WOORI FINANCIAL GROUP INC.
Form 20-F
April 30, 2019
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As filed with the Securities and Exchange Commission on April 30, 2019

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report __________

Commission file number 001-31811

Woori Financial Group Inc.

(Exact name of Registrant as specified in its charter)

Woori Financial Group Inc.

(Translation of Registrant s name into English)

The Republic of Korea

(Jurisdiction of incorporation or organization)

51, Sogong-ro, Jung-gu, Seoul 04632, Korea

(Address of principal executive offices)

Jeong Soo Lee

51, Sogong-ro, Jung-gu, Seoul 04632, Korea

Telephone No.: +82-2-2125-2050

Facsimile No.: +82-0505001-0451

(Name, telephone, e-mail and/or facsimile number and address of company contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	**Name of each exchange on which registered**
American Depositary Shares, each representing three shares of Common Stock	**New York Stock Exchange**
Common Stock, par value 5,000 per share	**New York Stock Exchange***

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the period covered by the annual report.

680,164,306 shares of Common Stock, par value 5,000 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of large accelerated filer, accelerated filer, and emerging growth company in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated Filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

The term new or revised financial accounting standard refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes No

* Not for trading, but only in connection with the registration of the American Depositary Shares.

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EXPLANATORY NOTE

We were established on January 11, 2019 pursuant to a comprehensive stock transfer under Korean law, whereby holders of the common stock of Woori Bank and certain of its subsidiaries transferred all of their shares to us, a new financial holding company, and in return received shares of our common stock.

As a result of the stock transfer, Woori Bank and certain of its former wholly-owned subsidiaries, Woori FIS Co., Ltd., Woori Finance Research Institute Co., Ltd., Woori Credit Information Co., Ltd., Woori Fund Services Co., Ltd. and Woori Private Equity Asset Management Co., Ltd., became our direct and wholly-owned subsidiaries. Accordingly, our overall business and operations after the stock transfer, on a consolidated basis, are identical to those of Woori Bank on a consolidated basis immediately prior to the stock transfer. See Item 4.A. History and Development of the Company Establishment of Woori Financial Group.

The stock transfer constituted a succession for purposes of Rule 12g-3(a) under the Securities Exchange Act of 1934, as amended, such that our common stock was deemed registered under Section 12(b) of the Exchange Act by operation of Rule 12g-3(a). Following the stock transfer, we file reports under the Exchange Act as the successor issuer to Woori Bank.

In our consolidated financial statements for financial reporting periods beginning on or after January 1, 2019, the stock transfer will be accounted for as a transaction among entities under common control applying the pooling of interests method of accounting. We will initially recognize the transferred assets and liabilities at their book value as of the date of the stock transfer in such consolidated financial statements, and no goodwill will be recognized in connection with the transaction. As our establishment pursuant to the stock transfer occurred after December 31, 2018, the historical consolidated financial statements included in this annual report were prepared based on the consolidated financial statements for Woori Bank and its subsidiaries under International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board, or the IASB, except that Woori FIS Co., Ltd., Woori Finance Research Institute Co., Ltd., Woori Credit Information Co., Ltd., Woori Fund Services Co., Ltd. and Woori Private Equity Asset Management Co., Ltd. were consolidated on a line-by-line basis instead of being presented as assets and liabilities held for distribution. Unless expressly stated otherwise, all historical financial data included in this annual report are for Woori Bank and its subsidiaries, on a consolidated basis, with the foregoing modification.

Unless otherwise indicated or required by the context, we, us, our and similar terms used in this annual report refer to Woori Financial Group and its subsidiaries (including Woori Bank) and, for periods prior to the establishment of Woori Financial Group in January 2019 pursuant to the stock transfer, refer to Woori Bank and its subsidiaries.

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PRESENTATION OF FINANCIAL AND OTHER INFORMATION

The financial statements included in this annual report are prepared in accordance with IFRS as issued by the IASB.

Unless expressly stated otherwise, all financial data included in this annual report are presented on a consolidated basis.

In this annual report:

- references to Korea are to the Republic of Korea;
- references to the government are to the government of the Republic of Korea;
- references to Won or are to the currency of Korea;
- references to U.S. dollars, $ or US$ are to the currency of the United States; and
- references to Euros or EUR are to the currency of the European Economic and Monetary Union.

Discrepancies between totals and the sums of the amounts contained in any table may be a result of rounding.

For your convenience, this annual report contains conversions of Won amounts into U.S. dollars at the noon buying rate of the Federal Reserve Bank of New York for Won in effect on December 31, 2018, which was 1,112.9 = US$1.00.

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FORWARD-LOOKING STATEMENTS

The U.S. Securities and Exchange Commission encourages companies to disclose forward-looking information so that investors can better understand a company s future prospects and make informed investment decisions. This annual report contains forward-looking statements.

Words and phrases such as aim, anticipate, assume, believe, contemplate, continue, estimate, expect, f intend, may, objective, plan, positioned, predict, project, risk, seek to, shall, should, will like words and terms of similar substance used in connection with any discussion of future operating or financial performance or our expectations, plans, projections or business prospects identify forward-looking statements. In particular, the statements under the headings Item 3.D. Risk Factors, Item 4.B. Business Overview and Item 5. Operating and Financial Review and Prospects regarding our financial condition and other future events or prospects are forward-looking statements. All forward-looking statements are management s present expectations of future events and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements.

In addition to the risks related to our business discussed under Item 3.D. Risk Factors, other factors could cause actual results to differ materially from those described in the forward-looking statements. These factors include, but are not limited to:

- a change or delay in, or cancellation of, the Korean government s privatization plan with respect to us;
- our ability to successfully implement our strategy;
- future levels of non-performing loans;
- our growth and expansion;
- the adequacy of allowances for credit and other losses;
- technological changes;
- interest rates;
- investment income;
- availability of funding and liquidity;

- our exposure to market risks; and

- adverse market and regulatory conditions.

By their nature, certain disclosures relating to these and other risks are only estimates and could be materially different from what actually occurs in the future. As a result, actual future gains, losses or impact on our income or results of operations could materially differ from those that have been estimated. For example, revenues could decrease, costs could increase, capital costs could increase, capital investment could be delayed and anticipated improvements in performance might not be fully realized.

In addition, other factors that could cause actual results to differ materially from those estimated by the forward-looking statements contained in this annual report could include, but are not limited to:

- general economic and political conditions in Korea or other countries that have an impact on our business activities or investments;

- the monetary and interest rate policies of Korea;

- inflation or deflation;

- unanticipated volatility in interest rates;

- foreign exchange rates;

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prices and yields of equity and debt securities;

the performance of the financial markets in Korea and globally;

changes in domestic and foreign laws, regulations and taxes;

changes in competition and the pricing environment in Korea; and

regional or general changes in asset valuations.

For further discussion of the factors that could cause actual results to differ, see the discussion under Item 3.D. Risk Factors contained in this annual report. We caution you not to place undue reliance on the forward-looking statements, which speak only as of the date of this annual report. Except as required by law, we are not under any obligation, and expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise.

All subsequent forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this annual report.

Item 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not Applicable

Item 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not Applicable

Item 3. KEY INFORMATION

Item 3.A. *Selected Financial Data*

The selected consolidated financial and operating data set forth below as of and for the years ended December 31, 2014, 2015, 2016, 2017 and 2018 have been derived from our audited consolidated financial statements, which have been prepared in accordance with IFRS as issued by the IASB. Our consolidated financial statements as of and for the years ended December 31, 2014, 2015, 2016, 2017 and 2018 have been audited by Deloitte Anjin LLC, an independent registered public accounting firm.

IFRS 9 *Financial Instruments*, or IFRS 9, is effective for annual periods beginning on or after January 1, 2018 and replaces International Accounting Standard 39 *Financial Instruments: Recognition and Measurement*, or IAS 39. We have applied IFRS 9 in our consolidated financial statements as of and for the year ended December 31, 2018 included elsewhere in this annual report. As permitted by the transition rules of IFRS 9, our consolidated financial statements as of and for the year ended December 31, 2016 and 2017 included elsewhere in this annual report have not been restated to retroactively apply IFRS 9. For information regarding the impact of the application of IFRS 9 to our consolidated financial statements, see Item 5.A. Operating Results Overview Changes in Accounting Standards and Note 2-(1)-1)-a) of the notes to our consolidated financial statements included elsewhere in this annual report.

The Korean government, which currently owns 18.32% of our outstanding common stock through the Korea Deposit Insurance Corporation, or the KDIC, has been implementing a privatization plan with respect to us and our subsidiaries. As a result of the dispositions of ownership interests in Kwangju Bank, Kyongnam Bank, Woori Investment & Securities, Woori Aviva Life Insurance, Woori Asset Management, Woori Financial, Woori FG Savings Bank and Woori F&I by Woori Finance Holdings Co., Ltd., Woori Bank s former parent company, in 2014, these former subsidiaries of Woori Finance Holdings have been accounted for as discontinued operations in our consolidated statement of comprehensive income for the year ended December 31, 2014. See Item 4.A. History and Development of the Company Privatization Plan.

You should read the following data together with the more detailed information contained in Item 5. Operating and Financial Review and Prospects and our consolidated financial statements included elsewhere in this annual report. Historical results do not necessarily predict future results.

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Consolidated Statement of Comprehensive Income Data

	Year ended December 31,					
	2014[1]	2015	2016	2017	2018	2018[2]
	(in billions of Won except per share data)					(in millions of US$ except per share data)
Interest income	9,211	8,698	8,512	8,551	9,684	US$ 8,702
Interest expense	(4,718)	(3,936)	(3,492)	(3,330)	(4,033)	(3,624)
Net interest income	4,493	4,762	5,020	5,221	5,651	5,078
Fees and commissions income	1,598	1,757	1,865	2,069	1,681	1,510
Fees and commissions expense	(681)	(781)	(928)	(999)	(611)	(549)
Net fees and commissions income	917	976	937	1,070	1,070	961
Dividend income	97	103	185	125	91	81
Net gain on financial assets at fair value through profit or loss (IFRS 9)					214	193
Net gain (loss) on financial assets at fair value through profit or loss (IAS 39)	190	240	114	(105)		
Net gain on financial assets at fair value through other comprehensive income					2	2
Net gain (loss) on available-for-sale financial assets	(69)	(3)	(1)	193		
Net gain arising on financial assets at amortized cost					80	71
Impairment losses due to credit loss	(1,097)	(966)	(834)	(785)	(330)	(296)
General and administrative expenses	(2,959)	(3,151)	(3,479)	(3,531)	(3,624)	(3,256)
Other net operating expenses[3]	(674)	(610)	(368)	(31)	(395)	(355)
Operating income	898	1,351	1,574	2,157	2,759	2,479
Share of loss of joint ventures and associates	(68)	(70)	(20)	(101)	3	3
Other net non-operating income (expense)	4	171	(1)	(106)	43	38
Non-operating income (loss)	(64)	101	(21)	(207)	46	41
Net income before income tax expense	834	1,452	1,553	1,950	2,805	2,520
Income tax expense	(288)	(377)	(276)	(420)	(753)	(677)
Net income from continuing operations	546	1,075	1,277	1,530	2,052	1,843

Net income (loss) from discontinued operations	662						
Net income	1,208	1,075	1,277	1,530	2,052	US$	1,843
Net loss on valuation of equity securities at fair value through other comprehensive income					(31)		(28)
Items out of change in equity method securities due to change in equity of investee that will not be reclassified to profit or loss				(3)			
Remeasurement gain (loss) related to defined benefit plan	(52)	(78)	34	10	(85)		(76)
Items that will not be reclassified to profit or loss	(52)	(78)	34	7	(116)		(104)
Net gain on valuation of debt securities at fair value through other comprehensive income					33		30
Gain (loss) on available-for-sale financial assets	(75)	72	13	(85)			
Share of other comprehensive income (loss) of joint ventures and associates	(2)	3	(8)	4	3		3
Gain (loss) on foreign currency translation of foreign operations	48	34	29	(208)	(4)		(4)
Gain (loss) on valuation of cash flow hedge	(27)		10	1	(5)		(4)
Gain (loss) on disposal of assets held for sale				4	(4)		(4)
Items that may be reclassified to profit or loss	(56)	109	44	(284)	23		21
Other comprehensive gain (loss), net of tax	(108)	31	78	(277)	(93)		(83)
Total comprehensive income	1,100	1,106	1,355	1,253	1,959	US$	1,760
Net income attributable to owners	1,214	1,059	1,261	1,512	2,033	US$	1,827
Income from continuing operations	435	1,059	1,261	1,512	2,033		1,827
Income (loss) from discontinued operations	779						
Net income (loss) attributable to non-controlling interests	(6)	16	16	18	19	US$	16
Income from continuing operations	111	16	16	18	19		16
Loss from discontinued operations	(117)						
Comprehensive income attributable to owners	1,192	1,095	1,332	1,249	1,944		1,747
Comprehensive income (loss) attributable to non-controlling	(92)	11	23	4	15		13

interests							
Basic and diluted earnings (loss) from continuing and discontinued operations per share	1,621	1,301	1,567	1,999	2,796	US$	2.512
Basic and diluted earnings from continuing operations per share	536	1,301	1,567	1,999	2,796		2.512
Per common share data:							
Net income (loss) per share basic	1,621	1,301	1,567	1,999	2,796	US$	2.512
Weighted average common shares outstanding basic (in thousands)	718,265	673,271	673,271	673,271	673,271		673,271
Net income (loss) per share diluted	1,621	1,301	1,567	1,999	2,796	US$	2.512
Weighted average common shares outstanding diluted (in thousands)	718,265	673,271	673,271	673,271	673,271		673,271
Cash dividends paid per share	500	500	400	500	650	US$	0.58

(1) The amounts for 2014 reflect the classification of certain former subsidiaries of Woori Finance Holdings as discontinued operations.

(2) Won amounts are expressed in U.S. dollars at the rate of 1,112.9 to US$1.00, the noon buying rate in effect on December 31, 2018 as quoted by the Federal Reserve Bank of New York in the United States.

(3) For a description of Other net operating expenses, see Note 39 of the notes to our consolidated financial statements.

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Consolidated Statement of Financial Position Data

	As of December 31,					
	2014	2015	2016	2017	2018	2018[1]
	(in billions of Won)					(in millions of US$)
Assets						
Cash and cash equivalents	5,963	6,644	7,591	6,908	6,748	US$ 6,063
Financial assets at fair value through profit or loss (IFRS 9)					6,126	5,505
Financial assets at fair value through profit or loss (IAS 39)	4,554	5,133	5,651	5,843		
Financial assets at fair value through other comprehensive income					18,063	16,231
Available-for-sale financial assets	18,811	17,171	20,818	15,353		
Securities at amortized cost					22,933	20,606
Held-to-maturity financial assets	13,044	13,622	13,910	16,749		
Loans and other financial assets at amortized cost					282,458	253,803
Loans and receivables	223,370	244,842	258,393	267,106		
Investments in joint ventures and associates	648	644	439	417	362	325
Investment properties	358	351	358	371	378	340
Premises and equipment	2,501	2,471	2,458	2,478	2,450	2,202
Intangible assets and goodwill	296	420	484	519	598	537
Assets held for sale	8	18	2	49	18	16
Current tax assets	5	7	6	5	21	19
Deferred tax assets	258	210	232	280	59	53
Derivative assets (designated for hedging)	196	183	141	59	36	32
Other assets[2]	145	143	200	158	197	178
Total assets	270,157	291,859	310,683	316,295	340,447	US$ 305,910
Liabilities						
Financial liabilities at fair value through profit or loss (IFRS 9)					2,283	US$ 2,051
Financial liabilities at fair value through profit or loss (IAS 39)	2,675	3,461	3,803	3,428		
Deposits due to customers	188,516	209,142	221,020	234,695	248,691	223,462
Borrowings	17,708	20,034	18,770	14,785	16,203	14,559
Debentures	24,796	21,899	23,566	27,869	28,736	25,821
Provisions	692	517	429	410	391	352
Net defined benefit liability	75	99	65	43	173	156
Current tax liabilities	299	109	171	233	159	143

Deferred tax liabilities	22	19	22	23	18	16
Derivative liabilities (designated for hedging)			7	68	51	46
Other financial liabilities[3]	16,890	16,964	21,985	13,892	21,443	19,267
Other liabilities[4]	391	305	299	284	346	311
Total liabilities	252,064	272,549	290,137	295,730	318,494	US$ 286,184
Equity						
Owners equity						
Capital stock	3,381	3,381	3,381	3,381	3,381	US$ 3,038
Hybrid securities	2,539	3,334	3,575	3,018	3,162	2,841
Capital surplus	291	294	286	286	286	257
Other equity[5]	(2,393)	(1,547)	(1,468)	(1,939)	(2,214)	(1,989)
Retained earnings	14,165	13,726	14,612	15,620	17,125	15,387
Non-controlling interests	110	122	160	199	213	192
Total equity	18,093	19,310	20,546	20,565	21,953	US$ 19,726
Total liabilities and equity	270,157	291,859	310,683	316,295	340,447	US$ 305,910

(1) Won amounts are expressed in U.S. dollars at the rate of 1,112.9 to US$1.00, the noon buying rate in effect on December 31, 2018 as quoted by the Federal Reserve Bank of New York in the United States.

(2) For a description of other assets, see Note 19 of the notes to our consolidated financial statements.

(3) For a description of other financial liabilities, see Note 25 of the notes to our consolidated financial statements.

(4) For a description of other liabilities, see Note 25 of the notes to our consolidated financial statements.

(5) For a description of other equity, see Note 30 of the notes to our consolidated financial statements.

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Profitability Ratios and Other Data

	Year ended December 31,				
	2014[1]	2015	2016	2017	2018
	(in billions of Won except percentages)				
Return on average assets[2]	0.47%	0.37%	0.41%	0.49%	0.62%
Return on average equity[3]	6.74	5.62	6.26	7.25	9.36
Net interest spread[4]	1.72	1.67	1.65	1.69	1.74
Net interest margin[5]	1.82	1.74	1.71	1.74	1.80
Cost-to-income ratio[6]	68.38	66.22	66.48	60.79	59.98
Average equity as a percentage of average total assets	7.03	6.63	6.60	6.71	6.67
Total revenue[7]	11,027	10,795	10,675	10,833	11,752
Operating expense[8]	9,032	8,478	8,267	7,891	8,663
Operating margin[9]	1,995	2,317	2,408	2,942	3,089
Operating margin as a percentage of total revenue	18.09%	21.46%	22.56%	27.16%	26.28%

(1) The amounts for 2014 exclude certain former subsidiaries of Woori Finance Holdings classified as discontinued operations.

(2) Represents net income attributable to owners as a percentage of average total assets. Average balances are based on daily balances for Woori Bank and on quarterly balances for all of our other subsidiaries and our structured companies.

(3) Represents net income attributable to owners as a percentage of average equity. Average balances are based on daily balances for Woori Bank and on quarterly balances for all of our subsidiaries and our structured companies.

(4) Represents the difference between the yield on average interest-earning assets and cost of average interest-bearing liabilities.

(5) Represents the ratio of net interest income to average interest-earning assets.

(6) Represents the ratio of non-interest expense (excluding impairment losses due to credit loss) to the sum of net interest income and non-interest income.

(7) Represents the sum of interest income, dividend income, fees and commissions income, net gain (loss) on financial instruments at fair value through profit or loss, net gain on financial assets at fair value through other comprehensive income and net gain arising on financial assets at amortized cost (or net gain (loss) on available-for-sale financial assets).

The following table shows how total revenue is calculated:

	Year ended December 31,				
	2014[a]	2015	2016	2017	2018
	(in billions of Won)				
Interest income	9,211	8,698	8,512	8,551	9,684
Fees and commissions income	1,598	1,757	1,865	2,069	1,681
Dividend income	97	103	185	125	91
					214

Net gain on financial assets at fair value through profit or loss (IFRS 9)					
Net gain (loss) on financial assets at fair value through profit or loss (IAS 39)	190	240	114	(105)	
Net gain on financial assets at fair value through other comprehensive income					2
Net gain (loss) on available-for-sale financial assets	(69)	(3)	(1)	193	
Net gain arising on financial assets at amortized cost					80
Total revenue	11,027	10,795	10,675	10,833	11,752

(a) The amounts for 2014 exclude certain former subsidiaries of Woori Finance Holdings classified as discontinued operations.

(8) Represents interest expense, fees and commissions expense, general and administrative expense and other net operating expense, excluding impairment losses due to credit loss of 1,097 billion, 966 billion, 834 billion, 785 billion and 330 billion for 2014, 2015, 2016, 2017 and 2018, respectively.

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The following table shows how operating expense is calculated:

	Year ended December 31,				
	2014[(a)]	2015	2016	2017	2018
	(in billions of Won)				
Interest expense	4,718	3,936	3,492	3,330	4,033
Fees and commissions expense	681	781	928	999	611
General and administrative expense	2,959	3,151	3,479	3,531	3,624
Other net operating expenses	674	610	368	31	395
Operating expense	9,032	8,478	8,267	7,891	8,663

(a) The amounts for 2014 exclude certain former subsidiaries of Woori Finance Holdings classified as discontinued operations.

(9) Represents total revenue less operating expense.

Asset Quality Data

	As of December 31,				
	2014	2015	2016	2017	2018
	(in billions of Won, except percentages)				
Total loans[(1)]	207,077	227,169	236,801	252,793	262,034
Total non-performing loans[(2)]	3,818	2,909	2,080	1,853	1,329
Other impaired loans not included in non-performing loans	692	339	335	374	292
Total non-performing loans and other impaired loans	4,510	3,248	2,415	2,227	1,621
Total allowance for credit losses	2,609	2,051	1,851	1,770	1,778
Non-performing loans as a percentage of total loans	1.84%	1.28%	0.88%	0.73%	0.51%
Non-performing loans as a percentage of total assets	1.41	1.00	0.67	0.59	0.39
Total non-performing loans and other impaired loans as a percentage of total loans	2.18	1.43	1.02	0.88	0.62
Allowance for credit losses as a percentage of total loans	1.26	0.90	0.78	0.70	0.68

(1) Not including due from banks and other financial assets (or other receivables), and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

(2) Defined as those loans that are past due by 90 days or more or classified as substandard or below based on the Financial Services Commission s asset classification criteria. See Item 4.B. Business Overview Assets and

Liabilities Asset Quality of Loans Loan Classifications.

Selected Financial Information

Average Balances and Related Interest

The following tables show our average balances and interest rates for the past three years:

	Year ended December 31,								
	2016			2017			2018		
	Average Balance(1)	Interest Income(2)	Average Yield	Average Balance(1)	Interest Income(2)	Average Yield	Average Balance(1)	Interest Income(2)	Average Yield
	(in billions of Won, except percentages)								
Assets									
Interest-earning assets									
Due from banks	14,807	75	0.51%	15,594	83	0.53%	16,027	113	0.71%
Loans(3)									
Commercial and industrial	98,202	3,220	3.28	95,349	3,141	3.29	104,269	3,437	3.30
Trade financing	13,159	213	1.62	12,155	240	1.97	11,916	315	2.64
Lease financing(4)	4			35	1	3.73	111	4	3.52
Other commercial	9,697	221	2.28	9,064	211	2.33	11,038	270	2.45
General purpose household(5)	61,918	2,111	3.41	66,420	2,287	3.44	67,042	2,647	3.95
Mortgage	45,007	1,323	2.94	47,545	1,405	2.96	48,445	1,559	3.22
Credit cards(2)	6,300	547	8.68	6,772	551	8.14	7,445	600	8.06
Total loans	234,287	7,635	3.26	237,340	7,836	3.30	250,266	8,832	3.53
Securities									
Trading(6)	2,665	63	2.36	2,712	53	1.95	3,955	54	1.37
Investment(7)	31,348	700	2.23	32,881	548	1.67	32,404	657	2.03
Total securities	34,013	763	2.24	35,593	601	1.69	36,359	711	1.96
Other	11,157	39	0.35	11,164	31	0.28	11,990	28	0.23
Total average interest earning assets	294,264	8,512	2.89	299,691	8,551	2.85	314,642	9,684	3.08
Total average non-interest earning assets	11,289			11,104			11,144		
Total average assets	305,553	8,512	2.79%	310,795	8,551	2.75%	325,786	9,684	2.97%

	Year ended December 31,		
	2016	2017	2018

	Average Balance[1]	Interest Expense	Average Cost	Average Balance[1]	Interest Expense	Average Cost	Average Balance[1]	Interest Expense	Average Cost
	(in billions of Won, except percentages)								
Liabilities									
Interest-bearing liabilities									
Deposits due to customers									
Demand deposits	9,742	76	0.78%	8,319	52	0.63%	8,512	51	0.60%
Time and savings deposits	181,073	2,166	1.20	186,277	2,008	1.08	196,806	2,418	1.23
Certificates of deposit	3,476	59	1.70	4,553	78	1.71	5,091	104	2.04
Other deposits	23,405	246	1.05	24,444	242	0.99	26,254	344	1.31
Total deposits	217,696	2,547	1.17	223,593	2,380	1.06	236,663	2,917	1.23
Borrowings	20,054	215	1.07	17,669	238	1.35	15,752	307	1.95
Debentures	22,988	619	2.69	25,865	639	2.47	27,613	720	2.61
Other	19,994	111	0.56	19,037	73	0.38	20,146	89	0.44
Total average interest-bearing liabilities	280,732	3,492	1.24	286,164	3,330	1.16	300,174	4,033	1.34
Total average non-interest-bearing liabilities	4,663			3,767			3,896		
Total average liabilities	285,395	3,492	1.22	289,931	3,330	1.15	304,070	4,033	1.33
Total average equity	20,158			20,864			21,716		
Total average liabilities and equity	305,553	3,492	1.14%	310,795	3,330	1.07%	325,786	4,033	1.24%

(1) Average balances are based on daily balances for Woori Bank and on quarterly balances for all of our other subsidiaries and our structured companies.

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(2) Interest income from credit cards is derived from interest on credit card loans and credit card installment purchases.
(3) Not including other financial assets (or other receivables), and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.
(4) Includes automobile lease financing to consumer borrowers.
(5) Includes home equity loans.
(6) Includes financial assets at fair value through profit or loss.
(7) Includes financial assets at fair value through other comprehensive income and securities at amortized cost (or available-for-sale financial assets and held-to-maturity financial assets).

Analysis of Changes in Net Interest Income Volume and Rate Analysis

The following table provides an analysis of changes in interest income, interest expense and net interest income based on changes in volume and changes in rate for 2017 compared to 2016 and 2018 compared to 2017. Information is provided with respect to: (1) effects attributable to changes in volume (changes in volume multiplied by prior rate) and (2) effects attributable to changes in rate (changes in rate multiplied by prior volume). Changes attributable to the combined impact of changes in rate and volume have been allocated proportionately to the changes due to volume changes and changes due to rate changes.

	2017 vs. 2016 Increase/(decrease) due to changes in			2018 vs. 2017 Increase/(decrease) due to changes in		
	Volume	Rate	Total	Volume	Rate	Total
			(in billions of Won)			
Interest-earning assets						
Due from banks	4	4	8	2	28	30
Loans[1]						
Commercial and industrial	(94)	15	(79)	293	3	296
Trade financing	(16)	43	27	(5)	80	75
Lease financing[2]	1		1	3		3
Other commercial	(14)	4	(10)	46	13	59
General purpose household[3]	154	22	176	21	339	360
Mortgage	75	7	82	27	127	154
Credit cards	41	(37)	4	55	(6)	49
Securities						
Trading[4]	1	(11)	(10)	24	(23)	1
Investment[5]	34	(186)	(152)	(8)	117	109
Other		(8)	(8)	2	(5)	(3)
Total interest income	186	(147)	39	460	673	1,133
Interest-bearing liabilities						
Deposits due to customers						
Demand deposits	(11)	(13)	(24)	1	(2)	(1)
Time and savings deposits	62	(220)	(158)	114	296	410
Certificates of deposit	18	1	19	9	17	26
Other deposits	11	(15)	(4)	18	84	102

Borrowings	(26)	49	23	(26)	95	69
Debentures	77	(57)	20	43	38	81
Other	(5)	(33)	(38)	4	12	16
Total interest expense	126	(288)	(162)	163	540	703
Net interest income	60	141	201	297	133	430

(1) Not including other financial assets (or other receivables) and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

(2) Includes automobile lease financing to consumer borrowers.

(3) Includes home equity loans.

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(4) Includes financial assets at fair value through profit or loss.
(5) Includes financial assets at fair value through other comprehensive income and securities at amortized cost (or available-for-sale financial assets and held-to-maturity financial assets).

Item 3.B. ***Capitalization and Indebtedness***
Not Applicable

Item 3.C. ***Reasons for the Offer and Use of Proceeds***
Not Applicable

Item 3.D. ***Risk Factors***
Risks relating to our corporate credit portfolio

The largest portion of our exposure is to small- and medium-sized enterprises, and financial difficulties experienced by companies in this segment may result in a deterioration of our asset quality and have an adverse impact on us.

Our loans to small- and medium-sized enterprises amounted to 68,434 billion, or 28.9% of our total loans, as of December 31, 2016, 74,906 billion, or 29.6% of our total loans, as of December 31, 2017 and 79,371 billion, or 30.3 % of our total loans, as of December 31, 2018. As of December 31, 2018, Won-denominated loans to small- and medium-sized enterprises that were classified as substandard or below were 451 billion, representing 0.6% of such loans to those enterprises. See Item 4.B. Business Overview Corporate Banking Small and Medium-Sized Enterprise Banking. We recorded charge-offs of 199 billion in respect of our Won-denominated loans to small- and medium-sized enterprises in 2018, compared to charge-offs of 325 billion in 2017 and 469 billion in 2016. According to data compiled by the Financial Supervisory Service, the industry-wide delinquency ratios for Won-denominated loans to small- and medium-sized enterprises decreased in 2017 but increased in 2018. The delinquency ratio for small- and medium-sized enterprises is calculated as the ratio of (1) the outstanding balance of such loans in respect of which either principal or interest payments are overdue by one month or more to (2) the aggregate outstanding balance of such loans. Our delinquency ratio for such loans denominated in Won was 0.9% as of December 31, 2016, 0.5% as of December 31, 2017 and 0.5% as of December 31, 2018. Our delinquency ratio may increase in 2019 as a result of, among other things, adverse changes in economic conditions in Korea and globally. See Other risks relating to our business Unfavorable changes in the global financial markets could adversely affect our results of operations and financial condition. Accordingly, we may be required to take measures to decrease our exposures to these customers.

In light of the deteriorating financial condition and liquidity position of small- and medium-sized enterprises in Korea as a result of the global financial crisis commencing in the second half of 2008, the Korean government introduced measures intended to encourage Korean banks to provide financial support to small- and medium-sized enterprise borrowers. For example, the Korean government requested Korean banks, including us, to establish a fast track program to provide liquidity assistance to small- and medium-sized enterprises on an expedited basis. Under the fast track program we established, liquidity assistance is provided to small- and medium-sized enterprise borrowers applying for such assistance, in the form of new short term loans or maturity extensions or interest rate adjustments with respect to existing loans, after expedited credit review and approval. The overall prospects for the Korean economy in 2019 and beyond remain uncertain, and the Korean government may extend or renew existing or past policies and initiatives or introduce new policies or initiatives to encourage Korean banks to provide financial support to small- and medium-sized enterprises. We believe that, to date, our participation in such government-led initiatives (primarily through the fast track program) has not caused us to extend a material amount of credit that we would not have otherwise extended nor materially impacted our results of operations and financial condition in general. The aggregate amount of outstanding small- and medium-sized enterprise loans made by us under the fast track program was 91.8 billion as of December 31, 2018, which represented 0.12% of our total small- and medium-sized enterprise loan portfolio as of such date.

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Furthermore, loans made by us under the fast track program are partially guaranteed by the Korean government s public financial institutions, including the Korea Credit Guarantee Fund and the Korea Technology Finance Corporation. However, there can be no assurance that our future participation in such government-led initiatives would not lead us to extend credit to small- and medium-sized enterprise borrowers that we would not otherwise extend, or offer terms for such credit that we would not otherwise offer, in the absence of such initiatives. Furthermore, there is no guarantee that the financial condition and liquidity position of our small- and medium-sized enterprise borrowers benefiting from such initiatives will improve sufficiently for them to service their debt on a timely basis, or at all. Accordingly, increases in our exposure to small- and medium-sized enterprises resulting from such government-led initiatives may have a material adverse effect on our results of operations and financial condition.

Many small- and medium-sized enterprises represent sole proprietorships or very small businesses dependent on a relatively limited number of suppliers or customers and tend to be affected by fluctuations in the Korean and global economy to a greater extent than large corporate borrowers. In addition, small- and medium-sized enterprises often maintain less sophisticated financial records than large corporate borrowers. Therefore, it is generally more difficult for us to judge the level of risk inherent in lending to these enterprises, as compared to large corporations.

In addition, many small- and medium-sized enterprises have close business relationships with large corporations in Korea, primarily as suppliers. Any difficulties encountered by those large corporations would likely hurt the liquidity and financial condition of related small- and medium-sized enterprises, including those to which we have exposure, also resulting in an impairment of their ability to repay loans.

Financial difficulties experienced by small- and medium-sized enterprises as a result of, among other things, adverse changes in domestic and global economic conditions, as well as aggressive marketing and competition among banks to lend to this segment, may lead to a deterioration in the asset quality of our loans to this segment in the future. Any such deterioration would result in increased charge-offs, higher provisioning and reduced interest and fee income from this segment, which would have an adverse impact on our financial condition and results of operations.

We have exposure to Korean construction, shipbuilding and shipping companies, and financial difficulties of these companies may adversely impact us.

As of December 31, 2018, the total amount of loans provided by us to construction, shipbuilding and shipping companies in Korea amounted to 3,847 billion, 527 billion and 371 billion, or 1.5%, 0.2% and 0.1% of our total loans, respectively. We also have other exposures to Korean construction, shipbuilding and shipping companies, including in the form of guarantees extended for the benefit of such companies and debt and equity securities of such companies held by us. In the case of construction companies, we have potential exposure in the form of guarantees provided to us by general contractors with respect to financing extended by us for residential and commercial real estate development projects, as well as commitments to purchase asset-backed securities secured by the assets of companies in the construction industry and other commitments we enter into relating to project financing for such real estate projects which may effectively function as guarantees. In the case of shipbuilding companies, such exposures include refund guarantees extended by us on behalf of shipbuilding companies to cover their obligation to return a portion of the ship order contract amount to customers in the event of performance delays or defaults under shipbuilding contracts.

Although the construction industry in Korea has shown signs of recovery since 2015, excessive investment in residential property development projects, the recent strengthening of mortgage lending regulations by the Korean government, stagnation of real property prices and reduced demand for residential property in areas outside of Seoul, are expected to continue to negatively impact the construction industry. The shipbuilding industry in Korea has experienced a severe downturn in recent years reflecting a significant decrease in ship orders, primarily due to adverse conditions in the global economy and the resulting slowdown in global trade. In the case of shipping companies in Korea, reduced shipping rates and high chartering costs, together with the slowdown in global trade, have contributed to the deterioration of their financial condition, requiring some of them to file for bankruptcy or pursue voluntary restructuring of their debt.

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In response to the deteriorating financial condition and liquidity position of borrowers in the Korean construction, shipbuilding and shipping industries, which were disproportionately impacted by adverse domestic and global economic developments, the Korean government implemented a program in 2009 to promote expedited restructuring of such borrowers by their Korean creditor financial institutions, under the supervision of major commercial banks. In accordance with such program, 24 construction companies and five shipbuilding companies became subject to workout in 2009, following review by their creditor financial institutions (including us) and the Korean government. Each year since 2009, the Financial Services Commission and the Financial Supervisory Service have announced the results of subsequent credit risk evaluations conducted by creditor financial institutions (including us) of companies in Korea with outstanding debt of 50 billion or more, pursuant to which a number of companies were selected by such financial institutions for restructuring in the form of workout, liquidation or court receivership. Most recently, in 2018, five companies with outstanding debt of 50 billion or more (all of which were shipbuilding companies) were selected by such financial institutions for restructuring. There is no assurance, however, that these measures will be successful in stabilizing the Korean construction, shipbuilding and shipping industries.

The allowance for credit losses that we have established against our credit exposures to Korean construction, shipbuilding and shipping companies may not be sufficient to cover all future losses arising from these and other exposures. If the credit quality of our exposures to such companies declines further, we may incur substantial additional provisions for credit loss, which could adversely impact our results of operations and financial condition. Furthermore, although a portion of our loans to construction, shipbuilding and shipping companies are secured by collateral, such collateral may not be sufficient to cover uncollectible amounts in respect of such loans.

A large portion of our exposure is concentrated in a relatively small number of large corporate borrowers, which increases the risk of our corporate credit portfolio.

As of December 31, 2018, our 20 largest exposures to corporate borrowers (including loans, debt and equity securities, credit-related commitments and other exposures) totaled 49,913 billion, which represented 12.0% of our total exposures. As of that date, our single largest corporate exposure was to the Korea Development Bank, to which we had outstanding credits in the form of debt securities of 9,424 billion and loans in Won of 14 billion, representing 2.3% of our total exposures in the aggregate. Aside from exposure to the Korean government and government-related agencies, our next largest exposure was to Kyobo Securities, to which we had outstanding exposure of 2,543 billion representing 0.6% of our total exposures. Any deterioration in the financial condition of our large corporate borrowers may require us to record substantial additional allowances and may have a material adverse impact on our results of operations and financial condition.

We have exposure to the largest Korean commercial conglomerates, known as chaebols, and, as a result, financial difficulties of chaebols may have an adverse impact on us.

Of our 20 largest corporate exposures as of December 31, 2018, four were to companies that were members of the 24 largest *chaebols* in Korea. As of that date, the total amount of our exposures to the 24 largest *chaebols* was 24,285 billion, or 5.8% of our total exposures. If the credit quality of our exposures to *chaebols* declines as a result of financial difficulties they experience or for other reasons, we could incur additional provisions for credit loss, which would hurt our results of operations and financial condition. See Item 4.B. Business Overview Assets and Liabilities Loan Portfolio Exposure to Chaebols.

The allowances we have established against these exposures may not be sufficient to cover all future losses arising from these exposures. In addition, in the case of companies that are in or in the future enter into workout, restructuring, reorganization or liquidation proceedings, our recoveries from those companies may be limited. We may, therefore, experience future losses with respect to these exposures.

We have exposure to companies that are currently or may in the future be put in restructuring, and we may suffer losses as a result of additional provisions for credit loss required or the adoption of restructuring plans with which we do not agree.

As of December 31, 2018, our credit exposures to companies that were in workout or corporate restructuring amounted to 515 billion or 0.1% of our total credit exposures, of which 433 billion or 84.1% was classified as substandard or below and substantially all of which was classified as impaired. As of the same date, our allowance for credit losses on these credit exposures amounted to 193 billion, or 37.5% of these exposures. These allowances may not be sufficient to cover all future losses arising from our credit exposure to these companies. Furthermore, we have other exposure to such companies in the form of debt and equity securities of such companies held by us (including equity securities we acquired as a result of debt-to-equity conversions). Including such securities, our exposures as of December 31, 2018 to companies in workout or restructuring amounted to 523 billion, or 0.1% of our total exposures. Our exposures to such companies may also increase in the future, including as a result of adverse conditions in the Korean economy. In addition, in the case of borrowers that are or become subject to workout, we may be forced to restructure our credits pursuant to restructuring plans approved by other creditor financial institutions of the borrower, or to dispose of our credits to other creditors on unfavorable terms, which may adversely affect our results of operations and financial condition.

Risks relating to our consumer credit portfolio

We may experience increases in delinquencies in our consumer loan and credit card portfolios.

In recent years, consumer debt has increased rapidly in Korea. Our portfolio of consumer loans amounted to 104,484 billion as of December 31, 2016, 109,290 billion as of December 31, 2017 and 117,096 billion as of December 31, 2018. Our credit card portfolio amounted to 6,674 billion as of December 31, 2016, 6,827 billion as of December 31, 2017 and 8,051 billion as of December 31, 2018. As of December 31, 2018, our consumer loans and credit card receivables represented 44.7% and 3.1% of our total lending, respectively. See Item 4.B. Business Overview Consumer Banking Lending Activities and Item 4.B. Business Overview Credit Cards Products and Services.

The growth in our consumer loan portfolio in recent years, together with adverse changes in economic conditions in Korea and globally, may lead to increasing delinquencies and a deterioration in asset quality. The amount of our consumer loans classified as substandard or below was 305 billion (or 0.3% of our consumer loan portfolio) as of December 31, 2016, 276 billion (or 0.3% of our consumer loan portfolio) as of December 31, 2017 and 309 billion (or 0.3% of our consumer loan portfolio) as of December 31, 2018. We charged off consumer loans amounting to 204 billion in 2018, as compared to 147 billion in 2017 and 155 billion in 2016, and recorded provisions for credit loss in respect of consumer loans of 192 billion in 2018, as compared to 152 billion in 2017 and 77 billion in 2016. Within our consumer loan portfolio, the outstanding balance of general purpose household loans, which, unlike mortgage or home equity loans, are often unsecured and therefore tend to carry a higher credit risk, amounted to 27,113 billion, or 25.9% of our total outstanding consumer loans, as of December 31, 2016, 31,108 billion, or 28.5% of our total outstanding consumer loans, as of December 31, 2017 and 33,486 billion, or 28.6% of our total outstanding consumer loans, as of December 31, 2018.

In our credit card segment, outstanding balances overdue by more than one month amounted to 80 billion, or 1.2% of our credit card receivables, as of December 31, 2016, 88 billion, or 1.3% of our credit card receivables, as of December 31, 2017 and 110 billion, or 1.4% of our credit card receivables, as of December 31, 2018. In line with industry practice, we have restructured a portion of our delinquent credit card account balances as loans. As of December 31, 2018, these restructured loans amounted to 147 billion, or 1.8% of our credit card balances. Because these restructured loans are not initially recorded as being delinquent, our delinquency ratios do not fully reflect all delinquent amounts relating to our credit card balances. Including all restructured loans, outstanding balances overdue by more than one month accounted for 3.1% of our credit card balances as of December 31, 2018. We charged off credit card balances amounting to 243 billion in 2018, as compared to 228 billion in 2017 and 242 billion in 2016, and recorded provisions for credit loss in respect of credit card balances of 213 billion in 2018, as compared to 204 billion in 2017 and 207 billion in 2016. Delinquencies may further increase in the future as a result of, among other things, adverse economic conditions in Korea, additional government regulation or the inability of Korean consumers to manage increased household debt.

A deterioration of the asset quality of our consumer loan and credit card portfolios would require us to record increased provisions for credit loss and charge-offs and adversely affect our financial condition and results of operations. In addition, our large exposure to consumer debt means that we are exposed to changes in economic conditions affecting Korean consumers. Accordingly, economic difficulties in Korea that hurt those consumers could result in further deterioration in the credit quality of our consumer loan and credit card portfolios. For example, a rise in unemployment or an increase in interest rates in Korea could adversely affect the ability of consumers to make payments and increase the likelihood of potential defaults. See Risks relating to Korea Unfavorable financial and economic developments in Korea may have an adverse effect on us.

In addition, we are exposed to changes in regulations and policies on consumer lending by the Korean government, which may adopt measures to restrict consumer lending or encourage financial institutions to provide financial support to certain types of retail borrowers. In 2014 and 2015, the Korean government implemented several measures to encourage consumer spending and revive the housing market in Korea, including loosening regulations on mortgage lending, which contributed to an increase in our portfolio of consumer loans. However, the Korean government introduced various measures from the second half of 2016 to 2018 to tighten regulations on mortgage lending and housing subscription in response to the rapid growth in consumer debt and concerns over speculative investments in real estate in certain areas. A decrease in housing prices as a result of the implementation of such measures, together with the high level of consumer debt and rising interest rate levels, could result in declines in consumer spending and reduced economic growth, which may lead to increases in delinquency levels of our consumer loan and credit card portfolios.

