authority Inc	1	-	1	-	86	86			
	Acryl Inc.					704	704			
	Subtotal	890,418	97,919	988,337	1,020,453	12,463	1,032,916			
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	-	-	-	28	-	28			
	LG-MRI LLC	6,267		6,267						
	Subtotal	6,267		6,267	28		28			
Other related parties	LG CNS Co., Ltd. and its subsidiaries	130,346	48	130,394	113,328	353,680	467,008			
	S&I Corp. and its subsidiaries ² LG Management	26,117	4,251	30,368	220,938	176,566	397,504			
	Development Institute	3	-	3	8,149	20,462	28,611			
	LG SPORTS Ltd.	4	21	25	-	15,529	15,529			
	LG MMA Ltd.	1	_	1	-	-	_			
	Subtotal	156,471	4,320	160,791	342,415	566,237	908,652			
Others ¹	LG Chem Ltd. and its subsidiaries and joint ventures	990,198	24,139	1,014,337	575,670	8,813	584,483			
	LG INTERNATIONAL CORP and its subsidiaries	46,036	7,802	53,838	645,972	827,638	1,473,610			
	LG Uplus Corp and its subsidiaries	470,145	94	470,239	1,957	3,639	5,596			
	LG HAUSYS,LTD. and its subsidiaries and associates	6,681	232	6,913	2,654	351	3,005			
	Silicon Works Co., Ltd LG HOUSEHOLD &	2,643	2,979	5,622	12,355	34	12,389			
	HEALTH CARE LTD and its subsidiaries	30,503	4	30,507	218	216	434			

(in millions of K	orean won)	2019									
	Name	Inco	me transact	tions	Expense transactions						
Classification		Sales	Others	Total	Purchases	Others ⁵	Total				
	G ∏ R Inc. and its subsidiaries	190	47	237	82	236,884	236,966				
	SERVEONE Co., Ltd. ²	48	2,492	2,540	144,761	27,591	172,352				
	Techcross Environmental Services Inc. ³	75	-	75	1,435	481	1,916				
	Subtotal	1,546,519	37,789	1,584,308	1,385,104	1,105,647	2,490,751				
	Total	19,204,144	275,282	19,479,426	5,029,452	2,600,627	7,630,079				

(in millions of K	(in millions of Korean won)		2018									
		Inco	me transacti	ions	Exper	nse transacti	ons					
Classification	Name	Sales	Others	Total	Purchases	Others	Total					
Significantly influencing the Company	LG Corp.	2,241	-	2,241	-	141,285	141,285					
Subsidiaries	LG Innotek Co., Ltd.	237,452	32,525	269,977	454,164	13,647	467,811					
	Hiplaza Co., Ltd.	1,939,882	10,997	1,950,879	20	30,202	30,222					
	LG Electronics U.S.A., Inc.	3,388,404	12,873	3,401,277	2,587	66,592	69,179					
	LG Electronics Mobilecomm U.S.A., Inc.	968,652	31	968,683	104	4,354	4,458					
	Inspur LG Digital Mobile Communications Co., Ltd.	925,513	857	926,370	198,076	22,160	220,236					
	LG Electronics Vietnam Haiphong Co., Ltd. LG Electronics do Brasil	1,200,743	911	1,201,654	52,810	19,713	72,523					
	Ltda.	453,491	97	453,588	945	2,290	3,235					
	LG Electronics Canada, Inc.	339,314	11	339,325	62	2,298	2,360					
	Qingdao LG Inspur Digital Communication Co., Ltd.	353,292	525	353,817	191,909	5,357	197,266					
	LG Electronics (Kunshan) Co., Ltd.	331,460	434	331,894	10,858	953	11,811					
	LG Electronics Australia Pty, Ltd.	308,853	8	308,861	38	2,952	2,990					
	LG Electronics RUS, LLC	299,670	302	299,972	392	735	1,127					
	LG Electronics India Pvt. Ltd.	291,412	26,087	317,499	6,012	2,147	8,159					
	LG Electronics Deutschland GmbH	371,551	36,689	408,240	4,003	41,431	45,434					
	LG Electronics Japan, Inc.	377,638	56	377,694	4,708	23,926	28,634					
	LG Electronics Reynosa S.A. DE C.V.	373,267	48	373,315	1,705	116	1,821					
	LG Electronics Mlawa Sp. z.O.O.	343,741	92	343,833	2,173	4,721	6,894					
	LG Electronics Egypt S.A.E	111,435	4,662	116,097	-	598	598					
	LG Electronics Nanjing New Technology Co.,Ltd.	237,553	19	237,572	425,878	1,419	427,297					
	LG Electronics Mexicali, S.A. DE C.V. LG Electronics Polska Sp.	195,476	179	195,655	2,104	96	2,200					
	Z.O.O	152,696	1,070	153,766	2,186	2,205	4,391					

(in millions of Korean won)		2018								
		Inco	me transact	tions	Expense transactions					
Classification	Name	Sales	Others	Total	Purchases	Others	Total			
	LG Electronics Panama, S.A.	122,656	144	122,800		167	167			
	P.T. LG Electronics Indonesia	125,556	463	126,019	57,779	60	57,839			
	LG Electronics (Hangzhou) Co., Ltd.	137,595	285	137,880	31,024	587	31,611			
	LG Electronics Inc Chile Limitada	70,220	227	70,447	-	329	329			
	LG Electronics Colombia Limitada	78,846	118	78,964	15	493	508			
	LG Electronics Tianjin Appliances Co., Ltd.	56,600	311	56,911	142,388	193	142,581			
	LG Electronics Vehicle Components U.S.A, LLC	519,598	463	520,061	2,592	35,326	37,918			
	Hi-M.Solutek	33,981	15,933	49,914	122,400	62,580	184,980			
	Others	3,487,491	34,841	3,522,332	279,531	365,024	644,555			
	Subtotal	17,834,038	181,258	18,015,296	1,996,463	712,671	2,709,134			
Associates	LG Display Co., Ltd. and its subsidiaries	1,108,838	42,687	1,151,525	1,200,252	14,902	1,215,154			
	Ericsson-LG Co., Ltd. and its subsidiaries Hitachi-LG Data Storage	1,636	52	1,688	3,460	-	3,460			
	Inc.(HLDS) and its subsidiaries	680	1	681	37,551	2,326	39,877			
	LG Fuel Cell Systems Inc. and its subsidiaries	3,315	608	3,923	-	-	-			
	Robostar Co.,Ltd.	-	-	-	20,430	2,106	22,536			
	Kiwigrid GmbH	-	-	-	-	906	906			
	ROBOTIS Co., Ltd.	-	-	-	-	220	220			
	Korea Information Certificate Authority Inc	-	-	-	-	51	51			
	Acryl Inc.					1,658	1,658			
	Subtotal	1,114,469	43,348	1,157,817	1,261,693	22,169	1,283,862			
Joint ventures	LG-MRI LLC	2,477	-	2,477	1,185	-	1,185			
Other related parties	LG CNS Co., Ltd. and its subsidiaries	108,783	144	108,927	119,857	371,873	491,730			
	S&I Corp. and its subsidiaries ²	26,798	9,483	36,281	579,969	345,416	925,385			
	LB Lusem CO., LTD.4	-	-	-	205	1	206			
	LG Management Development Institute	-	-	-	110	26,073	26,183			
	LG SPORTS Ltd.	2	19	21		13,384	13,384			
	Subtotal	135,583	9,646	145,229	700,141	756,747	1,456,888			
Others ¹	LG Chem Ltd. and its subsidiaries and joint ventures	1,451,320	20,599	1,471,919	785,315	874	786,189			
	LG INTERNATIONAL CORP and its subsidiaries	97,784	8,333	106,117	641,990	743,675	1,385,665			
	LG Uplus Corp and its subsidiaries	536,470	144	536,614	1,687	4,668	6,355			
	LG HAUSYS,LTD. and its subsidiaries and associates	10,885	339	11,224	5,032	27	5,059			

(in millions of K	orean won)	2018								
	Name	Inco	me transact	tions	Expense transactions					
Classification		Sales	Others	Total	Purchases	Others	Total			
	Silicon Works Co., Ltd	2,743	48,160	50,903	7,673	_	7,673			
	LG HOUSEHOLD & HEALTH CARE LTD and its subsidiaries	7,444	5	7,449	205	299	504			
	G II R Inc. and its subsidiaries	2,339	12	2,351	125	249,437	249,562			
	Subtotal	2,108,985	77,592	2,186,577	1,442,027	998,980	2,441,007			
	Total	21,197,793	311,844	21,509,637	5,401,509	2,631,852	8,033,361			

¹ Although the entities are not the related parties of the Company in accordance with Korean IFRS 1024, the entity belongs to the Large Enterprise Group to which the Company also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

² SERVEONE Co., Ltd. was spun off into S&I Corp. and SERVEONE Co., Ltd. on December 1, 2018. On May 15, 2019, S&I Corp., the existing entity, disposed 60.1% shares of SERVEONE Co., Ltd., a newly established entity. On July 24, 2019, SERVEONE Co., Ltd., a newly established entity, was excluded from the Large Enterprise Group in accordance with the Monopoly Regulation and Fair Trade Act.

³ All shares of Hi Entech Co., Ltd. were disposed to Techcross Vision Investment Inc. on September 26, 2019. And the name of Hi Entech Co., Ltd. was changed to Techcross Environmental Services Inc. On December 30, 2019, Techcross Environmental Services Inc. was excluded from the Large Enterprise Group in accordance with the Monopoly Regulations and Fair Trade Act.

⁴ All shares of LUSEM CO., LTD. were sold to LB SEMICON CO., LTD. on February 27, 2018, and the name of LUSEM CO., LTD. was changed to LB Lusem CO., LTD. on March 15, 2018.

⁵ The acquisition cost of right-of-use assets is included in others.

ii) The balances of receivables from and payables to related parties

(in millions of Korean won)		December 31, 2019									
			Rece	ivables		Payables					
		Trade		Other		Trade		Other			
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	payables ³	Total		
Significantly influencing the Company	LG Corp.	38	-	25,884	25,922	-	-	27,716	27,716		
Subsidiaries	LG Innotek Co., Ltd.	42,548	_	5,851	48,399	61,571	_	18,853	80,424		
	Hiplaza Co., Ltd.	157,004	-	25,881	182,885	-	-	7,466	7,466		
	LG Electronics U.S.A., Inc.	146,000	-	123,082	269,082	-	-	9,901	9,901		
	Inspur LG Digital Mobile Communications Co., Ltd.	-	-	1,199	1,199	68	-	7	75		
	LG Electronics Vietnam Haiphong Co., Ltd.	330,415	-	959	331,374	211,406	-	2,113	213,519		
	LG Electronics do Brasil Ltda.	95,804	-	42,281	138,085	1,291	-	669	1,960		
	LG Electronics Canada, Inc.	25,781	-	-	25,781	-	-	832	832		
	Qingdao LG Inspur Digital Communication Co., Ltd.	19,987	-	5,107	25,094	118,304	-	142	118,446		
	LG Electronics (Kunshan) Co.,Ltd.	5,455	-	3,290	8,745	1,094	-	29	1,123		
	LG Electronics Australia Pty, Ltd.	55,061	-	-	55,061	-	-	255	255		
	LG Electronics RUS, LLC	57,771	-	77,911	135,682	631	-	316	947		
	LG Electronics India Pvt. Ltd.	34,579	-	7,873	42,452	34	-	444	478		
	LG Electronics Deutschland GmbH	192,597	-	49,979	242,576	-	-	6,112	6,112		
	LG Electronics Japan, Inc.	21,340	-	-	21,340	-	-	3,159	3,159		
	LG Electronics Reynosa S.A. DE C.V.	8,409	-	3,606	12,015	153,814	-	-	153,814		
	LG Electronics Mlawa Sp. z.O.O.	48,560	-	11	48,571	903,612	-	219	903,831		
	LG Electronics Egypt S.A.E	9,339	-	56,530	65,869	2,919	-	1,573	4,492		
	LG Electronics Nanjing New Technology co.,LTD	41,432	-	174	41,606	208,782	-	359	209,141		
	LG Electronics Mexicali, S.A. DE C.V.	33,004	-	3,802	36,806	101,295	-	-	101,295		
	LG Electronics Polska Sp. Z.O.O	110,927	-	47	110,974	-	-	564	564		
	LG Electronics Panama, S.A.	44,508	-	-	44,508	-	-	71	71		
	P.T. LG Electronics Indonesia	14,988	-	330	15,318	255,857	-	11	255,868		