In light of adverse conditions in the Korean economy affecting consumers, in March 2009, the Financial Services Commission requested Korean banks, including us, to establish a pre-workout program, including a credit counseling and recovery service, for retail borrowers with outstanding short-term debt. Under the pre-workout program, which has been in operation since April 2009, maturity extensions and/or interest reductions are provided to retail borrowers with total loans of less than 1.5 billion (consisting of no more than 500 million of unsecured loans and 1 billion of secured loans) who are in arrears on their payments for more than 30 days but less than 90 days or for retail borrowers with an annual income of 40 million or less who have been in arrears on their payments for 30 days or more on an aggregate basis for the 12 months prior to their application, among others. The aggregate amount of consumer credit (including credit card receivables) we provided which became subject to the pre-workout program in 2018 was 37 billion. While we believe that our operation of the pre-workout program has not had a material impact on the overall credit quality of our consumer loan and credit card portfolios to date, our participation in such government-led initiatives to provide financial support to retail borrowers may lead us to offer credit terms for such borrowers that we would not otherwise offer in the absence of such initiatives, which may have an adverse effect on our results of operations and financial condition.

A decline in the value of the collateral securing our consumer loans and our inability to realize full collateral value may adversely affect our consumer credit portfolio.

A substantial portion of our consumer loans is secured by real estate, the values of which have fluctuated significantly in recent years. Although it is our general policy to lend up to 70% of the appraised value of collateral (except in areas of high speculation designated by the government where we generally limit our lending to 40% of the appraised value of collateral) and to periodically re-appraise our collateral, a downturn in the real estate markets in Korea may result in a decline in the value of the collateral securing our mortgage and home equity loans. If collateral values decline in the future, they may not be sufficient to cover uncollectible amounts in respect of our secured loans. Any declines in the value of the real estate or other collateral securing our consumer loans, or our inability to obtain additional collateral in the event of such declines, could result in a deterioration in our asset quality and may require us to record additional allowances for credit losses.

In Korea, foreclosure on collateral generally requires a written petition to a court. An application, when made, may be subject to delays and administrative requirements that may decrease the value of such collateral. We cannot guarantee that we will be able to realize the full value on our collateral as a result of, among other factors, delays in foreclosure proceedings and defects in the perfection of our security interest in collateral. Our failure to recover the expected value of collateral could expose us to potential losses.

Risks relating to our financial holding company structure and strategy

We may not succeed in implementing our strategy to take advantage of, or fail to realize the anticipated benefits of, our financial holding company structure.

We were established as a new financial holding company in January 2019 pursuant to a comprehensive stock transfer under Korean law, following the completion of which Woori Bank, Woori FIS Co., Ltd., Woori Finance Research Institute Co., Ltd., Woori Credit Information Co., Ltd., Woori Fund Services Co., Ltd. and Woori Private Equity Asset Management Co., Ltd. became our wholly-owned subsidiaries. See Item 4A. History and Development of the Company Establishment of Woori Financial Group.

One of our principal strategies is to take advantage of our financial holding company structure to become a comprehensive financial services provider capable of developing and cross-selling a diverse range of products and services to our large existing base of retail and corporate banking customers. An intended benefit of our financial holding company structure is that it enhances our ability to engage in mergers and acquisitions which we may decide to pursue as part of our strategy. Accordingly, we may consider acquiring or merging with other financial institutions, particularly in the non-banking sector, to achieve more balanced growth and further diversify our revenue base. We may also continue to seek opportunities to expand our operations in markets outside Korea. See Item 4.B. Business Overview Strategy and We may not be able to successfully execute our overseas expansion strategy.

The integration of companies we may acquire or merge with in the future under our financial holding company structure could require a significant amount of time, financial resources and management attention. Moreover, that process could place a burden on our operations (including our risk management operations) or information technology systems, reduce employee morale, produce unintended inconsistencies in our standards, controls, procedures or policies, and affect our relationships with customers and our ability to retain key personnel. The realization of the anticipated benefits of our financial holding company structure may be blocked, delayed or reduced as a result of many factors, some of which may be outside our control. These factors include:

- competition from other financial institutions, as well as private equity firms and other potential acquirers, in Korea and elsewhere in terms of identifying and winning bids for attractive merger and acquisition targets in the financial industry, including the non-banking sector, which may make it challenging for us to successfully acquire, or which may require us to pay a high acquisition price for, such targets;

- difficulties in integrating the diverse activities and operations of our subsidiaries or any companies we may acquire, including risk management operations and information technology systems, personnel, policies and procedures;

difficulties in reorganizing or reducing overlapping personnel, branches, networks and administrative functions;

restrictions under the Financial Holding Company Act and other regulations on transactions between a financial holding company and, or among, its subsidiaries;

failure to leverage our financial holding company structure to realize operational efficiencies and to cross-sell multiple products and services;

- unforeseen contingent risks, including lack of required capital resources, increased tax liabilities or restrictions in our overseas operations, relating to our financial holding company structure;
- unexpected business disruptions;
- failure to attract, develop and retain personnel with necessary expertise;
- loss of customers; and
- labor unrest.

Accordingly, we may not be able to realize the anticipated benefits of our financial holding company structure, and our business, results of operations and financial condition may suffer as a result.

We depend on limited forms of funding to fund our operations at the holding company level.

We are a financial holding company with no significant assets other than the shares of our subsidiaries. Our primary sources of funding and liquidity are dividends from our subsidiaries, sales of interests in our subsidiaries and direct borrowings and issuances of equity or debt securities at the holding company level. In addition, as a financial holding company, we are required to meet certain minimum financial ratios under Korean law, including with respect to liquidity and capital adequacy. Our ability to meet our obligations to our direct creditors and employees and our other liquidity needs and regulatory requirements at the holding company level depends on timely and adequate distributions from our subsidiaries and our ability to sell our securities or obtain credit from our lenders.

The ability of our subsidiaries to pay dividends to us depends on their financial condition and operating results. In the future, our subsidiaries may enter into agreements, such as credit agreements with lenders or indentures relating to high-yield or subordinated debt instruments, that impose restrictions on their ability to make distributions to us, and the terms of future obligations and the operation of Korean law could prevent our subsidiaries from making sufficient distributions to us to allow us to make payments on our outstanding obligations. See As a financial holding company, we largely depend on receiving dividends from our subsidiaries to pay dividends on our common stock. Any delay in receipt of or shortfall in payments to us from our subsidiaries could result in our inability to meet our liquidity needs and regulatory requirements, including minimum liquidity and capital adequacy ratios, which may disrupt our operations at the holding company level.

In addition, our creditors will generally not be able to assert claims on the assets of our subsidiaries. Furthermore, our inability to sell our securities or obtain funds from our lenders on favorable terms, or at all, could also result in our inability to meet our liquidity needs and regulatory requirements and may disrupt our operations at the holding company level.

As a financial holding company, we largely depend on receiving dividends from our subsidiaries to pay dividends on our common stock.

Since our principal assets at the holding company level are the shares of our subsidiaries, our ability to pay dividends on our common stock largely depends on dividend payments from those subsidiaries. Those dividend payments are subject to the Korean Commercial Code, the Bank Act and regulatory limitations, generally based on capital levels and retained earnings, imposed by the various regulatory agencies with authority over those entities. The ability of our subsidiaries to pay dividends may be subject to regulatory restrictions to the extent that paying dividends would impair their respective non-consolidated profitability, financial condition or other cash flow needs. For example:

under the Korean Commercial Code, dividends may only be paid out of distributable income, an amount which is calculated by subtracting the aggregate amount of a company s paid-in capital and certain mandatory legal reserves from its net assets, in each case as of the end of the prior annual period;

under the Bank Act, a bank also must credit at least 10% of its net profit to a legal reserve each time it pays dividends on distributable income until that reserve equals the amount of its total paid-in capital; and

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under the Bank Act and the requirements of the Financial Services Commission, if a bank fails to meet its required capital adequacy ratio or otherwise becomes subject to management improvement measures imposed by the Financial Services Commission, then the Financial Services Commission may restrict the declaration and payment of dividends by that bank.

Our subsidiaries may not continue to meet the applicable legal and regulatory requirements for the payment of dividends in the future. If they fail to do so, they may stop paying or reduce the amount of the dividends they pay to us, which would have an adverse effect on our ability to pay dividends on our common stock.

The implementation of the Korean government s privatization plan may have an adverse effect on us and your interests as a shareholder.

In June 2013, the Korean government, through the Public Funds Oversight Committee of the Financial Services Commission, announced an updated plan to privatize Woori Finance Holdings, Woori Bank s former parent company, and its former subsidiaries. The privatization plan provided for the segregation of such entities into three groups and the disposal of the Korean government s interest in these entities held through the KDIC in a series of transactions, many of which have been completed. Such transactions included the following:

Kwangju Bank and Kyongnam Bank. In May 2014, Woori Finance Holdings established KJB Financial Group and KNB Financial Group through a spin-off of its businesses related to the holding of the shares and thereby controlling the business operations of Kwangju Bank and Kyongnam Bank, respectively. As a result of such spin-off, KJB Financial Group became the owner of the shares of Kwangju Bank previously held by Woori Finance Holdings and KNB Financial Group became the owner of the shares of Kyongnam Bank previously held by Woori Finance Holdings. Woori Finance Holdings no longer owned any shares of Kwangju Bank or Kyongnam Bank, and neither they nor their new holding companies were its subsidiaries, after the spin-off. Following such spin-off, each of these banks was merged with its holding company, and in October 2014, the KDIC sold its 56.97% ownership interest in Kwangju Bank and Kyongnam Bank to JB Financial Group and BS Financial Group, respectively.

Woori Investment & Securities and Other Subsidiaries. In March 2014, Woori Finance Holdings sold its 52.0% ownership interest in Woori Financial to KB Financial Group. In May 2014, Woori Finance Holdings sold its 100.0% ownership interest in Woori Asset Management to Kiwoom Securities and sold its 100.0% ownership interest in Woori F&I to Daishin Securities. In June 2014, Woori Finance Holdings sold its 37.9% ownership interest in Woori Investment & Securities, its 51.6% ownership interest in Woori Aviva Life Insurance and its 100.0% ownership interest in Woori FG Savings Bank to NongHyup Financial Group in a collective sale. As a result of such sales, Woori Investment & Securities, Woori Asset Management, Woori Aviva Life Insurance, Woori FG Savings Bank, Woori F&I and Woori Financial were no longer subsidiaries of Woori Finance Holdings, and it no longer owned any shares in such former subsidiaries.

Woori Bank. In November 2014, Woori Finance Holdings merged with and into Woori Bank. As a result of the merger, the other former subsidiaries of Woori Finance Holdings, including Woori Card, Woori Private Equity, Woori FIS, Woori Investment Bank and Woori Finance Research Institute, became Woori Bank s subsidiaries. In December 2014, the KDIC sold 40,143,022 shares of Woori Bank s common stock (representing 5.9% of its outstanding common stock) in a private sale in Korea. In addition, in December 2016 and January 2017, the KDIC sold an aggregate of 200,685,395 shares of Woori Bank s common stock (representing 29.7% of its outstanding common stock) in stakes ranging from 3.7% to 6.0% to seven financial companies through a bidding process. Pursuant to a commitment made by the KDIC in connection with such bidding process, five persons, each nominated by one of the winning bidders, were elected as new outside directors at an extraordinary general meeting of Woori Bank s shareholders held in December 2016. In December 2018, five persons, each nominated by one of such winning bidders, were elected at an extraordinary general meeting of Woori Bank s shareholders to serve as our outside directors upon our establishment. See Item 6.A. Directors and Senior Management Board of Directors Outside Directors. In 2017, pursuant to a series of transactions

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related to call options previously granted in connection with the KDIC s sale of Woori Bank s common stock in December 2014, the KDIC sold an aggregate of 19,852,364 shares of Woori Bank s common stock (representing 2.94% of its outstanding common stock). As a result of such transactions, the KDIC s ownership interest in Woori Bank was reduced to 18.43%.

See Item 4.A. History and Development of the Company Privatization Plan. In connection with our establishment in January 2019 as a new financial holding company pursuant to a comprehensive stock transfer under Korean law, the KDIC received our common stock in exchange for the common stock of Woori Bank it owned, as a result of which the KDIC currently owns 18.32% of our outstanding common stock. We expect that the KDIC will sell all or a portion of such common stock to one or more purchasers in the future.

The implementation of the Korean government s privatization plan, including the expected sale of the KDIC s remaining ownership interest in us to third parties, is likely to have a significant impact on us. For example, the KDIC s sale of its ownership interest in us to a small number of third parties may affect our business, management, strategy, capital structure and assets and liabilities and lead to diversion of management attention, a loss of customers and labor unrest. There is also no guarantee that such sale will not result in unintended adverse tax consequences for us and our subsidiaries, as well as our shareholders. See Risks relating to our common stock and ADSs Future sales by the KDIC of the shares of our common stock it owns may result in adverse Korean tax consequences for you. Accordingly, the implementation of the privatization plan may have a material adverse effect on the trading price of our common stock and American depositary shares, or ADSs, and your interests as a shareholder.

We may not be able to successfully execute our overseas expansion strategy.

As part of our business strategy, we have been seeking opportunities to expand our operations in markets outside Korea, including through the opening of additional overseas branches and offices as well as strategic acquisitions and investments, particularly in South and Southeast Asia. For example, in October 2016, we acquired a 51% equity interest in Wealth Development Bank Corp., a thrift bank in the Philippines. In November 2016, we established a local subsidiary in Vietnam, Woori Bank Vietnam, which commenced operations in January 2017 and currently operates branches in major cities including Hanoi, Bac Ninh, Ho Chi Minh City and Haiphong. In July 2017, we expanded our network of branches to India, where we established branches in Gurgaon and Mumbai. In June 2018, we acquired VisionFund (Cambodia) Ltd., a microfinance lender in Cambodia, which was renamed WB Finance Co., Ltd. Notwithstanding the foregoing, the expansion of our operations abroad may be difficult due to the presence of established competitors in the relevant local markets. In addition, overseas expansion and the management of international operations may require significant financial expenditures as well as management attention, and will subject us to the challenges of operating in an unfamiliar business environment with different regulatory, legal and taxation systems and political, economic and social risks. Accordingly, there is no guarantee that we will be successful in executing our overseas expansion strategy. The failure of our overseas expansion strategy could have an adverse impact on our business, results of operations and financial condition.

We may not generate sufficient additional fees to achieve our revenue diversification strategy.

An important element of our overall strategy is increasing our fee income in order to diversify our revenue base, in anticipation of greater competition and declining lending margins. Historically, our primary source of revenues has been net interest income from our banking operations at Woori Bank. To date, except for credit card, trust management, bancassurance and currency transfer fees (including foreign exchange-related commissions), and fees collected in connection with the operation of our investment funds and investment banking activities, we have not generated substantial fee income. We intend to develop new sources of fee income as part of our business strategy, including through our current investment banking and asset management businesses and mergers and acquisitions which we may decide to pursue through our financial holding company structure. See Item 4.B. Business

Overview Strategy. Although we, like many other Korean financial institutions, have begun to charge fees to our customers more regularly, customers may prove unwilling to pay additional fees, even in exchange for more attractive value-added services, and their reluctance to do so would adversely affect the implementation of our strategy to increase our fee income. Furthermore, the fees that we charge to customers are subject to regulation by Korean financial regulatory authorities, which may seek to implement regulations or measures that may have an adverse impact on our ability to achieve this aspect of our strategy.

Risks relating to competition

Competition in the Korean financial industry is intense, and we may lose market share and experience declining margins as a result.

Competition in the Korean financial market has been and is likely to remain intense. Some of the financial institutions that we compete with are larger in terms of asset size and customer base and have longer operating histories as financial holding companies, greater financial resources or more specialized capabilities than us and our subsidiaries. In addition, in the area of our core banking operations, most Korean banks have been focusing on retail customers and small- and medium-sized enterprises in recent years, although they have begun to generally increase their exposure to large corporate borrowers, and have been focusing on developing fee income businesses, including bancassurance and investment products, as increasingly important sources of revenue. In the area of credit cards, Korean banks and credit card companies have in the past engaged in aggressive marketing activities and made significant investments, contributing to some extent to lower profitability and asset quality problems previously experienced with respect to credit card receivables. The competition and market saturation resulting from this common focus may make it more difficult for us to secure retail, small- and medium-sized enterprise and large corporate customers with the credit quality and on credit terms necessary to maintain or increase our income and profitability.

In addition, general regulatory reforms in the Korean financial industry have increased competition among banks and other financial institutions in Korea. In the second half of 2015, the Korean government implemented measures to facilitate bank account portability of retail customers by requiring commercial banks to establish systems that allow retail customers to easily switch their bank accounts at one commercial bank to another and automatically transfer the automatic payment settings of their former accounts to the new ones. Such measures are expected to further intensify competition among financial institutions in Korea. Moreover, in March 2016, the Financial Services Commission introduced an individual savings account scheme in Korea, which enables individuals to efficiently manage a wide range of retail investment vehicles, including cash deposits, investment funds and securities investment products, from a single integrated account with one financial institution and offers tax benefits on investment returns. Since the scheme backed by the Korean government allows only one individual savings account per person, financial institutions have been competing to retain existing customers and attract new customers since the launch of the individual savings account scheme. Over 30 financial institutions, including banks, securities companies and insurance companies, have registered with the Financial Services Commission to sell their individual savings account products, and competition among these financial institutions is expected to remain intense.

Furthermore, the introduction of Internet-only banks in Korea is expected to increase competition in the Korean banking industry. Internet-only banks generally operate without branches and conduct most of their operations through electronic means, which enable them to minimize costs and offer customers higher interest rates on deposits or lower lending rates. In April 2017, K bank, the first Internet-only bank in Korea, in which we own 13.8% of the equity with voting rights, commenced operations. Kakao Bank, a mobile-only bank, commenced operations in July 2017.

Moreover, a number of significant mergers and acquisitions in the financial industry have taken place in Korea in recent years, including Hana Financial Group s acquisition of a controlling interest in Korea Exchange Bank in 2012, the subsequent merger of Hana Bank into Korea Exchange Bank in 2015, KB Financial Group s acquisition of Hyundai Securities Co., Ltd. in 2016 and the subsequent merger of Hyundai Securities with and into KB Investment &

Securities Co., Ltd. in 2016. In 2016, Mirae Asset Securities Co., Ltd. acquired a 43% interest in KDB Daewoo Securities Co., Ltd., which subsequently merged with and into Mirae Asset Securities to create Mirae Asset Daewoo Securities Co., Ltd., the largest securities company in Korea in terms of capital.

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Furthermore, in 2014, pursuant to the implementation of the Korean government s privatization plan with respect to Woori Finance Holdings and its former subsidiaries, Woori Financial, Woori Asset Management and Woori F&I were acquired by KB Financial Group, Kiwoom Securities and Daishin Securities, respectively, and Woori Investment & Securities, Woori Aviva Life Insurance and Woori FG Savings Bank were acquired by NongHyup Financial Group. In addition, in October 2014, the KDIC s ownership interest in Kwangju Bank and Kyongnam Bank were acquired by JB Financial Group and BS Financial Group, respectively. See Item 4.A. History and Development of the Company Privatization Plan.

We expect that consolidation in the Korean financial industry will continue. Other financial institutions may seek to acquire or merge with other entities, and the financial institutions resulting from such consolidation may, by virtue of their increased size and business scope, provide significantly greater competition for us. We also believe that foreign financial institutions, many of which have greater experience and resources than we do, may seek to compete with us in providing financial products and services either by themselves or in partnership with existing Korean financial institutions. Increased competition and continuing consolidation may lead to decreased margins, resulting in a material adverse impact on our future profitability. Accordingly, our results of operations and financial condition may suffer as a result of increasing competition in the Korean financial industry.

Competition for customer deposits may increase, resulting in a loss of our deposit customers or an increase in our funding costs.

In recent years, we have faced increasing pricing pressure on deposit products from our competitors. If we do not continue to offer competitive interest rates to our deposit customers, we may lose their business. In addition, even if we are able to match our competitors pricing, doing so may result in an increase in our funding costs, which may have an adverse impact on our results of operations.

Other risks relating to our business

Unfavorable changes in the global financial markets could adversely affect our results of operations and financial condition.

The overall prospects for the Korean and global economy in 2019 and beyond remain uncertain. In recent years, the global financial markets have experienced significant volatility as a result of, among other things:

- a deterioration in economic and trade relations between the United States and its major trading partners, including China;
- uncertainty regarding the timing and method of the United Kingdom s exit from the European Union, or Brexit;
- financial and social difficulties affecting many countries worldwide, in particular in Latin America and Europe;
- the slowdown of economic growth in China and other major emerging market economies;

interest rate fluctuations as well as the possibility of further increases in policy rates by the U.S. Federal Reserve and other central banks; and

political and social instability in various countries in the Middle East, including Syria, Iraq and Egypt.

In light of the high level of interdependence of the global economy, unfavorable changes in the global financial markets, including as a result of any of the foregoing developments, could have a material adverse effect on the Korean economy and financial markets, and in turn on our business, financial condition and results of operations.

We are also exposed to adverse changes and volatility in the global and Korean financial markets as a result of our liabilities and assets denominated in foreign currencies and our holdings of trading and investment securities, including structured products. The value of the Won relative to major foreign currencies in general and the U.S. dollar in particular has fluctuated widely in recent years. A depreciation of the Won will increase our

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cost of servicing our foreign currency-denominated debt, while continued exchange rate volatility may also result in foreign exchange losses for us. Furthermore, as a result of changing global and Korean economic conditions, there has been volatility in securities prices, including the stock prices of Korean and foreign companies in which we hold an interest. Such volatility has resulted in and may lead to further trading and valuation losses on our trading and investment securities portfolio as well as impairment losses on our investments in joint ventures and associates.

Our risk management system may not be effective in mitigating risk and loss.

We seek to monitor and manage our risk exposure through a standardized risk management system, encompassing a multi-tiered risk management governance structure under our Board Risk Management Committee, our centralized credit risk management system called the CREPIA system, reporting and monitoring systems, early warning systems and other risk management infrastructure, using a variety of risk management strategies and techniques. See Item 11. Quantitative and Qualitative Disclosures about Market Risk. However, such risk management strategies and techniques employed by us and the judgments that accompany their application cannot anticipate the economic and financial outcome in all market environments, and many of our risk management strategies and techniques have a basis in historic market behavior that may limit the effectiveness of such strategies and techniques in times of significant market stress or other unforeseen circumstances. Furthermore, our risk management strategies may not be effective in a difficult or less liquid market environment, as other market participants may be attempting to use the same or similar strategies as us to deal with such market conditions. In such circumstances, it may be difficult for us to reduce our risk positions due to the activity of such other market participants.

We have provided certain assets as collateral in connection with our secured borrowings and could be required to make payments and realize losses in the future relating to those assets.

We have provided certain assets as collateral for our secured borrowings in recent years. As of December 31, 2018, the aggregate amount of assets we had provided as collateral for our secured borrowings was 9,340 billion. These secured borrowings may take the form of asset securitization transactions, where we nominally sell our assets to a securitization vehicle that issues securities backed by those assets, although the assets remain on our statements of financial position. These secured borrowings are intended to be fully repaid through recoveries on collateral. Some of these nominal asset sales were with recourse, which means that if delinquencies arise with respect to such assets, we will be required to either repay a proportionate amount of the related secured borrowing (by reversing the nominal sale and repurchasing such assets) or compensate the securitization vehicle for any net shortfalls in its recoveries on such assets. If we are required to make payments on such assets, or to repay our secured borrowings on those assets and are unable to make sufficient recoveries on them, we may realize further losses on these assets.

An increase in interest rates would decrease the value of our debt securities portfolio and raise our funding costs while reducing loan demand and the repayment ability of our borrowers, which could adversely affect us.

Interest rates in Korea have been subject to significant fluctuations in the past. The Bank of Korea reduced its policy rate to 2.00% through a series of reductions from 2012 to 2014 to support Korea s economy in light of the slowdown in Korea s growth and uncertain global economic prospects. The Bank of Korea further reduced its policy rate to 1.50% in 2015 and again to an unprecedented 1.25% in June 2016 amid deflationary concerns and interest rate cuts by central banks around the world. However, the Bank of Korea increased its policy rate to 1.50% in November 2017 and 1.75% in November 2018 in light of improved growth prospects in Korea and rising interest rate levels globally. All else being equal, further increases in interest rates in the future could lead to a decline in the value of our portfolio of debt securities, which generally pay interest based on a fixed rate. A sustained increase in interest rates will also raise our funding costs, while reducing loan demand, especially among consumers. Rising interest rates may therefore require us to re-balance our asset portfolio and our liabilities in order to minimize the risk of potential mismatches and maintain our profitability. See Item 11.

Quantitative and Qualitative Disclosures about Market Risk. In addition, rising interest rate levels may adversely affect the Korean economy and the financial condition of our corporate and consumer borrowers, including holders of our credit cards, which in turn may lead to a deterioration in our credit portfolio. In particular, since most of our consumer and corporate loans bear interest at rates that adjust periodically based on prevailing market rates, a sustained increase in interest rates would increase the interest costs of our consumer and corporate borrowers and will adversely affect their ability to make payments on their outstanding loans.

Our funding is highly dependent on short-term deposits, which dependence may adversely affect our operations.

We meet a significant amount of our funding requirements through short-term funding sources, which consist primarily of customer deposits. As of December 31, 2018, approximately 96.4% of these deposits had maturities of one year or less or were payable on demand. In the past, a substantial proportion of these customer deposits have been rolled over upon maturity. We cannot guarantee, however, that depositors will continue to roll over their deposits in the future. In the event that a substantial number of these short-term deposit customers withdraw their funds or fail to roll over their deposits as higher-yielding investment opportunities emerge, our liquidity position could be adversely affected. We may also be required to seek more expensive sources of short-term and long-term funding to finance our operations. See Item 5.B. Liquidity and Capital Resources Financial Condition Liquidity.

Labor union unrest may disrupt our operations and hinder our ability to continue to reorganize our operations.

Most financial institutions in Korea have experienced periods of labor unrest. In recent years, we have transferred or merged some of the business operations of our subsidiaries and affiliates into one or more entities and implemented other forms of corporate and operational restructuring, including in connection with the Korean government s privatization plan with respect to Woori Finance Holdings and its former subsidiaries. See Risks relating to our structure and strategy The implementation of the Korean government s privatization plan may have an adverse effect on us and your interests as a shareholder. We may also decide to implement other organizational or operational changes, as well as acquisitions or dispositions, in the future. Such efforts have in the past been met with significant opposition from labor unions in Korea. Actual or threatened labor disputes may in the future disrupt the reorganization process and our business operations, which in turn may hurt our financial condition and results of operations.

The secondary market for corporate bonds in Korea is not fully developed, and, as a result, we may not be able to realize the full marked-to-market value of debt securities we hold when we sell any of those securities.

As of December 31, 2018, we held debt securities issued by Korean companies and financial institutions (other than those issued by government-owned or -controlled enterprises or financial institutions, which include the Bank of Korea, the Korea Development Bank, the Korea Housing Finance Corporation and the Industrial Bank of Korea, among others) with a total book value of 3,263 billion in our trading and investment securities portfolio. The market value of these securities could decline significantly due to various factors, including future increases in interest rates or a deterioration in the financial and economic condition of any particular issuer or of Korea in general. Any of these factors individually or a combination of these factors would require us to write down the fair value of these debt securities, resulting in impairment losses. Because the secondary market for corporate bonds in Korea is not fully developed, the market value of many of these securities as reflected on our consolidated statements of financial position is determined by references to suggested prices posted by Korean rating agencies, which measure prices based on observable market data. These valuations, however, may differ significantly from the actual value that we could realize in the event we elect to sell these securities. As a result, we may not be able to realize the full marked-to-market value at the time of any such sale of these securities and thus may incur additional losses.

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We may be required to raise additional capital if our capital adequacy ratios deteriorate or the applicable capital requirements change in the future, but we may not be able to do so on favorable terms or at all.

Under the capital adequacy requirements of the Financial Services Commission, as of December 31, 2018, we as a bank holding company (had we been in existence) would have been required, and Woori Bank as a bank was required, to maintain a total minimum Tier I common equity capital adequacy ratio of 7.125%, Tier I capital adequacy ratio of 8.625% and combined Tier I and Tier II capital adequacy ratio of 10.625%, on a consolidated basis (including applicable additional capital buffers and requirements as described below). As of December 31, 2018, Woori Bank s Tier I common equity capital, Tier I capital and combined Tier I and Tier II capital adequacy ratios were 11.15%, 13.18% and 15.65%, respectively, which exceeded the minimum levels required by the Financial Services Commission. However, our capital base and capital adequacy ratios may deteriorate in the future if our results of operations or financial condition deteriorates for any reason, or if we are not able to deploy our funding into suitably low-risk assets.

The current capital adequacy requirements of the Financial Services Commission are derived from a new set of bank capital measures, referred to as Basel III, which the Basel Committee on Banking Supervision initially introduced in 2009 and began phasing in starting from 2013. Commencing in July 2013, the Financial Services Commission promulgated a series of amended regulations implementing Basel III, pursuant to which Korean banks and bank holding companies were required to maintain a minimum ratio of Tier I common equity capital (which principally includes equity capital, capital surplus and retained earnings) to risk-weighted assets of 3.5% and Tier I capital to risk-weighted assets of 4.5% from December 1, 2013, which minimum ratios were increased to 4.0% and 5.5%, respectively, from January 1, 2014 and increased further to 4.5% and 6.0%, respectively, from January 1, 2015. Such requirements are in addition to the pre-existing requirement for a minimum ratio of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets of 8.0%, which remains unchanged. The amended regulations also require an additional capital conservation buffer of 1.875% in 2018 and 2.5% in 2019, as well as a potential counter-cyclical capital buffer of up to 2.5%, which is determined on a quarterly basis by the Financial Services Commission. Furthermore, Woori Bank was designated as one of six domestic systemically important banks for 2018 by the Financial Services Commission and was subject to an additional capital requirement of 0.75% in 2018. In June 2018, Woori Bank was again designated as a domestic systemically important bank for 2019, which subjects Woori Bank to an additional capital requirement of 1.0% in 2019. The implementation of Basel III in Korea may have a significant effect on the capital requirements of Korean financial institutions, including us. See Item 4.B. Business Overview Supervision and Regulation Principal Regulations Applicable to Financial Holding Companies Capital Adequacy and Item 4.B. Business Overview Supervision and Regulation Principal Regulations Applicable to Banks Capital Adequacy.

In measuring risk-weighted assets for the purpose of calculating capital adequacy ratios, generally the standardized approach or the internal ratings-based approach is applied; however, for the application of the internal ratings-based approach, which relies on the internal rating system of the relevant bank or banking holding company, the bank or bank holding company must receive approval from the Financial Supervisory Service after a trial evaluation period of one year. Currently, we, as a newly established bank holding company, are required to apply the standardized approach to measure our risk-weighted assets for a trial evaluation period, and, as a result, our capital adequacy ratios may decline in part, compared to those of Woori Bank. We expect to begin to applying the internal ratings-based approach in the first half of 2020.

We may be required to obtain additional capital in the future in order to remain in compliance with the applicable capital adequacy and other regulatory requirements. However, we may not be able to obtain additional capital on favorable terms, or at all. Our ability to obtain additional capital at any time may be constrained to the extent that banks, bank holding companies or other financial institutions in Korea or from other countries are seeking to raise capital at the same time. To the extent that we fail to comply with applicable capital adequacy or other regulatory requirements in the future, Korean regulatory authorities may impose penalties on us ranging from a warning to suspension or revocation of our banking license.

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We engage in limited activities relating to Iran and may become subject to sanctions under relevant laws and regulations of the United States and other jurisdictions as a result of such activities, which may adversely affect our business and reputation.

The U.S. Department of the Treasury s Office of Foreign Assets Control, or OFAC, administers and enforces certain laws and regulations (which we refer to as OFAC sanctions) that impose restrictions upon activities or transactions within U.S. jurisdiction with certain countries, governments, entities and individuals that are the subject of OFAC sanctions, including Iran. Non-U.S. persons generally are not automatically bound by OFAC sanctions, but to the extent they engage in transactions completed in part in the United States or through U.S. persons (such as, for example, wiring an international payment that clears through a bank branch in New York), they are required to comply with U.S. sanctions. The European Union also enforces certain laws and regulations that impose restrictions upon nationals and entities of, and business conducted in, member states with respect to activities or transactions with certain countries, governments, entities and individuals that are the subject of such laws and regulations, including with respect to targeted entities in Iran. The United Nations Security Council and other governmental entities (including Korea) also impose similar sanctions.

The United States also maintains indirect sanctions, which we refer to collectively as U.S. secondary sanctions, which provide authority for the imposition of U.S. sanctions on foreign parties that engage in targeted transactions with no connection to U.S. jurisdiction. Secondary sanctions are maintained under, among others, the Iran Sanctions Act, the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, or CISADA, the National Defense Authorization Act for Fiscal Year 2012, or the NDAA, the Iran Threat Reduction and Syria Human Rights Act of 2012, or ITRA, various Executive Orders, and the Iran Freedom and Counter-Proliferation Act of 2012, or IFCA. Secondary sanctions have been of increasing importance in recent years, particularly (but not only) with respect to Russia and Iran. Iran has also been designated as a jurisdiction of primary money laundering concern under Section 311 of the USA PATRIOT Act, potentially subjecting banks dealing with Iranian financial institutions to increased regulatory scrutiny.

The 2015 Joint Comprehensive Plan of Action, or the JCPOA, between the five permanent United Nations Security Council members, Germany, and Iran, provided significant sanctions relief to Iran by lifting the majority of European Union and United Nations sanctions, as well as many U.S. secondary sanctions (including those focused on the energy and banking sectors generally). However, on May 8, 2018, U.S. President Donald Trump issued National Security Presidential Memorandum 11, and on August 6, 2018, he issued Executive Order 13846. Together, these documents set forth a plan to terminate the United States participation in the JCPOA and re-imposed, following wind-down periods, certain of the U.S. secondary sanctions that had been lifted to implement the JCPOA. An initial set of secondary sanctions against the Iranian energy sector were re-imposed on August 7, 2018 and a second set of secondary sanctions against Iran became effective on November 5, 2018. Although these changes are not retroactive, they affect transactions executed following the applicable wind-down periods. Accordingly, U.S. secondary sanctions have effectively returned to the status quo prior to the JCPOA, including, but not limited to, secondary sanctions targeting financial and banking transactions with Iranian banks and financial institutions (including the Central Bank of Iran, or the CBI), the Iranian energy sector (including significant transactions for the purchase of petrochemical products from Iran), and transactions with an expanded list of Iranian specially designated nationals.

Violations of OFAC sanctions via transactions with a U.S. jurisdictional nexus can result in substantial civil or criminal penalties. U.S. secondary sanctions apply even when no such jurisdictional nexus exists, and companies that engage in targeted activities under secondary sanctions may themselves become the target of OFAC sanctions, including, among other things, the blocking of any property subject to U.S. jurisdiction in which the sanctioned company has an interest, which would include a prohibition on transactions or dealings within U.S. jurisdiction involving securities of the sanctioned company. Financial institutions engaging in targeted activity could in some instances be sanctioned by termination or restriction of their ability to maintain correspondent accounts in the United States. The imposition of sanctions against foreign financial institutions pursuant to U.S. secondary sanctions is not automatic, requiring further action by the U.S. administration.

Prior to the JCPOA, Korea had benefited from a significant reduction exception, or SRE, that exempted Korean companies from many U.S. secondary sanctions in connection with purchases of crude oil and natural gas

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from Iran that met a series of conditions, including stringent limits on the use of proceeds of oil and gas purchases. Although Korean companies were again eligible for the SRE immediately following the United States withdrawal from the JCPOA, the U.S. Department of State announced that as of May 2, 2019, it would discontinue the exemption.

In 2018, we engaged in the following activities relating to Iran:

We have operated certain accounts for the CBI, which were opened by the CBI pursuant to a service agreement entered into by us and the CBI in September 2010, as amended from time to time, to facilitate trade between Korea and Iran. The accounts opened by the CBI consist of Won-denominated accounts that are used for the settlement of exports of goods produced or substantially transformed in Korea to Iran by Korean exporters and Won, U.S. dollar, euro and Japanese Yen-denominated accounts (of which only the Won accounts are in use) that are used for the settlement of imports of crude oil and natural gas from Iran by Korean importers. By the terms of the service agreement between us and the CBI, settlement of export and import transaction payments due from Iranian entities to Korean exporters or from Korean importers of oil and gas to Iranian entities through such accounts opened by the CBI is effected by crediting or debiting the relevant amount to or from the applicable accounts while a corresponding payment of funds is made to or from an Iranian bank by the CBI. Any funds deposited for the account of Iranian entities as a result of Korean imports of crude oil and natural gas may only be used by transferring them to the Won-denominated account and then making payment to accounts of Korean persons and entities opened at financial institutions in Korea in respect of Korean exports to Iran. No transfers of funds may be made from these accounts to Iran, to Iranian accounts in any third country, or for any use other than those described above. In 2018, the total fee revenue from maintaining the CBI accounts amounted to approximately 92 million (which represented approximately 0.001% of our total revenue). As there were no expenses directly applicable to such activities under our internal management accounts, we estimate that our net income before tax from maintaining the CBI accounts also amounted to approximately 92 million (which represented approximately 0.003% of our total net income before tax). In light of the discontinuation of the SRE, we intend to restrict activity in the existing CBI accounts to conform to applicable U.S. secondary sanctions.

We also have provided limited export-import financing services to Korean exporters and importers in connection with their trade transactions with Iran that are permitted under the relevant Korean sanctions and not subject to U.S. secondary sanctions, primarily by discounting, advising on or issuing letters of credit, and to a lesser extent, issuing performance bonds on behalf of Korean contractors with respect to Iranian construction projects permitted under the relevant Korean sanctions and not subject to U.S. secondary sanctions. All such transactions are settled through the accounts opened by the CBI with us as described above. In 2018, our total fee revenue from such export-import financing services amounted to approximately 4.3 billion (which represented approximately 0.04% of our total revenue), while our net income before tax from such activities (net of expenses directly applicable to such activities based on our internal management accounts) amounted to approximately 1.7 billion (which represented approximately 0.06% of our total net income before tax). We intend to discontinue this activity when the CBI accounts are restricted.

We also maintain a limited number of deposit accounts in Korea for an Iranian financial institution that the U.S. government has historically viewed as controlled by the government of Iran. These accounts were opened with us before the institution was designated for U.S. sanctions. Under Korean customer protection requirements, we are unable to provide specific information identifying this Iranian financial institution or the volume of its deposits, but the relevant accounts have since been restricted and no transactions are currently allowed through these accounts. Accordingly, in 2018, there were no fee revenues from maintaining such deposit accounts, and there were no expenses directly applicable to such activities under our internal management accounts.

In May 2016, we established a representative office in Tehran, Iran, which had engaged in the collection of local market information without generating any revenue. Following the re-imposition of sanctions, the representative office is no longer operational and does not have any employees or office space.

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We intend to conform our Iran-related dealings with U.S. secondary sanctions previously waived under the SRE. However, regulatory guidance regarding the wind down of SRE-related activities to date is limited, and complications may arise in relation to legacy accounts or activities during or following the wind down. While we do not believe that our activities relating to Iran violate OFAC sanctions or are sanctionable under applicable U.S. secondary sanctions, there is no guarantee that our activities relating to Iran will not be found to violate OFAC sanctions or involve sanctionable activity under U.S. secondary sanctions, or that any other government will not determine that our activities violate applicable sanctions of other countries. Sanctions against Iran continue to evolve rapidly, and future changes in law could also adversely affect us.

Furthermore, there is no guarantee that other countries (including Korea) that had provided sanctions relief to Iran in conjunction with the JCPOA will not decide to re-impose sanctions relating to Iran, especially if there are further negative political developments relating to the Middle East. It is also possible that the United States, Korea or other countries might seek to expand their sanctions relating to Iran in the future beyond those existing currently. The re-imposition or expansion of sanctions relating to Iran may require us to reduce or cease our activities relating to Iran. Such governmental actions and policies may also increase the risk of our violating certain sanctions or becoming a target of sanctions as a result of our past activities relating to Iran. Any such development could have a material adverse impact on our business, reputation or results of operations.

Our business and reputation could be adversely affected if the U.S. government were to determine that our activities relating to Iran violate OFAC sanctions or involve sanctionable activity under U.S. secondary sanctions, or if any other government were to determine that our activities violate applicable sanctions of other countries. Any prohibition or conditions placed on our use of U.S. correspondent accounts could effectively eliminate our access to the U.S. financial system, including U.S. dollar clearing transactions, which would adversely affect our business, and any other sanctions or civil or criminal penalties imposed could also adversely affect our business. If the U.S. government were to challenge the compatibility of our activities relating to Iran with OFAC sanctions or U.S. secondary sanctions, while no assurances can be given that any such measures would be successful, we intend to take all necessary measures to the extent possible to ensure that prohibitions or conditions are not placed on our use of U.S. correspondent accounts, including closing the accounts opened by the CBI with us, if required.

We are cooperating with an investigation led by the U.S. Attorney s Office for the Southern District of New York and the New York State Office of the Attorney General on certain of our transactions involving sanctioned countries under the U.S. sanctions and other U.S. laws, by producing information and documents pursuant to the applicable laws and regulations. We voluntarily reported such transactions to OFAC, including a limited number of previous transactions that may have involved sanctioned countries including Iran, Sudan, Syria and Cuba. It is not possible to predict the outcome of such investigation at this time, and there can be no assurance that such investigation will not result in an unfavorable outcome or adversely affect our business or reputation. Furthermore, beginning in October 2014, the Prosecutors Office of Korea investigated a scheme by which the representative director of a Korean company and one of our employees engaged in fraudulent trade transactions involving our Won-denominated settlement activities through the CBI accounts. These individuals were convicted of violations of the Foreign Exchange Transactions Law and sentenced to imprisonment of 12 months and eight months, respectively, with two years suspension of execution in each case, in September 2015. The Prosecutors Office of Korea completed its investigation in connection with this incident and concluded that neither we nor our executive officers engaged in any wrongdoing. However, the fraudulent transactions in question did not meet the conditions attached to operation of the CBI accounts, and there can be no assurances that U.S. authorities would agree that we were not culpable or that the transactions would not be considered sanctionable.

Furthermore, some of our U.S. investors may be required to divest their investments in us under the laws of certain U.S. states or under internal investment policies relating to companies (or their affiliates) doing business with Iran or may decide for reputational reasons to divest such investments, and some U.S. institutional investors may forego the purchase of our securities. We are aware of initiatives by U.S. governmental entities and U.S. institutional investors, such as pension funds, to adopt or consider adopting laws, regulations or policies prohibiting transactions with or investment in, or requiring divestment from, entities doing business with countries identified as state sponsors of terrorism. There can be no assurance that the foregoing will not occur or that such occurrence will not have a material adverse effect on the value of our common stock and ADSs.

Our operations may be subject to increasing and continually evolving cybersecurity and other technological risks.

With the proliferation of new technologies and the increasing use of the Internet and mobile devices to conduct financial transactions, our operations as a financial institution have been, and will continue to be, subject to an increasing risk of cyber incidents relating to these activities, the nature of which is continually evolving. Our computer systems, software and networks are subject to cyber incidents, such as disruptions, delays or other difficulties affecting our information technology systems, computer viruses or other malicious codes, loss or destruction of data (including confidential client information), unauthorized access, account takeover attempts and cyber attacks. A significant portion of our daily operations relies on our information technology systems, including customer service, billing, the secure processing, storage and transmission of confidential and other information as well as the timely monitoring of a large number of complex transactions. Although we have made substantial and continuous investments to build systems and defenses to address cybersecurity and other technological risks, there is no guarantee that such measures or any other measures can provide adequate security and stability. In addition, because methods used to cause cyber attacks change frequently or, in some cases, are not recognized until launched, we may be unable to implement effective preventive measures or proactively address these methods. Furthermore, these cyber threats may arise from human error, accidental technological failure and third parties with whom we do business. If we were to be subject to a system failure or other cyber incident, it could result in the disclosure of confidential client information, damage to our reputation with our customers and in the market, customer dissatisfaction, additional costs to us, regulatory penalties, exposure to litigation and other financial losses to both us and our customers, which could have an adverse effect on our business and results of operations.

Our business may be adversely affected by legal claims and regulatory actions against us.