(in millions of Korean won)		December 31, 2019									
			Rece	ivables			Payab	les			
		Trade		Other		Trade		Other			
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	payables ³	Total		
	LG Electronics (Hangzhou) Co., Ltd.	46,101	-	1,124	47,225	4,411	-	1,477	5,888		
	LG Electronics Inc Chile Limitada	2,911	-	-	2,911	-	-	4	4		
	LG Electronics Colombia Limitada	76,803	-	4	76,807	-	-	85	85		
	LG Electronics Tianjin Appliances Co., Ltd.	11,284	-	11,619	22,903	54,918	-	14	54,932		
	LG Electronics Vehicle Components U.S.A, LLC	26,851	-	997	27,848	-	-	2,299	2,299		
	Hi-M.Solutek	9,503	-	102	9,605	-	-	38,668	38,668		
	Others	811,916		59,140	871,056	717,289	493,023	54,653	1,264,965		
	Subtotal	2,480,878	_	480,899	2,961,777	2,797,296	493,023	150,295	3,440,614		
Associates	LG Display Co., Ltd. and its subsidiaries	143,998	-	84,620	228,618	188,615	-	76,812	265,427		
	Hitachi-LG Data Storage Inc.(HLDS) and its subsidiaries	714	-	-	714	12,182	-	411	12,593		
	LG Fuel Cell Systems Inc. and its subsidiaries	-	-	-	-	-	-	-	-		
	Robostar Co.,Ltd.	-	-	-	-	-	-	25,151	25,151		
	ROBOTIS Co., Ltd.	-	-	-	-	-	-	145	145		
	Korea Information Certificate Authority Inc	-	-	-	-	-	-	18	18		
	Acryl Inc.							229	229		
	Subtotal	144,712		84,620	229,332	200,797		102,766	303,563		
Joint ventures	LG-MRI LLC	2,311			2,311						
Other related parties	LG CNS Co., Ltd. and its subsidiaries	19,512	-	987	20,499	18,324	-	115,892	134,216		
	S&I Corp. and its subsidiaries ²	16,178	-	47,165	63,343	-	-	45,777	45,777		
	LG Management Development Institute	-	-	15,660	15,660	-	-	810	810		
	LG SPORTS Ltd.							2,311	2,311		
·	Subtotal	35,690		63,812	99,502	18,324		164,790	183,114		
Others ¹	LG Chem Ltd. and its subsidiaries	468,058	-	228,082	696,140	173,341	-	60,039	233,380		
	LG INTERNATIONAL CORP and its subsidiaries	13,043	-	1,397	14,440	97,908	-	115,903	213,811		
	LG Uplus Corp and its subsidiaries	5,820	-	98	5,918	-	-	551	551		
	LG HAUSYS,LTD. and its subsidiaries	2,296	-	117	2,413	469	-	1,496	1,965		
	Silicon Works Co., Ltd	215	-	258	473	2,764	-	485	3,249		

December 31, 2019								
	Recei	vables		Payables				
Trade		Other		Trade		Other		
receivables	Loans	receivables	Total	payables	Borrowings	payables ³	Total	
20,064	-	8,709	28,773	1	-	3,355	3,356	
10			12			140 417	140,417	
						140,417	140,417	
509,508		238,661	748,169	274,483		322,246	596,729	
3,173,137		893,876	4,067,013	3,290,900	493,023	767,813	4,551,736	
	20,064 12 509,508	Trade receivables Loans 20,064 - 12 - 509,508 -	receivables Loans receivables 20,064 - 8,709 12 - - 509,508 - 238,661	Receivables Trade receivables Consum (Loans) Other receivables Total 20,064 - 8,709 28,773 12 - - 12 509,508 - 238,661 748,169	Trade receivables Other receivables Total payables 20,064 - 8,709 28,773 1 12 - - 12 - 509,508 - 238,661 748,169 274,483	Receivables Payables Trade receivables Other receivables Total payables Borrowings 20,064 - 8,709 28,773 1 - 12 - - 12 - - 509,508 - 238,661 748,169 274,483 -	Receivables Payables Trade receivables Other receivables Total payables Borrowings payables³ 20,064 - 8,709 28,773 1 - 3,355 12 - 12 - 140,417 509,508 - 238,661 748,169 274,483 - 322,246	

(in millions of K	(orean won)	December 31, 2018									
			Rece	ivables		Payables					
		Trade		Other		Trade		Other			
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	payables	Total		
Significantly influencing the Company	LG Corp.	42		26,068	26,110				-		
Subsidiaries	LG Innotek Co., Ltd.	119,338	-	8,102	127,440	121,495	-	31,240	152,735		
	Hiplaza Co., Ltd.	166,265	-	22,790	189,055	-	-	7,112	7,112		
	LG Electronics U.S.A., Inc.	273,496	-	72,993	346,489	-	-	139,866	139,866		
	Inspur LG Digital Mobile Communications Co., Ltd.	25,430	-	1,180	26,610	296,959	-	815	297,774		
	LG Electronics Vietnam Haiphong Co., Ltd.	307,408	-	588	307,996	182,917	-	1,420	184,337		
	LG Electronics do Brasil Ltda.	107,098	-	40,575	147,673	184	-	325	509		
	LG Electronics Canada, Inc.	24,518	-	-	24,518	-	-	409	409		
	Qingdao LG Inspur Digital Communication Co., Ltd.	16,527	-	5,025	21,552	121,781	-	35	121,816		
	LG Electronics (Kunshan) Co.,Ltd.	43,192	-	3,512	46,704	50,047	-	370	50,417		
	LG Electronics Australia Pty, Ltd.	59,931	-	1,615	61,546	-	-	84	84		
	LG Electronics RUS, LLC	39,246	-	13,812	53,058	640	-	71	711		
	LG Electronics India Pvt. Ltd.	34,300	-	7,653	41,953	404	-	591	995		
	LG Electronics Deutschland GmbH	85,735	-	10,720	96,455	-	-	7,080	7,080		
	LG Electronics Japan, Inc.	66,765	-	-	66,765	-	-	3,084	3,084		
	LG Electronics Reynosa S.A. DE C.V.	20,412	-	4,402	24,814	97,454	-	-	97,454		
	LG Electronics Mlawa Sp. z.O.O.	46,794	-	61	46,855	759,727	-	533	760,260		
	LG Electronics Egypt S.A.E	4,107	-	78,560	82,667	2,784	-	110	2,894		

(in millions of Korean won)		December 31, 2018								
			Rece	ivables		Payables				
		Trade Other			Trade Other					
Classification		receivables	Loans	receivables	Total	payables	Borrowings	payables	Total	
	LG Electronics Nanjing New Technology	38,011	-	145	38,156	195,626	-	39	195,665	
	co.,LTD LG Electronics Mexicali, S.A. DE C.V.	40,700	-	4,456	45,156	49,605	-	-	49,605	
	LG Electronics Polska Sp. Z.O.O	41,452	-	188	41,640	-	-	359	359	
	LG Electronics Panama, S.A.	46,924	-	-	46,924	-	-	38	38	
	P.T. LG Electronics Indonesia	12,692	-	169	12,861	216,133	-	102	216,235	
	LG Electronics (Hangzhou) Co., Ltd.	44,162	-	942	45,104	1,831	-	104	1,935	
	LG Electronics Inc Chile Limitada	49,754	-	49	49,803	-	-	28	28	
	LG Electronics Colombia Limitada	74,614	-	25	74,639	-	-	34	34	
	LG Electronics Tianjin Appliances Co., Ltd.	10,789	-	1,449	12,238	56,012	-	30	56,042	
	LG Electronics Vehicle Components U.S.A, LLC	112,509	-	412		-	-	7,840	7,840	
	Hi-M.Solutek	8,436	-	47	8,483	-	-	27,853	27,853	
	Others	546,862		49,923	596,785	479,985		44,425	524,410	
	Subtotal	2,467,467		329,393	2,796,860	2,633,584		273,997	2,907,581	
Associates	LG Display Co., Ltd. and its subsidiaries	414,242	-	130,319	544,561	212,350	-	137,027	349,377	
	Ericsson-LG Co., Ltd. and its subsidiaries	31	-	-	31	534	-	-	534	
	Hitachi-LG Data Storage Inc.(HLDS) and its subsidiaries	109	-	-	109	11,685	-	397	12,082	
	LG Fuel Cell Systems Inc. and its subsidiaries	12	-	-	12	-	-	28	28	
	Robostar Co.,Ltd.	-	-	-	-	13,406	-	399	13,805	
	Kiwigrid GmbH	-	-	-	-	-	-	54	54	
	ROBOTIS Co., Ltd.	-	-	-	-	-	-	168	168	
	Korea Information Certificate Authority Inc	-	-	-	-	-	-	55	55	
	Acryl Inc.							312	312	
	Subtotal	414,394		130,319	544,713	237,975		138,440	376,415	
Joint ventures	Arcelik-LG Klima Sanayi ve Ticaret A.S.(LGEAT)	-	-	-	-	4,175	-	-	4,175	
	LG-MRI LLC	643			643					
	Subtotal	643			643	4,175			4,175	
Other related parties	LG CNS Co., Ltd. and its subsidiaries	19,106	-	1,972	21,078	147	-	121,579	121,726	

(in millions of Korean won)		December 31, 2018							
		Receivables			Payables Payables				
		Trade		Other		Trade		Other	
Classification	Name	receivables	Loans	receivables	Total	payables	Borrowings	payables	Total
	S&I Corp. and its subsidiaries ²	2,444	-	59,587	62,031	124,740	-	181,643	306,383
	LG Management Development Institute	-	-	15,660	15,660	-	-	1,637	1,637
	LG SPORTS Ltd.							1,859	1,859
	Subtotal	21,550	-	77,219	98,769	124,887	-	306,718	431,605
Others ¹	LG Chem Ltd. and its subsidiaries	365,515	-	270,879	636,394	216,571	-	59,817	276,388
	LG INTERNATIONAL CORP and its subsidiaries	14,102	-	8,917	23,019	276,367	-	114,247	390,614
	LG Uplus Corp and its subsidiaries	13,879	-	148	14,027	-	-	369	369
	LG HAUSYS,LTD. and its subsidiaries	519	-	1,344	1,863	-	-	476	476
	Silicon Works Co., Ltd LG HOUSEHOLD &	362	-	-	362	1,581	-	748	2,329
	HEALTH CARE LTD and its subsidiaries	2,247	-	350	2,597	-	-	608	608
	G II R Inc. and its subsidiaries	76			76			200,560	200,560
	Subtotal	396,700		281,638	678,338	494,519		376,825	871,344
	Total	3,300,796		844,637	4,145,433	3,495,140	-	1,095,980	4,591,120

¹ Although the entities are not the related parties of the Company in accordance with Korean IFRS 1024, the entity belongs to the Large Enterprise Group to which the Company also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

² SERVEONE Co., Ltd. was spun off into S&I Corp. and SERVEONE Co., Ltd. on December 1, 2018. On May 15, 2019, S&I Corp., the existing entity, disposed 60.1% shares of SERVEONE Co., Ltd., a newly established entity. On July 24, 2019, SERVEONE Co., Ltd., a newly established entity, was excluded from the Large Enterprise Group in accordance with the Monopoly Regulation and Fair Trade Act.

³ Other payables as at December 31, 2019 include lease liabilities.

iii) Significant capital transactions with related parties and others for the years ended December 31, 2019 and 2018, are as follows:

Classification Name Dividend Income Cash (reduction) Ethinacity (reduction) Collections Borrowing Repayment (reduction) Significantly influencing the Company LG Corp.¹ 41.321 □ □ ○ □ ○	(in millions of Korean won)		2019							
Classification										
Influencing LG Corp.!		Name				Loans	Collections	Borrowings	Repayments	
LG Hitachi Water Solution Co., Ltd. Hi Entech Co., Ltd. 20,003 - -	influencing		-	41,321	-	-	-	-	-	
Solution Co., Ltd.	Subsidiaries	LG Innotek Co., Ltd.	2,896		_	-	_		-	
LG Electronics RUS, LLC 57,345			11,705	-	-	-	-	-	-	
LG Electronics Nanjing New Technology 16,461 -		Hi Entech Co., Ltd.	20,003	-	-	-	-	-	-	
New Technology		LG Electronics RUS, LLC	57,345	-	-	-	-	-	-	
Hangzhou) Co., Ltd.		New Technology Co.,Ltd.	16,461	-	-	-	-	-		
Nan.ling LG-Panda			718	-	-	-	-	-	-	
LLC		NanJing LG-Panda Appliances Co., Ltd.	6,485	-	-	-	-	-	-	
LG Electronics European Shared Service Center S.V. LG Electronics Huizhou Ltd. Lt			-	-	15,140	-	-	-	-	
LG Electronics Huizhou		LG Electronics European Shared Service Center	-	-	-	-	-	492,304	-	
Digital Communication		LG Electronics Huizhou	3,174	-	-	-	-	-	-	
Communications Co., Ltd. 10 10 10 10 10 10 10 1		Digital Communication Co., Ltd.	26,037	-	-	-	-	-	-	
Lida		Communications Co.,	63,108	-	-	-	-	-	-	
Ltda. Ltda		LG-Shaker Co., Ltd.	32,239	-	-	-	-	-	-	
Appliances Co., Ltd. 9,276 - - Subtotal 283,177 - 15,140 - - 492,304 Associates		Ltda.	33,728	-	-					
Associates										
LIMITED. LG-LHT Passenger Solutions GmbH LG-LHT Aircraft Solutions GmbH Korea Information Certificate Authority Inc. Robostar Co.,Ltd. Acryl Inc. GUANGDONG SMART LIFE TECHNOLOGY CO., LTD LG-LHT Passenger Solutions GmbH Solutions			283,177		15,140			492,304		
Solutions GmbH	Associates	LIMITED.	-	-	(29,182)	-	-	-	-	
Solutions GmbH		Solutions GmbH	-	-	702	-	-	-	-	
Certificate Authority Inc. Robostar Co.,Ltd. Acryl Inc. GUANGDONG SMART LIFE TECHNOLOGY CO., LTD		Solutions GmbH	-	-	1,234	-	-	-	-	
Robostar Co.,Ltd. 146			161	-	-	-	-	-	-	
GUANGDONG SMART LIFE TECHNOLOGY 291 CO., LTD		•	146	-	-	-	-	-	-	
GUANGDONG SMART LIFE TECHNOLOGY 291 CO., LTD		Acryl Inc.	-	-	1,000	-	-	-	-	
		LIFE TECHNOLOGY	-	-	291	-	-	-	-	
			307		(25,955)					
Total 283,484 41,321 (10,815) 492,304		Total	283,484	41,321				492,304	-	