We are subject to the risk of legal claims and regulatory actions, which may expose us to monetary damages and legal costs, injunctive relief, criminal and civil penalties, sanctions against our management and employees and regulatory restrictions on our operations, as well as reputational harm. See Item 8.A. Consolidated Statements and Other Financial Information Legal Proceedings.

We are unable to predict the outcome of many of the legal claims and regulatory actions in which we are involved, and the scope of the claims or actions or the total amount in dispute in such matters may increase. Furthermore, adverse decisions, findings or resolutions in such matters could encourage other parties, including governmental authorities in other jurisdictions, to bring similar claims and actions against us. Accordingly, the outcome of current and future legal claims and regulatory actions, particularly those for which it is difficult to assess the maximum potential exposure or the ultimate adverse impact with any degree of certainty, may materially and adversely impact our business, reputation, results of operations and financial condition.

We are generally subject to Korean corporate governance and disclosure standards, which differ in significant respects from those in other countries.

Companies in Korea, including us, are subject to corporate governance standards applicable to Korean public companies which differ in many respects from standards applicable in other countries, including the United States. As a reporting company registered with the U.S. Securities and Exchange Commission and listed on the New York Stock Exchange, we are subject to certain corporate governance standards as mandated by the Sarbanes-Oxley Act of 2002. However, foreign private issuers, including us, are exempt from certain corporate governance requirements under the

Sarbanes-Oxley Act or under the rules of the New York Stock Exchange.

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There may also be less publicly available information about Korean companies, such as us, than is regularly made available by public or non-public companies in other countries. Such differences in corporate governance standards and less public information could result in less than satisfactory corporate governance practices or disclosure to investors in certain countries.

Risks relating to government regulation and policy

Strengthening of consumer protection laws applicable to financial institutions could adversely affect our operations.

As a financial service provider, we are subject to a variety of regulations in Korea that are designed to protect financial consumers. In recent years, in light of heightened public concern regarding privacy issues, the Korean government has placed greater emphasis on protection of personal information by financial institutions and has implemented a number of measures to enhance consumer protection. Under the Personal Information Protection Act, financial institutions, as personal information managers, may not collect, store, maintain, utilize or provide resident registration numbers of their customers, unless other laws or regulations specifically require or permit the management of resident registration numbers. In addition, under the Use and Protection of Credit Information Act, a financial institution has a higher duty to protect all information that it collects from its customers and is required to treat such information as credit information. A financial institution s ability to transfer or provide the information to its affiliates or holding company is considerably restricted. Treble damages may be imposed on a financial institution for leakage of such information. Furthermore, under the Electronic Financial Transaction Act, a financial institution is primarily responsible for compensating its customers harmed by a cyber security breach affecting the financial institution even if the breach is not directly attributable to the financial institution.

In June 2016, the Financial Services Commission proposed the enactment of the Act on the Financial Consumer Protection Framework, which was submitted to the Korean National Assembly in May 2017. If the Act is adopted as proposed, we as a financial instrument distributor will be subject to heightened investor protection measures, including stricter distribution guidelines, improved financial dispute resolution procedures, increased liability for customer losses and newly imposed penalty surcharges.

These and other measures that may be implemented by the Korean government to strengthen consumer protection laws applicable to financial institutions may limit our operational flexibility and cause us to incur significant additional compliance costs, as well as subject us to increased potential liability to our customers, which could adversely affect our business and performance.

The Korean government may promote lending and financial support by the Korean financial industry to certain types of borrowers as a matter of policy, which financial institutions, including us, may decide to follow.

Through its policy guidelines and recommendations, the Korean government has promoted and, as a matter of policy, may continue to attempt to promote lending by the Korean financial industry to particular types of borrowers. For example, the Korean government has in the past announced policy guidelines requesting financial institutions to participate in remedial programs for troubled corporate borrowers, as well as policies aimed at promoting certain sectors of the economy, including measures such as making low interest funding available to financial institutions that lend to these sectors. The government has in this manner encouraged mortgage lending to low-income individuals and lending to small- and medium-sized enterprises. We expect that all loans or credits made pursuant to these government policies will be reviewed in accordance with our credit approval procedures. However, these or any future government policies may influence us to lend to certain sectors or in a manner in which we otherwise would not in the absence of such policies.

In the past, the Korean government has also announced policies under which financial institutions in Korea are encouraged to provide financial support to particular sectors. For example, in light of the deteriorating financial condition and liquidity position of small- and medium-sized enterprises in Korea and adverse conditions in the Korean economy affecting such enterprises, the Korean government introduced measures intended to encourage Korean banks to provide financial support to small- and medium-sized enterprise borrowers. See Risks relating to our corporate credit portfolio The largest portion of our exposure is to small- and medium-sized enterprises, and financial difficulties experienced by companies in this segment may result in a deterioration of our asset quality and have an adverse impact on us. In addition, in March 2015, in response to increasing levels of consumer debt and amid concerns over the debt-servicing capacity of retail borrowers if interest rates were to rise, the Korean government requested Korean banks to participate in a mortgage loan refinancing program aimed at reducing the payment burden on and improving the asset quality of outstanding mortgage loans. See Risks relating to our consumer credit portfolio We may experience increases in delinquencies in our consumer loan and credit card portfolios.

The Korean government may in the future request financial institutions in Korea, including us, to make investments in or provide other forms of financial support to particular sectors of the Korean economy as a matter of policy, which financial institutions, including us, may decide to accept. We may incur costs or losses as a result of providing such financial support.

The Financial Services Commission may impose burdensome measures on us if it deems us or one of our subsidiaries to be financially unsound.

If the Financial Services Commission deems our financial condition or the financial condition of our subsidiaries to be unsound, or if we or our subsidiaries fail to meet applicable regulatory standards, such as minimum capital adequacy and liquidity ratios, the Financial Services Commission may order or recommend, among other things:

- admonitions or warnings with respect to our officers;
- capital increases or reductions;
- assignments of contractual rights and obligations relating to financial transactions;
- a suspension of performance by our officers of their duties and the appointment of receivers;
- disposals of property holdings or closures of subsidiaries or branch offices or downsizing;
- stock cancellations or consolidations;
- mergers with other financial institutions;
- acquisition of us by a third party; and
- suspensions of a part or all of our business operations.

If any of these measures are imposed on us by the Financial Services Commission, they could hurt our business, results of operations and financial condition. In addition, if the Financial Services Commission orders us to partially or completely reduce our capital, you may lose part or all of your investment.

Risks relating to Korea

Unfavorable financial and economic developments in Korea may have an adverse effect on us.

We are incorporated in Korea, and a substantial majority of our operations are located in Korea. As a result, we are subject to political, economic, legal and regulatory risks specific to Korea. The economic indicators in Korea in recent years have shown mixed signs of growth and uncertainty, and future growth of the Korean economy is subject to many factors beyond our control, including developments in the global economy.

In recent years, adverse conditions and volatility in the worldwide financial markets, fluctuations in oil and commodity prices and the general weakness of the global economy have contributed to the uncertainty of global economic prospects in general and have adversely affected, and may continue to adversely affect, the Korean economy. See Other risks relating to our business Unfavorable changes in the global financial markets could adversely affect our results of operations and financial condition. The value of the Won relative to major

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foreign currencies has fluctuated significantly. Furthermore, as a result of changing global and Korean economic conditions, there has been volatility in the stock prices of Korean companies in recent years. Future declines in the Korea Composite Stock Price Index, known as the KOSPI, and large amounts of sales of Korean securities by foreign investors and subsequent repatriation of the proceeds of such sales may adversely affect the value of the Won, the foreign currency reserves held by financial institutions in Korea, and the ability of Korean companies to raise capital. Any future deterioration of the Korean or global economy could adversely affect our business, financial condition and results of operations.

Developments that could have an adverse impact on the Korean economy include:

- adverse conditions or uncertainty in the economies of countries and regions that are important export markets for Korea, such as China, the United States, Europe and Japan, or in emerging market economies in Asia or elsewhere, as well as increased uncertainty regarding a future Brexit and deteriorating economic and trade relations between the United States and China;

- adverse changes or volatility in foreign currency reserve levels, commodity prices (including oil prices), exchange rates (including fluctuation of the U.S. dollar, the euro or the Japanese yen exchange rates or revaluation of the Chinese renminbi), interest rates, inflation rates or stock markets;

- deterioration in economic or diplomatic relations between Korea and its trading partners or allies, including deterioration resulting from territorial or trade disputes or disagreements in foreign policy (such as the controversy between Korea and China, which is Korea s largest export market, regarding the deployment of a Terminal High Altitude Area Defense system in Korea by the United States in March 2017 and the ensuing economic and other retaliatory actions by China);

- increased sovereign default risks in select countries and the resulting adverse effects on the global financial markets;

- a deterioration in the financial condition or performance of small- and medium-sized enterprises and other companies in Korea due to the Korean government s policies to increase minimum wages and limit working hours of employees;

- investigations of Korean conglomerates and their senior management for possible misconduct;

- a continuing rise in the level of household debt and increasing delinquencies and credit defaults by consumer or small- and medium-sized enterprise borrowers in Korea;

- declines in consumer confidence and a slowdown in consumer spending in the Korean or global economy;

social and labor unrest;

decreases in the market prices of Korean real estate;

the economic impact of any pending or future free trade agreements or of any changes to existing free trade agreements;

a decrease in tax revenue and a substantial increase in the Korean government s expenditures for fiscal stimulus measures, unemployment compensation and other economic and social programs that, together, would lead to an increased government budget deficit;

financial problems or lack of progress in the restructuring of *chaebols*, other large troubled companies (including those in the construction, shipbuilding and shipping sectors) and their suppliers;

loss of investor confidence arising from corporate accounting irregularities, allegations of corruption and corporate governance issues concerning certain *chaebols*;

increases in social expenditures to support an aging population in Korea or decreases in economic productivity due to the declining population size in Korea;

geo-political uncertainty and the risk of further attacks by terrorist groups around the world;

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natural or man-made disasters that have a significant adverse economic or other impact on Korea or its major trading partners;

the occurrence of severe health epidemics in Korea or other parts of the world (such as the Middle East Respiratory Syndrome outbreak in Korea in 2015);

political uncertainty or increasing strife among or within political parties in Korea;

hostilities or political or social tensions involving oil producing countries in the Middle East and Northern Africa and any material disruption in the global supply of oil or sudden increase in the price of oil;

an increase in the level of tensions or an outbreak of hostilities between North Korea and Korea or the United States; and

changes in financial regulations in Korea.

Escalations in tensions with North Korea could have an adverse effect on us and the market price of our ADSs.

Relations between Korea and North Korea have been tense throughout Korea s modern history. The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of current and future events. In particular, there have been heightened security concerns in recent years stemming from North Korea s nuclear weapon and ballistic missile programs as well as its hostile military actions against Korea. Some of the significant incidents in recent years include the following:

North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted six rounds of nuclear tests since October 2006, including claimed detonations of hydrogen bombs, and warheads that can be mounted on ballistic missiles. Over the years, North Korea has also conducted a series of ballistic missile tests, including missiles launched from submarines and intercontinental ballistic missiles that it claims can reach the United States mainland. In response, the Korean government has repeatedly condemned the provocations and flagrant violations of relevant United Nations Security Council resolutions. In February 2016, the government also closed the inter-Korea Gaeseong Industrial Complex in response to North Korea s fourth nuclear test in January 2016. Internationally, the United Nations Security Council has passed a series of resolutions condemning North Korea s actions and significantly expanding the scope of sanctions applicable to North Korea, most recently in December 2017, in response to North Korea s intercontinental ballistic missile test in November 2017. Over the years, the United States and the European Union have also expanded their sanctions applicable to North Korea.

In August 2015, two Korean soldiers were injured in a landmine explosion near the Korean demilitarized zone. Claiming the landmines were set by North Koreans, the Korean army reinitiated its propaganda program toward North Korea utilizing loudspeakers near the demilitarized zone. In retaliation, the North Korean army fired artillery rounds on the loudspeakers, resulting in the highest level of military readiness for both Koreas.

In March 2010, a Korean naval vessel was destroyed by an underwater explosion, killing many of the crewmen on board. The Korean government formally accused North Korea of causing the sinking, while North Korea denied responsibility. Moreover, in November 2010, North Korea fired more than one hundred artillery shells that hit Korea s Yeonpyeong Island near the Northern Limit Line, which acts as the de facto maritime boundary between Korea and North Korea on the west coast of the Korean peninsula, causing casualties and significant property damage. The Korean government condemned North Korea for the attack and vowed stern retaliation should there be further provocation.

North Korea s economy also faces severe challenges, which may further aggravate social and political pressures within North Korea. Although bilateral summit meetings between the two Koreas were held in April 2018, May 2018 and September 2018 and between the United States and North Korea in June 2018 and February

2019, there can be no assurance that the level of tensions affecting the Korean peninsula will not escalate in the future. Any further increase in tensions, which may occur, for example, if North Korea experiences a leadership crisis, high-level contacts between Korea and North Korea break down or military hostilities occur, could have a material adverse effect on the Korean economy and on our business, financial condition and results of operations and the market value of our common stock and ADSs.

Labor unrest in Korea may adversely affect our operations.

Economic difficulties in Korea or increases in corporate reorganizations and bankruptcies could result in layoffs and higher unemployment. Such developments could lead to social unrest and substantially increase government expenditures for unemployment compensation and other costs for social programs. According to statistics from the Korea National Statistical Office, the unemployment rate increased from 3.6% in 2015 to 3.7% in 2016 and 2017 and 3.8% in 2018. Further increases in unemployment and any resulting labor unrest in the future could adversely affect our operations, as well as the operations of many of our customers and their ability to repay their loans, and could adversely affect the financial condition of Korean companies in general, depressing the price of their securities. Furthermore, the government s privatization plan with respect to us contemplates the sale of its remaining ownership interest in us to one or more third parties, which may lead to labor unrest among our employees. See Item 4.A. History and Development of the Company Privatization Plan. Any of these developments may have an adverse effect on our financial condition and results of operations.

Risks relating to our common stock and ADSs

We or our major shareholders may sell shares of our common stock in the future, and such sales may adversely affect the market price of our common stock and ADSs and may dilute your investment and relative ownership interest in us.

We have no current plans for any public offerings of our common stock, ADSs or securities exchangeable for or convertible into such securities. However, it is possible that we may decide to offer or sell such securities in the future.

In addition, the KDIC currently owns 124,604,797 shares, or18.32%, of our outstanding common stock, and IMM Private Equity, Inc., through its special purpose company Nobis1, Inc., currently owns 40,560,000 shares, or 5.96%, of our outstanding common stock. See Item 7.A. Major Shareholders. In the future, such major shareholders or any other shareholder that owns a large number of shares of our outstanding common stock may choose to sell large blocks of our common stock in a public offering or privately to a strategic or financial investor, including a sale by the KDIC for the purpose of recovering the public funds it injected into us. For example, in accordance with the Korean government s privatization plan, the KDIC sold 40,143,022 shares of Woori Bank s common stock (representing 5.9% of its outstanding common stock) in a private sale in Korea in December 2014 and an aggregate of 200,685,395 shares of Woori Bank s common stock (representing 29.7% of its outstanding common stock) in stakes ranging from 3.7% to 6.0% to seven financial companies through a bidding process in December 2016 and January 2017. In 2017, pursuant to a series of transactions related to call options previously granted in connection with the KDIC s sale of Woori Bank s common stock in December 2014, the KDIC sold an aggregate of 19,852,364 shares of Woori Bank s common stock (representing 2.94% of its outstanding common stock). See Risks relating to our structure and strategy The implementation of the Korean government s privatization plan may have an adverse effect on us and your interests as a shareholder. We expect the KDIC to sell all or a portion of the shares of our common stock it owns to one or more purchasers in the future.

Any future offerings or sales by us of our common stock or ADSs or securities exchangeable for or convertible into such securities, significant sales of our common stock by a major shareholder, or the public perception that such an offering or sale may occur, could have an adverse effect on the market price of our common stock and ADSs. Furthermore, any offerings by us in the future of any such securities could have a dilutive impact on your investment and relative ownership interest in us.

Future sales by the KDIC of the shares of our common stock it owns may result in adverse Korean tax consequences for you.

Under applicable Korean tax laws, a non-Korean holder who held Woori Bank s common stock or ADSs prior to our establishment as a new financial holding company in January 2019 pursuant to a comprehensive stock transfer under Korean law will be able to defer taxation on any capital gains arising from the stock transfer, by virtue of the Special Tax Treatment Control Law of Korea, or the STTCL, until such holder s sale of our common stock or ADSs received in the stock transfer, at which time the tax basis of such common stock or ADSs will be the acquisition price at which such holder acquired such Woori Bank common stock or ADSs. However, non-Korean holders that are corporations may not defer such portion of tax on capital gains arising from the stock transfer that is attributable to the amount by which the market price of our common stock or ADSs (as calculated in accordance with applicable Korean laws and regulations) is in excess of the market price of Woori Bank s common stock or ADSs. Any such non-Korean holder of our common stock or ADS, including a corporation, which seeks to defer taxation on capital gains arising from the stock transfer will be required to submit a tax deferral application in prescribed form to the Korean tax authorities when filing its tax return for the 2019 tax year.

Notwithstanding the foregoing, if our largest shareholder, the KDIC, disposes of more than 50% of the shares of our common stock it received in the stock transfer within two years from the end of 2019 (the fiscal year in which the date of the stock transfer falls), the deferral of taxation on capital gains will not be available, and a non-Korean holder who received our common stock or ADSs in the stock transfer will generally be subject to Korean tax on capital gains in an amount equal to the lower of (i) 11.0% (inclusive of local income surtax) of the gross realization proceeds (i.e., the value of our common stock or ADSs such holder received in the stock transfer) or (ii) 22.0% (inclusive of local income surtax) of the net realized gain. However, such capital gains tax may not apply, or may apply at a reduced rate, if such holder establishes its entitlement to an exemption or rate reduction under an applicable tax treaty or Korean tax law. See Item 10.E. Taxation Korean Taxation Tax Treaties for information regarding tax treaty benefits. Accordingly, if you received our common stock or ADSs in the stock transfer, future sales by the KDIC of the shares of our common stock it owns may result in adverse Korean tax consequences for you.

Ownership of our common stock is restricted under Korean law.

Under the Financial Holding Company Act, a single shareholder, together with its affiliates, is generally prohibited from owning more than 10.0% of the issued and outstanding shares of voting stock of a bank holding company such as us that controls a nationwide bank, with the exception of certain shareholders that are non-financial business group companies, whose applicable limit was reduced from 9.0% to 4.0% pursuant to an amendment of the Financial Holding Company Act which became effective on February 14, 2014. To the extent that the total number of shares of our common stock (including those represented by ADSs) that you and your affiliates own together exceeds the applicable limits, you will not be entitled to exercise the voting rights for the excess shares, and the Financial Services Commission may order you to dispose of the excess shares within a period of up to six months. Failure to comply with such an order would result in an administrative fine of up to 0.03% of the book value of such shares per day until the date of disposal. Non-financial business group companies can no longer acquire more than 4.0% of the issued and outstanding shares of voting stock of a bank holding company pursuant to the amended Financial Holding Company Act, which grants an exception for non-financial business group companies which, at the time of the enactment of the amended provisions, held more than 4.0% of the shares thereof with the approval of the Financial Services Commission before the amendment. See Item 4.B. Business Overview Supervision and Regulation Principal Regulations Applicable to Financial Holding Companies Restrictions on Ownership of a Financial Holding Company.

You will not be able to exercise dissent and appraisal rights unless you have withdrawn the underlying shares of our common stock and become our direct shareholder.

In some limited circumstances, including the transfer of the whole or any significant part of our business and the merger or consolidation of us with another company, dissenting shareholders have the right to require us

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to purchase their shares under Korean law. However, if you hold our ADSs, you will not be able to exercise such dissent and appraisal rights if the depositary refuses to do so on your behalf. Our deposit agreement does not require the depositary to take any action in respect of exercising dissent and appraisal rights. In such a situation, holders of our ADSs must withdraw the underlying common stock from the ADS facility (and incur charges relating to that withdrawal) and become our direct shareholder prior to the record date of the shareholders meeting at which the relevant transaction is to be approved, in order to exercise dissent and appraisal rights.

You may be limited in your ability to deposit or withdraw common stock.

Under the terms of our deposit agreement, holders of common stock may deposit such stock with the depositary s custodian in Korea and obtain ADSs, and holders of ADSs may surrender ADSs to the depositary and receive common stock. However, to the extent that a deposit of common stock exceeds any limit that we may specify from time to time, that common stock will not be accepted for deposit unless our consent with respect to such deposit has been obtained. We currently have not set any such limit; however, we have the right to do so at any time. Under the terms of the deposit agreement, no consent would be required if the shares of common stock were to be obtained through a dividend, free distribution, rights offering or reclassification of such stock. We have consented, under the terms of the deposit agreement, to any deposit unless the deposit would be prohibited by applicable laws or violate our articles of incorporation. If we choose to impose a limit on deposits in the future, however, we might not consent to the deposit of any additional common stock. In that circumstance, if you surrender ADSs and withdraw common stock, you may not be able to deposit the stock again to obtain ADSs. See Item 4.B. Business Overview Supervision and Regulation Restrictions Applicable to Shares and Item 10.D. Exchange Controls Restrictions Applicable to Shares.

You will not have preemptive rights in some circumstances.

The Korean Commercial Code, as amended, and our articles of incorporation require us, with some exceptions, to offer shareholders the right to subscribe for new shares of our common stock in proportion to their existing shareholding ratio whenever new shares are issued. If we offer any rights to subscribe for additional shares of our common stock or any rights of any other nature, the depositary, after consultation with us, may make the rights available to holders of our ADSs or use commercially feasible efforts to dispose of the rights on behalf of such holders, in a riskless principal capacity, and make the net proceeds available to such holders. The depositary will make rights available to holders of our ADSs only if:

- we have requested in a timely manner that those rights be made available to such holders;
- the depositary has received the documents that are required to be delivered under the terms of the deposit agreement, which may include confirmation that a registration statement filed by us under the U.S. Securities Act of 1933, as amended, or the Securities Act, is in effect with respect to those shares or that the offering and sale of those shares is exempt from or is not subject to the registration requirements of the Securities Act; and
- the depositary determines, after consulting with us, that the distribution of rights is lawful and commercially feasible.

Holders of our common stock located in the United States may not exercise any rights they receive absent registration or an exemption from the registration requirements under the Securities Act.

We are under no obligation to file any registration statement with the U.S. Securities and Exchange Commission or to endeavor to cause such a registration statement to be declared effective. Moreover, we may not be able to establish an exemption from registration under the Securities Act. Accordingly, you may be unable to participate in our rights offerings and may experience dilution in your holdings. If a registration statement is required for you to exercise preemptive rights but is not filed by us or is not declared effective, you will not be able to exercise your preemptive rights for additional ADSs and you will suffer dilution of your equity interest in us. If the depositary is unable to sell rights that are not exercised or not distributed or if the sale is not lawful or feasible, it will allow the rights to lapse, in which case you will receive no value for these rights.

Your dividend payments and the amount you may realize upon a sale of your ADSs will be affected by fluctuations in the exchange rate between the U.S. dollar and the Won.

Our common stock is listed on the KRX KOSPI Market of the Korea Exchange and quoted and traded in Won. Cash dividends, if any, in respect of the shares represented by the ADSs will be paid to the depositary in Won and then converted by the depositary into U.S. dollars, subject to certain conditions. Accordingly, fluctuations in the exchange rate between the Won and the U.S. dollar will affect, among other things, the amounts you will receive from the depositary in respect of dividends, the U.S. dollar value of the proceeds that you would receive upon a sale in Korea of the shares of our common stock obtained upon surrender of ADSs and the secondary market price of ADSs. Such fluctuations will also affect the U.S. dollar value of dividends and sales proceeds received by holders of our common stock.

The market value of your investment may fluctuate due to the volatility of, and government intervention in, the Korean securities market.

Our common stock is listed on the KRX KOSPI Market, which has a smaller market capitalization and is more volatile than the securities markets in the United States and many European countries. The market value of ADSs may fluctuate in response to the fluctuation of the trading price of shares of our common stock on the KRX KOSPI Market. The KRX KOSPI Market has experienced substantial fluctuations in the prices and volumes of sales of listed securities and the KRX KOSPI Market has prescribed a fixed range in which share prices are permitted to move on a daily basis. The KOSPI was 2,220.51 on April 23, 2019. There is no guarantee that the stock prices of Korean companies will not decline again in the future. Like other securities markets, including those in developed markets, the Korean securities market has experienced problems including market manipulation, insider trading and settlement failures. The recurrence of these or similar problems could have a material adverse effect on the market price and liquidity of the securities of Korean companies, including our common stock and ADSs, in both the domestic and the international markets.

The Korean government has the potential ability to exert substantial influence over many aspects of the private sector business community, and in the past has exerted that influence from time to time. For example, the Korean government has induced mergers to reduce what it considers excess capacity in a particular industry and has also induced private companies to publicly offer their securities. Similar actions in the future could have the effect of depressing or boosting the Korean securities market, whether or not intended to do so. Accordingly, actions by the government, or the perception that such actions are taking place, may take place or has ceased, may cause sudden movements in the market prices of the securities of Korean companies in the future, which may affect the market price and liquidity of our common stock and ADSs.

If the Korean government deems that emergency circumstances are likely to occur, it may restrict you and the depositary from converting and remitting dividends and other amounts in U.S. dollars.

If the Korean government deems that certain emergency circumstances, including, but not limited to, severe and sudden changes in domestic or overseas economic circumstances, extreme difficulty in stabilizing the balance of payments or implementing currency, exchange rate and other macroeconomic policies, have occurred or are likely to occur, it may impose certain restrictions provided for under the Foreign Exchange Transaction Law, including the suspension of payments or requiring prior approval from governmental authorities for any transaction. See Item 10.D. Exchange Controls General.

Other Risks

You may not be able to enforce a judgment of a foreign court against us.

We are a corporation with limited liability organized under the laws of Korea. Substantially all of our directors and officers and other persons named in this annual report reside in Korea, and all or a significant portion of the assets of our directors and officers and other persons named in this annual report and a substantial majority of our assets are located in Korea. As a result, it may not be possible for you to effect service of process within the United States, or to enforce against them or us in the United States judgments obtained in United

States courts based on the civil liability provisions of the federal securities laws of the United States. There is doubt as to the enforceability in Korea, either in original actions or in actions for enforcement of judgments of United States courts, of civil liabilities predicated on the United States federal securities laws.

Item 4. INFORMATION ON THE COMPANY

Item 4.A. *History and Development of the Company*

Overview

We are a financial holding company that was newly established on January 11, 2019 pursuant to a comprehensive stock transfer under Korean law, whereby holders of the common stock of Woori Bank and certain of its subsidiaries transferred all of their shares to us and in return received shares of our common stock. We were established under the Financial Holding Company Act of Korea, which, together with associated regulations and a related Enforcement Decree, enables banks and other financial institutions, including insurance companies, invest trust companies, credit card companies and securities companies, to be organized and managed under the auspices of a single financial holding company. As a result of the stock transfer, Woori Bank and certain of its former wholly-owned subsidiaries, Woori FIS Co., Ltd., Woori Finance Research Institute Co., Ltd., Woori Credit Information Co., Ltd., Woori Fund Services Co., Ltd. and Woori Private Equity Asset Management Co., Ltd., became our direct and wholly-owned subsidiaries. Accordingly, our overall business and operations after the stock transfer, on a consolidated basis, are identical to those of Woori Bank on a consolidated basis immediately prior to the stock transfer.

The stock transfer constituted a succession for purposes of Rule 12g-3(a) under the Securities Exchange Act of 1934, as amended, such that our common stock was deemed registered under Section 12(b) of the Exchange Act by operation of Rule 12g-3(a). Following the stock transfer, we file reports under the Exchange Act as the successor issuer to Woori Bank.

Our legal and commercial name is Woori Financial Group Inc. Our registered office and corporate headquarters are located at 51, Sogong-ro, Jung-gu, Seoul, Korea. Our telephone number is 822-2125-2000. Our website address is *http://www.woorifg.com.*

The U.S. Securities and Exchange Commission, or the SEC, maintains a website (*http://www.sec.gov*), which contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

History

Establishment of Woori Bank

The predecessor of Woori Bank was originally established in 1899 and operated as the Commercial Bank of Korea until 1998, when it was acquired by the KDIC and merged with another commercial bank, Hanil Bank, which had been established in 1932. The surviving entity in the merger was renamed Hanvit Bank, which name was changed to Woori Bank in May 2002.

Establishment of Woori Finance Holdings

In response to a financial and economic downturn in Korea beginning in late 1997, the Korean government announced and implemented a series of comprehensive policy packages to address structural weaknesses in the Korean economy and the financial sector. As part of these measures, on October 1, 1998, the KDIC purchased 95.0% of the outstanding shares of the Commercial Bank of Korea and 95.6% of the outstanding shares of Hanil Bank, and subsequently merged Hanil Bank into the Commercial Bank of Korea (which was renamed Hanvit Bank). These banks had suffered significant losses in 1997 and 1998. The Korean government took pre-emptive measures to ensure the survival of these and other banks as it believed that bank failures would have a substantial negative impact on the Korean economy.

In December 2000, the Korean government wrote down the capital of Hanvit Bank, as well as Kyongnam Bank, Kwangju Bank and Peace Bank of Korea, to zero. It accomplished this by having the Financial Services

Commission issue a capital reduction order with respect to these banks pursuant to its regulatory authority. The Korean government also decided to recapitalize these banks by injecting public funds through the KDIC. In December 2000, the KDIC made initial capital injections to Hanvit Bank (2,764 billion), Kyongnam Bank (259 billion), Kwangju Bank (170 billion) and Peace Bank of Korea (273 billion), in return for new shares of those banks. The KDIC also agreed to make additional capital contributions, not involving the issuance of new shares, in the future, which were made in September 2001 to Hanvit Bank (1,877 billion), Kyongnam Bank (94 billion), Kwangju Bank (273 billion) and Peace Bank of Korea (339 billion).

In addition, in November 2000, the KDIC established Hanaro Merchant Bank to restructure substantially all of the assets and liabilities of four failed merchant banks (Yeungnam Merchant Banking Corporation, Central Banking Corporation, Korea Merchant Banking Corporation and H&S Investment Bank) that were transferred to it.

In March 2001, the KDIC established Woori Finance Holdings as a new financial holding company and transferred all of the shares in each of Hanvit Bank, Kyongnam Bank, Kwangju Bank, Peace Bank of Korea and Hanaro Merchant Bank held by the KDIC to Woori Finance Holdings in exchange for its newly issued shares. Accordingly, Woori Finance Holdings became the sole owner of those entities. Woori Finance Holdings subsequently listed its common stock on the KRX KOSPI Market in June 2002 and listed ADSs representing its common stock on the New York Stock Exchange in September 2003.

Reorganization and Expansion

Following its establishment and its acquisition of its subsidiaries, Woori Finance Holdings developed a reorganization and integration plan designed to reorganize the corporate structure of some of its subsidiaries and integrate its operations under a single management structure. As part of this plan:

- From December 2001 through February 2002, Peace Bank of Korea was restructured by:
  - splitting off its commercial banking operations and merging them into Woori Bank;
  - changing the name of Peace Bank of Korea to Woori Credit Card; and
  - transferring the credit card operations of Woori Bank to Woori Credit Card.
- In March 2003, the credit card operations of Kwangju Bank were transferred to Woori Credit Card.
- In August 2003, Woori Investment Bank (formerly named Hanaro Merchant Bank) was merged with Woori Bank.

In succeeding years, Woori Finance Holdings and Woori Bank further reorganized and expanded their operations, including through mergers, acquisitions and investments. For example:

In March 2004, Woori Credit Card was merged with Woori Bank.

In October and December 2004, Woori Finance Holdings acquired an aggregate 27.3% voting interest in LG Investment & Securities Co., Ltd., which was subsequently renamed Woori Investment & Securities.

In May 2005, Woori Finance Holdings acquired a 90.0% interest in LG Investment Trust Management Co., Ltd., which was subsequently renamed Woori Asset Management.

In October 2005, Woori Bank established Woori Private Equity as a consolidated subsidiary.

In April 2008, Woori Finance Holdings acquired a 51.0% interest in LIG Life Insurance Co., Ltd., which was subsequently renamed Woori Aviva Life Insurance.

In March 2011, Woori Finance Holdings acquired certain assets and assumed certain liabilities of Samhwa Mutual Savings Bank through a newly established subsidiary, Woori FG Savings Bank.

In September 2012, Woori FG Savings Bank acquired certain assets and assumed certain liabilities of Solomon Mutual Savings Bank.

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In October 2012, Woori Finance Holdings established Woori Finance Research Institute, which engages in economic and finance research, management consulting, and management and sales of intellectual property rights.

In April 2013, Woori Bank effected a spin-off of its credit card business into a newly established wholly-owned subsidiary of Woori Finance Holdings, Woori Card.

In June 2013, through an internal reorganization, Kumho Investment Bank (previously a subsidiary of Woori Private Equity and subsequently renamed Woori Investment Bank), in which Woori Finance Holdings held a 41.6% interest, became its consolidated subsidiary, and 70 billion of new capital was injected into such entity.

In January 2014, Woori Bank completed the purchase of an additional 27% equity interest (in addition to the 6% equity interest it previously acquired through its subsidiary PT. Bank Woori Indonesia) in PT. Bank Himpunan Saudara 1906, an Indonesian commercial bank with a network of over 100 branches and offices throughout Indonesia. In December 2014, PT. Bank Woori Indonesia merged with and into PT. Bank Himpunan Saudara 1906. The merged entity, in which Woori Banks holds a 79.9% equity interest, was renamed PT Bank Woori Saudara Indonesia 1906, Tbk and became its consolidated subsidiary.

In October 2016, Woori Bank acquired a 51% equity interest in Wealth Development Bank Corp., a thrift bank in the Philippines with a network of 16 branches and approximately 300 employees.

In November 2016, Woori Bank established a local subsidiary in Vietnam, Woori Bank Vietnam, which commenced operations in January 2017.

In June 2018, Woori Bank acquired VisionFund (Cambodia) Ltd., a microfinance lender in Cambodia, which was renamed WB Finance Co., Ltd.

In November 2018, Woori Bank established a German subsidiary, Woori Bank Europe GmbH, which is headquartered in Frankfurt.

In addition, in April 2019, we entered into share purchase agreements for the acquisitions of (i) a 73% equity interest in Tongyang Asset Management Corp. from Tongyang Life Insurance Co., Ltd. and (ii) ABL Global Asset Management Co. from Anbang Asset Management (Hong Kong) Co., Limited. The purchase prices for such acquisitions are subject to confidentiality pursuant to the share purchase agreements. As of December 31, 2018, the Tongyang Asset Management Corp. had total assets of 102 billion and ABL Global Asset Management Co. had total assets of 34 billion. We expect to complete such acquisitions in the second quarter of 2019, subject to regulatory approvals and other closing conditions.

Privatization Plan

In June 2013, the Korean government, through the Public Funds Oversight Committee of the Financial Services Commission, announced an updated plan to privatize Woori Finance Holdings and its former subsidiaries, including

Woori Bank. The privatization plan provided for the segregation of such entities into three groups and the disposal of the Korean government s interest in these entities held through the KDIC in a series of transactions, many of which have been completed.

Spin-off of Kwangju Bank and Kyongnam Bank

In August 2013, the board of directors of Woori Finance Holdings approved a plan to establish two new companies, KJB Financial Group and KNB Financial Group (which we refer to as the New Holdcos), through a spin-off of its businesses related to the holding of the shares and thereby controlling the business operations of Kwangju Bank and Kyongnam Bank, respectively. The spin-off was approved at an extraordinary general meeting of the shareholders of Woori Finance Holdings held in January 2014 and was effected in May 2014. After the spin-off, KJB Financial Group owned the shares of Kwangju Bank previously held by Woori Finance

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Holdings, and KNB Financial Group owned the shares of Kyongnam Bank previously held by Woori Finance Holdings. Woori Finance Holdings no longer owned any shares of Kwangju Bank or Kyongnam Bank, and neither they nor the New Holdcos were its subsidiaries, after the spin-off. Following the spin-off, each of these banks was merged with the relevant New Holdco.

In October 2014, the KDIC sold its 56.97% ownership interest in Kwangju Bank and Kyongnam Bank to JB Financial Group and BS Financial Group, respectively.

Disposal of Woori Financial, Woori Asset Management, Woori F&I, Woori Investment & Securities, Woori Aviva Life Insurance and Woori FG Savings Bank

In March 2014, Woori Finance Holdings sold its 52.0% ownership interest in Woori Financial to KB Financial Group for the sale price of 280 billion.

In May 2014, Woori Finance Holdings sold its 100.0% ownership interest in Woori Asset Management to Kiwoom Securities for the sale price of 76 billion.

In June 2014, Woori Finance Holdings sold its 100.0% ownership interest in Woori F&I to Daishin Securities for the sale price of 368 billion.

In June 2014, Woori Finance Holdings also sold its 37.9% ownership interest in Woori Investment & Securities, its 51.6% ownership interest in Woori Aviva Life Insurance and its 100.0% ownership interest in Woori FG Savings Bank to NongHyup Financial Group Inc. for the sale price of 1,039 billion in a collective sale.

Merger of Woori Bank and Woori Finance Holdings

In July 2014, Woori Bank entered into a merger agreement with Woori Finance Holdings, providing for the merger of Woori Finance Holdings with and into Woori Bank. The merger agreement was approved by the shareholders of Woori Finance Holdings at an extraordinary general meeting held on October 10, 2014. Pursuant to the merger agreement, Woori Finance Holdings merged with and into Woori Bank on November 1, 2014, such that Woori Bank remained as the surviving entity, and Woori Finance Holdings ceased to exist, after the merger. In connection with the merger, shareholders of Woori Finance Holdings recorded in its shareholder register as of November 1, 2014 received one share of Woori Bank s common stock for each share of common stock of Woori Finance Holdings they held.

As a result of the merger, the other remaining subsidiaries of Woori Finance Holdings, including Woori Card, Woori Private Equity, Woori FIS, Woori Investment Bank and Woori Finance Research Institute, became Woori Bank s subsidiaries. Accordingly, Woori Bank s overall business and operations after the merger, on a consolidated basis, were substantially identical to those of Woori Finance Holdings on a consolidated basis prior to the merger.

Woori Bank was an unlisted corporation prior to the merger, while Woori Finance Holdings had its common stock listed on the KRX KOSPI Market and its ADSs listed on the New York Stock Exchange. Following the merger, Woori Bank became newly listed on the KRX KOSPI Market and succeeded to Woori Finance Holdings listing on the New York Stock Exchange.

Sales of the KDIC s Ownership Interest

Pursuant to the Korean government s privatization plan, in December 2014, the KDIC sold 40,143,022 shares of Woori Bank s common stock (representing 5.9% of its outstanding common stock) in a private sale in Korea. In addition, in

December 2016 and January 2017, the KDIC sold an aggregate of 200,685,395 shares of Woori Bank s common stock (representing 29.7% of its outstanding common stock) in stakes ranging from 3.7% to 6.0% to seven financial companies through a bidding process. Pursuant to a commitment made by the KDIC in connection with such bidding process, five persons, each nominated by one of the winning bidders, were elected as new outside directors at an extraordinary general meeting of Woori Bank s shareholders held in December

2016. In December 2018, five persons, each nominated by one of such winning bidders, were elected at an extraordinary general meeting of Woori Bank s shareholders to serve as our outside directors upon our establishment. See Item 6.A. Directors and Senior Management Board of Directors Outside Directors. In 2017, pursuant to a series of transactions related to call options previously granted in connection with the KDIC s sale of Woori Bank s common stock in December 2014, the KDIC sold an aggregate of 19,852,364 shares of Woori Bank s common stock (representing 2.94% of its outstanding common stock). As a result of such transactions, the KDIC s ownership interest in Woori Bank was reduced to 18.43%. In connection with our establishment in January 2019 as a new financial holding company pursuant to a comprehensive stock transfer under Korean law, the KDIC received our common stock in exchange for the common stock of Woori Bank it owned, as a result of which the KDIC currently owns 18.32% of our outstanding common stock. We expect that the KDIC will sell all or a portion of such common stock to one or more purchasers in the future.

In December 2016, in connection with the KDIC s sale of shares of Woori Bank s common stock, Woori Bank entered into an agreement with the KDIC, pursuant to which Woori Bank was required to use its best efforts to cause an employee of the KDIC nominated by it to be appointed as Woori Bank s non-standing director, so long as the KDIC either (x) owned 10% or more of Woori Bank s total issued shares with voting rights or (y) owned more than 4% but less than 10% of Woori Bank s total issued shares with voting rights and remained its largest shareholder (other than the National Pension Service of Korea). While such agreement with Woori Bank has expired, we expect to enter into an agreement with similar terms with the KDIC in the first half of 2019. See Item 10.C. Material Contracts.

Establishment of Woori Financial Group

We were established as a new financial holding company on January 11, 2019 pursuant to a comprehensive stock transfer under Korean law, whereby holders of the common stock of Woori Bank and certain of its subsidiaries transferred all of their shares to us and in return received shares of our common stock. The stock transfer was approved by the shareholders of Woori Bank at an extraordinary general meeting held on December 28, 2018. In the stock transfer, each holder of one share of Woori Bank s common stock recorded in its shareholder register as of November 15, 2018 received one share of our common stock. In addition, we issued our common stock to Woori Bank in exchange for the outstanding common stock of certain of Woori Bank s wholly-owned subsidiaries that became our wholly-owned direct subsidiaries. Specifically, in connection with the stock transfer, Woori Bank transferred all shares of common stock held by it of Woori FIS Co., Ltd., Woori Finance Research Institute Co., Ltd., Woori Credit Information Co., Ltd., Woori Fund Services Co., Ltd. and Woori Private Equity Asset Management Co., Ltd., all of which were Woori Bank s wholly-owned subsidiaries, to us and, as consideration for such transferred shares, received shares of our common stock in accordance with the specified stock transfer ratio applicable to each such subsidiary. Following the completion of the stock transfer, Woori Bank, Woori FIS Co., Ltd., Woori Finance Research Institute Co., Ltd., Woori Credit Information Co., Ltd., Woori Fund Services Co., Ltd. and Woori Private Equity Asset Management Co., Ltd. became our direct and wholly-owned subsidiaries.

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The following chart illustrates the organizational structure of Woori Bank prior to the completion of the stock transfer:

The following chart illustrates our organizational structure after the completion of the stock transfer:

In connection with the stock transfer, Woori Bank s common stock was suspended from trading from January 9, 2019 and was de-listed from the KRX KOSPI Market on February 13, 2019. Following the stock transfer, our common stock was newly listed on the KRX KOSPI Market on February 13, 2019, and our ADSs succeeded to the listing of Woori Bank s ADSs on the New York Stock Exchange on January 11, 2019.

The shareholders of Woori Bank were entitled to exercise appraisal rights with respect to its common stock held by them at a purchase price of 16,079 per share, in accordance with Korean law. The period for exercise of appraisal rights started on December 28, 2018 and ended on January 7, 2019, during which shareholders exercised appraisal rights with respect to an aggregate of 11,453,702 shares of common stock of Woori Bank. The payment of the purchase price for such common stock held by the exercising shareholders was made on January 9, 2019, in the aggregate amount of 184 billion. As a result of the exchange for our common stock of such treasury shares obtained by Woori Bank pursuant to the exercise of appraisal rights by its shareholders and other treasury shares it held, as well as the transfer by Woori Bank of the shares it held in its relevant subsidiaries to us, Woori Bank received 18,346,782 shares of our common stock in the stock transfer, which constituted our treasury shares and represented 2.7% of our total issued common stock as of January 11, 2019. In March 2019, Woori Bank sold all such shares to institutional investors in a block trade, and we no longer hold any treasury shares as of the date of this annual report.

Item 4.B. ***Business Overview***

We are one of the largest financial holding companies in Korea, in terms of consolidated total assets, and our operations include Woori Bank, one of the largest commercial banks in Korea. Our subsidiaries collectively engage in a broad range of businesses, including corporate banking, consumer banking, credit card operations, investment banking, capital markets activities and other businesses. We provide a wide range of products and services to our customers, which mainly comprise small- and medium-sized enterprises and individuals, as well as some of Korea s largest corporations. As of December 31, 2018, we had, on a consolidated basis, total assets of 340,447 billion, total liabilities of 318,494 billion and total equity of 21,953 billion.