(in millions of Korean won)		2018							
		Dividend	Dividend	Cash	Financing loan transactions			Financing borrowing transactions	
Classification	n Name	Dividend income	Dividend paid	distribution (reduction)	Loans	Collections	Borrowings	Repayments	
Significantly influencing the Company	LG Corp.	-	22,038	-	-	-	-		
Subsidiaries	LG Innotek Co., Ltd.	2,414		-	-	_	-		
	LG Electronics RUS, LLC	63,354	-	-	-	-	-	-	
	LG Electronics Nanjing New Technology co., LTD	10,391	-	-	-	-	-		
	LG Electronics (Hangzhou) Co., Ltd.	473	-	-	-	-	-		
	NanJing LG-Panda Appliances Co., Ltd.	7,087	-	-	-	-	-		
	LG Electronics Huizhou Ltd. Inspur LG Digital Mobile	3,051	-	-	-	-	-		
	Communications Co., Ltd.	25,764	-	-	-	-	-		
	Qingdao LG Inspur Digital Communication Co., Ltd.	7,893	-	-	-	-	-		
	LG Electronics Tianjin Appliances Co., Ltd.(LGETA)	8,561	-	-	-	-	-		
	LG Electronics do Brasil Ltda.(LGEBR)	28,002	-	-	-	-	-		
	LG Electronics Fund I LLC	-	-	6,943	-	-	-		
	LG Electronics Ticaret A.S.(LGETK)	-	-	173,517	-	-	-		
	LG Electronics Argentina S.A.(LGEAR)	-	-	94,809	-	-	-	-	
	LGE Alliance Fund	-	-	(1,544)	-	-	-	-	
	LG Electronics European Shared Service Center B.V.			-	-	-	-	131,082	
	Subtotal	156,990	-	273,725	-	-	-	131,082	
Associates	LG Display Co., Ltd.	67,813			-		-		
	Korea Information Certificate Authority Inc.	100	-	-	-	-	-		
	LG Fuel Cell Systems Inc.	-	-	7,178	-	-	-	-	
	Subtotal	67,913		7,178	-	_			
	Total	224,903	22,038	280,903	-	_	-	131,082	

¹ During 2019, right-of-use assets of ₩ 31,764 million and lease liabilities of ₩ 29,988 million are recognized in respect to office lease agreements which the Company has entered with LG Corp. The repayment of lease liabilities during the year is ₩ 2,194 million and interest expenses amount to ₩ 77 million.

(b) The compensation paid or payable to key management personnel for the years ended December 31, 2019 and 2018, consist of:

(in millions of Korean won)	2019	2018
Wages and salaries	18,173	19,257
Post-employment benefits	3,416	3,731
Other long-term benefits	107	111
Total	21,696	23,099

Key management refers to the directors who have significant control and responsibilities on the Company's business plans, operations and control.

- (c) The payment guarantees for the financial support of related parties at the end of the reporting period are presented in Note 35.
- (d) There is no collateral provided by the Company for the financial support of related parties at the end of the reporting period.
- (e) The Company has not recognized any bad debt expense or allowance for trade receivables from related parties at the end of the reporting period.

38. Risk Management

Financial Risk Management

The Company's financial risk management ("FRM") policy supports each business division to achieve excellent performance solidly and continuously against market risk, credit risk and liquidity risk. In addition, FRM helps the Company to enhance cost competitiveness through cost-efficient financing cost by improving financial structure and effective cash management.

While cooperating with other divisions, Finance Division of the Company mainly implements FRM. This involves setting-up risk management policies and recognizing, evaluating and hedging risks from a global point of view.

The Company mitigates the adverse effects from financial risk by monitoring the risk periodically and updating FRM policy each year.

The carrying amount, and profit or loss of each category of financial instruments and the details of borrowings related to the financial risk management are presented in Note 4 and Note 15, respectively.

(a) Market risk

i) Foreign exchange risk

Due to its multinational business operations, the Company is mainly exposed to foreign exchange risk on the US Dollar and Euro.

The purpose of foreign exchange risk management is to provide the foundation of a stable business operation by minimizing the uncertainty and volatility of foreign exchange gains and losses from foreign exchange rate fluctuations.

The Company's foreign exchange risk management is implemented under its own foreign exchange policy through which the Company can minimize the exposure to foreign exchange risk by preferentially making equal amount of foreign exchange assets and liabilities from general operating activities. And the Company continuously considers efficient foreign exchange risk hedges against its remaining exposure with derivative financial instruments and scrutinizes changes in foreign exchange exposure and the results of hedging activities on a monthly basis. Speculative foreign exchange trading is prohibited in principle.

As at December 31, 2019 and 2018, if the foreign exchange rate of the Korean won fluctuated for monetary assets and liabilities denominated in major foreign currency other than functional currency by 10% while other variables were fixed, the effects on income (loss) before tax would be as follows:

	December	r 31, 2019	December 31, 2018			
(in millions of Korean won)	10% increase	10% decrease	10% increase	10% decrease		
USD/KRW	(52,607)	52,607	(31,735)	31,735		
EUR/KRW	(14,797)	14,797	(5,091)	5,091		

ii) Interest rate risk

The Company is exposed to interest rate risk through changes in interest-bearing liabilities or assets. The risk mainly arises from borrowings and deposits held by financial institutions with variable interest rates linked to market interest rate changes in the future. The objective of interest rate risk management lies in improving corporate value by minimizing uncertainty caused by fluctuations in interest rates and minimizing net interest expense.

The Company minimizes its borrowings from others and optimizes its deposits and periodically monitors trends of internal and external interest rates to establish plans for interest rate fluctuations.

LG Electronics Inc.

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If interest rates fluctuate by 1%p without other variables changing, the effects on income and expenses related to borrowings and deposits held by financial institutions with variable interest rates for the years ended December 31, 2019 and 2018, are as follows:

	20	19	2018		
(in millions of Korean won)	1%p increase	1%p decrease	1%p increase	1%p decrease	
Interest income	9,187	(9,187)	11,099	(11,099)	
Interest expense	4,930	(4,930)	-	-	

iii) Details of derivative contracts are as follows:

Hedging purposes

The Company entered into the cross-currency swap contracts and interest rate swap contracts to hedge cash flow risks related to the floating interest rates and foreign exchange rates of debentures.

Details of hedging instruments are as follows:

		Contracted amount	Contracted currency	Interest rate			(in mi	amount Ilions of an won)
	Contractor	(in millions)	rate	(paid) (%)	Starting date	Expiration date	Assets	Liabilities
Cross- currency swap	MUFG Bank and others	USD 530 (USD/KRW)	1,067.9 ~ 1,155.2	2.17 ~ 3.64	2017. 2. 2 ~ 2018. 6. 8	2020. 11.23 ~ 2028. 6. 8	4,102	8,633
Interest rate swap	Woori Bank and others	KRW 1,245,000 / EUR 100	-	1.00 ~ 4.53	2014. 1. 3 ~ 2017. 8.24	2023. 2.24 ~ 2030. 7. 7	-	70,232

Interest rates received for the above swap contracts are equal to annual interest rates of borrowings and debentures (Note 15).