As one of the leading financial services groups in Korea, we believe our core competitive strengths include the following:

Strong and long standing relationships with corporate customers. Historically our operations concentrated on large corporate customers. As a result, we believe that we have strong relationships with many of Korea s leading corporate groups, and we are the main creditor bank to 10 of the 31 largest Korean corporate borrowers. Further enhancing our corporate loan portfolio is our ability to lend to small- and medium-sized enterprise customers. As of December 31, 2018, we had approximately 306,424 small- and medium-sized enterprise borrowers.

Large and loyal retail customer base. With respect to our consumer banking operations, we have the third-largest deposit base among Korean commercial banks, and over 23.0 million retail customers, representing about half of the Korean adult population. Of these customers, over 9.4 million are active customers, meaning that they have a deposit account with us with a balance of at least 300,000 or have a loan account with us.

Extensive distribution and marketing network. We serve our customers primarily through one of the largest banking networks in Korea, comprising 877 branches and 5,376 ATMs and cash dispensers as of December 31, 2018. Through Woori Bank, we also operate 11 dedicated corporate banking centers and 92 general managers for our large corporate customers and 992 relationship managers stationed at 728 branches (as well as 804 additional non-stationed employees who serve as relationship managers as needed) for our small- and medium-sized enterprise customers as of December 31, 2018. In addition, we have Internet and mobile banking platforms to enhance customer convenience, reduce service delivery costs and allow our branch staff to focus on marketing and sales.

Strong capital base. As of December 31, 2018, Woori Bank s consolidated equity totaled 22.0 trillion, and Woori Bank s total capital adequacy ratio was 15.65%. Our management team at the holding company carefully coordinates the capital and dividend plans of each of our subsidiaries and for the consolidated group to ensure that we optimize our capital position. We believe our strong capital base and coordinated capital management enable us to support growth of our core businesses and to pursue franchise-enhancing initiatives such as selective investments and acquisitions.

Strong and experienced management team. We benefit from our management team s extensive experience accumulated with our subsidiaries and their predecessors. In January 2019, Tae-Seung Sohn, the president and chief executive officer of Woori Bank, concurrently assumed the role of our representative director, president and chief executive officer, which we believe will enhance the quality of our management team and our corporate governance. We also believe that the extensive experience of many members of our management team in the financial sector will help us to continue to strengthen our operations.

Strategy

We aim to continue to build our position as a leading universal banking and financial services provider in Korea, with a view to having our business platform and operating structure on par with those of leading global financial institutions. The key elements of our strategy are as follows:

Provide comprehensive financial services and maximize synergies among our subsidiaries through our financial holding company structure. We plan to become a comprehensive financial services provider capable of developing and cross-selling a diverse range of products and services to our large existing base of retail and corporate banking customers, so that we can more effectively compete with leading domestic and international financial institutions. We believe that the adoption of a financial holding company structure will help us increase customer satisfaction, generate synergies and maximize profitability, by creating an integrated system among our affiliated companies and allowing us to effectively provide various financial services, including comprehensive one-stop asset management services customized for clients, based on active expansion of non-banking and global business operations. One of the intended benefits of our financial holding company structure is that it enhances our ability to engage in mergers and acquisitions which we may decide to pursue as part of our strategy. Accordingly, we may consider acquiring or merging with other financial institutions, particularly in the non-banking sector, to achieve more balanced growth and further diversify our revenue base.

In addition, we believe our financial holding company structure gives us a competitive advantage over stand-alone banks and other financial institutions by:

- allowing us to offer a more extensive range of financial products and services;
- enabling us to share customer information, which is not permitted outside a financial holding company structure, thereby enhancing our risk management and cross-selling capabilities;
- enhancing our ability to reduce costs in areas such as back-office processing and procurement;
- enabling us to raise and manage capital on a centralized basis.

Further improve our asset quality and strengthen our risk management practices. We were one of the earliest and most aggressive banks in Korea to actively reduce non-performing loans through charge-offs and sales to third parties, and we have taken various measures to facilitate the disposal of our substandard or below loans. As a result of these and other initiatives, our ratio of non-performing loans to total loans has been declining and was 0.51% as of December 31, 2018.

One of our highest priorities is to maintain our strong asset quality and enhance our risk management practices on an ongoing basis. We have created a centralized group-wide risk management organization, installed a comprehensive warning and monitoring system, adopted uniform loan loss provisioning policies across all subsidiaries and implemented an advanced credit evaluation system called CREPIA at Woori Bank. We plan to undertake a series of group-wide reviews of our credit risk management procedures, as well as our risk management infrastructure, in order to develop and implement various measures to further standardize and improve our risk management procedures and systems.

In addition, we use a value at risk, or VaR, monitoring system for managing market risk. We intend to vigorously maintain a manageable risk profile and balance that risk profile with adequate returns. We believe that our continuous focus on upgrading our risk management systems and practices will enable us to maintain our strong asset quality, improve our financial performance and enhance our competitiveness.

Enhance customer profitability through optimization of channel usage, products and services for each customer segment. Our extensive distribution network and wide range of quality products and services has

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enabled us to serve our customers effectively. However, we intend to further enhance the value proposition to our customers by differentiating products and delivery channels based on the distinct needs of different customer segments.

Retail customers. We have segmented our retail customers into four groups: high net worth; mass affluent; middle class; and mass market. We believe we are relatively competitive in our core customer base, which includes mass affluent and middle class customers, and we serve these customers via our team of financial planners in our branches who sell customized higher margin services and products, such as investment advice, mutual funds, insurance and personal loans. For our mass market customers, we offer simple, easy-to-understand and relatively more standardized products such as basic deposit and lending products, including mortgage loans, and we encourage the use of alternative distribution channels such as the Internet, mobile banking and ATMs by our mass market customers such that we can serve them in a cost efficient manner. We serve our high net worth individuals via branches and dedicated private banking centers staffed with experienced private bankers who offer sophisticated tailored financial services.

Corporate customers. We continuously and vigorously review our portfolio of large corporate and small- and medium-sized enterprise customers to refine our database of core accounts and industries in terms of profitability potential. We seek to expand our relationship beyond a pure lending relationship by promoting our foreign exchange, factoring, trade finance and investment banking services to our core small- and medium-sized enterprise customers and cross-selling our investment banking services, derivatives and other risk hedging products, as well as employee retirement products, to our core large corporate customers.

Diversify our revenue base with a view to reducing our exposure to interest rate cycles and increasing profitability. Currently, in line with the Korean banking industry, we derive a substantial majority of our revenues from our loan and other credit products. To reduce our traditional reliance on lending as a source of revenue and to increase our profitability, we have been seeking to further diversify our earnings base, in particular by focusing on fee-based services, such as foreign exchange, trade finance and derivatives products, investment banking and advisory investment trust services for our corporate customers and asset management and mutual funds, investment trust products and beneficiary certificates, and life and non-life insurance products for our retail customers.

In addition, we intend to continue to enter into business alliances with other leading financial service providers so that we can offer a full range of best of class products and services to our targeted customers. We actively evaluate alliances and joint venture opportunities when they arise in order to diversify our revenue stream and provide our customers with a range of sophisticated and tailored products that will complement our existing products and services. We also intend to carefully consider potential acquisitions or other strategic investments that fit within our overall strategy. When considering acquisitions, we will focus on opportunities that supplement the range of products and services we offer and strengthen our existing customer base, enable us to maintain our standard for asset quality and profitability and provide us with a reasonable return on our investment.

Increase fintech capabilities. We have been enhancing our financial technology, or fintech, capabilities in order to expand our non-traditional financial service delivery channels for our customers. We have established a mobile financial service platform through the launch of the first mobile-only banking service in Korea called WiBee Bank in May 2015 and the additions of a mobile messenger application called WiBee Talk and a comprehensive membership point service called WiBee Members in January and July 2016, respectively. In addition, in April 2017, K bank, formed by a consortium with KT Corporation and 20 other companies, in which we, through Woori Bank, own 13.8% of the equity with voting rights, launched its services to become the first Internet-only bank in Korea. K bank also offers its services through convenience stores and phone booths in addition to our ATMs.

We have also strengthened our alliances with information technology companies to provide innovative electronic payment methods, including Woori Samsung Pay with Samsung Electronics, which is a cardless ATM withdrawal system that utilizes smartphones. In August 2016, we commenced iris-scanning authentication at certain of our ATMs, which allows for cardless ATM withdrawals.

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Expand presence in the global market. We have continuously expanded our overseas operations since our establishment of the first overseas branch of a Korean commercial bank in Tokyo in 1968. In December 2014, we became the first Korean bank to be involved in a merger with a listed overseas bank when our subsidiary PT. Bank Woori Indonesia merged with and into PT. Bank Himpunan Saudara 1906, which was renamed PT Bank Woori Saudara Indonesia 1906, Tbk. In October 2016, we acquired a 51% equity interest in Wealth Development Bank Corp., a thrift bank in the Philippines, and have partnered with Vicsal Development Corporation, an operator of department stores and supermarkets in the Philippines and another major shareholder of Wealth Development Bank Corp., to actively expand our base of local customers. In addition, in November 2016, we established a local subsidiary in Vietnam, Woori Bank Vietnam, which manages the local operations of our branches in Vietnam. In 2017, we expanded the scope of our operations in Myanmar, Indonesia, Cambodia and the Philippines in order to capitalize on the potential for high growth and profitability in Southeast Asia and established a representative office in Poland as well as branches in India. In 2018, we acquired VisionFund (Cambodia) Ltd., a microfinance lender in Cambodia, and established a German subsidiary, Woori Bank Europe GmbH, which is headquartered in Frankfurt, as a result of which we have a presence in 26 countries with 430 branches and offices outside Korea.

Develop and increase productivity of our professional workforce. We aim to retain the most qualified and highly-trained professionals in the market, and we intend to continue to focus on the development and training of our core professionals. In order to boost employee morale and productivity, we aim to create an environment that nurtures development and growth and accordingly have implemented performance-based incentive programs to recognize high performers on both an individual and business group level. In addition, a rigorous ethics management program and related measures have been instituted to reduce operational risk and help ensure compliance with our internal standards and policies.

Corporate Banking

We provide commercial banking services to large corporate customers (including government-owned enterprises) and small- and medium-sized enterprises in Korea. Currently, our corporate banking operations consist mainly of lending to and taking deposits from our corporate customers. We also provide ancillary services on a fee basis, such as inter-account transfers, transfers of funds from branches and agencies of a company to its headquarters and transfers of funds from a company s customer accounts to the company s main account. We provide our corporate banking services predominantly through Woori Bank.

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The following table sets forth the balances and percentages of our total lending and total deposits represented by our large corporate and small- and medium-sized enterprise customer loans and deposits, respectively, and the number of such customers as of the dates indicated:

	As of December 31,					
	2016		2017		2018	
	Amount	% of Total	Amount	% of Total	Amount	% of Total
	(in billions of Won, except percentages)					
Loans[1]:						
Small- and medium-sized enterprise[2]	68,434	28.9%	74,906	29.6%	79,371	30.3%
Large corporate[3]	36,176	15.3	43,372	17.2	38,256	14.6
Others[4]	21,033	8.9	18,398	7.3	19,260	7.4
Total	125,643	53.1%	136,676	54.1%	136,887	52.2%
Deposits:						
Small- and medium-sized enterprise	39,564	17.9%	42,693	18.2%	46,753	18.8%
Large corporate	62,899	28.5	68,340	29.1	75,128	30.2
Total	102,463	46.4%	111,033	47.3%	121,881	49.0%
Number of borrowers:						
Small- and medium-sized enterprise	262,311		280,129		306,424	
Large corporate	3,771		4,169		5,389	

(1) Not including due from banks, other financial assets (or other receivables) and outstanding credit card balances, and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

(2) Loans to small- and medium-sized enterprises as defined in the Framework Act on Small and Medium Enterprises of Korea and related regulations (and including project finance loans to such enterprises). See Small- and Medium-Sized Enterprise Banking.

(3) Loans to companies that are not small- and medium-size enterprises as defined in the Framework Act on Small and Medium Enterprises of Korea and related regulations, and typically including companies that have assets of 12 billion or more and are therefore subject to external audit under the Act on External Audits of Stock Companies. See Large Corporate Banking.

(4) Includes loans to governmental agencies, foreign loans and other corporate loans.

Corporate loans we provide consist principally of the following:

working capital loans, which are loans used for general working capital purposes, typically with a maturity of one year or less, including notes discounted and trade finance; and *facilities loans*, which are loans to finance the purchase of materials, equipment and facilities, typically with a maturity of three years or more.

On the deposit-taking side, we currently offer our corporate customers several types of corporate deposit products. These products can be divided into two general categories: demand deposits that have no restrictions on deposits or withdrawals, but which offer a relatively low interest rate; and time deposits from which withdrawals are restricted for a period of time, but offer higher interest rates. We also offer installment deposits, certificates of deposit and repurchase instruments. We offer varying interest rates on our deposit products depending upon the rate of return on our income-earning assets, average funding costs and interest rates offered by other nationwide commercial banks.

Small- and Medium-Sized Enterprise Banking

We use the term small- and medium-sized enterprises as defined in the Framework Act on Small and Medium Enterprises of Korea and related regulations. Under the Framework Act on Small and Medium Enterprises of Korea and related regulations, in order to qualify as a small- and medium-sized enterprise, (i) the enterprise s total assets at the end of the immediately preceding fiscal year must be less than 500 billion, (ii) the enterprise must meet the average or annual sales revenue standards prescribed by the Enforcement Decree of the Framework Act on Small and Medium Enterprises that are applicable to the enterprise s primary business, and (iii) the enterprise must meet the standards of management independence from ownership as prescribed by the Enforcement Decree of the Framework Act on Small and Medium Enterprises, including non-membership in a conglomerate as defined in the Monopoly Regulations and Fair Trade Act. Furthermore, certified social enterprises (as defined in the Social Enterprise Promotion Act of Korea), cooperatives, federations of cooperatives, social cooperatives and federations of social cooperatives (as defined in the Framework Act on Cooperatives), as well as cooperatives, federations and national federations (as defined in the Consumer Cooperatives Act) that satisfy the requirements prescribed by the Framework Act on Small and Medium Enterprises, may also qualify as small- and medium-sized enterprises. The small- and medium-sized enterprise segment of the corporate banking market has grown significantly in recent years, including as a result of government measures to encourage lending to these enterprises. As of December 31, 2018, 24.4% of our small- and medium-sized enterprise loans were extended to borrowers in the manufacturing industry, 15.8% were extended to borrowers in the retail and wholesale industry, and 7.4% were extended to borrowers in the hotel, leisure and transportation industries.

We service our small- and medium-sized enterprise customers primarily through Woori Bank s network of branches and small- and medium-sized enterprise relationship managers. As of December 31, 2018, Woori Bank had stationed one or more relationship managers at 728 branches, of which 369 were located in the Seoul metropolitan area. The relationship managers specialize in servicing the banking needs of small- and medium-sized enterprise customers and concentrate their marketing efforts on developing new customers in this segment. As of December 31, 2018, Woori Bank had a total of 992 small- and medium-sized enterprise relationship managers stationed at its branches (as well as 804 non-stationed employees who serve as relationship managers as needed).

In addition to increasing our dedicated staffing and branches, our strategy for this banking segment is to identify promising industry sectors and to develop and market products and services targeted towards customers in these sectors. We have also developed in-house industry specialists who can help us identify leading small- and medium-sized enterprises in, and develop products and marketing strategies for, these targeted industries. In addition, we operate customer loyalty programs at Woori Bank for our most profitable small- and medium-sized enterprise customers and provide them with benefits and services such as preferential rates, free seminars and workshops and complementary invitations to cultural events.

Lending Activities. We provide both working capital loans and facilities loans to our small- and medium-sized enterprise customers. As of December 31, 2018, working capital loans and facilities loans accounted for 44.3% and 52.3%, respectively, of our total small- and medium-sized enterprise loans. As of December 31, 2018, we had approximately 306,424 small- and medium-sized enterprise borrowers.

As of December 31, 2018, secured loans and loans guaranteed by a third party accounted for 70.1% and 5.6%, respectively, of our small- and medium-sized enterprise loans. As of December 31, 2018, approximately 78.6% of the secured loans were secured by real estate and 1.2% were secured by deposits. Working capital loans generally have a maturity of one year, but may be extended on an annual basis for an aggregate term of three to five years if periodic payments are made. Facilities loans have a maximum maturity of 10 years.

When evaluating the extension of working capital loans and facilities loans, we review the creditworthiness and capability to generate cash of the small- and medium-sized enterprise customer. Furthermore, we take corporate guarantees and credit guarantee letters from other financial institutions and use deposits that the borrower has with us or securities pledged to us as collateral.

The value of any collateral is defined using a formula that takes into account the appraised value of the property, any prior liens or other claims against the property and an adjustment factor based on a number of considerations including, with respect to property, the value of any nearby property sold in a court-supervised auction during the previous five years. We generally revalue any collateral on a periodic basis (every year for real estate (with apartments being revalued every month, subject to the availability of certain specified market value information), every year for equipment, every month for deposits and every week for stocks listed on a major Korean stock exchange) or if a trigger event occurs with respect to the loan in question.

Pricing. We establish the pricing for our small- and medium-sized enterprise loan products based principally on transaction risk, our cost of funding and market considerations. Our lending rates are generally determined using our CREPIA system. We use our CREPIA system to manage our lending activities, and input data gathered from loan application forms, credit scores of borrowers and the appraisal value of collateral provided by external valuation experts into the CREPIA system and update such information periodically to reflect changes in such information. See Item 11. Quantitative and Qualitative Disclosures about Market Risk Credit Risk Management Credit Evaluation and Approval. We measure transaction risk using factors such as the credit rating assigned to a particular borrower and the value and type of collateral. Our system also takes into account cost factors such as the current market interest rate, opportunity cost and cost of capital, as well as a spread calculated to achieve a target rate of return. Depending on the price and other terms set by competing banks for similar borrowers, we may reduce the interest rate we charge to compete more effectively with other banks. Loan officers have limited discretion in deciding what interest rates to offer, and significant variations require review at higher levels. As of December 31, 2018, approximately 74.1% of our small- and medium-sized enterprise loans had interest rates that varied with reference to current market interest rates.

Large Corporate Banking

Our large corporate customers consist of companies that are not small- and medium-size enterprises as defined in the Framework Act on Small and Medium Enterprises of Korea and related regulations, and typically include companies that have assets of 12 billion or more and are therefore subject to external audit under the Act on External Audits of Stock Companies. As a result of our history and development, particularly the history of Woori Bank, we remain the main creditor bank to many of Korea s largest corporate borrowers.

In terms of our outstanding loan balance, as of December 31, 2018, 37.6% of our large corporate loans were extended to borrowers in the manufacturing industry, 34.9% were extended to borrowers in the finance and insurance industry, and 8.0% were extended to borrowers in the retail and wholesale industry.

We service our large corporate customers primarily through Woori Bank s network of dedicated corporate banking centers and general managers. Woori Bank operates 11 dedicated corporate banking centers, all of which are located in the Seoul metropolitan area. Each center is staffed with one or more general managers, and certain centers are headed by a senior general manager. Depending on the center, each such manager is responsible for large corporate customers that either are affiliates of a particular *chaebol* or operate in a particular industry or region. As of December 31, 2018, Woori Bank had a total of 92 general managers who focus on marketing to and managing the accounts of large corporate customers.

Our strategy for the large corporate banking segment is to develop new products and cross-sell our existing products and services to our core base of large corporate customers. In particular, we continue to focus on marketing fee-based products and services such as foreign exchange and trade finance services, derivatives and other risk hedging products, investment banking services and advisory services. We have also been reviewing the credit and risk profiles of our existing customers as well as those of our competitors, with a view to identifying a target group of high-quality customers on whom we can concentrate our marketing efforts. In addition, we are seeking to continue to increase the *chaebol*-, region- and industry-based specialization of the managers at our dedicated corporate banking centers, including through the operation of a knowledge management database that allows greater sharing of marketing techniques and skills.

Lending Activities. We provide both working capital loans and facilities loans to our large corporate customers. As of December 31, 2018, working capital loans (including domestic usance, bills bought and securities sold under repurchase agreements) and facilities loans accounted for 75.7% and 14.3%, respectively, of our total large corporate loans.

Loans to large corporate customers may be secured by real estate or deposits or be unsecured. As of December 31, 2018, secured loans and loans guaranteed by a third party accounted for 14.2% and 4.6%, respectively, of our large corporate loans. Since a relatively low percentage of our large corporate loan portfolio is secured by collateral, we may be required to establish larger allowances for credit losses with respect to any such loans that become non-performing or impaired. See Assets and Liabilities Asset Quality of Loans

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Loan Loss Provisioning Policy. As of December 31, 2018, approximately 62.0% of the secured loans were secured by real estate and approximately 3.8% were secured by deposits. Working capital loans generally have a maturity of one year but may be extended on an annual basis for an aggregate term of three to five years. Facilities loans have a maximum maturity of 10 years.

We evaluate creditworthiness and collateral for our loans to large corporate customers in essentially the same way as we do for loans to small- and medium-sized enterprise customers. See Corporate Banking Small- and Medium-Sized Enterprise Banking Lending Activities.

Pricing. We determine the pricing of our loans to large corporate customers in the same way that we determine the pricing of our loans to small- and medium-sized enterprise customers. See Corporate Banking Small- and Medium-Sized Enterprise Banking Pricing. As of December 31, 2018, approximately 88.6% of these loans had interest rates that varied with reference to current market interest rates.

Consumer Banking

We provide retail banking services to consumers in Korea. Our consumer banking operations consist mainly of lending to and taking deposits from our retail customers. We also provide ancillary services on a fee basis, such as wire transfers. While we have historically attracted and held large amounts of consumer deposits through our extensive branch network, our substantial consumer lending growth occurred principally in recent years, in line with the increase in the overall level of consumer debt in Korea. We provide our consumer banking services primarily through Woori Bank. See Branch Network and Other Distribution Channels.

We classify our consumer banking customers based on their individual net worth and contribution to our consumer banking operations into four groups: high net worth; mass affluent; middle class; and mass market. We differentiate our products, services and service delivery channels with respect to these segments and target our marketing and cross-selling efforts based on this segmentation. With respect to the high net worth and mass affluent segments, we have established private banking operations to better service customers in these segments. See Private Banking Operations. With respect to the middle class segment, we seek to use our branch-level sales staff to maximize the overall volume of products and services we provide. With respect to the mass market segment, we have focused on increasing our operating efficiency by encouraging customers to migrate to low-cost alternative service delivery channels, such as the Internet, call centers, mobile banking and ATMs.

Lending Activities

We offer a variety of consumer loan products to households and individuals. We differentiate our product offerings based on a number of factors, including the customer s age group, the purpose for which the loan is used, collateral requirements and maturity. The following table sets forth the balances and percentage of our total lending represented by our consumer loans as of the dates indicated:

	As of December 31,					
	2016		2017		2018	
	Amount(1)	% of Total Loans(2)	Amount(1)	% of Total Loans(2)	Amount(1)	% of Total Loans(2)
	(in billions of Won, except percentage)					
	32,368	13.7%	36,301	14.4%	39,492	15.1%

General purpose household loans						
Mortgage loans	47,630	20.1	47,476	18.8	51,280	19.6
Home equity loans	24,486	10.3	25,513	10.1	26,324	10.0
Total	104,484	44.1%	109,290	43.2%	117,096	44.7%

(1) Not including outstanding credit card balances, and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

(2) Total loans do not include other financial assets (or other receivables) and are before the deduction of allowance for credit losses and present value discount and the reflection of deferred origination costs.

Our consumer loans consist of:

- *general purpose household loans,* which are loans made to customers for any purpose (other than mortgage and home equity loans), and include overdraft loans, which are loans extended to customers to cover insufficient funds when they withdraw funds from their demand deposit accounts with us in excess of the amount in such accounts up to a limit established by us; and

- *mortgage loans,* which are loans made to customers to finance home purchases, construction, improvements or rentals, and *home equity loans*, which are loans made to customers secured by their homes to ensure loan repayment.

For secured loans, including mortgage and home equity loans, we generally lend up to 70% of the collateral value (except in areas of high speculation designated by the government where we generally limit our lending to 40% of the appraised value of collateral) minus the value of any lien or other security interest that is prior to our security interest. In calculating the collateral value for real estate for such secured consumer loans (which principally consists of residential properties), we generally use the fair value of the collateral as appraised by Korea Investors Service which is collated in our CREPIA system. We generally revalue collateral on a periodic basis. As of December 31, 2018, the revaluation frequency was every year for real estate (with apartments being revalued every month, subject to the availability of certain specified market value information), every year for equipment, every month for deposits and every week for stocks listed on a major Korean stock exchange.

A borrower s eligibility for general purpose household loans is primarily determined by such borrower s creditworthiness. In reviewing a potential borrower s loan application, we also consider the suitability of the borrower s proposed use of funds, as well as the borrower s ability to provide a first-priority mortgage. A borrower s eligibility for a home equity loan is primarily determined by such borrower s creditworthiness (including as determined by our internal credit scoring protocols) and the value of the collateral property, as well as any third party guarantees of the borrowed amounts.

We also offer a variety of collective housing loans, including loans to purchase property or finance the construction of housing units, loans to contractors to be used for working capital purposes, and loans to educational institutions and non-profit entities to finance the construction of dormitories. Collective housing loans subject us to the risk that the housing units will not be sold. As a result, we review the probability of the sale of the housing unit when evaluating the extension of a loan. We also review the borrower s creditworthiness and the suitability of the borrower s proposed use of funds. Furthermore, we take a lien on the land on which the housing unit is to be constructed as collateral. If the collateral is not sufficient to cover the loan, we also take a guarantee from the Housing Finance Credit Guarantee Fund as security.

General Purpose Household Loans

Our general purpose household loans may be secured by real estate (other than homes), deposits or securities. As of December 31, 2018, approximately 29,285 billion, or 74.2%, of our general purpose household loans were unsecured, although some of these loans were guaranteed by a third party. Overdraft loans are primarily unsecured and typically have a maturity between one and three years, and the amount of such loans has been steadily declining. As of December 31, 2018, this amount was approximately 28 million.

Pricing. The interest rates on our general purpose household loans are either a periodic floating rate (which is based on a base rate determined for three-month, six-month or twelve-month periods, further adjusted to account for the borrower s credit score and our opportunity cost) or a fixed rate that reflects our internal cost of funding and similar adjustments, but taking into account interest rate risks. In 2010, we began using the Cost of Fund Index (or COFIX) benchmark rate, as announced by the Korea Federation of Banks, as the base rate for our general purpose household loans with periodic floating rates in place of the benchmark certificate of deposit rate that we had traditionally used for such purpose.

Our interest rates also incorporate a margin based on, among other things, the type of collateral (if any), priority with respect to any security, our target loan-to-value ratio and loan duration. We also can adjust the applicable rate based on current or expected profit contribution of the customer. Our lending rates are generally determined by our CREPIA system. The applicable interest rate is determined at the time of the drawdown of the loan. We also charge a termination fee in the event a borrower repays the loan prior to maturity. As of December 31, 2018, approximately 62.6% of our general purpose household loans had floating interest rates.

Mortgage and Home Equity Lending

We provide customers with a number of mortgage and home equity loan products that have flexible features, including terms, repayment schedules, amounts and eligibility for loans. The maximum term of our mortgage and home equity loans is typically 35 years. Most of our mortgage and home equity loans provided prior to January 2016 have an interest-only payment period of 10 years or less. However, the Korea Federation of Banks implementation of its Guidelines on Banks Mortgage Loan Screening changed the default interest-only payment period to one year or less, which applies to loans that were originated subsequent to the effective date of the Guidelines in January 2016. With respect to mortgage and home equity loans, we determine the eligibility of borrowers based on the borrower s personal information, transaction history and credit history using our CREPIA system. See Item 11. Quantitative and Qualitative Disclosures about Market Risk Credit Risk Management Credit Evaluation and Approval. The eligibility of a borrower that is participating in a housing lottery will depend on proof that it has paid a deposit or can obtain a guarantee from a Korean government-related housing fund.

As of December 31, 2018, approximately 63.9% of our mortgage and home equity loans were secured by residential or other property, 26.0% of our mortgage and home equity loans were guaranteed by Korean government-related housing funds and 5.4% of our mortgage and home equity loans, contrary to general practices in the United States, were unsecured (although the use of proceeds from mortgage and home equity loans is restricted for the purpose of financing home purchases and some of these loans were guaranteed by a third party). One reason that a portion of our mortgage and home equity loans are unsecured is that we, along with other Korean banks, provide advance loans to borrowers for the down payment of new housing (particularly apartments) that is in the process of being built. Once construction is completed, which may take several years, these mortgage and home equity loans become secured by the new housing purchased by these borrowers. As of December 31, 2018, we had issued unsecured construction loans relating to housing where construction was not completed in the amount of 4,200 billion. For the year ended December 31, 2018, the average initial loan-to-value ratio of our mortgage loans and home equity loans was approximately 55.5% and 45.8%, respectively, compared to 59.1% and 51.5% for the year ended December 31, 2017. The average loan-to-value ratio of our mortgage loans and home equity loans as of December 31, 2018 was approximately 52.9% and 47.3%, respectively, compared to 55.6% and 50.4% as of December 31, 2017.

Pricing. The interest rates for our mortgage and home equity loans are determined on essentially the same basis as our general purpose household loans, except that for mortgage and home equity loans we place significantly greater weight on the value of any collateral that is being provided to secure the loan. The base rate we use in determining the interest rate for our mortgage and home equity loans is identical to the base rate we use to determine pricing for our general purpose household loans. As of December 31, 2018, approximately 55.6% of our outstanding mortgage and home equity loans had floating interest rates.

Private Banking Operations

Our private banking operations within Woori Bank aim to service our high net worth and mass affluent retail customers. As of December 31, 2018, we had over 192,000 customers who qualified for private banking services, representing 0.8% of our total retail customer base. Of the total deposits of our retail unit of 90.7 trillion as of December 31, 2018, high net worth and mass affluent customers accounted for 62.2%.

Through our private bankers, we provide financial and real estate advisory services to our high net worth and mass affluent customers. We also market differentiated investment and banking products and services to these segments, including beneficiary certificates, overseas mutual fund products, specialized bank accounts and credit cards. In addition, we have developed a customer loyalty program for our private banking customers that provides preferential rate and fee benefits and awards. We have also segmented our private banking operations by introducing exclusive private client services for high net worth customers who individually maintain a deposit balance of at least 100 million. We believe that our private banking operations will allow us to increase our revenues from our existing high net worth and mass affluent customers, as well as attract new customers in these segments.

We have 723 branches that offer private banking services. These branches are staffed by 744 private bankers, and almost all of the branches are located in metropolitan areas, including Seoul.

We also operate an advisory center in Seoul for its private banking clients, which employs 18 specialists advising on matters of law, tax, real estate, risk assessment and investments.

Deposit-Taking Activities

We are one of the largest deposit holders among Korean banks, in large part due to our nation-wide branch network. The balance of our deposits from retail customers was 80,655 billion as of December 31, 2016, 95,757 billion as of December 31, 2017 and 95,146 billion as of December 31, 2018 which constituted 36.5%, 40.8% and 38.2%, respectively, of the balance of our total deposits.

We offer diversified deposit products that target different customers with different needs and characteristics. These deposit products fall into five general categories:

- *demand deposits,* which either do not accrue interest or accrue interest at a lower rate than time, installment or savings deposits. The customer may deposit and withdraw funds at any time and, if the deposits are interest-bearing, they accrue interest at a fixed or variable rate depending on the period and/or amount of deposit;

- *time deposits,* which generally require a customer to maintain a deposit for a fixed term during which interest accrues at a fixed or floating rate. Early withdrawals require penalty payments. The term for time deposits typically ranges from one month to five years;

- *savings deposits*, which allow the customer to deposit and withdraw funds at any time and accrue interest at a fixed rate set by us depending upon the period and amount of deposit;

- *installment deposits*, which generally require the customer to make periodic deposits of a fixed amount over a fixed term during which interest accrues at a fixed rate. Early withdrawals require penalty payment. The term for installment deposits range from six months to five years; and

- *certificates of deposit*, the maturities of which range from 30 days to five years, with a required minimum deposit of 10 million. Interest rates on certificates of deposit vary with the length of deposit and prevailing market rates. Certificates of deposit may be sold at face value or at a discount with the face amount payable at maturity.

The following table sets forth the percentage of our total retail and corporate deposits represented by each deposit product category as of December 31, 2018:

Demand Deposits	Time Deposits	Savings Deposits	Installment Deposits	Certificates of Deposit
9.70%	54.38%	33.29%	0.01%	2.62%

We offer varying interest rates on our deposit products depending on market interest rates as reflected in average funding costs, the rate of return on our interest-earning assets and the interest rates offered by other commercial banks. Generally, the interest payable is the highest on installment deposits and decreases with certificate of deposit accounts and time deposits and savings deposit accounts receiving relatively less interest, and demand deposits accruing little or no interest.

We also offer deposits in foreign currencies and a specialized deposit product, the apartment application comprehensive deposit, which is a monthly installment comprehensive savings program providing the holder with a preferential right to subscribe for new national housing units constructed under the Housing Act or new privately constructed housing units. This deposit product requires monthly installments of 20,000 to 500,000, terminates when the holder is selected as a subscriber for a housing unit and accrues interest at variable rates depending on the term.

The Monetary Policy Committee of the Bank of Korea imposes a reserve requirement on Won currency deposits of commercial banks based generally on the type of deposit instrument. The minimum reserve requirement ratio is 7%. See Supervision and Regulation Principal Regulations Applicable to Banks Liquidity. Ongoing regulatory reforms have removed all controls on lending rates and deposit rates (except for the prohibition on interest payments on current account deposits).

The Depositor Protection Act provides for a deposit insurance system where the KDIC guarantees to depositors the repayment of their eligible bank deposits. The deposit insurance system insures up to a total of 50 million per depositor per bank. See Supervision and Regulation Principal Regulations Applicable to Banks Deposit Insurance System. We pay a quarterly premium of 0.02% of our average deposits and a quarterly special contribution of 0.025% of our average deposits, in each case for the relevant quarter. For the year ended December 31, 2018, we paid an aggregate of 315 billion of such premiums and contributions.

Branch Network and Other Distribution Channels

We had a total of 877 banking branches in Korea as of December 31, 2018, which was one of the most extensive networks of branches among Korean commercial banks. In recent years, demand in Korea for mutual funds and other asset management products as well as bancassurance products has been rising. These products require an extensive sales force and customer interaction to sell, further emphasizing the need for a large branch network. As a result, an extensive branch network is important to attracting and maintaining retail customers, as they generally conduct a significant portion of their financial transactions through bank branches. We believe that our extensive branch network in Korea helps us to maintain our retail customer base, which in turn provides us with a stable and relatively low cost funding source.

The following table presents the geographical distribution of our banking branch network in Korea as of December 31, 2018:

	Total	
	Number	% of Total
Area		
Seoul	399	46%
Six largest cities (other than Seoul)	150	17
Other	328	37
Total	877	100%

In order to maximize access to our products and services, we have established an extensive network of ATMs and cash dispensers, which are located in branches as well as unmanned outlets. We had 5,376 ATMs and cash dispensers as of December 31, 2018.

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We actively promote the use of alternative service delivery channels in order to provide convenient service to customers. We also benefit from customers increasing use of these channels, as they allow us to maximize the marketing and sales functions at the branch level, reduce employee costs and improve profitability. The following tables set forth information, for the periods indicated, relating to the number of transactions and the fee revenue of our alternative service delivery channels.

	For the year ended December 31,		
	2016	2017	2018
ATMs[1]:			
Number of transactions (millions)	346	316	296
Fee income (billions of Won)	40	40	36
Telephone banking:			
Number of users	6,419,017	6,384,164	6,360,743
Number of transactions (millions)	105	104	148
Fee income (billions of Won)	3	3	2
Internet banking:			
Number of users	15,631,766	16,554,353	17,387,658
Number of transactions (millions)	6,994	7,566	7,660
Fee income (billions of Won)	150	160	178

(1) Includes cash dispensers.

Most of our electronic banking transactions do not generate fee income as many of those transactions are free of charge, such as balance inquiries, consultations with customer representatives or transfers of money. This is particularly true for telephone banking services, where a majority of the transactions are balance inquiries or consultations with customer representatives, although other services such as money transfers are also available.

Our automated telephone banking system offers a variety of services, including inter-account fund transfers, balance and transaction inquiries and customer service inquiries. We also operate a call center that handles calls from customers, engages in telemarketing and assists in our collection efforts.

Our Internet banking services include balance and transaction inquiries, money transfers, loan applications, bill payment and foreign exchange transactions. We seek to maintain and increase our Internet banking customer base by focusing largely on our younger customers and those that are able to access the Internet easily (such as office workers) as well as by developing additional Internet-based financial services and products. We also develop new products to target different types of customers with respect to our Internet banking services, and have developed a service that enables private banking customers to access their accounts on a website that provides specialized investment advice. We also offer online escrow services.

In addition, we provide mobile banking services to our customers, which is available to all our Internet-registered users. These services allow our customers to complete selected banking transactions through major Korean telecommunications networks using their smart phones or other mobile devices. In May 2015, we launched the first mobile-only banking service in Korea, called WiBee Bank, and we are expanding its services to Southeast Asia.

We also offer our Win-CMS service to corporate customers of Woori Bank, which provides an integrated electronic cash management system and in-house banking platform for such customers.

Credit Cards

We offer credit card products and services mainly to consumers and corporate customers in Korea. In April 2013, as a part of our strategy to enhance our credit card operations and increase its synergies with our other businesses, Woori Bank effected a horizontal spin-off of its credit card business, and the former credit card business of Woori Bank is operated by its wholly-owned subsidiary, Woori Card. As of December 31, 2018,

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Woori Card s market share based on transaction volume was approximately 8.5%, which ranked Woori Card as the sixth largest credit card issuer in Korea, according to BC Research, which is a quarterly report issued by BC Card.

Our credit card operations benefit from Woori Card s ownership of a 7.65% equity stake in BC Card. BC Card is co-owned by KT Corporation, which is one of Korea s largest telecommunications companies, and other Korean financial institutions, and operates the largest merchant payment network in Korea as measured by transaction volume. This ownership stake allows us to outsource production and delivery of new credit cards, the preparation of monthly statements, management of merchants and other ancillary services to BC Card for our credit card operations.

Products and Services

We currently have the following principal brands of credit cards outstanding:

- a Woori brand;
- a BC Card brand; and
- a Visa brand.

We issue Visa brand cards under a non-exclusive license agreement with Visa International Service Association and also issue MasterCard, JCB and Union Pay brand cards under a non-exclusive, co-branding agreement with BC Card.

We offer a number of different services to holders of our credit cards. Generally, these services include:

- credit purchase services, which allow cardholders to purchase merchandise or services on credit and repay such credit on a lump-sum or installment basis;
- cash advance services from ATMs and bank branches; and
- credit card loans, which are loans that cardholders can obtain based on streamlined application procedures.

Unlike in the United States and many other countries, where most credit cards are revolving cards that allow outstanding balances to be rolled over from month to month so long as a required minimum percentage is repaid, cardholders in Korea are generally required to pay for their non-installment purchases as well as cash advances within approximately 15 to 60 days of purchase or advance, depending on their payment cycle.

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The following tables set forth certain data relating to the credit card operations of Woori Card (including BC Cards and Visa Cards issued through the BC Card consortium) as of the dates or for the period indicated:

	As of or for the year ended December 31,		
	2016	2017	2018
	(in billions of Won, unless indicated otherwise)		
Number of credit card holders (at year end) (thousands of holders)			
General accounts	12,125	12,509	12,525
Corporate accounts	481	550	460
Total	12,606	13,059	12,985
Active ratio[1]	49.00%	50.70%	52.73%
Credit card interest and fees			
Installment and cash advance interest	236	225	224
Annual membership fees	56	72	78
Merchant fees	831	896	943
Other fees	421	570	606
Total	1,544	1,763	1,851
Charge volumes			
General purchase	59,678	58,454	58,952
Installment purchase	6,231	6,796	8,201
Cash advance	4,620	4,700	4,859
Card loan	2,991	2,944	3,306
Total	73,520	72,894	75,318
Outstanding balances (at year end)			
General purchase	2,580	2,595	3,057
Installment purchase	1,383	1,559	2,089
Cash advance	573	574	607
Card loan	2,146	2,107	2,305
Total	6,682	6,835	8,058
Average outstanding balances			
General purchase	2,591	2,822	3,036
Installment purchase	1,375	1,520	1,911
Cash advance	576	581	596
Card loan	2,047	2,174	2,391
Total	6,589	7,097	7,934

Delinquency ratios[2]			
Less than 1 month	1.37	1.78	1.53
From 1 month to 3 months	0.76	0.72	0.72
From 3 months to 6 months	0.44	0.57	0.64
Over 6 months	0.00	0.00	0.00
Total	2.57%	3.07%	2.89%
Non-performing loan ratio[3]	0.76%	0.83%	0.87%
Gross charge-offs	242	228	242
Recoveries	44	51	57
Net charge-offs	198	177	185
Gross charge-off ratio[4]	3.66%	3.22%	3.04%
Net charge-off ratio[5]	3.00%	2.49%	2.33%

(1) Represents the ratio of accounts used at least once within the past month to total accounts as of the end of the relevant year.

(2) Our delinquency ratios may not fully reflect all delinquent amounts relating to our outstanding balances since a certain portion of delinquent credit card balances (defined as balances one day or more past due) were restructured into loans and were not treated as being delinquent at the time of conversion or for a period of time thereafter. Including all restructured loans, outstanding balances overdue by more than one month accounted for 3.1% of our credit card balances as of December 31, 2018.

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(3) Represents the ratio of balances that are more than three months overdue to total outstanding balances as of the end of the relevant year. These ratios do not include the following amounts of previously delinquent credit card balances restructured into loans that were classified as normal or precautionary as of December 31, 2016, 2017 and 2018:

	As of December 31,		
	2016	2017	2018
	(in billions of Won)		
Restructured loans	102	122	137

(4) Represents the ratio of gross charge-offs for the year to average outstanding balances for the year. Our charge-off policy is to charge off balances which are more than six months past due (including previously delinquent credit card balances restructured into loans that are more than six months overdue from the point at which the relevant balances were so restructured), except for those balances with a reasonable probability of recovery.

(5) Represents the ratio of net charge-offs for the year to average outstanding balances for the year.

We offer a diverse range of credit card products within our various brands. Factors that determine which type of card a particular cardholder may receive include net worth, age, location, income level and the particular programs or services that may be associated with a particular card. Targeted products that we offer include:

- cards that offer additional benefits, such as frequent flyer miles and award program points that can be redeemed for services, products or cash;
- gold cards, platinum cards and other preferential members cards that have higher credit limits and provide additional services;
- corporate and affinity cards that are issued to employees or members of particular companies or organizations; and
- revolving credit cards and cards that offer travel services and insurance.

In recent years, credit card issuers in Korea have agreed with selected cardholders to restructure their delinquent credit card account balances as loans that have more gradual repayment terms, in order to retain fundamentally sound customers who are experiencing temporary financial difficulties and to increase the likelihood of eventual recovery on those balances. In line with industry practice, we have restructured a portion of our delinquent credit card account balances as loans. The general qualifications to restructure delinquent credit card balances as loans are that the delinquent amount be more than one month overdue and in excess of 1 million. The terms of the restructured loans usually require the payment of approximately 10% to 20% of the outstanding balance as a down payment and that they be guaranteed by a third party and carry higher interest rates than prevailing market rates. These loans are usually required to be repaid by the borrower in installments over terms ranging from three months to 60 months. As of December 31, 2018, the total amount of our restructured loans was 147 billion. Because restructured loans are not initially recorded as being delinquent, our delinquency ratios do not fully reflect all delinquent amounts relating to our outstanding credit card balances.

Payments and Charges

Revenues from our credit card operations consist principally of cash advance charges, merchant fees, interest income from credit card loans, interest on late and deferred payments, and annual membership fees paid by cardholders.