Details of hedged items are as follows:

(in millions of Korean won)	Hedged items	Book amount	Changes in fair value (net of tax)
Cross-currency swap	Borrowings	612,177	(16,480)
Interest rate swap	Borrowings	1,374,006	20,733

The results of hedge accounting are as follows:

(in millions of Korean won)	Changes in fair value of derivatives (net of tax)	Line items in profit or loss	Reclassified to profit or loss (net of tax)	Other comprehensive loss (net of tax)	Accumulated other comprehensive loss
Cross-currency swap	16,480	Interest expense and exchange differences	(20,043)	(3,563)	(23,528)
Interest rate swap	(20,733)	Interest expense	8,391	(12,342)	(49,523)

Trading purposes

In 2018, the Company entered into a contract to additionally purchase shares of Robostar Co.,Ltd. in December 2019 at the average price of immediate four months with a 25% mark up. In relation to this share purchase contract, the Company recognized derivative liabilities amounting to \forall 2,713 million at the time of acquisition of Robostar Co.,Ltd. and recognized gain on valuation of derivatives amounting to \forall 345 million (2018: \forall 851 million) during the year ended December 31, 2019. As at December 31, 2019, the share purchase contract was exercised.

iv) Price risk

The Company is exposed to price risk through equity securities owned by the Company classified as financial assets at fair value through other comprehensive income.

The listed securities owned by the Company are traded in the open market, and related to KOSDAQ Index.

The effect of price index's fluctuation related to the listed securities on the equity (before applying the tax effect) is set out in the below table. The analysis is performed in respect of 30% increase/decrease in the price index under the assumption that other variations are consistent and the listed securities owned by the Company have correlation with the relevant past index.

	Decembe	er 31, 2019	December 31, 2018		
(in millions of Korean won)	30% increase	30% decrease	30% increase	30% decrease	
KOSDAQ	2,654	(2,654)	3,057	(3,057)	

The valuation and the reclassification of the financial assets at fair value through other comprehensive income related to the market risk above are presented in Note 7.

(b) Credit risk

The Company operates a consistent Global Credit / TR (trade receivables) policy to manage credit risk exposure.

In regard to receivables, the Company operates an integrated receivable insurance program with the Korea Trade Insurance Corporation (K-SURE) and Seoul Guarantee Insurance Company (Coface). In an effort to minimize receivable credit risk, the Company applies the credit rating of the counterparty when determining the insurance coverage. In addition, the Company performs stringent credit risk managements based on credit valuation criteria for receivables without insurance coverage or collateral.

LG Electronics Inc.

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December 31, 2019 and 2018

Details of credit quality for trade receivables that are neither past due nor impaired are as follows:

(in millions of Korean won)	December 31, 2019	December 31, 2018
Trade receivables with insurance or collateral		
Excellent	154,400	116,482
Good	109,072	162,404
Fair	68,623	113,721
Poor ¹	121,968	64,091
Subtotal	454,063	456,698
Trade receivables without insurance or collateral		
Tier 1	2,481,763	2,659,935
Tier 2	193,334	292,473
Tier 3	66,234	37,370
Subtotal	2,741,331	2,989,778
Total	3,195,394	3,446,476

¹Debtors with insurance or collateral, but without credit rating are included herein.

Criteria of categorizing trade receivables with insurance or collateral are as follows:

Category	Coface	K-SURE
Excellent	8~10	A~B
Good	7	С
Fair	3~6	D~E
Poor	0~2	F~R

Debtors for which credit ratings are not provided by insurance company are categorized using the criteria from domestic credit rating agency.

Criteria of categorizing trade receivables without insurance or collateral are as follows:

Tier 1 – National or local government, domestic credit rating agency AA- ~ AAA+, related parties including subsidiaries, associates, and others

Tier 2 – Debtors with domestic credit rating other than Tier 1

Tier 3 – Small debtors without credit history

The credit rating of cash equivalents and deposits held by financial institutions estimated by the Company using external credit rating criteria as at December 31, 2019 and 2018, is as follows:

Category	December 31, 2019	December 31, 2018
Excellent	985,735	1,191,584
Good	-	-
Total	985,735	1,191,584

Excellent: Equal to or more than A-(Global credit rating agency such as Moody's), AAA(Domestic credit rating agency such as Korea investors service)

Good: Equal to or more than BBB-(Global credit rating agency such as Moody's), AA(Domestic credit rating agency such as Korea investors service)

(c) Liquidity risk

The Company forecasts its cash flow and liquidity status and sets action plans on a regular base to manage liquidity risk proactively. The Company systematically works with experts in four regional treasury centers to carry out fund and liquidity management that can react proactively to the changing global financial environment.

The Company maintains adequate amount of cash and committed credit facilities in Kookmin Bank and Shinhan Bank to cope with potential financial distress.

In addition, the Company is able to source funds any time in domestic and international financial markets as at the end of reporting period because it has good investment credit grades of AA Stable from Korea Investors Service, Korea Ratings and NICE Information Service, BBB from Standard & Poors, and Baa3 from Moody's as at December 31, 2019, respectively.

i) Cash flow information on maturity of financial liabilities as at December 31, 2019, are as follows:

(in millions of Korean won)	Total	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years
Trade payables	5,227,643	5,227,643	-	-	-
Borrowings	9,484,667	1,284,019	1,014,597	3,161,161	4,024,890
Lease liabilities	146,697	75,597	34,327	34,955	1,818
Other payables	1,901,279	1,900,869	250	160	
Total	16,760,286	8,488,128	1,049,174	3,196,276	4,026,708

The above cash flows are calculated at nominal value based on the earliest maturity dates, and include cash flows of principal and interests. Derivatives for cash flow hedges from changes in interest rate and exchange rate are reflected in the cash flows of related borrowings.

ii) The maturity analysis of financial guarantee contracts provided by the Company to subsidiaries and third party companies as at December 31, 2019, are as follows:

(in millions of Korean won)	Total	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years
Financial guarantee contracts	3,920,217	3,155,869	212,267	279,998	272,083

The financial guarantee contracts provided to the subsidiaries are analysed by their maturities according to the residual periods. And, the financial guarantee contracts provided to the third party companies are analysed at the maximum amount of guarantees allocated to earliest period in which the Company can be required to make the payments.

Capital Risk Management

The Company's capital risk management purpose is to maximize shareholders' value through maintaining a sound capital structure. The Company monitors financial ratios, such as liability to equity ratio and net borrowing ratio each month and implements required action plan to improve the capital structure.