Each cardholder is allocated an aggregate credit limit in respect of all cards issued under his or her account and each month. We advise each cardholder of the credit limit relating to the cards in his or her monthly billing statement. Credit limits in respect of card loans are established separately. We conduct ongoing monitoring of all cardholders and accounts, and may reduce the credit limit or cancel an existing cardholder s card based on current economic conditions, receipt of new negative credit data from third party sources or the cardholder s score under the credit risk management systems we use to monitor their behavior, even if the cardholder continues to make timely payments in respect of his or her cards. We consider an account delinquent if the payment due is not received on the first monthly payment date on which such payment was due, and late fees are immediately applied. Late fee charges and computation of the delinquency period are based on each outstanding unpaid transaction or installment, as applicable. See Item 11. Quantitative and Qualitative Disclosures about Market Risk Credit Risk Management Credit Review and Monitoring.

Payments on amounts outstanding on our credit cards must be made (at the cardholder s election at the time of purchase) either in full on each monthly payment date, in the case of lump-sum purchases, or in equal monthly installments over a fixed term from two months to 36 months, in the case of installment purchases. Cardholders may prepay installment purchases at any time without penalty. Payment for cash advances must be made on a lump sum basis. Payments for card loans must be made on an equal principal installment basis over a fixed term from three months up to a maximum of 36 months, up to a maximum loan amount of 30 million.

No interest is charged on lump-sum purchases that are paid in full by the monthly payment date. For installment purchases, we charge a fixed rate of interest on the outstanding balance of the transaction amount, based on the installment period selected at the time of purchase. For a new cardholder, we currently apply an interest rate between approximately 9.5% and 19.5% per annum as determined by the cardholder s application system score. See Item 11. Quantitative and Qualitative Disclosures about Market Risk Credit Risk Management Credit Evaluation and Approval Credit Card Approval Process and Credit Review and Monitoring Credit Card Review and Monitoring.

For cash advances, finance charges start accruing immediately following the cash withdrawal. We currently charge a periodic finance charge on the outstanding balance of cash advance of approximately 6.4% to 23.8% per annum. The periodic finance charge assessed on such balances is calculated by multiplying the daily installment balances for each day during the billing cycle by the applicable periodic finance charge rate, and aggregating the results for each day in the billing period. In addition to finance charges, cardholders using cash advance networks operated by companies that are not financial institutions (such as Hannet and NICE) are charged a minimum commission of 700 and a maximum of 900 per withdrawal.

We also generally charge a basic annual membership fee of 5,000 to 25,000 for regular and gold cards and 30,000 to 1,000,000 for platinum cards. The determination of the annual fee is based on various factors including the type of card, and whether affiliation options are selected by the cardholder. For certain cards, such as the Woori V Card, we will waive membership fees if customers charge above a certain amount.

We outsource the management of merchants to BC Card. We charge merchant fees to merchants for processing transactions. Merchant fees vary depending on the type of merchant and the total transaction amounts generated by the merchant. As of December 31, 2018, we charged merchants an average of 1.40% of their respective total transaction amounts. In addition to merchant fees, we receive nominal interchange fees for international card transactions.

Capital Markets Activities

We engage in capital markets activities for our own account and for our customers. Our capital markets activities include securities investment and trading, derivatives trading, asset securitization services and investment banking.

Securities Investment and Trading

Through Woori Bank, we invest in and trade securities for our own account, in order to maintain adequate sources of liquidity and to generate interest and dividend income and capital gains. As of December 31, 2018, our investment portfolio, which consists of financial assets at fair value through other comprehensive income and securities at amortized cost, and our trading portfolio, which consists of financial assets at fair value through profit or loss (excluding deposits, derivative assets and loans), had a combined total book value of 44,691 billion and represented 13.1% of our total assets.

Our trading and investment portfolios consist primarily of Korean treasury securities and debt securities issued by Korean government agencies, local governments or government-invested enterprises, and debt

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securities issued by financial institutions. As of December 31, 2018, we held debt securities with a total book value of 41,836 billion, of which:

- debt securities at amortized cost accounted for 22,939 billion, or 54.8%;
- debt securities at fair value through other comprehensive income accounted for 17,072 billion, or 40.8%; and
- debt securities at fair value through profit or loss accounted for 1,825 billion, or less than 4.4%.

Of these amounts, as of December 31, 2018, debt securities issued by the Korean government amounted to 7,523 billion, or 32.8% of our debt securities at amortized cost, 1,358 billion, or 8.0% of our debt securities at fair value through other comprehensive income, and 516 billion, or 28.3% of our debt securities at fair value through profit or loss.

From time to time, we also purchase and sell equity securities for our securities portfolios. Our equity securities consist primarily of equities listed on the KRX KOSPI Market or the KRX KOSDAQ Market. As of December 31, 2018:

- equity securities at fair value through other comprehensive income had a book value of 951 billion, or 5.3% of our securities at fair value through other comprehensive income portfolio; and
- equity securities at fair value through profit or loss accounted for 878 billion, or 23.8% of our securities at fair value through profit or loss portfolio.

Funds that are not used for lending activities are used for investment and liquidity management purposes, including investment and trading in securities. See Assets and Liabilities Securities Investment Portfolio.

For a discussion of our risk management policies with respect to our securities trading activities, see Item 11. Quantitative and Qualitative Disclosures about Market Risk Market Risk Management Market Risk Management for Trading Activities.

Derivatives Trading

We offer derivatives products and engage in derivatives trading, mostly for our corporate customers. Our trading volume was 233,871 billion in 2016, 268,734 billion in 2017 and 324,410 billion in 2018. Our aggregate net trading revenue from derivatives for the years ended December 31, 2016, 2017 and 2018 was 176 billion, 3 billion and 91 billion, respectively.

We provide and trade a number of derivatives products principally through sales or brokerage accounts for our customers, including:

- interest rate swaps, options and futures, relating principally to Won interest rate risks;
- index futures and options, relating to stock market fluctuations;
- cross currency swaps, relating to foreign exchange risks, largely for Won against U.S. dollars;
- foreign exchange forwards, swaps, options and futures, relating to foreign exchange risks;
- commodity derivatives, which we provide to customers that wish to hedge their commodities exposure; and
- credit derivatives, which we provide to financial institutions that wish to hedge existing credit exposures or take on credit exposure to generate revenue.

Our derivatives operations focus on addressing the needs of our corporate clients to hedge their risk exposure and on hedging our risk exposure resulting from such client contracts. We also engage in derivatives trading activities to hedge the interest rate and foreign currency risk exposure that arises from our own assets and liability positions. In addition, we engage in proprietary trading of derivatives, such as index options and futures within our regulated open position limits, for the purpose of generating capital gains.

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The following shows the estimated fair value of derivatives we held or had issued for trading purposes as of the dates indicated:

	As of December 31,					
	2016		2017		2018	
	Estimated Fair Value of Assets	Estimated Fair Value of Liabilities	Estimated Fair Value of Assets	Estimated Fair Value of Liabilities	Estimated Fair Value of Assets	Estimated Fair Value of Liabilities
	(in billions of Won)					
Currency derivatives	2,331	2,246	2,732	2,782	1,623	1,571
Interest rate derivatives	491	532	236	267	229	279
Equity derivatives	73	229	147	100	174	241
Commodity derivatives	3	3	1	1		
Total	2,898	3,010	3,116	3,150	2,026	2,091

For a discussion of our risk management policies with respect to our derivatives trading activities, see Item 11. Quantitative and Qualitative Disclosures about Market Risk Market Risk Management Market Risk Management for Trading Activities.

Asset Securitization Services

We are active in the Korean asset-backed securities market. Through Woori Bank, we participate in asset securitization transactions in Korea by acting as arranger, trustee or liquidity provider. In 2018, we were involved in asset securitization transactions with an initial aggregate issue amount of 765 billion and generated total fee income of approximately 16 billion in connection with such transactions. The securities issued in asset securitization transactions are sold mainly to institutional investors buying through Korean securities firms.

Investment Banking

Through Woori Bank, we engage in investment banking activities in Korea. In addition, we provide project finance and financial advisory services, in the area of social overhead capital projects such as highway, port, power and water and sewage projects, as well as structured finance, leveraged buy-out financing, equity and venture financing and mergers and acquisitions financing services. In 2018, we generated investment banking revenue of approximately 218 billion from gains on investment in foreign bonds and equity securities and fees from advisory and other services.

We believe that significant opportunities exist for us to leverage our existing base of large corporate and small- and medium-sized banking customers to cross-sell investment banking services. We intend to expand our investment banking operations to take advantage of these opportunities, with a view to increasing our fee income and further diversifying our revenue base.

International Banking

Through Woori Bank, we engage in various international banking activities, including foreign exchange services and dealing, import and export-related services, offshore lending, syndicated loans and foreign currency securities investment. These services are provided primarily to our domestic customers and overseas subsidiaries and affiliates of Korean corporations and, to a limited extent, to local companies and individuals. We also raise foreign currency funding through our international banking operations. In addition, we provide commercial banking services to retail and corporate customers in select overseas markets.

The table below sets forth certain information regarding our foreign currency assets and borrowings:

	As of December 31, 2016	2017	2018
	(in millions of US$)		
Total foreign currency assets	US$ 33,670	US$ 35,678	US$ 35,587
Foreign currency borrowings			
Call money	US$ 1,131	US$ 593	US$ 872
Long-term borrowings	4,841	4,290	4,167
Short-term borrowings	4,797	6,191	6,336
Total foreign currency borrowings	US$ 10,769	US$ 11,074	US$ 11,375

The table below sets forth the overseas subsidiaries and direct branches of Woori Bank in operation as of December 31, 2018:

Business Unit[(1)]	Location
Subsidiaries:	
Woori America Bank	United States
PT Bank Woori Saudara Indonesia 1906, Tbk	Indonesia
Woori Global Markets Asia Limited	China (Hong Kong)
Woori Bank (China) Limited	China
AO Woori Bank	Russia
Banco Woori Bank do Brasil S.A.	Brazil
Woori Finance Cambodia PLC.	Cambodia
Woori Finance Myanmar Co., Ltd.	Myanmar
Wealth Development Bank Corporation	Philippines
Woori Bank Vietnam Limited	Vietnam
WB Finance Co., Ltd.	Cambodia
Woori Bank Europe GmbH	Germany
Branches, Agencies and Representative Offices:	
London Branch	United Kingdom
Tokyo Branch	Japan
Singapore Branch	Singapore
Hong Kong Branch	China (Hong Kong)
Bahrain Branch	Bahrain
Dhaka Branch	Bangladesh
Gaeseong Branch	Korea[(2)]
New York Agency	United States
Los Angeles Branch	United States
Chennai Branch	India
Sydney Branch	Australia
Dubai Branch	United Arab Emirates
Gurgaon Branch	India

Mumbai Branch	India
Kuala Lumpur Representative Office	Malaysia
Yangon Representative Office	Myanmar
Iran Representative Office[3]	Iran
Katowice Representative Office	Poland

(1) Does not include subsidiaries and branches in liquidation or dissolution.
(2) Due to the shutdown of the Gaeseong Industrial Complex in February 2016, the Gaeseong Branch is currently located at our corporate headquarters in Seoul.
(3) No longer operational since December 2018 due to the re-imposition of sanctions.

The principal activities of the overseas branches and subsidiaries of Woori Bank are providing trade financing and local currency funding for Korean companies and Korean nationals operating in overseas markets as well as servicing local customers and providing foreign exchange services in conjunction with our headquarters. On a limited basis, such overseas branches and subsidiaries also engage in the investment and trading of securities of foreign issuers.

Woori America Bank currently operates 24 branches in New York, New Jersey, Maryland, Virginia, Pennsylvania and California and provides retail and corporate banking services targeted towards the Korean-American community. Woori America Bank had total assets of US$1,952 million as of December 31, 2018 and net profit of US$19 million in 2018.

In November 2007, Woori Bank established a local subsidiary in China, Woori Bank (China) Limited, which currently has branches in Beijing, Shanghai, Shenzhen, Suzhou, Tianjin, Dalian, Chengdu, Weihai, Chongqing and Shenyang. Woori Bank also established a local subsidiary in Russia, AO Woori Bank, in January 2008 and it currently has branches in Moscow and St. Petersburg and a representative office in Vladivostok.

In January 2014, Woori Bank completed the purchase of an additional 27% equity interest (in addition to the 6% equity interest it previously acquired through its subsidiary PT. Bank Woori Indonesia) in PT. Bank Himpunan Saudara 1906, an Indonesian commercial bank with a network of over 100 branches and offices throughout Indonesia. In December 2014, PT. Bank Woori Indonesia merged with and into PT. Bank Himpunan Saudara 1906. The merged entity, in which Woori Bank holds a 79.9% equity interest, was renamed PT Bank Woori Saudara Indonesia 1906, Tbk and became Woori Bank s consolidated subsidiary. As of December 31, 2018, PT Bank Woori Saudara Indonesia 1906, Tbk had total assets of US$2,107 million and shareholders equity of US$449 million.

In October 2016, Woori Bank acquired a 51% equity interest in Wealth Development Bank Corp., a thrift bank in the Philippines with a network of 16 branches and approximately 300 employees.

In November 2016, Woori Bank established a local subsidiary in Vietnam, Woori Bank Vietnam, which commenced operations in January 2017 and currently operates the branches in Hanoi, Bac Ninh, Ho Chi Minh City and Haiphong.

Woori Bank is also expanding its network of branches in South and Southeast Asia through our other local subsidiaries, including PT Bank Woori Saudara Indonesia 1906, Tbk, Woori Finance Myanmar, Wealth Development Bank Corp. and Woori Finance Cambodia. In June 2018, Woori Bank acquired VisionFund (Cambodia) Ltd., a microfinance lender in Cambodia, which was renamed WB Finance Co., Ltd. As of December 31, 2018, WB Finance Co., Ltd. had total assets of US$240 million and shareholders equity of US$39 million.

In November 2018, Woori Bank established a German subsidiary, Woori Bank Europe GmbH, which is headquartered in Frankfurt and conducts our European operations. As of December 31, 2018, Woori Bank Europe GmbH had total assets of US$52 million and shareholders equity of US$52 million.

Asset Management

Trust Management Services

Money Trusts. Through Woori Bank, we offer money trust products to our customers and manage the funds they invest in money trusts. The money trusts we manage are generally trusts with a fixed life that allow investors to share in the investment performance of the trust in proportion to the amount of their investment in the trust. We principally offer the following types of money trust products:

retirement trusts, which invest funds received from corporations or organizations and manage these funds until they are withdrawn to pay retirement funds to a corporation s officers or employees or an organization s members;

pension trusts, which invest funds received until pension benefits are due to be disbursed to a pension beneficiary; and

specified money trusts, which invest cash received as trust property at the direction of the trustors and, once the trust matures, disburse the principal and any gains to the trust beneficiaries.

We also offer other types of money trusts that have a variety of differing characteristics with respect to, for example, maturities and tax treatment.

Under Korean law, the assets of our money trusts are segregated from our assets and are not available to satisfy the claims of our creditors. We are, however, permitted to maintain deposits of surplus funds generated by trust assets in certain circumstances as set forth under the Financial Investment Services and Capital Markets Act and the regulations thereunder. Except for specified money trusts, we have investment discretion over all money trusts, which are pooled and managed jointly for each type of trust. Specified money trusts are established on behalf of individual customers, typically corporations, which direct our investment of trust assets.

We receive fees for our trust management services that are generally based upon a percentage, ranging between 0.01% and 2.0%, of the net asset value of the assets under management. We also receive penalty payments when customers terminate their trust deposit prior to the original contract maturity. Fees that we received for trust management services (including those fees related to property trust management services, described below, but excluding those fees relating to guaranteed trusts, which are eliminated in consolidation), net of expenses, amounted to 78 billion in 2016, 142 billion in 2017 and 177 billion in 2018.

For some of the money trusts we manage, we have guaranteed the principal amount of an investor s investment as well as a fixed rate of interest. We no longer offer new money trust products where we guarantee both the principal amount and a fixed rate of interest. We continue to offer pension-type money trusts that provide a guarantee of the principal amount of an investor s investment.

The following table shows the balances of our money trusts by type as of the dates indicated. We consolidate within our financial statements trust accounts for which we guarantee both the repayment of the principal amount and a fixed rate of interest and trust accounts for which we guarantee only the repayment of the principal amount, while we do not consolidate performance trusts on which we do not guarantee principal or interest:

	As of December 31,		
	2016	2017	2018
	(in billions of Won)		
Principal and interest guaranteed trusts	1	1	1
Principal guaranteed trusts	1,344	1,401	1,409
Performance trusts	25,767	29,252	36,451
Total	27,112	30,654	37,861

The trust assets we manage consist principally of investment securities, loans made from the trusts and amounts due from banks. The investment securities consist of government-related debt securities, corporate debt securities, including bonds and commercial paper, equity securities and other securities. As of December 31, 2018, our money trusts had invested in securities with an aggregate book value of 13,667 billion, which accounted for approximately

25.5% of our money trust assets. Debt securities accounted for 4,627 billion of this amount.

Our money trusts also invest, to a lesser extent, in equity securities, including beneficiary certificates issued by investment trust management companies. As of December 31, 2018, equity securities held by our money trusts amounted to 9,040 billion, which accounted for approximately 16.9% of our money trust assets. Of this amount, 1,720 billion was from money trusts over which we had investment discretion and the remainder was from specified money trusts.

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Loans made by our money trusts are similar in type to the loans made by our banking operations. As of December 31, 2018, our money trusts had made loans in the aggregate principal amount of 16,994 billion (excluding loans to our banking operations of 3,020 billion), which accounted for approximately 31.7% of our money trust assets.

The amounts due from banks consist of local currency and foreign currencies. As of December 31, 2018, such amounts due from banks totaled 14,217 billion, which accounted for approximately 26.5% of our money trust assets.

If the income from a money trust for which we provide a guarantee is less than the amount of the payments we have guaranteed, we will need to pay the amount of the shortfall with funds from special reserves maintained in our trust accounts, followed by basic fees from that money trust and funds from our banking operations. We net any payments we make as a result of these shortfalls against any gains we receive from other money trusts. No material payments of any such shortfall amounts were made in 2018.

Property Trusts. We also offer property trust management services, where we manage non-cash assets in return for a fee. Non-cash assets include mostly receivables (including those securing asset-backed securities), real property and securities, but can also include movable property such as artwork. Under these arrangements, we render escrow or custodial services for the property in question and collect fees in return.

In 2018, our property trust fees generally ranged from 0.003% to 0.46% of total assets under management, depending on the type of trust account product. As of December 31, 2018, the balance of our property trusts totaled 15,005 billion.

Property trusts are not consolidated within our financial statements.

Trustee and Custodian Services Relating to Securities Investment Trusts

Through Woori Bank, as of December 31, 2018, we acted as a trustee for 3,272 securities investment trusts, mutual funds and other investment funds. We receive a fee for acting as a trustee and generally perform the following functions:

- receiving payments made in respect of such securities;
- executing trades in respect of such securities on behalf of the investment fund, based on instructions from the relevant investment fund management company; and
- in certain cases, authenticating beneficiary certificates issued by investment trust management companies and handling settlements in respect of such beneficiary certificates.

For the year ended December 31, 2018, our fee income from such services was 13 billion.

Other Businesses

Management of National Housing Urban Fund

In April 2008, through Woori Bank, we were selected to be the lead manager of the National Housing Urban Fund. The National Housing Urban Fund provides financial support to low-income households in Korea by providing mortgage financing and construction loans for projects to build small- and medium-sized housing. As of December 31, 2018, outstanding housing loans from the National Housing Urban Fund amounted to approximately 106.2 trillion, of which we originated approximately 56.6 trillion. The activities of the National Housing Urban Fund are funded primarily by the issuance of national housing bonds, which must be purchased by persons and legal entities wishing to make real estate-related registrations and filings, and by subscription savings deposits held at the National Housing Urban Fund.

In return for managing the operations of the National Housing Urban Fund, we receive a monthly fee. This fee consists of a fund raising fee, a loan origination fee and a management fee. The fund raising fee is based on the number of National Housing Urban Fund subscription savings deposit accounts opened and the level of activity for existing accounts and the number of National Housing Urban Fund bonds issued or redeemed. The loan origination fee is based on the number of new National Housing Urban Fund loans and the number of National Housing Urban Fund mortgage loans to contractors constructing housing units that are assumed by the individual buyers of housing units and the level of activity for existing loans during each month. The management fee is based on the monthly average of the number of outstanding accounts and the monthly average of the number of overdue loans owed to the National Housing Urban Fund. We received total fees of approximately 52 billion for managing the National Housing Urban Fund in 2018.

Bancassurance

The term bancassurance refers to the marketing and sale by commercial banks of insurance products manufactured within a group of affiliated companies or by third-party insurance companies. Through Woori Bank, we market a wide range of bancassurance products. In 2018, we generated fee income of approximately 86 billion through the marketing of bancassurance products. We believe that we will be able to continue to develop an important new source of fee-based revenues by expanding our offering of these products. We have entered into bancassurance marketing arrangements with 28 insurance companies, including TongYang Life Insurance, Hanwha Life Insurance, Samsung Life Insurance, Samsung Fire and Marine Insurance, Hyundai Fire and Marine Insurance and American International Assurance, and plan to enter into additional insurance product marketing arrangements with other leading insurance companies whose names and reputation are likely to be familiar to our customer base.

Private Equity

In 2016, Woori Private Equity Co., Ltd., which was established in October 2005, registered as a specialized private placement collective investment business under the Financial Investment Services and Capital Markets Act and changed its name to Woori Private Equity Asset Management Co., Ltd., or Woori PEAM. Such registration enabled it to manage specialized private placement collective investment vehicles (which include hedge funds) targeting professional investors, in addition to its existing business of making long-term and strategic investments in buyout target companies and actively involving itself in their management. In 2017, three of the private equity funds for which Woori PEAM acted as general partner, Woori Private Equity Fund, the size of which was approximately 344 billion, Woori Blackstone Korea Opportunity Private Equity Fund I, the size of which was approximately 606 billion, and Woori Columbus Private Equity Fund I, the size of which was approximately 61 billion, were successfully liquidated after meeting their respective investment objectives. We expect that Woori PEAM will continue to provide us with investment opportunities, through identifying potential investees suffering from inefficient management and effecting financial restructuring and strategic reorientation in those investees so as to enhance their enterprise value, as well as serve as a source of business for other segments by managing specialized private placement collective investment vehicles for professional investors.

Competition

We compete with other financial institutions in Korea, including principally nationwide and regional Korean commercial banks and branches of foreign banks operating in Korea. In addition, in particular segments such as credit cards, asset management and bancassurance, we compete with specialized financial institutions focusing on such segments. Some of the financial institutions we compete with are larger in terms of asset size and customer base and have greater financial resources or more specialized capabilities than us or our subsidiaries.

Competition in the Korean financial market has been and is likely to remain intense. In particular, in the area of our core banking operations, most Korean banks have been focusing on retail customers and small- and medium-sized enterprises in recent years, although they have begun to increase their exposure to large corporate borrowers, and have been focusing on developing fee income businesses, including bancassurance, as increasingly important sources of revenue. In the area of credit cards, Korean banks and credit card companies have in the past engaged in aggressive marketing activities and made significant investments, contributing to some extent to the lower profitability and asset quality problems previously experienced with respect to credit card receivables.

In addition, general regulatory reforms in the Korean financial industry have increased competition among banks and other financial institutions in Korea. In the second half of 2015, the Korean government implemented measures to facilitate bank account portability of retail customers by requiring commercial banks to establish systems that allow retail customers to easily switch their bank accounts at one commercial bank to another and automatically transfer the automatic payment settings of their former accounts to the new ones. Such measures are expected to further intensify competition among financial institutions in Korea.

Furthermore, the introduction of Internet-only banks in Korea is expected to increase competition in the Korean banking industry. Internet-only banks generally operate without branches and conduct most of their operations through electronic means, which enable them to minimize costs and offer customers higher interest rates on deposits or lower lending rates. In April 2017, K bank, the first Internet-only bank in Korea, in which we own 13.8% of the equity with voting rights, commenced operations. Kakao Bank, a mobile-only bank, commenced operations in July 2017.

Moreover, in March 2016, the Financial Services Commission introduced an individual savings account scheme in Korea, which enables individuals to efficiently manage a wide range of retail investment vehicles, including cash deposits, investment funds and securities investment products, from a single integrated account with one financial institution and offers tax benefits on investment returns. Since the scheme backed by the Korean government allows only one individual savings account per person, financial institutions have been competing to retain existing customers and attract new customers since the launch of the individual savings account scheme. Over 30 financial institutions, including banks, securities companies and insurance companies, have registered with the Financial Services Commission to sell their individual savings account products, and competition among these financial institutions is expected to remain intense.

Moreover, the Korean financial industry is undergoing significant consolidation. The number of nationwide commercial banks in Korea has decreased from 16 as of December 31, 1997 to six as of December 31, 2018. A number of significant mergers and acquisitions in the industry have taken place in Korea in recent years, including Hana Financial Group s acquisition of a controlling interest in Korea Exchange Bank in 2012, the subsequent merger of Hana Bank into Korea Exchange Bank in 2015, KB Financial Group s acquisition of Hyundai Securities Co., Ltd. in 2016 and the subsequent merger of Hyundai Securities with and into KB Investment & Securities Co., Ltd. in 2016. In 2016, Mirae Asset Securities Co., Ltd. acquired a 43% interest in KDB Daewoo Securities Co., Ltd., which subsequently merged with and into Mirae Asset Securities to create Mirae Asset Daewoo Securities Co., Ltd., the largest securities company in Korea in terms of capital. Furthermore, in 2014, pursuant to the implementation of the Korean government s privatization plan with respect to Woori Finance Holdings and its former subsidiaries, Woori Financial, Woori Asset Management and Woori F&I were acquired by KB Financial Group, Kiwoom Securities and Daishin Securities, respectively, and Woori Investment & Securities, Woori Aviva Life Insurance and Woori FG Savings Bank were acquired by NongHyup Financial Group. In addition, in October 2014, the KDIC s ownership interest in Kwangju Bank and Kyongnam Bank were acquired by JB Financial Group and BS Financial Group, respectively. See Item 4.A. History and Development of the Company Privatization Plan.

We expect that consolidation in the Korean financial industry will continue. Other financial institutions may seek to acquire or merge with other entities, and the financial institutions resulting from this consolidation may, by virtue of their increased size and business scope, provide significantly greater competition for us. We also believe that foreign financial institutions, many of which have greater experience and resources than we do, may seek to compete with us in providing financial products and services either by themselves or in partnership with existing Korean financial institutions. See Item 3.D. Risk Factors Risks relating to competition.

Assets and Liabilities

The tables below and accompanying discussions provide selected financial highlights regarding our assets and liabilities on a consolidated basis.

Certain information with respect to our loan portfolio and the asset quality of our loans is presented below on a basis consistent with certain requirements of the Financial Services Commission applicable to Korean

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financial institutions, which differs (as described below where applicable) from the presentation of such information in our financial statements prepared in accordance with IFRS, as we believe that such alternative presentation allows us to provide additional details regarding our loan portfolio and the asset quality of our loans which would be helpful to our investors.

Loan Portfolio

As of December 31, 2018, the balance of our total loan portfolio was 262,034 billion. As of December 31, 2018, 85.4% of our total loans were Won-denominated loans and 14.6% of our total loans were denominated in other currencies. Of the 38,206 billion of foreign currency-denominated loans as of that date, approximately 45.2% represented foreign loans provided by Woori Bank to offshore entities and individuals. Woori Bank makes foreign loans primarily through its overseas branches to affiliates of large Korean manufacturing companies for trade financing and working capital.

Except where we specify otherwise, all loan amounts stated below do not include amounts due from banks and other receivables and are prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs, and all corporate loan amounts stated below include loans made to the Korean government and government-owned agencies and banks.

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Loan Types

The following table presents loans by type as of the dates indicated. Total loans reflect our loan portfolio, including past due amounts.

	2014	2015	As of December 31, 2016 (in billions of Won)	2017	2018
Domestic:					
Corporate[1]:					
Commercial and industrial	89,410	92,802	88,968	93,320	96,283
Lease financing			7	25	55
Trade financing	11,937	11,446	10,699	9,290	9,649
Other commercial	11,440	12,229	12,923	21,283	16,177
Total corporate	112,787	116,477	112,597	123,918	122,164
Consumer:					
General purpose household	25,070	26,971	30,684	34,374	36,962
Mortgage	28,988	40,598	47,630	47,476	51,280
Home equity	25,340	24,657	24,486	25,513	26,324
Total consumer	79,398	92,226	102,800	107,363	114,566
Credit cards	5,114	6,099	6,674	6,827	8,051
Total domestic	197,299	214,802	222,071	238,108	244,781
Foreign:					
Corporate[2]:					
Commercial and industrial	7,989	9,518	10,540	9,632	11,837
Trade financing	725	1,421	2,156	2,655	2,186
Other commercial	245	206	350	471	700
Total corporate	8,959	11,145	13,046	12,758	14,723
Consumer	819	1,222	1,684	1,927	2,530
Total foreign	9,778	12,367	14,730	14,685	17,253
Total loans[3]	207,077	227,169	236,801	252,793	262,034
Less: present value discount	(17)	(5)	(14)	(11)	(10)
Less: deferred origination costs (fees)	368	435	464	511	574
Less: allowance for credit losses	(2,609)	(2,051)	(1,851)	(1,770)	(1,778)
Total loans, net	204,819	225,548	235,400	251,523	260,820

(1) Including loans made to banks and the Korean government and government-owned agencies.

(2) Including loans made to banks.

(3) Not including due from banks and other financial assets (or other receivables) and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

Loan Concentrations

On a consolidated basis, our exposure to any single borrower or any single *chaebol* is limited by law to 20% and 25%, respectively, of our net aggregate equity capital, as defined under the Enforcement Decree of the Financial Holding Company Act. See Supervision and Regulation Principal Regulations Applicable to Financial Holding Companies Financial Exposure to Any Individual Customer and Major Shareholder. In addition, Woori Bank s exposure to any single borrower or any single *chaebol* is limited by the Bank Act to 20% and 25%, respectively, of its total Tier I and Tier II capital.

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20 Largest Exposures by Borrower

As of December 31, 2018, our exposures to our 20 largest borrowers or issuers totaled 49,913 billion and accounted for 12.0% of our total exposures. The following table sets forth our total exposures to those borrowers or issuers as of that date:

Company (Credit Rating)[1]	Loans: Won currency	Loans: Foreign currency	Equity securities	Debt securities	Guarantees and acceptances	Total exposures	Collateral[2]	Amounts classified as substandard or below[3]
	(in billions of Won)							
Korea Development Bank (AAA)		14		9,424		9,438		8
Korean Government[4]				9,171		9,171		
The Bank of Korea[4]	930			7,044		7,974		
Industrial Bank of Korea (AAA)	91			3,308		3,399	22	
Kyobo Securities (A+)	2,543					2,543		
Samsung Electronics (AAA)	201	2,231	24			2,456		
Korea Housing Finance Corporation (AAA)				2,241		2,241		
Korea Student Aid Foundation (AAA)				1,267		1,267		
Mirae Asset Deawoo (AA)	1,150					1,150		
KB Securities (AA)	1,139					1,139		
Export-Import Bank of Korea (AAA)				1,070	10	1,080		
Korea Land & Housing Corporation (AAA)	328			733		1,061		
NH Investment & Securities (AA+)	1,029					1,029		
U.S. Government[4]				974		974		
Shinhan Investment (AA)	970					970		
Defense Acquisition Program Administration (A)					927	927		
Korea SMEs and Startups Agency (AAA)	1			861		862		
Lotte Corporation (AA)	650	168				818		
Korea Expressway Corporation (AAA)				709		709		
Meritz Securities (AA-)	705					705		
Total	9,737	2,413	24	36,802	937	49,913	22	8

(1) Credit ratings are from one of the domestic credit rating agencies in Korea, including Korea Ratings Corporation, NICE Investors Service Co. and Korea Information Service Inc., as of December 31, 2018. If multiple ratings were available, the lowest one is indicated.

(2) The value of collateral is appraised based on future cash flow and observable market price.

(3) Classification is based on the Financial Services Commission s asset classification criteria.

(4) Credit rating is unavailable.

As of December 31, 2018, four of these top 20 borrowers or issuers were companies belonging to the 24 largest *chaebol* in Korea. See Item 3.D. Risk Factors Risks relating to our corporate credit portfolio We have exposure to the largest Korean commercial conglomerates, known as *chaebols*, and, as a result, financial difficulties of *chaebols* may have an adverse impact on us.

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Exposure to Chaebols

As of December 31, 2018, 5.8% of our total exposure was to the 24 largest *chaebols* in Korea. The following table shows, as of December 31, 2018, our total exposures to the 10 *chaebols* to which we have the largest exposure:

Chaebol	Loans: Won currency	Loans: Foreign currency	Equity securities	Debt securities	Guarantees and acceptances	Total exposures	Collateral[1]	Amounts Classified as substandard or below[2]
				(in billions of Won)				
Samsung	896	3,326	38	10	1,118	5,388	112	19
Hyundai Motors	1,207	723	53	101	760	2,844		
Kyobo Life Insurance	2,548				3	2,551		
Hyundai Heavy Industries	421	91		10	1,262	1,784	10	
Lotte	1,167	488			77	1,732	18	
SK	764	251	3	13	372	1,403	58	
LG	1,042	243		20	77	1,382	4	
Mirae Asset	1,170					1,170		
Hanwha	690	196		6	72	964	142	
Doosan	276	55		8	493	832	18	
Total	10,181	5,373	94	168	4,234	20,050	362	19

(1) The value of collateral is appraised based on future cash flow and observable market price.
(2) Classification is based on the Financial Services Commission s asset classification criteria.

Loan Concentration by Industry

The following table shows, as of December 31, 2018, the aggregate balance of our domestic and foreign corporate loans by industry concentration and as a percentage of our total corporate lending:

	Aggregate corporate loan balance (in billions of Won)	Percentage of total corporate loan balance
Industry		
Manufacturing	37,414	27.3%
Financial and insurance	20,542	15.0
Retail and wholesale	16,572	12.1
Hotel, leisure or transportation	7,508	5.5

Construction	4,081	3.0
Government and government agencies	311	0.2
Other	50,459	36.9
Total	136,887	100.0%

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Maturity Analysis

The following table sets out, as of December 31, 2018, the scheduled maturities (time remaining until maturity) of our loan portfolio:

	1 year or less	Over 1 year but not more than 5 years	Over 5 years	Total
	(in billions of Won)			
Domestic				
Corporate[1]				
Commercial and industrial	64,209	26,881	5,193	96,283
Lease financing	2	53		55
Trade financing	9,648	1		9,649
Other commercial	12,869	2,617	691	16,177
Total corporate	86,728	29,552	5,884	122,164
Consumer				
General purpose household	20,628	6,580	9,754	36,962
Mortgage	10,113	13,379	27,788	51,280
Home equity	3,395	3,059	19,870	26,324
Total consumer	34,136	23,018	57,412	114,566
Credit cards	6,756	932	363	8,051
Total domestic	127,620	53,502	63,659	244,781
Foreign				
Corporate[2]				
Commercial and industrial	6,443	4,085	1,309	11,837
Trade financing	2,115	71		2,186
Other commercial	207	360	133	700
Total corporate	8,765	4,516	1,442	14,723
Consumer				
Other consumer	301	657	1,572	2,530
Total foreign	9,066	5,173	3,014	17,253
Total loans	136,686	58,675	66,673	262,034

(1) Including loans made to banks and the Korean government and government-owned agencies.
(2) Including loans made to banks.

A significant portion of our loans with maturities of one year is renewed annually. We typically roll over our working capital loans and consumer loans (other than those payable in installments) after we conduct our normal loan review in accordance with our loan review procedures. Under our internal guidelines, we may generally extend working capital loans on an annual basis for an aggregate term of five years. Those guidelines also allow us to generally extend consumer loans other than home equity loans for another term on an annual basis for an aggregate term of up to five years (and home equity loans for an aggregate term of up to 10 years).

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Interest Rates

The following table shows, as of December 31, 2018, the total amount of our loans due after one year that have fixed interest rates and variable or adjustable interest rates:

	Domestic	Foreign	Total
		(in billions of Won)	
Fixed rate[1]	52,625	2,529	55,154
Variable or adjustable rates[2]	64,536	5,658	70,194
Total loans	117,161	8,187	125,348

(1) Fixed rate loans are loans for which the interest rate is fixed for the entire term.
(2) Variable or adjustable rate loans are loans for which the interest rate is not fixed for the entire term.

For additional information regarding our management of interest rate risk, see Item 11. Quantitative and Qualitative Disclosures about Market Risk Market Risk Management Asset and Liability Management.

Asset Quality of Loans

Except where we specify otherwise, all loan amounts stated below do not include amounts due from banks and other receivables and are prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs, and all corporate loan amounts stated below include loans made to the Korean government and government-owned agencies and banks.

Loan Classifications

The Financial Services Commission generally requires Korean financial institutions to analyze and classify their assets by quality into one of five categories for reporting purposes. In making these classifications, we take into account a number of factors, including the financial position, profitability and transaction history of the borrower, and the value of any collateral or guarantee taken as security for the extension of credit. This classification method, and our related provisioning policy, is intended to fully reflect the borrower s capacity to repay.

The following is a summary of the asset classification criteria we apply for corporate and consumer loans, based on the asset classification guidelines of the Financial Services Commission. Credit card receivables are subject to classification based on the number of days past due, as required by the Financial Services Commission. We also apply different criteria for other types of credits such as loans to the Korean government or to government-related or controlled entities, certain bills of exchange and certain receivables.

Asset Classification	Characteristics
Normal	Credits extended to customers that, based on our consideration of their business, financial position and future cash flows, do not raise concerns regarding their

	ability to repay the credits.
Precautionary	Credits extended to customers that: based on our consideration of their business, financial position and future cash flows, show potential risks with respect to their ability to repay the credits, although showing no immediate default risk; or are in arrears for one month or more but less than three months.

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Asset Classification	Characteristics
Substandard	Either: credits extended to customers that, based on our consideration of their business, financial position and future cash flows, are judged to have incurred considerable default risks as their ability to repay has deteriorated; or the portion that we expect to collect of total loans (1) extended to customers that have been in arrears for three months or more, (2) extended to customers that have incurred serious default risks due to the occurrence of, among other things, final refusal to pay their debt instruments, entry into liquidation or bankruptcy proceedings, or closure of their businesses, or (3) extended to customers who have outstanding loans that are classified as doubtful or estimated loss.
Doubtful	Credits exceeding the amount we expect to collect of total credits to customers that: based on our consideration of their business, financial position and future cash flows, have incurred serious default risks due to noticeable deterioration in their ability to repay; or have been in arrears for three months or more but less than twelve months.
Estimated Loss	Credits exceeding the amount we expect to collect of total credits to customers that: based on our consideration of their business, financial position and future cash flows, are judged to have to be accounted as a loss as the inability to repay became certain due to serious deterioration in their ability to repay;

have been in arrears for twelve months or more; or

have incurred serious risks of default in repayment due to the occurrence of, among other things, final refusal to pay their debt instruments, liquidation or bankruptcy proceedings or closure of their business.

Loan Loss Provisioning Policy

Under IFRS 9 *Financial Instruments*, which replaced IAS 39, for annual periods commencing on or after January 1, 2018, we establish allowances for credit losses based on expected credit losses instead of incurred losses (as was the case under IAS 39) by assessing changes in expected credit losses and recognizing such changes as impairment loss (or reversal of impairment loss) in profit or loss. Item 5.A. Operating Results Overview Changes in Accounting Standards. Under IFRS 9, the allowance required to be established with respect to a loan or financial asset is the amount of the expected 12-month credit loss or the expected lifetime credit loss for the applicable loan or financial asset, according to three stages of credit risk deterioration since initial recognition.

For financial reporting periods starting prior to January 1, 2018, under IAS 39 *Financial Instruments: Recognition and Measurement*, we established allowances for credit losses with respect to loans using either a case-by-case or collective approach. We assessed individually significant loans on a case-by-case basis and other loans on a collective basis. In addition, if we determined that no objective evidence of impairment exists for a loan, we included such loan in a group of loans with similar credit risk characteristics and assessed them collectively for impairment regardless of whether such loan is significant. If there was objective evidence that an impairment loss had been incurred for individually significant loans, the amount of the loss was measured as the difference between the financial asset s carrying amount and the present value of the estimated future cash flows discounted at such asset s original effective interest rate. Future cash flows were estimated through a case-by-case analysis of individually assessed assets, which took into account the benefit of any guarantee or other collateral held. The value and timing of future cash flow receipts were based on available estimates in conjunction with facts available at the time of review and reassessed on a periodic basis as new information became available.

Under IAS 39, for collectively assessed loans, we based the level of allowance for credit losses on a portfolio basis in light of the homogenous nature of the assets included in each portfolio. The allowances were determined based on a quantitative review of the relevant portfolio, taking into account such factors as the level of arrears, the value of any security, and historical and projected cash recovery trends over the recovery period. The methodologies we used to estimate collectively assessed allowances reflected the probability that the performing customer would default, our historical loss experience (as adjusted by current economic and credit conditions where appropriate) and the emergence period between an impairment event occurring and a loan being identified and reported as impaired.

If additions or changes to the allowance for credit losses are required, then we record provisions for credit loss, which are included in impairment losses due to credit loss and treated as charges against current income. Credit exposures that we deem to be uncollectible, including actual loan losses, net of recoveries of previously charged-off amounts, are charged directly against the allowance for credit losses. See Item 5.A. Operating Results Critical Accounting Policies Impairment of Loans and Allowance for Credit Losses.

We conclude that a loan is impaired when it is under one of the following conditions:

- when the principal is past due by 90 days or more due to significant deterioration in credit;
- for loans overdue for less than 90 days, when it is determined that not even a portion of the loan will be recovered unless a claim action, such as disposal of collateral, is taken; or
- when other objective indicators of impairment have been noted for the loan.

In addition, if our allowance for credit losses is deemed insufficient for regulatory purposes, we compensate for the difference by recording a planned regulatory reserve for credit loss, which is segregated within our retained earnings. The level of planned regulatory reserve for credit loss required to be recorded is equal to the amount by which our allowance for credit losses under IFRS is less than the greater of (x) the amount of expected loss calculated using the internal ratings-based approach under Basel II and as approved by the Financial Supervisory Service and (y) the required amount of credit loss reserve calculated based on guidelines prescribed by the Financial Services Commission. The following table sets forth the Financial Services Commission s guidelines applicable to banking institutions for the minimum percentages of the outstanding principal amount of the relevant loans or balances that the credit loss reserve must cover:

Loan classifications	**Corporate(1)**	**Consumer**	**Credit card receivables(2)**	**Credit card loans(3)**
Normal	0.85% or above	1% or above	1.1% or above	2.5% or above
Precautionary	7% or above	10% or above	40% or above	50% or above
Substandard	20% or above	20% or above	60% or above	65% or above
Doubtful	50% or above	55% or above	75% or above	75% or above
Estimated loss	100%	100%	100%	100%

(1) Subject to certain exceptions pursuant to the Banking Industry Supervision Regulations of Korea.
(2) Applicable for credit card receivables for general purchases of products or services.
(3) Applicable for cash advances, card loans and revolving loan receivables.

The process to determine the allowances for off-balance sheet positions under IFRS is similar to the methodology used for loans. Any loss amounts are recognized as a provision in the consolidated statements of financial position within liabilities and charged to the consolidated statement of income as a component of the impairment losses due to credit loss.

The actual amount of credit losses we incur may differ from our loss estimates as a result of changing economic conditions, changes in industry or geographic concentrations, or other factors. We monitor the differences between our estimated and actual incurred credit losses, and we undertake detailed periodic assessments of both individual loans and credit portfolios, the models we use to estimate incurred credit losses in those portfolios and the adequacy of our overall allowances.

Problem Loans and Past Due Accruing Loans

We monitor and manage our problem loans by generally placing loans on problem loan status when payments of interest and/or principal become past due by 90 days. In addition, the following types of loans are classified as problem loans by us even if such loans are not past due:

Loans to creditors with dishonored notes or checks;

Loans for which interest payments are reduced or postponed (e.g., through work-out procedures or debt restructurings); and

Loans to creditors included in the watch list maintained by the Korea Federation of Banks.

We reclassify loans as non-problem loans when interest and principal payments are up-to-date and future payments of principal and interest are reasonably assured. In applying payments on problem loans, we first apply payments to the delinquent interest outstanding, then to non-delinquent interest, and then to the outstanding loan balance until the loan is paid in full.

Foregone interest is the portion of the contractual interest due on problem loans that we have not accrued in our books. If we had not foregone interest on our problem loans, we would have recorded gross interest income of 104 billion, 74 billion and 61 billion for 2016, 2017 and 2018, respectively, on loans accounted for as problem loans throughout the year, or since origination for loans held for part of the year. The actual amount of interest income on those loans included in our net income for 2016, 2017 and 2018 was 47 billion, 34 billion and 34 billion, respectively.

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The category accruing loans which are contractually past due 90 days or more as to principal or interest includes loans that are still accruing interest based on the contractual rate of interest but on which principal or interest payments are contractually past due 90 days or more. We continue to accrue contractual interest on loans that are fully secured by deposits or on which there are financial guarantees from the Korean government, the KDIC or certain financial institutions.

The following table shows, as of the dates indicated, the amount of loans that were problem loans and accruing loans which were past due 90 days or more:

	As of December 31,													
	2014			2015			2016			2017			2018	
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
	(in billions of Won)													
classified as problem loans[1]														
rate[2]	2,458	82	2,540	1,901	44	1,945	1,200	67	1,267	924	145	1,069	627	35
mer[3]	547	6	553	436	4	440	442	20	462	460	23	483	537	24
tal	3,005	88	3,093	2,337	48	2,385	1,642	87	1,729	1,384	168	1,551	1,164	59
ng loans which are ctually past due 90 days or s to principal or interest[1]														
rate[2]	2		2				3		3	2		2	1	
mer[3]														
tal	2		2				3		3	2		2	1	
	3,007	88	3,095	2,337	48	2,385	1,645	87	1,732	1,386	168	1,553	1,165	59

(1) Not including due from banks and other financial assets (or other receivables), and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

(2) Including loans made to banks and the Korean government and government-owned agencies.

(3) Includes credit card balances of 80 billion, 93 billion, 142 billion, 163 billion and 188 billion as of December 31, 2014, 2015, 2016, 2017 and 2018, respectively.

The following table shows, as of the dates indicated, the amount of problem loans, potential problem loans and non-performing loans:

	As of December 31,		
	2016	2017	2018
	(in billions of Won)		
Problem loans	1,729	1,553	1,223
Potential problem loans[1]	1,158	937	1,513
Non-performing loans	2,080	1,853	1,329

(1) Potential problem loans are those classified as precautionary that we determine, through our internal loan review process, as requiring close management due to the borrower s financial condition, our forecast for the industry in which it operates or as a result of other developments relating to its business.

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Loan Aging Schedule

The following table shows our loan aging schedule (excluding accrued interest) as of the dates indicated. In line with industry practice, we have restructured a portion of our delinquent credit card balances as loans.

	As of December 31, 2018											
	Normal		Past due by 1 month or less		Past due by 1-3 months		Past due by 3-6 months		Past due by more than 6 months		Total	
	(in billions of Won, except percentages)											
	Amount	%	Amount past due	%	Amount past due	%	Amount past due	%	Amount past due	%	Amount	%
Domestic												
Corporate(1)												
Commercial and industrial	95,811	36.6%	169	0.1%	117	0.0%	84	0.0%	102	0.0%	96,283	36.7%
Lease financing	55	0.0		0.0		0.0		0.0		0.0	55	0.0
Trade financing	9,633	3.7	3	0.0	3	0.0	6	0.0	4	0.0	9,649	3.7
Other commercial	16,133	6.2	6	0.0	3	0.0	3	0.0	32	0.0	16,177	6.2
Total corporate	121,632	46.5	178	0.1	123	0.0	93	0.0	138	0.0	122,164	46.6
Consumer												
General purpose household	36,652	14.0	170	0.1	55	0.0	37	0.0	48	0.0	36,962	14.1
Mortgages	50,862	19.5	281	0.1	59	0.0	39	0.0	39	0.0	51,280	19.6
Home equity	26,112	10.0	117	0.0	36	0.0	24	0.0	35	0.0	26,324	10.0
Total consumer	113,626	43.5	568	0.2	150	0.0	100	0.0	122	0.0	114,566	43.7
Credit cards	7,818	3.1	123	0.0	58	0.0	52	0.0		0.0	8,051	3.1
Total domestic	243,076	93.1	869	0.3	331	0.0	245	0.0	260	0.0	244,781	93.4
Foreign												
Corporate(2)												
Commercial and industrial	11,778	4.5	8	0.0	13	0.0	3	0.0	35	0.0	11,837	4.5
Trade financing	2,185	0.8		0.0		0.0		0.0	1	0.0	2,186	0.8
Other commercial	700	0.3		0.0		0.0		0.0		0.0	700	0.3
Total corporate	14,663	5.6	8	0.0	13	0.0	3	0.0	36	0.0	14,723	5.6
Consumer	2,502	1.0	3	0.0	4	0.0	4	0.0	17	0.0	2,530	1.0

Total foreign	17,165	6.6	11	0.0	17	0.0	7	0.0	53	0.0	17,253	6.6
Total loans[3]	260,241	99.7%	880	0.3%	348	0.0%	252	0.0%	313	0.0%	262,034	100.0%

(1) Including loans made to banks and the Korean government and government-owned agencies.

(2) Including loans made to banks.

(3) Not including due from banks and other financial assets, and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

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	As of December 31, 2017											
	Normal		Past due by 1 month or less		Past due by 1-3 months		Past due by 3-6 months		Past due by more than 6 months		Total	
	(in billions of Won, except percentages)											
	Amount	%	Amount past due	%	Amount past due	%	Amount past due	%	Amount past due	%	Amount	%
Domestic												
Corporate[1]												
Commercial and industrial	92,767	36.7%	172	0.1%	81	0.0%	98	0.0%	202	0.1%	93,320	36.9%
Lease financing	25	0.0		0.0		0.0		0.0		0.0	25	0.0
Trade financing	9,264	3.7	8	0.0	4	0.0	3	0.0	11	0.0	9,290	3.7
Other commercial	21,238	8.4	5	0.0	5	0.0	1	0.0	34	0.0	21,283	8.4
Total corporate	123,294	48.8	185	0.0	90	0.0	102	0.0	247	0.1	123,918	49.0
Consumer												
General purpose household	34,084	13.5	165	0.1	41	0.0	30	0.0	54	0.0	34,374	13.6
Mortgages	47,104	18.7	277	0.1	46	0.0	23	0.0	26	0.0	47,476	18.8
Home equity	25,308	10.1	116	0.0	27	0.0	21	0.0	41	0.0	25,513	10.1
Total consumer	106,496	42.3	558	0.2	114	0.0	74	0.0	121	0.0	107,363	42.5
Credit cards	6,617	2.7	122	0.0	49	0.0	39	0.0		0.0	6,827	2.7
Total domestic	236,407	93.8	865	0.3	253	0.0	215	0.0	368	0.1	238,108	94.2
Foreign												
Corporate[2]												
Commercial and industrial	9,579	3.8	1	0.0	1	0.0	8	0.0	43	0.0	9,632	3.8
Trade financing	2,649	1.0	4	0.0	0	0.0	0	0.0	2	0.0	2,655	1.0
Other commercial	471	0.2	0	0.0	0	0.0	0	0.0	0	0.0	471	0.2
Total corporate	12,699	5.0	5	0.0	1	0.0	8	0.0	45	0.0	12,758	5.0
Consumer	1,864	0.8	2	0.0	3	0.0	1	0.0	57	0.0	1,927	0.8
Total foreign	14,563	5.8	7	0.0	4	0.0	9	0.0	102	0.0	14,685	5.8
Total loans[3]	250,970	99.6%	872	0.3%	257	0.0%	224	0.0%	470	0.1%	252,793	100.0%

(1) Including loans made to banks and the Korean government and government-owned agencies.

(2) Including loans made to banks.

(3) Not including due from banks and other receivables, and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

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	As of December 31, 2016											
	Normal		Past due by 1 month or less		Past due by 1-3 months		Past due by 3-6 months		Past due by more than 6 months		Total	
	(in billions of Won, except percentages)											
	Amount	%	Amount past due	%	Amount past due	%	Amount past due	%	Amount past due	%	Amount	%
Domestic												
Corporate[1]												
Commercial and industrial	88,313	37.4%	162	0.1%	98	0.0%	97	0.0%	298	0.2%	88,968	37.7%
Lease financing	7	0.0		0.0		0.0		0.0		0.0	7	0.0
Trade financing	10,671	4.5	4	0.0	4	0.0	10	0.0	10	0.0	10,699	4.5
Other commercial	12,843	5.4	6	0.0	2	0.0	17	0.0	55	0.0	12,923	5.4
Total corporate	111,834	47.3	172	0.1	104	0.0	124	0.0	363	0.2	112,597	47.6
Consumer												
General purpose household	30,412	12.9	141	0.1	30	0.0	21	0.0	80	0.0	30,684	13.0
Mortgages	47,328	20.1	225	0.1	38	0.0	18	0.0	21	0.0	47,630	20.2
Home equity	24,269	10.3	112	0.0	24	0.0	17	0.0	64	0.0	24,486	10.3
Total consumer	102,009	43.3	478	0.2	92	0.0	56	0.0	165	0.0	102,800	43.5
Credit cards	6,502	2.7	92	0.0	51	0.0	29	0.0		0.0	6,674	2.7
Total domestic	220,345	93.3	742	0.3	247	0.0	209	0.0	528	0.2	222,071	93.8
Foreign												
Corporate[2]												
Commercial and industrial	10,449	4.5	1	0.0	2	0.0	36	0.0	52	0.0	10,540	4.5
Trade financing	2,155	0.9		0.0		0.0		0.0	1	0.0	2,156	0.9
Other commercial	350	0.1		0.0		0.0		0.0		0.0	350	0.1
Total corporate	12,954	5.5	1	0.0	2	0.0	36	0.0	53	0.0	13,046	5.5
Consumer	1,664	0.7	2	0.0	6	0.0	2	0.0	10	0.0	1,684	0.7
Total foreign	14,618	6.2	3	0.0	8	0.0	38	0.0	63	0.0	14,730	6.2
Total loans[3]	234,963	99.5%	745	0.3%	255	0.0%	247	0.0%	591	0.2%	236,801	100.0%

(1) Including loans made to banks and the Korean government and government-owned agencies.

(2) Including loans made to banks.

(3) Not including due from banks and other receivables, and prior to deducting allowance for credit losses and present value discount or reflecting deferred origination costs.

Credit Exposures to Companies in Workout, Restructuring or Rehabilitation

Workout is a voluntary procedure through which we, together with the borrower and other creditors, seek to restore the borrower s financial stability and viability. Previously, workouts were regulated under a series of Corporate Restructuring Promotion Acts, which last expired on June 30, 2018. In September 2018, the National Assembly of Korea adopted a new Corporate Restructuring Promotion Act, which became effective on October 16, 2018 and is scheduled to expire on October 15, 2023. Under the new Corporate Restructuring Promotion Act, creditors of a financially troubled borrower may participate in a creditors committee, which is authorized to prohibit such creditors from exercising their rights against the borrower, commence workout procedures and approve or make revisions to a reorganization plan prepared by the lead creditor bank, the borrower and external experts. The composition of the creditors committee is determined at the initial meeting of the committee by the approval of creditors holding not less than 75% of the borrower s total outstanding debt held by creditors who were notified of the initial meeting of the committee. Although creditors that are not financial institutions or hold less than 1% of the total outstanding debt of the borrower need not be notified of the initial meeting of the creditors committee, if such creditors wish to participate, they may not be excluded. Any decision of the creditors committee requires the approval of creditors holding not less than 75% of the total outstanding debt of the borrower. However, if a single creditor holds 75% or more of the borrower s total outstanding debt held by the creditors comprising the creditors committee, any decision of the creditors committee requires the approval of not less than 40% of the total number of creditors (including such single creditor) comprising the committee. An additional approval of creditors holding not less than 75% of the secured debt is required with respect to the borrower s debt restructuring. Once approved, any decision made by the creditors committee is binding on all creditors of the borrower, with the exception of those creditors that were excluded by a resolution of the committee at its initial meeting and those who exercised their right to request that their claims be purchased. Creditors that voted against commencement of workout, approval or revision of the reorganization plan, debt restructuring, granting of new credit, extension of the joint management process or other resolutions of the committee have the right to request the creditors that voted in favor of such matters to purchase their claims at a mutually agreed price. In the event that the parties are not able to agree on the terms of purchase, a coordination committee consisting of experts would determine the terms. The creditors that oppose a decision made by the coordination committee may request a court to change such decision.

Korean law also provides for corporate rehabilitation proceedings, which are court-supervised procedures to rehabilitate an insolvent company. Under these procedures, a restructuring plan is adopted at a meeting of interested parties, including creditors of the company. That restructuring plan is subject to court approval.

A portion of our loans to and debt securities of corporate customers are currently in workout, restructuring or rehabilitation. As of December 31, 2018, 406 billion, or 0.2%, of our total loans and debt securities were in workout, restructuring or rehabilitation. This included 182 billion of loans to and debt securities of large corporate borrowers in workout, restructuring or rehabilitation and 215 billion of loans to and debt securities of small- and medium-sized enterprises in workout, restructuring or rehabilitation, which represented 0.1% and 0.1% of our total loans and debt securities, respectively. At Woori Bank, the Corporate Restoration Department manages its workout, restructured and rehabilitated loans. Upon approval of a workout, restructuring or rehabilitation plan, a credit exposure is initially classified as precautionary or lower and thereafter cannot be classified higher than precautionary with limited exceptions. If a corporate borrower is in workout, restructuring or rehabilitation, we take the status of the borrower into account in assessing our loans to and collateral from that borrower for purposes of establishing our allowance for credit losses.

The following table shows, as of December 31, 2018, our 10 largest exposures that were in workout, restructuring or rehabilitation:

	Loans								
Company	**Won Currency**	**Foreign Currency**	**Equity Securities**	**Debt Securities**	**Guarantees and Acceptances**	**Total Exposures**	**Collateral(1)**	**Amounts Classified as Substandard or Below(2)**	**Allowance for Credit Loss**
					(in billions of Won)				
Orient Shipyard					79	79		79	4
Posco Plantec	68					68	20	68	56
DB Metal		28			3	31		31	25
Dongmoon Construction	28					28		28	9
Chuncheon Golf Academy	20					20	18	20	2
STX Heavy Industries					17	17	16	1	1
Dongbu Steel		14	2			16			1
Samhongsa	16					16	9	15	9
Dgen	15					15	8		
J.Y Heavy Industries	12					12	12	12	
Total	159	42	2		99	302	83	254	107

(1) The value of collateral is appraised based on future cash flow and observable market price.
(2) Classification is based on the Financial Services Commission s asset classification criteria.

Potential Problem Loans

As of December 31, 2018, we had 1,513 billion of corporate loans in respect of which we had serious doubt as to the borrower s ability to comply with repayment terms in the near future. Potential problem loans are those classified as precautionary that we determine, through our internal loan review process, as requiring close management due to the borrower s financial condition, our forecast for the industry in which it operates or as a result of other developments relating to its business. The following table shows changes in our potential problem loans for each of the years indicated:

	Year ended December 31,	
	2017	2018
	(in billions of Won)	
Balance at the beginning of the year	1,158	937
Increase in the balance of potential problem loans to borrowers who became newly classified as borrowers with potential problem loans during the year	404	1,180
Decrease in the balance of potential problem loans to borrowers to whom we had potential problem loans outstanding at the end of the preceding year and have potential problem loans outstanding at the end of the year	(41)	(203)
Decrease in the balance of potential problem loans to borrowers to whom we had potential problem loans outstanding at the end of the preceding year but no longer have any loans outstanding at the end of the year	(515)	(352)
Decrease in the balance of potential problem loans to borrowers to whom we had potential problem loans outstanding at the end of the preceding year but have loans outstanding classified as normal at the end of the year	(74)	(59)
Net other increase in the balance of potential problem loans to existing borrowers to whom we had potential problems loans outstanding at the end of the year	5	10
Balance at the end of the year	937	1,513

Non-Performing Loans

Non-performing loans include commercial and consumer loans which are past due by 90 days or more. In addition, non-performing loans include those loans that, even if they are not past due, are classified as substandard, doubtful or estimated loss based on the Financial Services Commission s asset classification criteria. Moreover, when a consumer loan borrower has any loans that are classified as substandard, doubtful or estimated loss under such criteria, all loans to such borrower are classified as non-performing loans. See Loan Classifications above. The following table shows, as of the dates indicated, certain details of our total non-performing loan portfolio:

	As of December 31,				
	2014	2015	2016	2017	2018
	(in billions of Won, except percentages)				
Total non-performing loans	3,818(1)	2,909(2)	2,080(3)	1,853(4)	1,329(5)
As a percentage of total loans	1.84%	1.28%	0.88%	0.73%	0.51%

(1) Excludes 65 billion of previously delinquent credit card balances restructured into loans that were classified as normal or precautionary.

(2) Excludes 73 billion of previously delinquent credit card balances restructured into loans that were classified as normal or precautionary.

(3) Excludes 102 billion of previously delinquent credit card balances restructured into loans that were classified as normal or precautionary.

(4) Excludes 122 billion of previously delinquent credit card balances restructured into loans that were classified as normal or precautionary.

(5) Excludes 137 billion of previously delinquent credit card balances restructured into loans that were classified as normal or precautionary.

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The above amounts do not include loans classified as substandard or below that we sold to United Asset Management Corp., or UAMCO, or to certain structured companies. See Sales of Non-Performing Loans.

We have also issued securities backed by non-performing loans and other assets. Some of these transactions involved transfers of loans through securitizations where control of the loans has not been surrendered and, therefore, are not treated as sale transactions. Instead, the assets remain on our balance sheet with the securitization proceeds treated as part of borrowings. These assets are included in the table above.

The following table sets forth, as of the dates indicated, our total non-performing loans by type of loan:

	As of December 31,									
	2014		2015		2016		2017		2018	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
	(in billions of Won, except percentages)									
Domestic										
Corporate										
Commercial and industrial	2,751	72.1%	2,098	72.1%	1,222	58.8%	1,051	56.6%	741	55.8%
Lease financing								0.0		0.0
Trade financing	160	4.2	199	6.9	259	12.4	288	15.6	65	4.9
Other commercial	300	7.9	142	4.9	151	7.3	98	5.3	99	7.4
Total corporate	3,211	84.2	2,439	83.9	1,632	78.5	1,437	77.5	905	68.1
Consumer										
General purpose household[1]	426	11.1	283	9.7	227	10.9	187	10.1	190	14.3
Mortgage	45	1.2	46	1.6	60	2.9	73	3.9	94	7.1
Total consumer	471	12.3	329	11.3	287	13.8	260	14.0	284	21.4
Credit cards	65	1.7	68	2.3	51	2.4	57	3.1	70	5.3
Total domestic	3,747	98.2	2,836	97.5	1,970	94.7	1,754	94.6	1,259	94.8
Foreign										
Corporate										
Commercial and industrial	51	1.3	41	1.4	91	4.4	74	4.0	43	3.2
Lease financing						0.0		0.0		0.0
Trade financing	3	0.1	2	0.1	1	0.0	2	0.1	1	0.1
Other commercial			14	0.5		0.0	7	0.4		0.0
Total corporate	54	1.4	57	2.0	92	4.4	83	4.5	45	3.3
Consumer	17	0.4	16	0.5	18	0.9	16	0.9	25	1.9
Total foreign	71	1.8	73	2.5	110	5.3	99	5.4	70	5.2
	3,818	100.0%	2,909	100.0%	2,080	100.0%	1,853	100.0%	1,329	100.0%

Total non- performing loans	

(1) Includes home equity loans.

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The following table presents an analysis of the changes in our non-performing loans for each of the years indicated:

	Year ended December 31,	
	2017	2018
	(in billions of Won)	
Balance at the beginning of the year	2,080	1,853
Additions to non-performing loans		
Loans transferred into non-performing loans	1,443	1,437
Reductions in non-performing loans		
Loans sold	(319)	(246)
Loans modified and returned to performing loans	(189)	(682)
Loans paid down or paid off	(350)	(284)
Loans charged-off	(812)	(749)
Other		
Total net reductions to non-performing loans	(227)	(524)
Balance at the end of the year	1,853	1,329

Top 20 Non-Performing Loans. As of December 31, 2018, our 20 largest non-performing loans accounted for 42.7% of our total non-performing loan portfolio. The following table shows, as of that date, certain information regarding those loans:

	Gross principal outstanding	Allowance for credit losses	Collateral[1]	Industry
	(in billions of Won)			
Borrower A	145	140		Manufacturing
Borrower B	68	56	20	Manufacturing
Borrower C	55	20	40	Other
Borrower D	32	17		Shipping
Borrower E	29	15	23	Shipbuilding
Borrower F	29	24		Manufacturing
Borrower G	28	9		Construction
Borrower H	20	2	18	Real estate
Borrower I	18	4		Shipbuilding
Borrower J	18		18	Other
Borrower K	16	16		Other
Borrower L	16	3	15	Manufacturing
Borrower M	15	9	9	Manufacturing
Borrower N	15	1	13	Manufacturing
Borrower O	13	13		Construction
Borrower P	12		12	Manufacturing

Borrower Q	9	1	12	Manufacturing
Borrower R	9	3	6	Manufacturing
Borrower S	9			Other
Borrower T	9	7		Construction
Total	566	340	186	

(1) The value of collateral is appraised based on future cash flow and observable market price.

Non-Performing Loans and Impaired Loans

The term non-performing loan is used for our asset quality management in accordance with the Banking Industry Supervision Regulations of Korea, whereas the term impaired loan is used for financial reporting purposes based on our internal accounting policies in accordance with IFRS 9 (or IAS 39 for periods prior to 2018).

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Major differences between non-performing loans and impaired loans are as follows:

Item	Non-performing loans	Impaired loans
Relevant regulation or accounting principle	Banking Industry Supervision Regulations of Korea (loans classified as substandard, doubtful or estimated loss)	Our internal policy based on IFRS 9 (or IAS 39)
Scope	Loans	Loans (not including due from banks and other financial assets) under IFRS 9 (or loans and receivables (including due from banks and other receivables) under IAS 39)
Purchased impaired loans	Not included	Included
Loans classified as precautionary based on the Financial Services Commission s asset classification criteria	Not included	Loans classified as precautionary, for which the borrower has a capital deficit or its auditor s opinion on its financial statements is modified or qualified, are included

The following table shows, as of the dates indicated, the amounts of impaired loans and non-performing loans:

	As of December 31,		
	2016	2017	2018
	(in billions of Won)		
Impaired loans	2,554	2,237	1,621
Precautionary loans meeting the definition of impaired loans[(1)]	142	51	
Others	2,412	2,186	1,621
Non-performing loans	2,080	1,853	1,329

(1) Includes loans that are individually significant where the borrower has a capital deficit or its external auditor has expressed a qualified opinion or disclaimed its opinion on the borrower s financial statements.

Non-Performing Loan Strategy

One of our goals is to improve our asset quality, in part by reducing our non-performing loans. We have standardized the credit risk management systems of our subsidiaries to reduce our risks relating to future non-performing loans. Our credit rating systems are designed to prevent our subsidiaries from extending new loans to high-risk borrowers as determined by their credit rating. Our credit monitoring systems are designed to bring any sudden increase in a borrower s credit risk to the attention of our subsidiaries, which then closely monitor such loans. See Item 11. Quantitative and Qualitative Disclosures about Market Risk Credit Risk Management.

Each of our subsidiaries has one or more units that are responsible for managing non-performing loans. At Woori Bank, for example, the Credit Management and Collection Department and the Corporate Restoration Department generally oversee the process for resolving non-performing loans transferred to them by other Woori Bank business units. We believe that by centralizing the management of our non-performing loans within each subsidiary, we can become more effective in dealing with the issues relating to these loans by pooling institutional knowledge and creating a more specialized workforce.

When a loan becomes non-performing, we will begin a due diligence review of the borrower s assets, send a notice demanding payment or stating that we will take legal action, and prepare for legal action. At the same time, we initiate our non-performing loan management process, which begins with:

- identifying loans subject to a proposed sale by assessing the estimated losses from such sale based on the estimated recovery value of collateral, if any, for such non-performing loans;
- identifying loans subject to charge-off based on the estimated recovery value of collateral, if any, for such non-performing loans and the estimated rate of recovery of unsecured loans; and
- on a limited basis, identifying corporate loans subject to normalization efforts based on the cash-flow situation of the borrower.

Once we have confirmed the details of a non-performing loan, we make efforts to recover amounts owed to us. Methods for resolving non-performing loans include the following:

- commencing collection proceedings;
- commencing legal actions to seize collateral;
- writing off these amounts, transferring them to specific subsidiaries in charge of collections and authorizing those subsidiaries to recover what they can with respect to these amounts or to sell these loans to third parties; and
- with respect to large corporations, commencing or participating in voluntary workouts or restructurings mandated by Korean courts.

In addition to making efforts to collect on our non-performing loans, we also undertake measures to reduce the overall level of our non-performing loans. These measures include:

- selling our non-performing loans to structured companies established in connection with our joint ventures with several financial institutions; and
- selling our non-performing loans to third parties, including UAMCO.

See Sales of Non-Performing Loans. We generally expect to suffer a partial loss on loans that we sell or securitize, to the extent such sales and securitizations are recognized as such under IFRS.

Foreclosure and Collateral. We generally foreclose on mortgages or exercise our security interests in respect of other collateral if a collateralized obligation becomes overdue for more than three months. At that time, we will petition a court to foreclose on collateral and to sell that collateral through a court-supervised auction. Under Korean law, that petition must be filed with a court that has jurisdiction over the mortgaged property, and must be filed together with a copy of the mortgage agreement and an extract of the court registry regarding the subject property. The court will then issue an order to commence the foreclosure auction, which will be registered in the court registry of the subject property. If no bidder bids at least the minimum amount set by the court on the first auction date, the court will set another date for a subsequent auction approximately one month later. Each time a new auction date is set, the minimum auction price will be lowered by approximately 20%. Unlike laws relating to foreclosure in the United States, Korean law does not provide for non-judicial foreclosure. During 2016, 2017 and 2018, we foreclosed on collateral we obtained with respect to loan balances representing approximately 0.2%, 0.1% and 0.1% respectively, of our average interest-bearing loan balances in each of those periods.

Korean financial institutions, including us, maintain general policies to assess a potential customer s eligibility for loans based on that entity s credit quality, rather than requiring a particular level of collateral, especially in the case of large corporate borrowers. As a result, the ratio of our collateral to non-performing corporate loans is relatively low when compared with our total exposures. For secured consumer loans, however, we generally impose limits on loan amounts based on the collateral we receive. See Consumer Banking Lending Activities.

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We reflect this collateral level when we estimate the future cash flow for our loans, which we calculate using a discounted cash flow method. With respect to loans to borrowers that we do not believe will be going concerns in the future, the lower collateral ratio has a direct effect on cash flow estimates and results in a higher level of allowances. With respect to loans to borrowers that we expect to be going concerns, the lower collateral ratio has an effect on cash flow estimates but we also consider other factors, including future operating income and future asset disposals and restructuring, in determining allowance levels. Accordingly, for these latter borrowers, the effect of lower collateral levels on allowances is mitigated by other characteristics of the borrower, and that lower collateral level will not necessarily result in a higher level of allowances.

Sales of Non-Performing Loans

The overall asset quality of our loan portfolio is affected by sales of non-performing loans. These sales have been made primarily to UAMCO and various structured companies as further described below.

The following table sets forth information regarding our sales of loans for the periods indicated:

	Year Ended December 31,								
	2016			2017			2018		
Purchaser	**Net Carrying Amount[1]**	**Sale Price**	**Gain (Loss)**	**Net Carrying Amount[1]**	**Sale Price**	**Gain (Loss)**	**Net Carrying Amount[1]**	**Sale Price**	**Gain (Loss)**
	(in billions of Won)								
Structured companies	213	244	31	260	273	13	155	197	42
UAMCO	66	78	12						
Others[2]	218	259	41					19	19
Total	497	581	84	260	273	13	155	216	61

(1) Net carrying amount represents the net value of non-performing loans after deduction of allowance for credit losses on such basis.
(2) Includes 5 million of sales to Korea Asset Management Corporation in 2018, which may be subject to repurchase by us.

United Asset Management Corp. UAMCO was established in late 2009 in the wake of the global financial crisis by six major commercial banks in Korea, including Woori Bank, to purchase, sell and securitize non-performing loans and to engage in corporate restructuring activities, among other things. Currently, Woori Bank and six other banks each hold a 14% equity interest in UAMCO, while one other bank holds a 2% equity interest. Woori Bank has committed to contribute approximately 142 billion of capital to UAMCO, of which approximately 87 billion has been contributed to date. Upon the fulfillment of such capital contribution commitments from Woori Bank and the seven other banks, UAMCO may request a loan from the seven banks holding a 14% equity interest in UAMCO, which includes Woori Bank, of up to a combined 2 trillion, upon which such seven banks must use their best efforts to fulfill such request pro rata to their ownership interests. Therefore, we have neither control nor significant influence over UAMCO.

Pursuant to a memorandum of understanding among the Financial Services Commission and seven banks, including Woori Bank, a private equity fund was established in June 2011 to acquire approximately 1.2 trillion of non-performing bank loans to construction companies in workout, restructuring or rehabilitation. The general partner of the fund is UAMCO and the limited partners consist of the seven banks and other investors. The fund purchases non-performing bank loans at market price and the funds required to purchase such loans are contributed or lent by the same banks that sell such loans to the fund. In June 2011, Woori Bank agreed to make a capital commitment of 148 billion and provide a 109 billion revolving loan facility to the fund. From June to December 2011, Woori Bank contributed the entire amount of its capital commitment to the fund in connection with its purchase of 443 billion of non-performing loans from Woori Bank. In 2012, Woori Bank made an additional capital contribution of 44 billion to the fund in connection with its purchase of 44 billion of non-performing loans from Woori Bank. We have determined that we have significant influence over the private equity fund.

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Under the terms of our sale of loans to UAMCO and the private equity fund, we are not required to repurchase any such loans, provide post-sale price adjustments or otherwise continue to be involved with such loans subsequent to their sale in any material respect. In addition, UAMCO and the private equity fund have the practical ability to sell non-performing loans in their entirety to unrelated third parties and are able to exercise such ability unilaterally without the need to impose additional restrictions, notwithstanding our ownership interest. Therefore, we believe we have not retained control over the transferred assets, and non-performing loans sold to UAMCO in 2016, 2017 and 2018 were derecognized in accordance with IAS 39 or IFRS 9, as applicable.

Structured companies. We transfer non-performing loans to structured companies, of which we do not have control over the significant operations. Most of the structured companies are investment funds that specialize in acquiring non-performing loans from Korean financial institutions, including us. In addition, we have not provided any financial guarantees or credit facilities nor invested in any such investment funds. As such, we believe that we have transferred substantially all of the risks and rewards of the relevant non-performing loans to the structured companies and have derecognized all non-performing loans that were transferred to structured companies in 2016, 2017 and 2018.

Others. In addition to sales of loans to UAMCO and various structured companies, we sell non-performing loans to various private investment companies. Pursuant to the terms of such sales to private investment companies, we are not required to repurchase any such loans, provide post-sale price adjustments or otherwise continue to be involved with such loans subsequent to their sale in any material respect.

Allocation and Analysis of Allowances for Credit Losses

The following table presents, as of the dates indicated, the allocation of our allowances for credit losses by loan type:

	As of December 31,									
	2014		2015		2016		2017		2018	
	(in billions of Won, except percentages)									
Domestic										
Corporate										
Commercial and industrial	1,781	68.3%	1,297	63.2%	975	52.7%	893	50.4%	863	48.5%
Lease financing							1	0.1	1	0.1
Trade financing	151	5.8	217	10.6	277	14.9	297	16.8	171	9.6
Other commercial	157	6.0	135	6.6	183	9.8	143	8.0	130	7.3
Total corporate	2,089	80.1	1,649	80.4	1,435	77.4	1,334	75.3	1,165	65.5
Consumer										
General purpose household[(1)]	301	11.5	184	9.0	149	8.0	187	10.6	258	14.5
Mortgage	19	0.7	11	0.5	9	0.5	11	0.6	19	1.1
Total consumer	320	12.2	195	9.5	158	8.5	198	11.2	277	15.6
Credit cards	129	4.9	146	7.1	155	8.4	182	10.3	260	14.6
Total domestic	2,538	97.2	1,990	97.0	1,748	94.3	1,714	96.8	1,702	95.7
Foreign										

Corporate										
Commercial and industrial	56	2.2	44	2.2	92	5.0	39	2.2	53	3.0
Trade financing	4	0.2	4	0.2	1	0.1	3	0.2	3	0.2
Other commercial			3	0.1	1	0.1	7	0.4	5	0.3
Total corporate	60	2.4	51	2.5	94	5.2	49	2.8	61	3.5
Consumer	11	0.4	10	0.5	9	0.5	7	0.4	15	0.8
Total foreign	71	2.8	61	3.0	103	5.7	56	3.2	76	4.3
Total allowance for credit losses[2]	2,609	100.0%	2,051	100.0%	1,851	100.0%	1,770	100.0%	1,778	100.0%

(1) Includes home equity loans.
(2) Not including due from banks and other financial assets (or other receivables).

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The following table presents an analysis of the changes in our allowances for credit losses for each of the years indicated:

	Year ended December 31,				
	2014	2015	2016	2017	2018[4]
	(in billions of Won)				
Balance at the beginning of the year[1]	3,337	2,609	2,051	1,851	2,018
Bad debt expenses for the period	1,076	1,029	822	896	375
Increase on repurchases of non-performing loans					
Gross charge-offs					
Domestic					
Corporate					
Commercial and industrial	(1,037)	(1,016)	(613)	(352)	(239)
Lease financing					
Trade financing	(62)	(82)	(67)	(29)	(26)
Other commercial	(68)	(30)	(19)	(39)	(6)
Total corporate	(1,167)	(1,128)	(699)	(420)	(271)
Consumer					
General purpose household[2]	(113)	(237)	(152)	(143)	(201)
Mortgage	(2)	(3)	(3)	(4)	(3)
Total consumer	(115)	(240)	(155)	(147)	(204)
Credit cards	(163)	(198)	(242)	(228)	(243)
Total domestic	(1,445)	(1,566)	(1,096)	(795)	(718)
Foreign	(7)	(11)	(23)	(37)	(18)
Allowances relating to loans sold	(150)	(141)	(115)	(66)	(52)
Total gross charge-offs	(1,602)	(1,718)	(1,234)	(898)	(788)
Recoveries:					
Domestic					
Corporate					
Commercial and industrial	53	158	153	65	98
Lease financing					
Trade financing	6	19	18	6	11
Other commercial	6	20	21	14	17
Total corporate	65	197	192	85	126
Consumer					
General purpose household[2]	6	16	29	25	29
Mortgage	3	13	25	20	23
Total consumer	9	29	54	45	52
Credit cards	28	34	44	51	57

Total domestic	102	260	290	181	235
Foreign	1	1		1	2
Total recoveries	103	261	290	182	237
Net charge-offs	(1,499)	(1,457)	(944)	(716)	(551)
Foreign exchange translation effects	1		1	(3)	
Others[3]	(306)	(130)	(79)	(258)	(64)
Balance at the end of the year	2,609	2,051	1,851	1,770	1,778
Ratio of net charge-offs during the period to average loans outstanding during the period	0.8%	0.7%	0.4%	0.3%	0.2%

(1) The application of IFRS 9 resulted in a one-off increase of 248 billion in the opening balance of allowances for loan losses as of January 1, 2018. See Notes 2-(1)-1)-b) and 10-(8) of the notes to our consolidated financial statements.

(2) Includes home equity loans.

(3) Includes unwinding of discount.

(4) See Note 10-(6) of the notes to our consolidated financial statements for changes in allowance for loan losses according to stages of credit risk deterioration of financial assets.

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Loan Charge-Offs

The credit approval process we have implemented includes assessing credit risk before extending loans and monitoring outstanding loans, in order to minimize loans that must be charged off. To the extent charge-offs are required, we follow charge-off policies aimed at maximizing accounting transparency, minimizing any waste of resources in managing loans which have a low probability of being collected and reducing our non-performing loan ratio.

Loans To Be Charged Off. We charge off loans that are deemed to be uncollectible by virtue of their falling under any of the following categories:

- loans for which collection is not foreseeable due to insolvency, bankruptcy, compulsory execution, disorganization, dissolution or the shutting down of the business of the debtor;
- loans for which collection is not foreseeable due to the death or disappearance of the debtor;
- loans for which expenses of collection exceed the collectable amount;
- loans on which collection is not possible through legal or any other means;
- payments in arrears in respect of credit cards that have been overdue for more than four payment cycles and have been classified as estimated loss (excluding instances where there has been partial payment of the overdue balance, where a related balance is not overdue or where a charge off is not possible due to Korean regulations), and those that have been overdue for more than six months;
- payments outstanding on corporate and consumer loans (other than credit card receivables) that have been overdue for more than 12 months, and those on unsecured consumer loans that have been overdue for more than six months; or
- the portion of loans classified as estimated loss, net of any recovery from collateral, which is deemed to be uncollectible.

Procedure for Charge-off Approval. In order to charge off corporate loans, in the case of Woori Bank, an application for a charge-off must be submitted by a branch to the Credit Management and Collection Department promptly and, in any event, within one month after the corporate loan is classified as estimated loss. The department evaluates and approves the application. Then, Woori Bank must seek an approval from the Financial Supervisory Service for its charge-offs, which is typically granted. At the same time, Woori Bank refers the approval of the charge-off by the Credit Management and Collection Department to its Audit Committee for review to ensure compliance with its internal procedures for charge-offs, which include consultations with the branch submitting the charge-off application. Once Woori Bank receives approval from the Financial Supervisory Service, Woori Bank must also obtain approval from its senior management to charge off those loans.

With respect to unsecured consumer loans and credit card balances, we follow a different process to determine which unsecured consumer loans and credit card balances should be charged-off, based on the length of time those loans or balances are past due. We charge off unsecured consumer loans which are 12 months overdue and credit card balances which have been overdue for more than four payment cycles and have been classified as estimated loss (excluding instances where there has been partial payment of the overdue balance, where a related balance is not overdue or where a charge off is not possible due to Korean regulations).

Treatment of Loans Charged Off. Once loans are charged off, we classify them as charged-off loans. In the case of Woori Bank, these loans are then transferred to our wholly-owned subsidiary, Woori Credit Information, which is in charge of collections. It will attempt to recover amounts owed or to sell these loans to third parties.

In the case of collateralized loans, our general policy is to petition a court to foreclose and sell the collateral through a court-supervised auction if a collateralized loan becomes overdue for more than three months. If a debtor still fails to repay and the court grants its approval for foreclosure, we will sell the collateral, net of expenses incurred from the auction.

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Credit Rehabilitation Programs for Delinquent Consumer Borrowers

In light of the rapid increase in delinquencies in credit card and other consumer credit in recent years, and concerns regarding potential social issues posed by the growing number of individuals with bad credit, the Korean government has implemented a number of measures intended to support the rehabilitation of the credit of delinquent consumer borrowers. These measures may affect the amount and timing of our collections and recoveries on our delinquent consumer credits.

In 2002, the Financial Services Commission established the Credit Counseling and Recovery Service based upon an agreement among approximately 160 financial institutions in Korea. Upon application to the Credit Counseling and Recovery Service and approval by creditor financial institutions representing a majority of the outstanding unsecured debt and two-thirds of the outstanding secured debt, a qualified credit delinquent person with outstanding debts to two or more financial institutions in an aggregate amount not exceeding 500 million may participate in an individual work-out program designed to restructure such person s debt and rehabilitate such person s credit. The aggregate amount of loans of Woori Bank which became subject to such individual work-out programs in 2018 was 70 billion. In 2018, Woori Bank recovered approximately 7 billion with respect to its loans subject to such individual work-out programs.

Under the Korean Debtor Recovery and Bankruptcy Law, a qualified individual debtor with outstanding debts in an aggregate amount not exceeding threshold amounts of 500 million of unsecured debt and/or 1 billion of secured debt may restructure his or her debts through a court-supervised debt restructuring that is binding on creditors. The aggregate amount of loans of Woori Bank which became subject to such court-supervised debt restructuring in 2018 was 287 billion. In 2018, Woori Bank recovered 32 billion with respect to its loans subject to such court-supervised debt restructuring.

In September 2008, to support consumer borrowers with low credit scores, the Financial Services Commission established the Credit Rehabilitation Fund to purchase from creditors the loans of such borrowers that are in default and to provide guarantees so that such loans may be refinanced at lower rates. The Credit Rehabilitation Fund provides support to (i) individuals with low credit scores who are in default on loans not exceeding 50 million in principal amount in the aggregate (which requirement will be waived for individuals who are basic living welfare recipients) for a period of three months or more and (ii) individuals with low credit scores ranging from category 6 to 10 who are in default on loans not exceeding 30 million in principal amount in the aggregate (which requirement will be waived for individuals who are basic living welfare recipients) and the interest rate of which is 30% or more.

In March 2009, the Financial Services Commission requested Korean banks, including Woori Bank, to establish a pre-workout program, including a credit counseling and recovery service, for retail borrowers with outstanding short-term debt. Under the pre-workout program, maturity extensions and/or interest rate adjustments are provided to retail borrowers with total loans of less than 1.5 billion (consisting of no more than 500 million of unsecured loans and 1 billion of secured loans) who are in arrears on their payments for more than 30 days but less than 90 days. The aggregate amount of consumer credit (including credit card receivables) Woori Bank provided which became subject to the pre-workout program in 2018 was 37 billion. See Item 3.D. Risk Factors Risks relating to our consumer credit portfolio We may experience increases in delinquencies in our consumer loan and credit card portfolios.

Securities Investment Portfolio

Investment Policy

We invest in and trade Won-denominated securities and, to a lesser extent, foreign currency-denominated securities for our own account to:

- maintain asset stability and diversification;
- maintain adequate sources of back-up liquidity to match funding requirements; and
- supplement income from core lending activities.

In making securities investments, we take into account a number of factors, including external broker analyses and internal assessments of macroeconomic trends, industry analysis, credit evaluation, maturity and trading history in determining whether to make a particular investment.

Our investments in debt securities include primarily bonds issued by government-related entities, as well as corporate bonds that have been guaranteed by banks (other than merchant banks), government-related funds or privately capitalized funds that we consider to have a low credit risk.

Our securities investments are subject to various regulations, including limitations prescribed under the Financial Holding Company Act and the Bank Act. Under these regulations, a financial holding company may not own (i) more than 5% of the total issued and outstanding shares of another finance-related company, (ii) any shares of its affiliates, other than its direct or indirect subsidiaries, or (iii) any shares of a non-finance-related company. In addition, a bank must limit its investments in equity securities and bonds with a maturity in excess of three years (other than monetary stabilization bonds issued by the Bank of Korea and Korean government bonds) to 100% of the sum of its total Tier I and Tier II capital amount (less any capital deductions). A bank is also generally prohibited from acquiring more than 15% of the shares with voting rights issued by any other corporation, subject to certain exceptions. Pursuant to the Bank Act, a bank and its trust accounts are prohibited from acquiring the shares of a major shareholder (for the definition of major shareholder, see Supervision and Regulation Principal Regulations Applicable to Banks Financial Exposure to Any Individual Customer or Major Shareholder) of that bank in excess of an amount equal to 1% of the sum of the bank s Tier I and Tier II capital (less any capital deductions). Further information on the regulatory environment governing our investment activities is set out in Supervision and Regulation Principal Regulations Applicable to Financial Holding Companies Liquidity, Supervision and Regulation Principal Regulations Applicable to Financial Holding Companies Restrictions on Shareholdings in Other Companies, Supervision and Regulation Principal Regulations Applicable to Banks Liquidity and Supervision and Regulation Principal Regulations Applicable to Banks Restrictions on Shareholdings in Other Companies.