Debt-to-equity ratio and net borrowing ratio as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won, except for ratios)	December 31, 2019	December 31, 2018
Liability (A)	18,581,561	18,502,583
Equity (B)	8,893,330	9,362,880
Cash and cash equivalents (C)	918,795	1,109,883
Borrowings and lease liabilities (D)	8,348,358	7,900,512
Debt-to-equity ratio (A/B)	208.90%	197.6%
Net borrowings ratio ((D-C)/B)	83.50%	72.5%

Fair Value Estimation

(a) The book amounts and fair values of the Company's financial assets and liabilities as at December 31, 2019 and 2018, are as follows:

	December 31, 2019				
	Curre	ent	Non-cui	rent	
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Assets at fair value					
Financial assets at fair value through profit or loss					
Other financial assets	-	-	21,282	1	
Financial assets at fair value through other comprehensive income					
Trade receivables	18,354	1	-	-	
Other financial assets					
Listed equity securities	-	-	10,835	10,835	
Unlisted equity securities	-	-	27,679	1	
Derivatives for hedging purposes					
Other financial assets	2,298	2,298	1,804	1,804	
Assets at amortized cost					
Financial assets at amortized cost					
Cash and cash equivalents	918,795	1	-	-	
Deposits held by financial institutions	65,500	1	1,489	1,489	
Trade receivables	3,647,265	1	-	-	
Other receivables	845,345	1	159,525	149,720	
Total	5,497,557		222,614		

	December 31, 2019					
	Curre	ent	Non-current			
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value		
Liabilities at fair value						
Derivatives for hedging purposes						
Other financial liabilities	-	-	78,865	78,865		
Liabilities at amortized cost						
Financial liabilities at amortized cost						
Trade payables	5,227,643	1	-	-		
Borrowings	1,054,088	1	7,165,993	7,410,003		
Other payables	1,900,869	1	410	396		
Other liabilities						
Lease liabilities	68,278	2	59,999	2		
Other financial liabilities	7,351	3	9,167	3		
Total	8,258,229		7,314,434			
	December 31, 2018					
	Curre		Non-current			
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value		
Assets at fair value						
Financial assets at fair value through profit or loss						
Other financial assets	-	_	12,685	1		
Financial assets at fair value through						
other comprehensive income						
Trade receivables	47,611	1	-	-		
Other financial assets						
Listed equity securities	-	-	13,265	13,265		
Unlisted equity securities	-	-	16,760	1		
Derivatives for hedging purposes						
Other financial assets	1,281	1,281	291	291		
Assets at amortized cost						
Financial assets at amortized cost						
Cash and cash equivalents	1,109,883	1	-	-		
Deposits held by financial institutions	80,500	1	1,211	1,211		
Trade receivables	3,678,401	1	-	-		
Other receivables	545,431	1	243,485	228,662		
Total	5,463,107		287,697			

	December 31, 2018				
	Curre	ent	Non-current		
(in millions of Korean won)	Book amount	Fair value	Book amount	Fair value	
Liabilities at fair value					
Financial liabilities at fair value through profit or loss					
Other financial liabilities	-	-	1,862	1,862	
Derivatives for hedging purposes					
Other financial liabilities	-	-	73,998	73,998	
Liabilities at amortized cost					
Financial liabilities at amortized cost					
Trade payables	5,553,794	1	-	-	
Borrowings	768,275	1	7,132,237	7,354,957	
Other payables	2,371,053	1	1,011	929	
Other liabilities					
Other financial liabilities	6,453	3	7,899	3	
Total	8,699,575		7,217,007		

¹ Excluded from disclosures such as fair value hierarchy and measurement method as the carrying amount is the reasonable approximate of fair value.

(b) Fair value measurements of assets and liabilities

i) Fair value hierarchy and measurement method

The fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The fair value measurement is to estimate the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date under current market conditions. When measuring fair value using valuation techniques, the Company maximizes the use of market information and minimizes the use of unobservable inputs.

Financial instruments measured at fair value are categorized within the fair value hierarchy, and the defined levels are as follows:

- Level 1: Financial instruments measured at the quoted price in an active market for identical assets or liabilities are included in 'level 1'. Assets or liabilities categorized within 'level 1' are financial instruments such as marketable equity securities traded.
- Level 2: When financial instruments are measured by using a discounted cash flow, if all significant inputs required to measure the fair value of an instrument are observable, the instrument is included in 'level 2'. Assets or liabilities categorized within 'level 2' are financial instruments such as derivative financial instruments.

² Lease liabilities were excluded from the fair value disclosures in accordance with Korean IFRS 1107 *Financial Instruments: Disclosures*.

³ Measured at the higher of the amount of the loss allowance determined in accordance with Korean IFRS 1109 *Financial Instruments* and the amount initially recognized less cumulative amount of income recognized in accordance with Korean IFRS 1115 *Revenue from Contracts with Customers*.

- Level 3: When financial instruments are measured by using a discounted cash flow, if one or more of the significant inputs are unobservable market data, the instrument is included in 'level 3'. There are no assets or liabilities categorized within 'level 3'.

The fair value of financial instruments traded in active markets is based on quoted market prices at the end of the reporting period. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, an entity within the same industry, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price for financial assets held by the Company is the closing price at the end of the reporting period. These instruments are included in 'level 1'. Instruments included in 'level 1' comprise primarily listed equity securities classified as financial assets at fair value through other comprehensive income.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Company uses various valuation techniques that the Company develops or figures that external valuation agencies provide, and makes judgements based on current market conditions. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to measure the fair value of an instrument are observable, the instrument is included in 'level 2'.

If one or more of the significant inputs are not based on observable market data, the instrument is included in 'level 3'. Financial instrument included 'level 3' uses other method including discounting cash flow method.

ii) Financial instruments measured at fair value

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value as at December 31, 2019 and 2018, are as follows:

	December 31, 2019			
(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Other financial assets				
Financial assets at fair value through other comprehensive income				
- Listed equity securities	10,835	-	-	10,835
Derivatives for hedging purposes	-	4,102	-	4,102
Liabilities				
Other financial liabilities				
Derivatives for hedging purposes	-	78,865	-	78,865

	December 31, 2018				
(in millions of Korean won)	Level 1	Level 2	Level 3	Total	
Assets					
Other financial assets					
Financial assets at fair value through other comprehensive income					
- Listed equity securities	13,265	-	-	13,265	
Derivatives for hedging purposes	-	1,572	-	1,572	
Liabilities					
Other financial liabilities					
Financial liabilities at fair value through profit or loss	-	1,862	-	1,862	
Derivatives for hedging purposes	-	73,998	-	73,998	

The above fair value amounts are recurring fair value measurements.