Our investments in foreign currencies are subject to certain limits and restrictions specified in our internal guidelines relating to country exposure, a single issuer and type of security exposure, and total investments by individual business groups.

Book Value and Fair Value

The following table sets out the book value and fair value of securities in our portfolio as of the dates indicated:

	As of December 31,					
	2016		2017		2018	
	Book Value	Fair Value	Book Value	Fair Value	Book Value	Fair Value
	(in billions of Won)					
Financial assets at fair value through profit or loss (IFRS 9/IAS 39)						
Financial assets at fair value through profit or loss mandatorily measured at fair value/Financial assets held for trading						
Equity securities	36	36	22	22	878	878
Beneficiary certificates	24	24	13	13	985	985
Others	4	4				
Debt securities						
Korean treasury and government agencies	519	519	540	540	516	516
Financial institutions	1,445	1,445	1,477	1,477	534	534
Corporate	681	681	627	627	775	775
Sub-total	2,709	2,709	2,679	2,679	3,688	3,688
Financial assets designated at fair value through profit or loss(1)						
Debt securities	4	4	10	10		
Equity securities	13	13	13	13		
Sub-total	17	17	23	23		
Total	2,726	2,726	2,702	2,702	3,688	3,688
Financial assets at fair value through other comprehensive income/Available-for-sale financial assets						
Equity securities	1,454	1,454	1,411	1,411	951	951
Beneficiary certificates	2,822	2,822	713	713		
Others	494	494	170	170	40	40
Debt securities						
Korean treasury and government agencies	3,789	3,789	2,331	2,331	1,358	1,358
Financial institutions	6,314	6,314	5,217	5,217	11,253	11,253
Corporate	4,409	4,409	2,725	2,725	1,825	1,825
Asset backed securities	249	249	308	308		
Foreign currency bonds	1,212	1,212	2,443	2,443	2,636	2,636
Others	75	75	35	35		

Total	20,818	20,818	15,353	15,353	18,063	18,063
Securities at amortized cost/Held-to-maturity financial assets						
Debt securities						
Korean treasury and government agencies	3,754	3,774	3,995	3,987	7,523	7,575
Financial institutions	5,169	5,173	7,245	7,233	9,475	9,494
Corporate	4,823	4,874	5,312	5,299	5,707	5,732
Foreign currency bonds	164	164	197	197	234	233
Total	13,910	13,985	16,749	16,716	22,939	23,034
Total securities	37,454	37,529	34,804	34,771	44,690	44,785

(1) Effective as of January 1, 2018, financial assets designated at fair value through profit or loss have been reclassified as financial assets at fair value through profit or loss mandatorily measured at fair value, pursuant to the application of IFRS 9. See Notes 2-(1)-1)-a) and 7 of the notes to our consolidated financial statements.

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Maturity Analysis

The following table categorizes our debt securities by maturity and weighted average yield as of December 31, 2018:

	As of December 31, 2018									
	Within 1 year		Over 1 but Within 5 years		Over 5 but Within 10 years		Over 10 years		Total	
	(in billions of Won, except percentages)									
	Amount	Weighted Average Yield(1)	Amount	Weighted Average Yield(1)	Amount	Weighted Average Yield(1)	Amount	Weighted Average Yield(1)	Amount	Weighted Average Yield(1)
Financial assets at fair value through profit or loss										
Korean treasury and government agencies	146	1.92%	249	2.00%	121	1.77%		%	516	1.92%
Financial institutions	242	1.91	251	2.00	41	2.65			534	2.01
Corporate	472	2.48	302	2.23					775	2.38
Total	860	2.22%	802	2.09%	162	1.99%		%	1,825	2.14%
Financial assets at fair value through other comprehensive income										
Korean treasury and government agencies	784	2.10%	520	2.07%	50	2.09%	4	3.25%	1,358	2.09%
Financial institutions	4,282	1.92	6,971	2.13					11,253	2.05
Corporate	711	2.31	1,022	2.68	92	2.55			1,825	2.53
Foreign currency bonds	1,240	1.80	1,263	1.95	39	5.81	94	2.35	2,636	1.95
Total	7,017	1.96%	9,776	2.16%	181	3.13%	98	2.38%	17,072	2.09%
Securities at amortized cost										
Korean treasury and government agencies	1,353	2.21%	6,144	2.17%	26	3.88%		%	7,523	2.18%
Financial institutions	5,014	1.83	4,461	2.25					9,475	2.03
Corporate	1,545	2.75	3,762	2.44	280	2.57	120	1.99	5,707	2.52
Foreign currency bonds	51	1.17	98	3.27	34	2.83	51	6.25	234	3.41
Total	7,963	2.07%	14,465	2.27%	340	2.70%	171	3.27%	22,939	2.21%

(1) The weighted average yield for the portfolio represents the yield to maturity for each individual security, weighted using its book value (which is the amortized cost in the case of financial assets at amortized cost and the fair value in the case of financial assets at fair value through other comprehensive income and financial assets at fair value through profit or loss).

Risk Concentrations

As of December 31, 2018, we held the following securities of individual issuers where the aggregate book value of those securities exceeded 10% of our owners equity at such date. As of December 31, 2018, our owners equity was 21,740 billion.

	As of December 31, 2018	
	Book Value	**Market Value**
	(in billions of Won)	
Name of issuer:		
The Korea Development Bank	9,424	9,439
Korean government	9,171	9,222
The Bank of Korea	7,044	7,045
Korea Housing Finance Corporation	2,241	2,251
Total	27,880	27,957

The Korea Development Bank, The Bank of Korea and Korea Housing Finance Corporation are Korean government entities.

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Funding

We fund our lending and other activities using various sources, both domestic and foreign. Our primary funding strategy is to maintain stable and low-cost funding. We have in the past achieved this in part by increasing the average balances of low-cost customer deposits, in particular demand deposits and savings deposits.

Customer deposits are our principal funding source. Customer deposits accounted for 82.8% of our total funding as of December 31, 2016, 82.7% of our total funding as of December 31, 2017 and 82.7% of our total funding as of December 31, 2018.

We also acquire funding through the following sources:

- long-term debt, including the issuance of senior and subordinated debentures and borrowings from government-affiliated funds and entities and other financial institutions;
- short-term borrowings, including borrowings from our trust accounts and from the Bank of Korea, and call money; and
- the issuance of hybrid securities, including bond-type hybrid securities.

As of December 31, 2018, approximately 87.9% of our total funding was denominated in Won.

Deposits

Although the majority of our deposits are short-term, it has been our experience that the majority of our depositors generally roll over their deposits at maturity, providing us with a stable source of funding. See Item 3.D. Risk Factors Other risks relating to our business Our funding is highly dependent on short-term deposits, which dependence may adversely affect our operations. The following table shows the average balances of our deposits and the average costs of our deposits for the periods indicated:

	For the year ended December 31,					
	2016		2017		2018	
	Average Balance(1)	Average Cost	Average Balance(1)	Average Cost	Average Balance(1)	Average Cost
	(in billions of Won, except percentages)					
Demand deposits	9,742	0.78%	8,319	0.63%	8,512	0.60%
Time deposits and savings deposits	181,073	1.20	186,277	1.08	196,806	1.23
Certificates of deposit	3,476	1.70	4,553	1.71	5,091	2.04
Other deposits(2)	23,405	1.05	24,444	0.99	26,254	1.31
Average total deposits	217,696	1.17%	223,593	1.06%	236,663	1.23%

(1) Average balances are based on daily balances for Woori Bank and on quarterly balances for all of our other subsidiaries and our structured companies.

(2) Mutual installment deposits are interest-bearing deposits offered by us, which enable customers to become eligible to apply for loans secured by such deposits while they maintain an account with us. In order to qualify to apply for such a loan, a customer must make required periodic deposits to the mutual installment account for a contracted term of less than five years. Any such loan will be secured in an amount up to the holder s mutual installment deposit and will be subject to the same loan underwriting policy we apply for other secured loans. For the portion of the loan, if any, that is not secured, we apply the same loan underwriting policy as we would for other unsecured loans.

For a description of our retail deposit products, see Business Consumer Banking Lending Activities Mortgage and Home Equity Lending and Business Consumer Banking Deposit-Taking Activities.

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Maturities of Certificates of Deposit and Other Time Deposits

The following table presents, as of December 31, 2018, the remaining maturities of our certificates of deposit and other time deposits which had fixed maturities in excess of 100 million:

	As of December 31, 2018		
	Certificates of Deposit	Other Time Deposits	Total
	(in billions of Won)		
Maturing within three months	1,125	24,740	25,865
After three but within six months	2,388	24,164	26,552
After six but within 12 months	2,827	50,127	52,954
After 12 months	61	3,516	3,577
Total	6,401	102,547	108,948

Long-Term Debt

The aggregate amount of contractual maturities of all long-term debt, which consists of debentures and borrowings with original maturities exceeding one year, as of December 31, 2018 was as follows:

	Amount (in billions of Won)
Due in 2019	15,132
Due in 2020	9,659
Due in 2021	5,204
Due in 2022	3,499
Due in 2023	2,238
Thereafter	2,584
Gross long-term debt	38,317
Less: discount	(29)
Total long-term debt, net	38,288

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Short-Term Borrowings

The following table presents, for the periods indicated, information regarding our short-term borrowings, with an original maturity of one year or less:

	As of and for the year ended December 31,		
	2016	2017	2018
	(in billions of Won, except percentages)		
Call money			
Year-end balance	1,927	635	975
Average balance[1]	1,991	1,527	1,047
Maximum balance	3,250	3,375	1,540
Average interest rate[2]	1.3%	2.0%	2.0%
Year-end interest rate	0.0~5.1%	1.5~2.7%	0.0~7.3%
Borrowings from the Bank of Korea[3]			
Year-end balance	1,599	1,404	1,335
Average balance[1]	1,474	1,402	1,421
Maximum balance	1,608	1,457	1,468
Average interest rate[2]	0.7%	0.7%	0.7%
Year-end interest rate	0.5~0.8%	0.5~0.8%	0.5~0.8%
Other short-term borrowings [4]			
Year-end balance	5,974	6,750	8,087
Average balance[1]	7,192	7,087	8,006
Maximum balance	9,722	7,694	8,859
Average interest rate[2]	1.3%	1.4%	1.8%
Year-end interest rate	0.01~2.9%	0.01~5.0%	0.05~6.4%

(1) Average balances are based on monthly balances.

(2) Average interest rates for the year are calculated by dividing the total interest expense by the average amount borrowed.

(3) Borrowings from the Bank of Korea generally mature within one month for borrowings in Won and six months for borrowings in foreign currencies.

(4) Other short-term borrowings include borrowings from trust accounts, bills sold, borrowings in domestic and foreign currency, short-term secured borrowings and foreign currency debentures. Other short-term borrowings have maturities of 30 days to one year and are unsecured.

Supervision and Regulation

Principal Regulations Applicable to Financial Holding Companies

General

The Financial Holding Company Act, last amended on December 31, 2018, regulates Korean financial holding companies and their subsidiaries. The entities that regulate and supervise Korean financial holding companies and their subsidiaries are the Financial Services Commission and the Financial Supervisory Service.

The Financial Services Commission exerts direct control over financial holding companies pursuant to the Financial Holding Company Act. Among other things, the Financial Services Commission approves the establishment of financial holding companies, issues regulations on the capital adequacy of financial holding companies and their subsidiaries, and drafts regulations relating to the supervision of financial holding companies.

Following the instructions and directives of the Financial Services Commission, the Financial Supervisory Service supervises and examines financial holding companies and their subsidiaries. In particular, the Financial Supervisory Service sets requirements relating to Korean financial holding companies liquidity and capital adequacy ratios and establishes reporting requirements within the authority delegated under the Financial Services Commission regulations. Financial holding companies must submit quarterly reports to the Financial Supervisory Service discussing business performance, financial status and other matters identified in the Enforcement Decree of the Financial Holding Company Act.

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Under the Financial Holding Company Act, a financial holding company is a company which primarily engages in controlling its subsidiaries by holding equity stakes in them equal in aggregate to at least 50% of the financial holding company s aggregate assets based on its balance sheet as of the end of the immediately preceding fiscal year. A company is required to obtain approval from the Financial Services Commission to become a financial holding company.

A financial holding company may engage only in controlling the management of its subsidiaries, as well as certain ancillary activities including:

- financially supporting its direct and indirect subsidiaries;
- raising capital necessary for investment in its subsidiaries or providing financial support to its direct and indirect subsidiaries;
- supporting the business of its direct and indirect subsidiaries, including the development and marketing of financial products;
- providing data processing, legal, accounting and other resources and services that have been commissioned by its direct and indirect subsidiaries so as to support their operations; and
- any other businesses exempted from authorization, permission or approval under the applicable laws and regulations.

The Financial Holding Company Act requires every financial holding company (other than a financial holding company that is controlled by another financial holding company) and its subsidiaries to obtain prior approval from the Financial Services Commission before acquiring control of another company or to file a report with the Financial Services Commission within 30 days thereafter in certain cases (including acquiring control of another company whose assets are less than 100 billion as of the end of the immediately preceding fiscal year). In addition, the Financial Services Commission must grant permission to liquidate or to merge with any other company before the liquidation or merger. A financial holding company must report to the Financial Services Commission when certain events, including the following, occur:

- when the largest shareholder changes;
- in the case of a bank holding company, when a major investor changes;
- when the shareholding of the controlling shareholder (i.e., the largest shareholder or a principal shareholder, each as defined in the Financial Holding Company Act) or a person who has a special relationship with such controlling shareholder (as defined in the Enforcement Decree of the Financial Holding Company Act)

changes by 1% or more of the total issued and outstanding voting shares of the financial holding company;

when it changes its corporate name;

when there is a cause for its dissolution; and

when it or its subsidiaries cease to control any of their respective direct or indirect subsidiaries by disposing of their shares of such direct or indirect subsidiary.

Capital Adequacy

The Financial Holding Company Act does not provide for a minimum paid-in capital requirement related to financial holding companies. However, all financial holding companies are required to maintain a specified level of solvency. In addition, with respect to the allocation of net profit earned in a fiscal term, a financial holding company must set aside in its legal reserve an amount equal to at least 10% of its net income after tax each time it pays dividends on its net profits earned until its legal reserve reaches at least the aggregate amount of its paid-in capital.

A bank holding company, which is a financial holding company controlling banks or other financial institutions conducting banking business as prescribed in the Financial Holding Company Act, was required to maintain a total minimum consolidated capital adequacy ratio of 10.625% (including applicable additional capital buffers and requirements as described below) as of December 31, 2018, and such ratio increased to 11.5% as of January 1, 2019. Consolidated capital adequacy ratio is defined as the ratio of equity capital as a percentage of risk-weighted assets on a consolidated basis, determined in accordance with the Financial Services Commission requirements that have been formulated based on Bank of International Settlements standards. Equity capital, as applicable to bank holding companies, is defined as the sum of common equity Tier I capital, additional Tier I capital and Tier II capital less any deductible items, each as defined under the Regulation on the Supervision of Financial Holding Companies. Risk-weighted assets is defined as the sum of credit risk-weighted assets and market risk-weighted assets.

Pursuant to amended regulations promulgated by the Financial Services Commission commencing in 2013 to implement Basel III, Korean bank holding companies were required to maintain a minimum ratio of common equity Tier I capital to risk-weighted assets of 3.5% and Tier I capital to risk-weighted assets of 4.5% from December 1, 2013, which minimum ratios were increased to 4.0% and 5.5%, respectively, from January 1, 2014 and increased further to 4.5% and 6.0%, respectively, from January 1, 2015. Such requirements are in addition to the pre-existing requirement for a minimum ratio of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets of 8.0%, which remains unchanged. The amended regulations also require an additional capital conservation buffer of 1.875% in 2018 and 2.5% in 2019, as well as a potential counter-cyclical capital buffer of up to 2.5%, which is determined on a quarterly basis by the Financial Services Commission. Furthermore, bank holding companies designated as one of four domestic systemically important banks for 2018 by the Financial Services Commission were subject to an additional capital requirement of 0.75% in 2018. Bank holding companies so designated for 2019 are subject to an additional capital requirement of 1.0% in 2019.

Liquidity

All financial holding companies are required to match the maturities of their assets and liabilities on a non-consolidated basis in accordance with the Financial Holding Company Act in order to ensure liquidity. Financial holding companies must:

- maintain a Won liquidity ratio (defined as Won assets due within one month, including marketable securities, divided by Won liabilities due within one month) of not less than 100% on a non-consolidated basis;

- maintain a foreign currency liquidity ratio (defined as foreign currency liquid assets due within three months divided by foreign currency liabilities due within three months) of not less than 80% on a non-consolidated basis (except that such requirement is not applicable to a financial holding company whose foreign currency liabilities constitute less than 1% of its total assets);

- maintain a ratio of foreign currency liquid assets due within seven days less foreign currency liabilities due within seven days as a percentage of total foreign currency assets of not less than 0% on a non-consolidated basis (except that such requirement is not applicable to a financial holding company whose foreign currency liabilities constitute less than 1% of its total assets);

maintain a ratio of foreign currency liquid assets due within a month less foreign currency liabilities due within a month as a percentage of total foreign currency assets of not less than negative 10% on a non-consolidated basis (except that such requirement is not applicable to a financial holding company whose foreign currency liabilities constitute less than 1% of its total assets); and

make quarterly reports regarding their Won liquidity and foreign currency liquidity to the Financial Supervisory Service.

Financial Exposure to Any Individual Customer and Major Investor

Subject to certain exceptions, the aggregate credit (as defined in the Financial Holding Company Act, the Bank Act, the Financial Investment Services and Capital Markets Act, the Insurance Business Act, the Mutual Savings Bank Act and the Specialized Credit Financial Business Act, respectively) of a financial holding company and its direct and indirect subsidiaries that are banks, merchant banks, financial investment companies, insurance companies, savings banks or specialized credit financial business companies (which we refer to as Financial Holding Company Total Credit) to a single group of companies that belong to the same conglomerate as defined in the Monopoly Regulations and Fair Trade Act will not be permitted to exceed 25% of net aggregate equity capital (as defined below).

Net aggregate equity capital is defined under the Enforcement Decree of the Financial Holding Company Act as the sum of:

(1) in case of a financial holding company, the capital amount as defined in Article 24-3(7), Item 2 of the Enforcement Decree of the Financial Holding Company Act;

(2) in case of a bank, the capital amount as defined in Article 2(1), Item 5 of the Bank Act;

(3) in case of a merchant bank, the capital amount as defined in Article 342(1) of the Financial Investment Services and Capital Markets Act;

(4) in case of a financial investment company, the capital amount as defined in Article 37(3) of the Enforcement Decree of the Financial Investment Services and Capital Markets Act;

(5) in case of an insurance company, the capital amount as defined in Article 2, Item 15 of the Insurance Business Act;

(6) in case of a savings bank, the capital amount as defined in Article 2, Item 4 of the Mutual Savings Bank Act; and

(7) in case of a specialized credit financial business company, the capital amount as defined in Article 2, Item 19 of the Specialized Credit Financial Business Act;

less the sum of:

(1) the amount of shares of direct and indirect subsidiaries held by the financial holding company;

(2) the amount of shares that are cross-held by each direct and indirect subsidiary that is a bank, merchant bank, financial investment company, insurance company, savings bank or specialized credit financial business company; and

(3) the amount of shares of a financial holding company held by such direct and indirect subsidiaries that are banks, merchant banks, financial investment companies, insurance companies, savings banks or specialized credit financial business companies.

The Financial Holding Company Total Credit to a single individual or judicial person may not exceed 20% of the net aggregate equity capital. In addition, the Financial Holding Company Total Credit to a shareholder holding (together with the persons who have a special relationship with the shareholder, as defined in the Enforcement Decree of the Financial Holding Company Act) in aggregate more than 10% of the total issued and outstanding voting shares of a financial holding company generally may not exceed the lesser of (x) 25% of the net aggregate equity capital and (y) the amount of the equity capital of the financial holding company multiplied by the shareholding ratio of the shareholder (together with the persons who have a special relationship with the shareholder).

Further, the total sum of credits (as defined in the Financial Holding Company Act, the Bank Act, the Financial Investment Services and Capital Markets Act, the Insurance Business Act, the Mutual Savings Bank Act and the Specialized Credit Financial Business Act, respectively) of a bank holding company and its direct and indirect subsidiaries that are banks, merchant banks, financial investment companies, insurance companies, savings banks or specialized credit financial business companies as applicable (which we refer to as Bank Holding Company Total Credit) extended to a major investor (as defined below) (together with the persons who have a special relationship with that major investor) will not be permitted to exceed the lesser of (x) 25% of the net aggregate equity capital and (y) the amount of the equity capital of the bank holding company multiplied by the shareholding ratio of the major investor, except for certain cases.

Major investor is defined as:

- a shareholder holding (together with persons who have a special relationship with that shareholder), in excess of 10% (or in the case of a bank holding company controlling regional banks only, 15%) in the aggregate of the bank holding company s total issued and outstanding voting shares; or
- a shareholder holding (together with persons who have a special relationship with that shareholder), more than 4% in the aggregate of the total issued and outstanding voting shares of the bank holding company controlling nationwide banks, where the shareholder is the largest shareholder or has actual control over the major business affairs of the bank holding company through, for example, appointment and dismissal of the officers pursuant to the Enforcement Decree of the Financial Holding Company Act.

In addition, the total sum of the Bank Holding Company Total Credit granted to all of a bank holding company s major investor must not exceed 25% of the bank holding company s net aggregate equity capital. Furthermore, any bank holding company that, together with its direct and indirect subsidiaries, intends to extend credit to the bank holding company s major investor in an amount equal to or exceeding the lesser of (x) the amount equivalent to 0.1% of the net aggregate equity capital and (y) 5 billion, in any single transaction, must obtain prior unanimous board resolutions and then, immediately after providing the credit, must file a report to the Financial Services Commission and publicly disclose the filing of the report.

Restrictions on Transactions Among Direct and Indirect Subsidiaries and Financial Holding Company

Generally, a direct or indirect subsidiary of a financial holding company may not extend credits (excluding the amount of corporate credit card payments issued by a direct or indirect subsidiary of a financial holding company that is engaged in the banking business) to that financial holding company. In addition, a direct or indirect subsidiary of a financial holding company may not extend credits (excluding the amount of corporate credit card payments issued by a direct or indirect subsidiary of a financial holding company that is engaged in the banking business) to other direct or indirect subsidiaries of the financial holding company in excess of 10% of its capital amount on an individual basis or to those subsidiaries in excess of 20% of its capital amount on an aggregate basis. The subsidiary extending the credit must also obtain an adequate level of collateral depending on the type of such collateral from the other subsidiaries unless the credit is otherwise approved by the Financial Services Commission. The adequate level of collateral for each type of collateral is as follows:

(1) for deposits and installment savings, obligations of the Korean government or the Bank of Korea, obligations guaranteed by the Korean government or the Bank of Korea, obligations secured by securities issued or guaranteed by the Korean government or the Bank of Korea, 100% of the credit extended;

(2) for obligations of municipal governments under the Local Autonomy Act, local public enterprise under the Local Public Enterprises Act and investment institutions and other quasi-investment institutions under the Basic Act on the Management of Government-Invested Institution or for obligations guaranteed by, or secured by the securities issued or guaranteed by, the aforementioned entities pursuant to the relevant regulations, 110% of the credit extended; and

(3) for any property other than those set forth in paragraphs (1) and (2) above, 130% of the credit extended.
Subject to certain exceptions, a direct or indirect subsidiary of a financial holding company is prohibited from owning the shares of any other direct or indirect subsidiaries (other than those directly controlled by that direct or indirect subsidiary) under the common control of the financial holding company.

Subject to certain exceptions, a direct or indirect subsidiary of a financial holding company is also prohibited from owning the shares of the financial holding company controlling that direct or indirect subsidiary. The transfer of certain assets classified as precautionary or below between a financial holding company and its direct or indirect subsidiary or between the direct and indirect subsidiaries of a financial holding company is prohibited except for:

(1) transfers to a special purpose company, or entrustment with a trust company, for an asset-backed securitization transaction under the Asset-Backed Securitization Act;

(2) transfers to a mortgage-backed securities issuance company for a mortgage securitization transaction;

(3) transfers or in-kind contributions to a corporate restructuring vehicle under the Corporate Restructuring Investment Companies Act; and

(4) transfers to a corporate restructuring company under the Industry Promotion Act.

Disclosure of Management Performance

For the purpose of protecting the depositors and investors in the subsidiaries of financial holding companies, the Financial Services Commission requires financial holding companies to disclose certain material matters including:

(1) financial condition and profit and loss of the financial holding company and its direct and indirect subsidiaries;

(2) fund-raising by the financial holding company and its direct and indirect subsidiaries and the appropriation of such funds;

(3) any sanctions levied on the financial holding company and its direct and indirect subsidiaries under the Financial Holding Company Act or any corrective measures or sanctions under the Law on Improvement of Structure of Financial Industry; and

(4) occurrence of any non-performing assets or financial incident that may have a material adverse effect, or any other event as prescribed in the applicable regulations.

Restrictions on Shareholdings in Other Companies

Generally, a financial holding company may not own (i) more than 5% of the total issued and outstanding shares of another finance-related company, (ii) any shares of its affiliates, other than its direct or indirect subsidiaries or (iii) any shares of a non-finance-related company.

Restrictions on Shareholdings by Direct and Indirect Subsidiaries

Generally, a direct subsidiary of a financial holding company may not control any other company other than, as an indirect subsidiary of the financial holding company:

- financial institutions established in foreign jurisdictions;
- certain financial institutions which are engaged in any business that the direct subsidiary may conduct without any licenses or permits;
- certain financial institutions whose business is related to the business of the direct subsidiary as described by the Enforcement Decree of the Financial Holding Company Act (for example, a bank subsidiary may control only credit information companies, credit card companies and financial investment companies with a dealing, brokerage, collective investment, investment advice, discretionary investment management and/or trust license);
- certain financial institutions whose business is related to the financial business as prescribed by the regulations of the Ministry of Economy and Finance; and
- certain companies which are not financial institutions but whose business is related to the financial business of the financial holding company as prescribed by the Enforcement Decree of the Financial Holding Company Act (for example, a finance-related research company or a finance-related information technology company).

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Acquisition of such indirect subsidiaries by direct subsidiaries of a financial holding company requires prior permission from the Financial Services Commission or the submission of a report to the Financial Services Commission, depending on the types of the indirect subsidiaries and the amount of total assets of the indirect subsidiaries.

Subject to certain exceptions, an indirect subsidiary of a financial holding company may not control any other company. If an indirect subsidiary of a financial holding company had control over another company at the time it became such an indirect subsidiary, the indirect subsidiary is required to dispose of its interest in the other company within two years from such time.

Restrictions on Transactions between a Bank Holding Company and its Major Investor

A bank holding company and its direct and indirect subsidiaries may not acquire (including through their respective trust accounts) shares issued by the bank holding company s major investor in excess of 1% of the net aggregate equity capital (as defined above). In addition, if those entities intend to acquire shares issued by that major investor in any single transaction equal to or exceeding the lesser of (x) the amount equivalent to 0.1% of the net aggregate equity capital and (y) 5 billion, that entity must obtain prior unanimous board resolutions and then, immediately after the acquisition, file a report to the Financial Services Commission and publicly disclose the filing of the report.

Restrictions on Ownership of a Financial Holding Company

Under the Financial Holding Company Act, a financial institution generally may not control a financial holding company. In addition, any single shareholder and persons who have a special relationship with that shareholder may acquire beneficial ownership of up to 10% of the total issued and outstanding shares with voting rights of a bank holding company that controls nationwide banks or 15% of the total issued and outstanding shares with voting rights of a bank holding company that controls only regional banks, subject to certain exceptions. Among others, the Korean government and the Korea Deposit Insurance Corporation are not subject to this limit. Non-financial business group companies (as defined below), however, may not acquire the beneficial ownership of shares of a bank holding company controlling nationwide banks in excess of 4% of that bank holding company s outstanding voting shares unless they obtain the approval of the Financial Services Commission and agree not to exercise voting rights in respect of shares in excess of the 4% limit, in which case they may acquire beneficial ownership of up to 10%. Any other person (whether a Korean national or a foreign investor) may acquire no more than 10% of total voting shares issued and outstanding of a bank holding company controlling nationwide banks unless they obtain approval from the Financial Services Commission in each instance where the total holding will exceed 10% (or 15% in the case of a bank holding company controlling only regional banks), 25% or 33% of the total voting shares issued and outstanding of that bank holding company controlling nationwide banks.

Furthermore, in the case where a person (including Korean and foreign investors, but excluding certain persons prescribed under the Enforcement Decree of the Financial Holding Company Act) (i) acquires in excess of 4% of the total issued and outstanding voting shares of any bank holding company (other than a bank holding company controlling only regional banks), (ii) becomes the largest shareholder of such bank holding company in which such person has acquired in excess of 4% of the total issued and outstanding voting shares, (iii) changes its shareholding in such bank holding company, in which it has acquired in excess of 4% of the total issued and outstanding voting shares, by 1% or more of the total issued and outstanding voting shares of such bank holding company or (iv) is a private equity fund or an investment purpose company holding in excess of 4% of the total outstanding voting shares of a bank holding company and changes its members or shareholders, such person must file a report on such change with the Financial Services Commission (x) in case of (i) and (iii), by the last day of the month following the month in which such change occurred, or (y) in case of (ii) and (iv), within ten days after the end of the month in which such change occurred.

Non-financial business group companies as defined under the Financial Holding Company Act include:

(1) any same shareholder group where the aggregate net assets of all non-financial business companies belonging to that group equals or exceeds 25% of the aggregate net assets of all members of that group;

(2) any same shareholder group where the aggregate assets of all non-financial business companies belonging to that group equals or exceeds 2 trillion;

(3) any mutual fund where a same shareholder group identified in (1) or (2) above beneficially owns and/or exercises the voting rights of more than 4% of the total issued and outstanding voting shares of that mutual fund;

(4) any private equity fund (a) where a person falling under any of items (1) through (3) above is a limited partner holding not less than 10% of the total amount of contributions to the private equity fund, or (b) where a person falling under any of items (1) through (3) above is a general partner, or (c) where the total equity of the private equity fund acquired by each affiliate belonging to several enterprise groups subject to the limitation on mutual investment is 30% or more of the total amount of contributions to the private equity fund; or

(5) the investment purpose company concerned, where a private equity fund falling under item (4) above acquires or holds stocks in excess of 4% of the stock or equity of such company or exercises de facto control over significant managerial matters of such company through appointment or dismissal of executives or in any other manner.

Sharing of Customer Information among Financial Holding Company and its Subsidiaries

Under the Act on Use and Protection of Credit Information, any individual customer s credit information must be disclosed or otherwise used by financial institutions only to determine, establish or maintain existing commercial transactions with them and only after obtaining written consent to use that information. In addition, under the Act on Real Name Financial Transactions and Confidentiality, an individual working at a financial institution may not provide or reveal information or data concerning the contents of financial transactions to other persons unless such individual receives a request or consent in writing from the holder of a title deed, except under certain exceptions stipulated in the Act. Under the Financial Holding Company Act, a financial holding company and its direct and indirect subsidiaries, however, may share certain credit information of individual customers among themselves for internal management purposes outlined in the Enforcement Decree of the Financial Holding Company Act (such as credit risk management, internal control and customer analysis), without the customers written consent, subject to the methods and procedures for provision of such information set forth therein. A subsidiary financial investment company with a dealing and/or brokerage license of a financial holding company may provide that financial holding company and its other direct and indirect subsidiaries information relating to the aggregate amount of cash or securities that a customer of the financial investment company with a dealing and/or brokerage license has deposited, for internal management purposes outlined in the Enforcement Decree of the Financial Holding Company Act, subject to the methods and procedures for provision of such information set forth therein. Recent amendments to the Financial Holding Company Act, which became effective on November 29, 2014, limit the scope of credit information that may be shared without the customers prior consent and require certain procedures for provision of customer information as prescribed by the Financial Services Commission. Beginning in November 29, 2014, notice must be given to customers at least once a year regarding (i) the provider of customer information, (ii) the recipient of customer information, (iii) the purpose of providing the information and (iv) the categories of the information provided.

Principal Regulations Applicable to Banks

The banking system in Korea is governed by the Bank Act of 1950, as amended and the Bank of Korea Act of 1950, as amended. In addition, Korean banks are subject to the regulations and supervision of the Bank of Korea, the Monetary Policy Committee of the Bank of Korea, the Financial Services Commission and its executive body, the Financial Supervisory Service.

The Bank of Korea, established in June 1950 under the Bank of Korea Act, performs the customary functions of a central bank. It seeks to contribute to the sound development of the national economy by price stabilization through establishing and implementing efficient monetary and credit policies with a focus on financial stability. The Bank of Korea acts under instructions of the Monetary Policy Committee, the supreme policy-making body of the Bank of Korea.

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Under the Bank of Korea Act, the Monetary Policy Committee s primary responsibilities are to formulate monetary and credit policies and to determine the operations, management and administration of the Bank of Korea.

The Financial Services Commission, established on April 1, 1998, regulates commercial banks pursuant to the Bank Act, including establishing guidelines on capital adequacy of commercial banks, and promulgates regulations relating to supervision of banks. Furthermore, the Financial Services Commission regulates market entry into the banking business.

The Financial Supervisory Service, established on January 2, 1999, is subject to the instructions and directives of the Financial Services Commission and carries out supervision and examination of commercial banks. In particular, the Financial Supervisory Service sets requirements both for the prudent control of liquidity and for capital adequacy and establishes reporting requirements pursuant to the authority delegated to it under the Financial Services Commission regulations, pursuant to which banks are required to submit annual reports on financial performance and shareholdings, regular reports on management strategy and non-performing loans, including write-offs, and management of problem companies and plans for the settlement of bad loans.

Under the Bank Act, approval to commence a commercial banking business or a long-term financing business must be obtained from the Financial Services Commission. Commercial banking business is defined as the lending of funds acquired predominantly from the acceptance of demand deposits for a period not exceeding one year or subject to the limitation established by the Financial Services Commission, for a period between one year and three years. Long-term financing business is defined as the lending, for periods in excess of one year, of funds acquired predominantly from paid-in capital, reserves or other retained earnings, the acceptance of time deposits with maturities of at least one year, or the issuance of debentures or other bonds. A bank wishing to enter into any business other than commercial banking and long-term financing businesses, such as the trust business, must obtain approval from the Financial Services Commission. Approval to merge with any other banking institution, to liquidate, to spin off, to close a banking business or to transfer all or a part of a business must also be obtained from the Financial Services Commission.

If the Financial Services Commission deems a bank s financial condition to be unsound or if a bank fails to meet the applicable capital adequacy ratio set forth under Korean law, the Financial Services Commission may order:

- admonitions or warnings with respect to its officers;
- capital increases or reductions;
- assignments of contractual rights and obligations relating to financial transactions;
- a suspension of performance by its officers of their duties and the appointment of receivers;
- disposals of property holdings or closures of subsidiaries or branch offices or downsizing;

- stock cancellations or consolidations;
- mergers with other financial institutions;
- acquisition of such bank by a third party; or
- suspensions of a part or all of its business operations.

Capital Adequacy

The Bank Act requires nationwide banks, such as us, to maintain a minimum paid-in capital of 100 billion and regional banks to maintain a minimum paid-in capital of 25 billion. All banks, including foreign bank branches in Korea, are also required to maintain a prescribed solvency position. A bank must also set aside in its legal reserve an amount equal to at least 10% of the net income after tax each time it pays dividends on net profits earned until its legal reserve reaches at least the aggregate amount of its paid-in capital.

Under the Detailed Regulation on the Supervision of the Banking Business, the capital of a bank is divided into two categories, Tier I and Tier II capital. Tier I capital (core capital) consists of (i) Tier I common equity capital, including paid-in capital, capital surplus and retained earnings related to common equity and accumulated other comprehensive gains and losses, and (ii) additional Tier I capital, including paid-in capital and capital surplus related to hybrid Tier I capital instruments that, among other things, qualify as contingent capital and are subordinated to subordinated debt. Tier II capital (supplementary capital) consists of, among other things, capital and capital surplus from the issuance of Tier II capital instruments, allowances for loan losses on loans classified as normal or precautionary, subordinated debt and other capital securities which meet the standards prescribed by the governor of the Financial Supervisory Service under Article 26(2) of the Regulation on the Supervision of the Banking Business.

All banks must meet minimum ratios of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets, determined in accordance with Financial Services Commission requirements that have been formulated based on Bank for International Settlements standards. These requirements were adopted and became effective in 1996, and were amended effective January 1, 2008 upon the implementation by the Financial Supervisory Service of Basel II. Under such requirements, all domestic banks and foreign bank branches must meet a minimum ratio of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets of 8.0%. Commencing in July 2013, the Financial Services Commission promulgated a series of amended regulations implementing Basel III in Korea, pursuant to which Korean banks and bank holding companies were required to maintain a minimum ratio of Tier I common equity capital to risk-weighted assets of 3.5% and Tier I capital to risk-weighted assets of 4.5% from December 1, 2013, which minimum ratios were increased to 4.0% and 5.5%, respectively, from January 1, 2014 and increased further to 4.5% and 6.0%, respectively, from January 1, 2015. Such requirements are in addition to the pre-existing requirement for a minimum ratio of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets of 8.0%, which remains unchanged. The amended regulations also require an additional capital conservation buffer of 1.875% in 2018 and 2.5% in 2019, as well as a potential counter-cyclical capital buffer of up to 2.5%, which is determined on a quarterly basis by the Financial Services Commission. Furthermore, Woori Bank was designated as one of six domestic systemically important banks for 2018 by the Financial Services Commission and was subject to an additional capital requirement of 0.75% in 2018. In June 2018, Woori Bank was again designated as a domestic systemically important bank for 2019, which subjects Woori Bank to an additional capital requirement of 1.0% in 2019.

Under the Detailed Regulation on the Supervision of the Banking Business, the following risk-weight ratios must be applied by Korean banks in respect of home mortgage loans:

(1) for those banks which adopted a standardized approach for calculating credit risk capital requirements, a risk-weight ratio of 35% (only in the case where the loan is fully secured by a first ranking mortgage) and, with respect to high-risk home mortgage loans, 50% or 70%; and

(2) for those banks which adopted an internal ratings-based approach for calculating credit risk capital requirements, a risk-weight ratio calculated with reference to the probability of default, loss given default and exposure at default, each as defined under the Detailed Regulation on the Supervision of the Banking Business.

Liquidity

All banks are required to ensure adequate liquidity by matching the maturities of their assets and liabilities in accordance with the Regulation on the Supervision of the Banking Business. Banks may not invest an amount exceeding 100% of their Tier I and Tier II capital (less any capital deductions) in equity securities and certain other securities with a redemption period of over three years. This stipulation does not apply to Korean government bonds, Monetary Stabilization Bonds issued by the Bank of Korea or debentures and stocks referred to in items 1 and 2, respectively, of paragraph (6) of Article 11 of the Act on the Improvement of the Structure of the Financial Industry. The Financial Services Commission uses the liquidity coverage ratio as the principal liquidity risk management measure, and currently requires each Korean bank to:

- maintain a liquidity coverage ratio (defined as the ratio of highly liquid assets to total net cash outflows over a 30-day period) of not less than 100% from January 1, 2019 (compared to not less than 95% from January 1, 2018 to December 31, 2018);

- maintain a foreign currency liquidity coverage ratio of not less than 80% from January 1, 2019 (compared to not less than 70% from January 1, 2018 to December 31, 2018); provided, however, that the foreign currency liquidity ratio (defined as the ratio of foreign currency assets due within three months to foreign currency liabilities due within three months) would apply if the amount of foreign currency assets and the ratio of foreign currency liabilities to total liabilities are less than the respective amount and ratio, or in certain other cases, specified under the Bank Act and the regulations thereunder; and

- submit monthly reports with respect to the maintenance of these ratios.

The Monetary Policy Committee of the Bank of Korea is empowered to fix and alter minimum reserve requirements that banks must maintain against their deposit liabilities. The current minimum reserve ratios are:

- 7% of average balances for Won currency demand deposits outstanding;

- 0% of average balances for Won currency employee asset establishment savings deposits, employee long-term savings deposits, employee house purchase savings deposits, long-term house purchase savings deposits, household long-term savings deposits and employee preferential savings deposits outstanding (with respect to employee-related deposits, only if such deposits were made before February 28, 2013); and

- 2% of average balances for Won currency time deposits, installment savings deposits, mutual installments, housing installments and certificates of deposit outstanding.

For foreign currency deposit liabilities, a 2% minimum reserve ratio is applied to time deposits with a maturity of one month or longer, certificates of deposit with a maturity of 30 days or longer and savings deposits with a maturity of six months or longer and a 7% minimum reserve ratio is applied to other deposits. A 1% minimum reserve ratio applies to deposits in offshore accounts, immigrant accounts and resident accounts opened by foreign exchange banks as well as foreign currency certificates of deposit held by account holders of such offshore accounts, immigrant accounts and resident accounts opened by foreign exchange banks.

Furthermore, under the Regulation on the Supervision of the Banking Business, we are required to maintain a minimum mid- to long-term foreign exchange funding ratio of 100%. Mid-to long term foreign exchange funding ratio refers to the ratio of (1) the total outstanding amount of foreign exchange borrowing with a maturity of more than one year to (2) the total outstanding amount of foreign exchange lending with a maturity of one year or more.

Amendments Relating to Net Stable Funding Ratio and Leverage Ratio Requirements

The Regulation on Supervision of the Banking Business imposes certain liquidity- and leverage-related ratio requirements on banks in Korea, in accordance with Basel III. Pursuant to such regulations, each Korean bank is required to:

- maintain a net stable funding ratio (defined as the ratio of the available amount of stable funding to the required amount of stable funding) of not less than 100%, where (i) the available amount of stable funding generally refers to the portion of liabilities and capital expected to be reliable over a one-year time horizon and (ii) the required amount of stable funding generally refers to the portion of assets requiring stable funding over a time horizon of one year or longer, each as calculated in accordance with the Detailed Regulation on Supervision of the Banking Business;

maintain a leverage ratio (defined as the ratio of core capital to total exposures) of not less than 3%, where (i) core capital includes paid-in capital, capital surplus, retained earnings and hybrid Tier I capital instruments and (ii) total exposures include on-balance sheet exposures and off-balance sheet exposures, each as calculated in accordance with the Detailed Regulation on Supervision of the Banking Business; and

submit monthly reports with respect to the maintenance of these ratios.

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Financial Exposure to Any Individual Customer or Major Shareholder

Under the Bank Act, subject to certain exceptions, the sum of large exposures by a bank in other words, the total sum of its credits to single individuals, juridical persons or business groups that exceed 10% of the sum of Tier I and Tier II capital (less any capital deductions) generally must not exceed five times the sum of Tier I and Tier II capital (less any capital deductions). In addition, subject to certain exceptions, banks generally may not extend credit (including loans, guarantees, purchases of securities (only in the nature of a credit) and any other transactions that directly or indirectly create credit risk) in excess of 20% of the sum of Tier I and Tier II capital (less any capital deductions) to a single individual or juridical person, or grant credit in excess of 25% of the sum of Tier I and Tier II capital (less any capital deductions) to a single group of companies as defined in the Monopoly Regulations and Fair Trade Act.

The Bank Act also provides for certain restrictions on extending credits to a major shareholder. A major shareholder is defined as:

- a shareholder holding (together with persons who have a special relationship with that shareholder) in excess of 10%; (or 15% in the case of regional banks) in the aggregate of the bank s total issued and outstanding voting shares; or

- a shareholder holding (together with persons who have a special relationship with such shareholder) in excess of 4% in the aggregate of the bank s (excluding regional banks) total issued and outstanding voting shares of a bank (excluding shares subject to the shareholding restrictions on non-financial business group companies as described below), where such shareholder is the largest shareholder or has actual control over the major business affairs of the bank through, for example, appointment and dismissal of the officers pursuant to the Enforcement Decree of the Bank Act. Non-financial business group companies primarily consist of: (i) any single shareholding group whose non-financial company assets comprise no less than 25% of its aggregate net assets; (ii) any single shareholding group whose non-financial company assets comprise no less than 2 trillion in aggregate; or (iii) any investment company under the Financial Investment Services and Capital Markets Act of which any single shareholding group identified in (i) or (ii) above, owns more than 4% of the total issued and outstanding shares. See Supervision and Regulation Principal Regulations Applicable to Banks Restrictions on Bank Ownership.