- Valuation technique and inputs for fair value measurements categorized within 'level 2'

Valuation technique and inputs for fair value measurements categorized within 'level 2' as at December 31, 2019 and 2018, are as follows:

	Fair v	/alue		
(in millions of Korean won)	December 31, 2019	December 31, 2018	Valuation techniques	Inputs
Assets				
Other financial assets				
Derivatives for hedging purposes	4,102	1,572	Discounted cash flow	Discount rate and exchange rate
	Fair v	/alue		
	December 31,	December 31,	Valuation	
(in millions of Korean won)	2019	2018	techniques	Inputs
Liabilities				
Other financial liabilities				
Financial liabilities at fair value through profit or loss	-	1,862	Discounted cash flow	Discount rate and share price
Derivatives for hedging purposes	78,865	73,998	Discounted cash flow	Discount rate and exchange rate

⁻ Fair value measurements categorized within 'level 3'

At the end of the reporting period, no financial instruments measured at fair value are categorized within 'level 3'.

iii) Financial instruments not measured at fair value but for which the fair value is disclosed

Financial instruments not measured at fair value but for which the fair value is disclosed as at December 31, 2019 and 2018, are as follows:

(in millions of Korean won)	Level 1	Level 2	Level 3	Total
Assets				
Non-current deposits held by financial institutions	-	-	1,489	1,489
Non-current other receivables	-	-	149,720	149,720
Liabilities				
Non-current borrowings	-	-	7,410,003	7,410,003
Non-current other payables	-	-	396	396
		Dagambar	24 2040	

	December 31, 2016						
(in millions of Korean won)	Level 1	Level 2	Level 3	Total			
Assets							
Non-current deposits held by financial institutions	-	-	1,211	1,211			
Non-current other receivables	-	-	228,662	228,662			
Liabilities							
Non-current borrowings	-	-	7,354,957	7,354,957			
Non-current other payables	-	-	929	929			
Non-current other payables	-	-	929	929			

⁻ Valuation technique and inputs for fair value measurements categorized within 'level 2'

At the end of the reporting period, there are no financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within 'level 2'.

- Disclosure in relation to fair value measurements categorized within 'level 3'

Valuation technique, inputs and unobservable inputs of financial instruments that are not measured at fair value but for which the fair value is disclosed and categorized within 'level 3' as at December 31, 2019 and 2018, are as follows:

	December 31, 2019		December 31, 2018					Range of
(in millions of Korean won)	Carrying amount	Fair value	Carrying amount	Fair value	Valuation techniques	Inputs	Significant but unobservable inputs	significant but unobservable inputs
Assets								
Non-current deposits held by financial institutions	1,489	1,489	1,211	1,211	Discounted cash flow	Discount rate	Discount rate	0.1%
Non-current other receivables	159,525	149,720	243,485	228,662	Discounted cash flow	Discount rate and exchange rate	Discount rate	2.9% ~ 3.6%
Liabilities								
Non-current borrowings	7,165,993	7,410,003	7,132,237	7,354,957	Discounted cash flow	Discount rate and exchange rate	Discount rate	1.6% ~ 3.3%
Non-current other payables	410	396	1,011	929	Discounted cash flow	Discount rate	Discount rate	1.6% ~ 1.8%

39. Approval of the Separate Financial Statements

The issuance of the December 31, 2019 separate financial statements of the Company was approved by the Board of Directors on January 29, 2020.

Independent Auditor's Report on Internal Control over Financial Reporting

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of LG Electronics Inc.

Opinion on Internal Control over Financial Reporting

We have audited LG Electronics Inc.'s (the Company) Internal Control over Financial Reporting as at December 31, 2019, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as at December 31, 2019, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

We also have audited, in accordance with Korean Standards on Auditing, the separate financial statements of the Company, which comprise the separate statement of financial position as at December 31, 2019, and the separate statement of profit or loss, the separate statement of comprehensive income, separate statement of changes in equity and separate statement of cash flow for the year then ended, and notes to the separate financial statements including a summary of significant accounting policies, and our report dated March 16, 2020 expressed an unqualified opinion.

Basis for Opinion on Internal Control over Financial Reporting

We conducted our audit in accordance with Korean Standards on Auditing. Our responsibility under these standards are further described in the *Auditor's Responsibilities for the Audit of Internal Control over Financial Reporting* section of our report. We are independent of the Company in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of internal control over financial reporting and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management and Those Charged with Governance for Internal Control over Financial Reporting

Management is responsible for designing, implementing and maintaining effective internal control over financial reporting, and for its assessment about the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on the Effectiveness of Internal Control over Financial Reporting.

Those charged with governance have the responsibilities for overseeing internal control over financial reporting.

Auditor's Responsibilities for the Audit of Internal Control over Financial Reporting

Our responsibility is to express opinion on the Company's internal control over financial reporting based on our audit. We conducted the audit in accordance with Korean Standards on Auditing. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

An audit of internal control over financial reporting involves performing procedures to obtain audit evidence about whether a material weakness exists. The procedures selected depend on the auditor's judgment, including the assessment of the risks that a material weakness exists. An audit includes

obtaining an understanding of internal control over financial reporting and testing and evaluating the design and operating effectiveness of internal control over financial reporting based on the assessed risk.

Definition and Inherent Limitations of Internal Control over Financial Reporting

An entity's internal control over financial reporting is a process effected by those charged with governance, management, and other personnel, designed to provide reasonable assurance regarding the preparation of reliable financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea. An entity's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the entity; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea, and that receipts and expenditures of the entity are being made only in accordance with authorizations of management and those charged with governance; and (3) provide reasonable assurance regarding prevention, or timely detection and correction of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent, or detect and correct, misstatements. Also, projections of any assessment 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.

The engagement partner on the audit resulting in this independent auditor's report is Ki-Soo Hong, Certified Public Accountant.

Seoul, Korea March 16, 2020

This report is effective as at March 16, 2020, 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 Company's internal control over financial reporting thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Management's Report on the Effectiveness of Internal Control over Financial Reporting

(English Translation of a Report Originally Issued in Korean)

To the Shareholders, Board of Directors and Audit Committee of LG Electronics Inc.

We, as the Chief Executive Officer ("CEO") and the Internal Control over Financial Reporting Officer of LG Electronics Inc. ("the Company"), assessed the effectiveness of the design and operation of the Company's Internal Control over Financial Reporting ("ICFR") for the year ended December 31, 2019.

The Company's management, including ourselves, is responsible for designing and operating ICFR. We assessed the design and operating effectiveness of the ICFR in the prevention and detection of an error or fraud which may cause material misstatements in the preparation and disclosure of reliable financial statements. We designed and operated ICFR in accordance with *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting* established by the Operating Committee of Internal Control over Financial Reporting in Korea (the ICFR Committee). And, we conducted an evaluation of ICFR based on *Best Practice Guideline for Evaluating and Reporting Effectiveness of Internal Control over Financial Reporting* established by the ICFR Committee.

Based on the assessment results, we believe that the Company's ICFR, as at December 31, 2019, is designed and operating effectively, in all material respects, in accordance with *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting.*

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 statement which cause material misunderstandings, and we have reviewed and verified this report with sufficient due care.

January 29, 2020

Do Hyun Jung
Chief Executive Officer

Min Kyo Kim
Internal Control over Financial Reporting Officer