Under these restrictions, banks may not extend credits to a major shareholder (together with persons who have a special relationship with that shareholder) in an amount greater than the lesser of (x) 25% of the sum of the bank s Tier I and Tier II capital (less any capital deductions) and (y) the relevant major shareholders shareholding ratio multiplied by the sum of the bank s Tier I and Tier II capital (less any capital deductions). In addition, the total sum of credits granted to all major shareholders must not exceed 25% of the bank s Tier I and Tier II capital (less any capital deductions).

Interest Rates

Korean banks generally depend on deposits as their primary funding source. Under the Act on Registration of Credit Business and Protection of Finance Users and the regulations thereunder, interest rates on loans made by registered banks in Korea to individuals or small corporations, as defined under the Framework Act on Small and Medium Enterprises, may not exceed 24% per annum. Historically, interest rates on deposits and lending were regulated by the

Monetary Policy Committee. There are no controls on deposit interest rates in Korea, except for the prohibition on interest payments on current account deposits.

Lending to Small- and Medium-Sized Enterprises

In order to obtain funding from the Bank of Korea at concessionary rates for their small- and medium-sized enterprise loans, banks are required to allocate a certain minimum percentage of any quarterly increase in their Won currency lending to small- and medium-sized enterprises. Currently, this minimum percentage is 45% in the case of nationwide banks and 60% in the case of regional banks. If a bank does not comply with this requirement, the Bank of Korea may:

- require the bank to prepay all or a portion of funds provided to that bank in support of loans to small- and medium-sized enterprises; or
- lower the bank s credit limit.

Disclosure of Management Performance

For the purpose of protecting depositors and investors in commercial banks, the Financial Services Commission requires commercial banks to publicly disclose certain material matters, including:

- financial condition and profit and loss of the bank and its subsidiaries;
- fund raising by the bank and the appropriation of such funds;
- any sanctions levied on the bank under the Bank Act or any corrective measures or sanctions under the Law on Improvement of Structure of Financial Industry; and
- except as may otherwise have been disclosed by a bank or its financial holding company listed on the KRX KOSPI Market in accordance with the Financial Investment Services and Capital Markets Act, occurrence of any of the following events or any other event as prescribed by the applicable regulations:

  (i) loans bearing no profit made to a single business group in an amount exceeding 10% of the sum of the bank s Tier I and Tier II capital (less any capital deductions) as of the end of the previous month (where the loan exposure to that borrower is calculated pursuant to the criteria under the Detailed Regulation on the Supervision of the Banking Business), unless the loan exposure to that group is not more than 4 billion; and

  (ii) any loss due to court judgments or similar decisions in civil proceedings in an amount exceeding 1% of the sum of the bank s Tier I and Tier II capital (less any capital deductions) as of the end of the previous month, unless the loss is not more than 1 billion.

Restrictions on Lending

Pursuant to the Bank Act, commercial banks may not provide:

loans directly or indirectly secured by a pledge of a bank s own shares;

loans directly or indirectly to enable a natural or juridical person to buy the bank s own shares;

loans to any of the bank s officers or employees, other than *de minimis* loans of up to (i) 20 million in the case of a general loan, (ii) 50 million in the case of a general loan plus a housing loan or (iii) 60 million in the aggregate for general loans, housing loans and loans to pay damages arising from wrongful acts of employees in financial transactions;

credit (including loans) secured by a pledge of shares of a subsidiary corporation of the bank or to enable a natural or juridical person to buy shares of a subsidiary corporation of the bank; or

loans to any officers or employees of a subsidiary corporation of the bank, other than general loans of up to 20 million or general and housing loans of up to 50 million in the aggregate.

Regulations Relating to Retail Household Loans

The Financial Services Commission has implemented a number of changes in recent years to the regulations relating to retail household lending by banks. Under the currently applicable regulations:

as to loans secured by collateral of housing (including apartments) located nationwide, the loan-to-value ratio (the aggregate principal amount of loans secured by such collateral over the appraised value of the collateral) should not exceed 70%;

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as to loans secured by collateral of housing (including apartments) located in areas of excessive investment or housing (including apartments) located in areas of high speculation, in each case as designated by the government, the loan-to-value ratio should not exceed 40%, except that the loan-to-value ratio for first-home buyers, low-income households with an annual income of less than 70 million (for first home buyers, 80 million) or buyers of low-price housing valued at less than 600 million should not exceed 50%;

as to any new loans secured by collateral of housing to be extended to a household, any member of which has already received one or more loans secured by the collateral of housing, the maximum loan-to-value ratio is 10% lower than the applicable loan-to-value ratio described above;

as to loans secured by collateral of housing (including apartments) located in areas of excessive investment or housing (including apartments) located in areas of high speculation, in each case, as designated by the government, the borrower s debt-to-income ratio (calculated as (i) the aggregate annual total payment amount of (x) the principal of and interest on loans secured by such housing and (y) the interest on other debts of the borrower over (ii) the borrower s annual income) should not exceed 40%, except that the debt-to-income ratio for first-home buyers, low-income households with an annual income of less than 70 million (for first home buyers, 80 million) or buyers of low-price housing valued at less than 600 million should not exceed 50%;

as to any new loans secured by collateral of housing to be extended to a household, any member of which has already received one or more loans secured by collateral of housing, the maximum debt-to-income ratio is 10% lower than the applicable debt-to-income ratio described above;

as to apartments located in areas of high speculation as designated by the government, a household is permitted to have only one new loan secured by such apartment; and

where a household has two or more loans secured by apartments located in areas of high speculation as designated by the government, the loan with the earliest maturity date must be repaid first and the number of loans must be eventually reduced to one.

Restrictions on Investments in Property

A bank may not invest in securities set forth below in excess of 100% of the sum of the bank s Tier I and Tier II capital (less any capital deductions):

debt securities (within the meaning of paragraph (3) of Article 4 of the Financial Investment Services and Capital Markets Act) the maturity of which exceeds three years, but excluding government bonds, monetary stabilization bonds issued by the Bank of Korea and bonds within the meaning of item 2, paragraph (6) of Article 11 of the Act on the Improvement of the Structure of the Financial Industry;

equity securities, but excluding securities within the meaning of item 1, paragraph (6) of Article 11 of the Act on the Improvement of the Structure of the Financial Industry;

derivatives linked securities (within the meaning of paragraph (7) of Article 4 of the Financial Investment Services and Capital Markets Act) the maturity of which exceeds three years; and

beneficiary certificates, investment contracts and depositary receipts (within the meaning of paragraph (2) of Article 4 of the Financial Investment Services and Capital Markets Act) the maturity of which exceeds three years.

A bank may possess real estate property only to the extent necessary for the conduct of its business. The aggregate value of such property may not exceed 60% of the sum of the bank s Tier I and Tier II capital (less any capital deductions). Any property that a bank acquires by exercising its rights as a secured party, or which a bank is prohibited from acquiring under the Bank Act, must be disposed of within three years, unless specified otherwise by the regulations thereunder.

Restrictions on Shareholdings in Other Companies

Under the Bank Act, a bank may not own more than 15% of shares outstanding with voting rights of another corporation, except where, among other reasons:

that corporation engages in a category of financial businesses set forth by the Financial Services Commission; or

the acquisition of shares by the bank is necessary for the corporate restructuring of such corporation and is approved by the Financial Services Commission.

In the above exceptional cases, the total investment in corporations in which the bank owns more than 15% of the outstanding shares with voting rights may not exceed (i) 20% of the sum of Tier I and Tier II capital (less any capital deductions) or (ii) 30% of the sum of Tier I and Tier II capital (less any capital deductions) where the acquisition satisfies the requirements determined by the Financial Services Commission.

The Bank Act provides that a bank using its bank accounts and its trust accounts is not permitted to acquire the shares issued by the major shareholder of such bank in excess of an amount equal to 1% of the sum of Tier I and Tier II capital (less any capital deductions).

Restrictions on Bank Ownership

Under the Bank Act, a single shareholder and persons who have a special relationship with that shareholder generally may acquire beneficial ownership of no more than 10% of a nationwide bank s total issued and outstanding shares with voting rights and no more than 15% of a regional bank s total issued and outstanding shares with voting rights. The Korean government, the KDIC and bank holding companies qualifying under the Financial Holding Company Act are not subject to this limit. However, pursuant to an amendment to the Bank Act which became effective on February 14, 2014, non-financial business group companies may not acquire beneficial ownership of shares of a nationwide bank in excess of 4% of that bank s outstanding voting shares (or 15% in the case of a regional bank), unless they satisfy certain requirements set forth by the Enforcement Decree of the Bank Act, obtain the approval of the Financial Services Commission and agree not to exercise voting rights in respect of shares in excess of the 4% limit (or the 15% limit in the case of a regional bank), in which case they may acquire beneficial ownership of up to 10% of a nationwide bank s outstanding voting shares. Such amendment grants an exception for non-financial business group companies which, at the time of the enactment of the amended provisions, held more than 4% of the shares of a bank.

Non-financial business group companies as defined under the Bank Act include:

(1) any same shareholder group with aggregate net assets of all non-financial business companies belonging to such group of not less than 25% of the aggregate net assets of all members of such group;

(2) any same shareholder group with aggregate assets of all non-financial business companies belonging to such group of not less than 2 trillion;

(3) any mutual fund in which a same shareholder group identified in item (1) or (2) above beneficially owns and/or exercises the voting rights of more than 4% of the total issued and outstanding voting shares of such mutual fund;

(4) any private equity fund with (a) a person falling under any of items (1) through (3) above as a limited partner holding not less than 10% of the total amount of contributions to the private equity fund, or (b) a person falling under any of items (1) through (3) above as a general partner, or (c) the total equity of the private equity fund acquired by each affiliate belonging to several enterprise groups subject to the limitation on mutual investment being 30% or more of the total amount of contributions to the private equity fund; or

(5) any investment purpose company in which a private equity fund falling under item (4) above acquires or holds shares in excess of 4% of the shares or equity of such company or exercises de facto control over significant managerial matters of such company through appointment or dismissal of executives or in any other manner.

In addition, if a foreign investor, as defined in the Foreign Investment Promotion Act, owns in excess of 4% of a nationwide bank s outstanding voting shares, non-financial business group companies may acquire beneficial ownership of up to 10% of that bank s outstanding voting shares (or 15% in the case of a regional bank), and in excess of 10% (or 15% in the case of a regional bank), 25% or 33% of that bank s outstanding voting shares with the approval of the Financial Services Commission in each instance, up to the number of shares owned by the foreign investor. Any other person (whether a Korean national or a foreign investor), with the exception of non-financial business group companies described above, may acquire no more than 10% of a nationwide bank s total voting shares issued and outstanding, unless they obtain approval from the Financial Services Commission in each instance where the total holding will exceed 10% (or 15% in the case of regional banks), 25% or 33% of the bank s total voting shares issued and outstanding provided that, in addition to the foregoing threshold shareholding ratios, the Financial Services Commission may, at its discretion, designate a separate and additional threshold shareholding ratio.

Deposit Insurance System

The Depositor Protection Act provides insurance for certain deposits of banks in Korea through a deposit insurance system. Under the Depositor Protection Act, all banks governed by the Bank Act are required to pay an insurance premium to the KDIC on a quarterly basis, and the rate is determined under the Enforcement Decree to the Depositor Protection Act. If the KDIC makes a payment on an insured amount, it will acquire the depositors claims with respect to that payment amount. The KDIC insures a maximum of 50 million per individual for deposits and interest in a single financial institution, regardless of when the deposits were made and the size of the deposits. Certain banks governed by the Bank Act, including us, are also required by the Deposit Insurance Act to pay a special contribution of 0.025% of average deposits for each quarter as repayment of the governmental funding provided to such banks in the wake of the financial crisis in Korea in the late 1990s. The Depositor Protection Act requires such special contribution to be paid until 2027.

Restrictions on Foreign Exchange Position

Under the Korean Foreign Exchange Transaction Law, each of a bank s net overpurchased and oversold positions may not exceed 50% of its shareholder s equity as of the end of the prior month.

Laws and Regulations Governing Other Business Activities

A bank must register with the Ministry of Economy and Finance to enter the foreign exchange business, which is governed by the Foreign Exchange Transaction Act of Korea. A bank must obtain the permission of the Financial Services Commission to enter the securities business, which is governed by regulations under the Financial Investment Services and Capital Markets Act. Under these laws, a bank may engage in the foreign exchange business, securities repurchase business, governmental/public bond underwriting business and governmental bond dealing business.

Regulations on Trust Business

A bank must obtain approval from the Financial Services Commission to engage in trust businesses. The Trust Act and the Financial Investment Services and Capital Markets Act govern the trust activities of banks, and they are subject to various legal and accounting procedures and requirements, including the following:

- under the Trust Act, assets accepted in trust by a bank in Korea must be segregated from other assets in the accounts of that bank; and

- depositors and other general creditors cannot obtain or assert claims against the assets comprising the trust accounts in the event the bank is liquidated or wound-up.

The bank must make a special reserve of 25% or more of fees from each unspecified money trust account for which a bank guarantees the principal amount and a fixed rate of interest until the total reserve for that account equals 5% of the trust amount. Since January 1999, the Korean government has prohibited Korean banks from offering new guaranteed fixed rate trust account products whose principal and interest are guaranteed.

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Under the Financial Investment Services and Capital Markets Act, which became effective in February 2009, a bank with a trust business license (such as us) is permitted to offer both specified money trust account products and unspecified money trust account products. Previously, banks were not permitted to offer unspecified money trust account products pursuant to the Indirect Investment Asset Management Act, which is no longer in effect following the effectiveness of the Financial Investment Services and Capital Markets Act.

Regulations on Credit Card Business

General

In order to enter the credit card business, a company must obtain a license from the Financial Services Commission. Credit card businesses are governed by the Specialized Credit Financial Business Act, which sets forth specific requirements with respect to the credit card business as well as generally prohibiting unsound business practices relating to the credit card business which may infringe on the rights of credit card holders or negatively affect the soundness of the credit card industry. Credit card companies, including our wholly-owned subsidiary, Woori Card, are regulated by the Financial Services Commission and the Financial Supervisory Service.

Disclosure and Reports

Under the Specialized Credit Financial Business Act and the regulations thereunder, a credit card company is required to disclose on a periodic and on-going basis certain material matters and events. In addition, a credit card company must submit its business reports with respect to its results of operations to the Governor of the Financial Supervisory Service within one month from the end of each quarter for quarterly reports and within 10 days from the end of each month for monthly reports.

Restrictions on Funding

Under the Specialized Credit Financial Business Act and the regulations thereunder, a credit card company must ensure that its total assets do not exceed an amount equal to six times its equity capital and that the ratio of its adjusted equity capital to its adjusted total assets is not less than 8%. However, if a credit card company is unable to comply with such limit upon the occurrence of unavoidable events, such as drastic changes in the domestic and global financial markets, such limit may be adjusted through a resolution of the Financial Services Commission.

Risk of Loss Due to Lost, Stolen, Forged or Altered Credit Cards

Under the Specialized Credit Financial Business Act, a credit card company is liable for any loss arising from the unauthorized use of credit cards or debit cards after it has received notice from the holder of the loss or theft of the card. A credit card company is also responsible for any losses resulting from the use of forged or altered credit cards, debit cards and pre-paid cards. A credit card company may, however, transfer all or part of this latter risk of loss to holders of credit card in the event of willful misconduct or gross negligence by holders of credit card if the terms and conditions of the agreement entered between the credit card company and members of such cards specifically provide for that transfer.

For these purposes, disclosure of a customer s password that is made intentionally or through gross negligence, or the transfer of or giving as collateral of the credit card or debit card, is considered willful misconduct or gross negligence. However, a disclosure of a cardholder s password that is made under irresistible force or threat to cardholder or his/her relatives life or health will not be deemed as willful misconduct or negligence of the cardholder.

Each credit card company must institute appropriate measures to fulfill these obligations, such as establishing provisions, purchasing insurance or joining a cooperative association.

Pursuant to the Enforcement Decree to the Specialized Credit Financial Business Act, a credit card company will be liable for any losses arising from loss or theft of a credit card (which was not from the holder s willful misconduct or negligence) during the period beginning 60 days before the notice by the holder to the credit card company.

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Pursuant to the Specialized Credit Financial Business Act, the Financial Services Commission may either restrict the limit or take other necessary measures against the credit card company with respect to such matters as the maximum limits on the amount per credit card, details of credit card terms and conditions, management of credit card merchants and collection of claims, including the following:

- maximum limits for cash advances on credit cards;
- use restrictions on debit cards with respect to per day or per transaction usage;
- aggregate issuance limits and maximum limits on the amount per card on pre-paid cards; and
- other matters prescribed by the Enforcement Decree to the Specialized Credit Financial Business Act.

Lending Ratio in Ancillary Business

Pursuant to the Enforcement Decree to the Specialized Credit Financial Business Act, a credit card company must maintain an aggregate quarterly average outstanding lending balance to credit cardholders (including cash advances and credit card loans, but excluding restructured loans) no greater than the sum of (i) its aggregate quarterly average outstanding credit card balance arising from the purchase of goods and services and (ii) the aggregate quarterly debit card transaction volume.

Issuance of New Cards and Solicitation of New Cardholders

The Enforcement Decree to the Specialized Credit Financial Business Act establishes the conditions under which a credit card company may issue new cards and solicit new members. New credit cards may be issued only to the following persons:

- persons who are at least 19 years old when they apply for a credit card;
- persons whose capability to pay bills as they come due has been verified using standards established by the credit card company; and
- in the case of minors who are 18 years old, persons who submit documents evidencing employment as of the date of the credit card application, such as an employment certificate, or persons for whom the issuance of a credit card is necessitated by governmental policies, such as financial aid.

In addition, a credit card company may not solicit credit card members by:

providing or promising to provide economic benefits in excess of 10% of the annual credit card fee (in the case of credit cards with annual fees that are less than the average of the annual fees charged by the major credit cards in Korea, the annual fee will be deemed to be equal to such average annual fee) in connection with issuing a credit card; provided, however, that providing or promising to provide economic benefits not exceeding the amount of the annual credit card fee to an applicant that becomes a credit card member through an online platform is permissible;

soliciting applicants on roads, public places or along corridors used by the general public;

soliciting applicants through visits, except those visits made upon prior consent and visits to a business area;

soliciting applicants through the Internet without verifying whether the applicant is who he or she purports to be, by means of a certified digital signature under the Digital Signature Act; and

soliciting applicants through pyramid sales methods.

Compliance Rules on Collection of Receivable Claims

Pursuant to Supervisory Regulation on the Specialized Credit Financial Business, a credit card company may not:

exert violence or threaten violence;

- inform a related party (a guarantor of the debtor, blood relative or fiancée of the debtor, a person living in the same household as the debtor or a person working in the same workplace as the debtor) of the debtors obligations without just cause;

- provide false information relating to the debtor s obligation to the debtor or his or her related parties;

- threaten to sue or sue the debtor for fraud despite lack of affirmative evidence to establish that the debtor has submitted forged or false documentation with respect to his/her ability to make payment;

- visit or telephone the debtor during late evening hours (between the hours of 9:00 p.m. and 8:00 a.m.); and

- utilize other uncustomary methods to collect the receivables that interfere with the privacy or the peace in the workplace of the debtor or his or her related parties.

Regulations on Class Actions Regarding Securities

The Law on Class Actions Regarding Securities was enacted as of January 20, 2004 and last amended on May 28, 2013. The Law on Class Actions Regarding Securities governs class actions suits instituted by one or more representative plaintiff(s) on behalf of 50 or more persons who claim to have been damaged in a capital markets transaction involving securities issued by a listed company in Korea.

Applicable causes of action with respect to such suits include:

- claims for damages caused by misleading information contained in a securities statement;

- claims for damages caused by the filing of a misleading business report, semi-annual report, or quarterly report;

- claims for damages caused by insider trading or market manipulation; and

- claims instituted against auditors for damages caused by accounting irregularities.

Any such class action may be instituted upon approval from the presiding court and the outcome of such class action will have a binding effect on all potential plaintiffs who have not joined the action, with the exception of those who have filed an opt out notice with such court.

Regulations on Financial Investment Business

General

The Financial Investment Services and Capital Markets Act, which became effective in February 2009, regulates and governs the financial investment business in Korea. The entities that regulate and supervise financial investment companies are the Financial Services Commission, the Financial Supervisory Service and the Securities and Futures Commission.

Under the Financial Investment Services and Capital Markets Act, a company must obtain a license from the Financial Services Commission to commence a financial investment business such as a brokerage business, a dealing business or an underwriting business, or register with the Financial Services Commission to commence a financial investment business such as an investment advisory business or a discretionary investment management business. A bank is permitted to engage in certain types of financial investment business as specified under the Enforcement Decree of the Bank Act. Prior to commencing a financial investment business, a bank must file a report with the Financial Services Commission and apply for a license pursuant to the Financial Investment Services and Capital Markets Act.

Consolidation of Capital Markets-Related Laws

Prior to the effectiveness of the Financial Investment Services and Capital Markets Act, there were separate laws regulating various types of financial institutions depending on the type of financial institution (e.g., securities companies, futures companies, trust business companies and asset management companies) and subjecting financial institutions to different licensing and ongoing regulatory requirements (e.g., the Korean Securities Exchange Act, the Futures Business Act and the Indirect Investment Asset Management Business Act). By applying one uniform set of rules to the same financial business having the same economic function, the Financial Investment Services and Capital Markets Act attempts to improve and address issues caused by the previous regulatory system under which the same economic function relating to capital markets-related businesses was governed by multiple regulations. To this end, the Financial Investment Services and Capital Markets Act categorizes capital markets-related businesses into six different functions:

- dealing, trading and underwriting of financial investment products (as defined below);
- brokerage of financial investment products;
- establishment of collective investment schemes and the management thereof;
- investment advice;
- discretionary investment management; and
- trusts (together with the five businesses set forth above, the Financial Investment Businesses).

Accordingly, all financial businesses relating to financial investment products have been reclassified as one or more of the Financial Investment Businesses described above, and financial institutions are subject to the regulations applicable to their relevant Financial Investment Businesses, regardless of the type of the financial institution. For example, under the Financial Investment Services and Capital Markets Act, derivative businesses conducted by former securities companies and future companies will be subject to the same regulations.

Banking and insurance businesses are not subject to the Financial Investment Services and Capital Markets Act and will continue to be regulated under separate laws. However, they may become subject to the Financial Investment Services and Capital Markets Act if their activities involve any financial investment businesses requiring a license pursuant to the Financial Investment Services and Capital Markets Act.

Comprehensive Definition of Financial Investment Products

In an effort to encompass the various types of securities and derivative products available in the capital markets, the Financial Investment Services and Capital Markets Act sets forth a comprehensive term financial investment products, defined to mean all financial products with a risk of loss in the invested amount (in contrast to deposits, which are financial products for which the invested amount is protected or preserved). Financial investment products are classified into two major categories: (i) securities (financial investment products in which the risk of loss is limited to the invested amount) and (ii) derivatives (financial investment products in which the risk of loss may exceed the invested amount). As a result of the general and broad definition of financial investment products, a variety of financial products may be defined as a financial investment product, which would enable Financial Investment

Companies (defined below) to handle a broader range of financial products. Under the Financial Investment Services and Capital Markets Act, entities formerly licensed as securities companies, asset management companies, futures companies and other entities engaging in any Financial Investment Business are classified as Financial Investment Companies.

New License System and the Conversion of Existing Licenses

Under the Financial Investment Services and Capital Markets Act, Financial Investment Companies are able to choose the type of Financial Investment Business in which to engage (through a check the box method set forth in the relevant license application), by specifying the desired (i) Financial Investment Business, (ii) financial investment product and (iii) target customers to which financial investment products may be sold or distributed (that is, general investors or professional investors). Licenses will be issued under the specific business sub-categories described in the foregoing sentence. For example, it would be possible for a Financial Investment Company to obtain a license to engage in the Financial Investment Business of (i) dealing (ii) over the counter derivatives products or (iii) only with sophisticated investors.

Financial institutions that engage in business activities constituting a Financial Investment Business are required to take certain steps, such as renewal of their license or registration, in order to continue engaging in such business activities. Financial institutions that are not licensed Financial Investment Companies are not permitted to engage in any Financial Investment Business, subject to the following exceptions: (i) banks and insurance companies are permitted to engage in certain categories of Financial Investment Businesses for a period not exceeding six months commencing on the effective date of the Financial Investment Services and Capital Markets Act; and (ii) other financial institutions that engaged in any Financial Investment Business prior to the effective date of the Financial Investment Services and Capital Markets Act (whether in the form of a concurrent business or an incidental business) are permitted to continue such Financial Investment Business for a period not exceeding six months commencing on the effective date of the Financial Investment Services and Capital Markets Act.

Expanded Business Scope of Financial Investment Companies

Under the previous regulatory regime in Korea, it was difficult for a financial institution to explore a new line of business or expand upon its existing line of business. For example, previously a financial institution licensed as a securities company generally was not permitted to engage in the asset management business. In contrast, under the Financial Investment Services and Capital Markets Act, pursuant to the integration of its current businesses involving financial investment products into a single Financial Investment Business, a licensed Financial Investment Company is permitted to engage in all types of Financial Investment Businesses, subject to satisfying relevant regulations (for example, maintaining an adequate Chinese Wall, to the extent required). As to incidental businesses (that is, a financial related business which is not a Financial Investment Business), the Financial Investment Services and Capital Markets Act generally allows a Financial Investment Company to freely engage in such incidental businesses by shifting away from the previous positive-list system towards a more comprehensive system. In addition, a Financial Investment Company is permitted to (i) outsource marketing activities by contracting introducing brokers that are individuals but not employees of the Financial Investment Company, (ii) engage in foreign exchange businesses related to their Financial Investment Business and (iii) participate in the settlement network, pursuant to an agreement among the settlement network participants.

Improvement in Investor Protection Mechanism

While the Financial Investment Services and Capital Markets Act widens the scope of financial businesses in which financial institutions are permitted to engage, a more rigorous investor-protection mechanism is also imposed upon Financial Investment Companies dealing in financial investment products. The Financial Investment Services and Capital Markets Act distinguishes general investors from sophisticated investors and provides new or enhanced protections to general investors. For instance, the Financial Investment Services and Capital Markets Act expressly provides for a strict know-your-customer rule for general investors and imposes an obligation that Financial Investment Companies should market financial investment products suitable to each general investor, using written explanatory materials. Under the Financial Investment Services and Capital Markets Act, a Financial Investment Company could be liable if a general investor proves (i) damage or losses relating to such general investor s investment in financial investment products solicited by such Financial Investment Company and (ii) the absence of the requisite written explanatory materials, without having to prove fault or causation. With respect to any conflicts of interest between Financial Investment Companies and investors, the Financial Investment Services and Capital Markets Act expressly requires (i) disclosure of any conflict of interest to investors and (ii) mitigation of conflicts of interest to a comfortable level or abstention from the relevant transaction.

Other Changes to Securities / Fund Regulations

The Financial Investment Services and Capital Markets Act changed various securities regulations including those relating to public disclosure, insider trading and proxy contests, which were previously governed by the Korean Securities Exchange Act. For example, the 5% and 10% reporting obligations under the Korean

Securities Exchange Act have become more stringent. The Indirect Investment and Asset Management Business Act strictly limited the kind of vehicles that could be utilized under a collective investment scheme, restricting the range of potential vehicles to trusts and corporations, and the type of funds that can be used for investments. However, under the Financial Investment Services and Capital Markets Act, these restrictions have been significantly liberalized, permitting all vehicles that may be created under Korean law, such as limited liability companies or partnerships, to be used for the purpose of collective investments and allowing investment funds to be more flexible as to their investments.

Act on the Corporate Governance of Financial Companies

The Act on the Corporate Governance of Financial Companies, which became effective on August 1, 2016, was enacted to address the need for strengthened regulations on corporate governance of financial institutions and to serve as a uniform set of regulations on corporate governance matters applicable to financial institutions across a variety of industry sectors. It contains several key measures, including (i) eligibility requirements for officers of financial institutions and standards for determining whether officers of financial institutions may hold concurrent positions in other companies, (ii) standards for composition and operation of the board of directors of financial institutions, (iii) standards for establishment, composition and operation of various committees of the board of directors of financial institutions, (iv) regulations on internal control and risk management, (v) requirements and procedures for the approval of a change of major shareholders and (vi) special regulations to protect the rights of minority shareholders of financial institutions.

Item 4.C. *Organizational Structure*

The following chart provides an overview of our structure, including our significant subsidiaries and our ownership of such subsidiaries as of the date of this annual report:

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The following table provides summary information for our subsidiaries (other than structured companies) that are consolidated in our consolidated financial statements as of and for the year ended December 31, 2018:

Subsidiary	Percentage of Ownership	Total Assets	Shareholders Equity	Operating Revenue	Net Income
			(in millions of Won)		
Woori Card Co., Ltd.	100.0%	9,987,057	1,681,964	1,371,301	114,767
Woori Investment Bank Co., Ltd.	59.8%	2,682,660	315,242	205,446	25,552
Woori FIS Co., Ltd.	100.0%	96,260	32,849	271,651	2,840
Woori Finance Research Institute Co., Ltd.	100.0%	3,891	3,332	4,708	7
Woori Credit Information Co., Ltd.	100.0%	34,921	28,535	36,883	1,657
Woori Fund Service Co., Ltd.	100.0%	14,448	13,008	10,052	1,597
Woori Private Equity Asset Management Co., Ltd.	100.0%	38,820	37,381	1,713	(2,794)
Korea BTL Infrastructure Fund	99.9%	777,437	777,138	29,760	26,057
Woori America Bank	100.0%	2,182,454	304,337	90,975	20,510
Woori Bank (China) Limited	100.0%	5,470,927	517,113	366,973	21,879
PT Bank Woori Saudara Indonesia 1906, Tbk	79.9%	2,355,975	502,207	192,719	40,385
AO Woori Bank	100.0%	305,521	49,261	19,433	5,163
Banco Woori Bank do Brasil S.A.	100.0%	179,130	29,984	13,971	1,262
Woori Global Market Asia Limited	100.0%	517,627	121,411	18,748	5,144
WB Finance Co., Ltd.	100.0%	268,794	43,139	24,310	2,421
Woori Bank Europe	100.0%	58,399	58,088	5	(5,959)
Woori Finance Myanmar Co., Ltd.	100.0%	19,340	12,454	4,496	640
Woori Finance Cambodia PLC.	100.0%	93,239	22,106	11,038	2,826
Wealth Development Bank Corp.	51.0%	218,134	33,789	13,668	80
Woori Bank Vietnam Limited	100.0%	954,580	234,026	48,716	10,710

Item 4.D. ***Property, Plants and Equipment***

Our registered office and corporate headquarters, with a total area of approximately 97,222 square meters, are located at 51, Sogong-ro, Jung-gu, Seoul, Korea. Information regarding certain of our properties in Korea as of December 31, 2018 is presented in the following table:

Type of Facility/Building	Location	Area (square meters)
Woori Bank registered office and corporate headquarters	51, Sogong-ro, Jung-gu, Seoul, Korea 04632	97,222
Woori FIS registered office and corporate headquarters	17, World Cup buk-ro 60-gil, Mapo-gu, Seoul, Korea 03921	37,442

As of December 31, 2018, we had a network of 877 banking branches in Korea, 230 of which are housed in buildings owned by us, while the remaining branches are leased properties. Lease terms are generally from two to three years and seldom exceed five years. We also have subsidiaries in the United States, China, Hong Kong, Russia, Indonesia, Cambodia, Brazil, Myanmar, the Philippines, Vietnam and Germany and branches, agencies and representative offices across the world. See Item 4.B. Business Overview Capital Markets Activities International Banking. We do not own any material properties outside of Korea.

The net book value of all the properties owned by us as of December 31, 2018 was 2,441 billion.

Item 4A. UNRESOLVED STAFF COMMENTS

We do not have any unresolved comments from the U.S. Securities and Exchange Commission staff regarding our periodic reports under the Exchange Act.

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Item 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

Item 5.A. Operating Results

Overview

The following discussion is based on our consolidated financial statements, which have been prepared in accordance with IFRS as issued by the IASB. The consolidated financial statements include the accounts of subsidiaries over which substantive control is exercised through either majority ownership of voting stock and/or other means. Investments in joint ventures and associates (which are companies over which we have the ability to exercise significant influence) are accounted for by the equity method of accounting and are reported in investments in joint ventures and associates.

Trends in the Korean Economy

Our financial position and results of operations have been and will continue to be significantly affected by financial and economic conditions in Korea. Substantial growth in lending in Korea to small- and medium-sized enterprises in recent years, and financial difficulties experienced by such enterprises as a result of, among other things, adverse changes in economic conditions in Korea and globally, may lead to increasing delinquencies and a deterioration in overall asset quality in the credit exposures of Korean banks to small- and medium-sized enterprises. Our loans to small- and medium-sized enterprises increased from 74,906 billion as of December 31, 2017 to 79,371 billion as of December 31, 2018. In 2018, we recorded charge-offs of 199 billion in respect of our Won-denominated loans to small- and medium-sized enterprises, compared to charge-offs of 325 billion in 2017. See Item 3.D. Risk Factors Risks relating to our corporate credit portfolio The largest portion of our exposure is to small- and medium-sized enterprises, and financial difficulties experienced by companies in this segment may result in a deterioration of our asset quality and have an adverse impact on us.

In recent years, commercial banks, consumer finance companies and other financial institutions in Korea have also made significant investments and engaged in aggressive marketing in consumer lending (including mortgage and home equity loans), leading to substantially increased competition in this segment. From the second half of 2016 to 2018, the Korean government introduced various measures to tighten regulations on mortgage lending and housing subscription in response to the rapid growth in consumer debt and concerns over speculative investments in real estate in certain areas. Notwithstanding such measures, demand for residential property in certain areas, including Seoul, has continued to increase, and our consumer loan portfolio increased from 109,290 billion as of December 31, 2017 to 117,095 billion as of December 31, 2018. Nevertheless, a decrease in housing prices as a result of the implementation of such measures, together with the high level of consumer debt and rising interest rate levels, could result in declines in consumer spending and reduced economic growth, which may lead to increasing delinquencies and a deterioration in asset quality. In 2018, we recorded charge-offs of 204 billion and provisions for credit losses of 192 billion in respect of our consumer loan portfolio, compared to charge-offs of 147 billion and provisions for credit losses of 152 billion in 2017. See Item 3.D. Risk Factors Risks relating to our consumer credit portfolio.

The Korean economy is closely tied to, and is affected by developments in, the global economy. The overall prospects for the Korean and global economy in 2019 and beyond remain uncertain. In recent years, the global financial markets have experienced significant volatility as a result of, among other things:

a deterioration in economic and trade relations between the United States and its major trading partners, including China;

uncertainty regarding the timing and method of the United Kingdom s exit from the European Union, or Brexit;

financial and social difficulties affecting many countries worldwide, in particular in Latin America and Europe;

the slowdown of economic growth in China and other major emerging market economies;

interest rate fluctuations as well as the possibility of further increases in policy rates by the U.S. Federal Reserve and other central banks; and

political and social instability in various countries in the Middle East, including Syria, Iraq and Egypt.

In light of the high level of interdependence of the global economy, unfavorable changes in the global financial markets, including as a result of any of the foregoing developments, could have a material adverse effect on the Korean economy and financial markets, and in turn on our business, financial condition and results of operations.

We are also exposed to adverse changes and volatility in the global and Korean financial markets as a result of our liabilities and assets denominated in foreign currencies and our holdings of trading and investment securities, including structured products. The value of the Won relative to major foreign currencies in general and the U.S. dollar in particular has fluctuated widely in recent years. A depreciation of the Won will increase our cost of servicing our foreign currency-denominated debt, while continued exchange rate volatility may also result in foreign exchange losses for us. Furthermore, as a result of changing global and Korean economic conditions, there has been volatility in securities prices, including the stock prices of Korean and foreign companies in which we hold an interest. Such volatility has resulted in and may lead to further trading and valuation losses on our trading and investment securities portfolio as well as impairment losses on our investments in joint ventures and associates.

As a result of uncertain conditions in the Korean and global economies and financial markets, as well as factors such as fluctuations in oil and commodity prices, interest and exchange rate fluctuations, higher unemployment, lower consumer confidence, stock market volatility, potential tightening of fiscal and monetary policies and continued tensions with North Korea, the economic outlook for the financial services sector in Korea in 2019 and for the foreseeable future remains uncertain.

Changes in Securities Values, Exchange Rates and Interest Rates

Fluctuations of exchange rates, interest rates and stock prices affect, among other things, the demand for our products and services, the value of and rate of return on our assets, the availability and cost of funding and the financial condition of our customers. The following table shows, for the dates indicated, the stock price index of all equities listed on the KRX KOSPI Market as published in the KOSPI, the Won to U.S. dollar exchange rates and benchmark Won borrowing interest rates.

	June 30, 2014	Dec. 31, 2014	June 30, 2015	Dec. 31, 2015	June 30, 2016	Dec. 31, 2016	June 30, 2017	Dec. 31, 2017	June 30, 2018
	2,002.21	1,915.59	2,074.20	1,961.31	1,970.35	2,026.46	2,391.79	2,467.49	2,326.13
ange rates[(1)]	1,011.60	1,090.89	1,117.34	1,169.26	1,154.15	1,203.73	1,143.75	1,067.42	1,111.79
ond rates[(2)]	3.4%	2.8%	2.5%	2.6%	2.3%	2.8%	2.8%	3.1%	2.9%
nd rates[(3)]	2.6%	2.1%	1.8%	1.7%	1.3%	1.6%	1.7%	2.1%	2.1%

(1) Represents the noon buying rate on the dates indicated.

(2) Measured by the yield on three-year Korean corporate bonds rated as A+ by the Korean credit rating agencies.

(3) Measured by the yield on three-year treasury bonds issued by the Ministry of Strategy and Finance of Korea.

Changes in Accounting Standards

IFRS 9 *Financial Instruments*, issued by the International Accounting Standard Board in July 2014, is a new accounting standard aimed at improving and simplifying the accounting treatment of financial instruments and is effective for annual periods beginning on or after January 1, 2018. IFRS 9 replaces IAS 39 *Financial Instruments: Recognition and Measurement* and requires all financial assets to be classified and measured on the basis of an entity s business model for managing financial assets and the contractual cash flow characteristics of the financial assets. A new impairment model is introduced which requires recording of allowance for credit losses based on expected credit losses instead of incurred losses (as was the case under IAS 39), and recognition of any subsequent changes in expected credit losses in profit or loss. Also, hedge accounting rules are amended to allow more hedging instruments and hedged items to qualify for hedge accounting. The impact on our financial statements due to the application of IFRS 9 depends on judgments made by us in applying the new standard, the nature of financial instruments held by us and macroeconomic variables.

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We have applied IFRS 9 in our consolidated financial statements as of and for the year ended December 31, 2018. As permitted by the transition rules of IFRS 9, our comparative consolidated financial statements as of and for the years ended December 31, 2016 and 2017 have not been restated to retroactively apply IFRS 9.

The classification of financial assets in accordance with IAS 39 and IFRS 9 as of January 1, 2018 is as follows:

Account	Classification according to IAS 39 (in billions of Won)		Classification according to IFRS 9 (in billions of Won)	
Deposit	Loans and receivables	8,871	Loans and other financial assets at amortized cost	8,871
Deposit	Financial assets at fair value through profit or loss	26	Financial assets at fair value through profit or loss	26
Debt securities	Financial assets at fair value through profit or loss	2,654	Financial assets at fair value through profit or loss(1)	2,654
Equity securities	Financial assets at fair value through profit or loss	47	Financial assets at fair value through profit or loss(1)	47
Derivatives	Financial assets at fair value through profit or loss	3,116	Financial assets at fair value through profit or loss(1)	3,114
Equity securities	Available-for-sale financial assets	1,274	Financial assets at fair value through profit or loss(1)	1,275
Equity securities	Available-for-sale financial assets	850	Financial assets at fair value through other comprehensive income	850
Debt securities	Available-for-sale financial assets	47	Financial assets at fair value through profit or loss	47
Debt securities	Available-for-sale financial assets	12,874	Financial assets at fair value through other comprehensive income	12,874
Debt securities	Available-for-sale financial assets	308	Securities at amortized cost	322
Debt securities	Held-to-maturity financial assets	16,749	Securities at amortized cost	16,749
Loans	Loans and receivables	279	Financial assets at fair value through profit or loss(1)	280
Loans	Loans and receivables	253,014	Loans and other financial assets at amortized cost	253,014
Derivatives	Derivatives	60	Derivatives	60
Other financial assets	Loans and receivables	6,772	Loans and other financial assets at amortized cost	6,772
Total financial assets		306,941		306,955

(1) Under IAS 39, the embedded derivatives of hybrid financial instruments were accounted for as derivatives assets or liabilities if the criteria for separation of the embedded derivatives were met and the rest of the host contracts in those instruments were recorded as available-for-sale financial assets or loans and receivables. Since IFRS 9

requires financial instruments be accounted for based on the terms of the entire financial instrument, hybrid financial assets are revalued and recorded as financial assets at fair value through profit or loss.

For additional information regarding IFRS 9 and the impact of its application to our consolidated financial statements, see Note 2-(1)-1) of the notes to our consolidated financial statements.

Among other things, the application of IFRS 9 resulted in a one-off increase of 308 billion in our allowance for credit losses and provision for guarantees and loan commitments in the opening balances as of January 1, 2018 for our consolidated statement of financial position. The application of IFRS 9 may continue to result in higher impairment loss allowances that are recognized earlier, on a forward-looking basis and on a broader scope of financial instruments than was the case under IAS 39. In addition, the move from incurred to expected credit losses will have the potential to impact our performance under stressed economic conditions. Measurement requires increased complexity in our impairment modeling as it involves a greater degree of management judgment with respect to forward-looking information. We expect that impairment charges will tend to be more volatile as a result.

Critical Accounting Policies

The notes to our consolidated financial statements contain a summary of our significant accounting policies, including a discussion of recently issued accounting pronouncements. Certain of these policies are critical to the portrayal of our financial condition, since they require management to make difficult, complex or subjective judgments, some of which may relate to matters that are inherently uncertain. We discuss these critical accounting policies below.

Impairment of Loans and Allowance for Credit Losses

We evaluate our portfolio of loans and other financial assets at amortized cost (or loans and receivables) for impairment on an ongoing basis. We have established an allowance for credit losses, which is available to absorb losses in our portfolio of loans and other financial assets at amortized cost (or loans and receivables). If we believe that additions or changes to the allowance for credit losses are required, we record provisions for credit losses (as part of our impairment loss for credit loss), which are treated as charges against current income. Loan exposures that we deem to be uncollectible, including actual loan losses, net of recoveries of previously written-off amounts, are charged directly against the allowance for credit losses.

We have established our allowance for credit losses as of December 31, 2018 in accordance with IFRS 9 and as of December 31, 2016 and 2017 in accordance with IAS 39. See Overview Changes in Accounting Standards.

Our accounting policies under IFRS 9 for losses arising from the impairment of loans and other financial assets at amortized cost and our allowance for credit loss are described in Notes 2-(9)-6) and 3-(3) of the notes to our consolidated financial statements. The new impairment model under IFRS 9 requires the calculation of allowance for credit losses based on expected credit losses instead of incurred credit losses (as was the case under IAS 39) by assessing changes in expected credit losses and recognizing such changes as impairment loss (or reversal of impairment loss) in profit or loss. Under IFRS 9, the allowance required to be established with respect to a loan or financial asset is the amount of the expected 12-month credit loss or the expected lifetime credit loss for the applicable loan or financial asset, according to the three stages of credit risk deterioration since initial recognition, as follows:

- Stage 1 (loans and other financial assets at amortized cost for which credit risk has not significantly increased since initial recognition): the allowance for credit losses must cover expected credit losses due to possible defaults on the relevant loan or financial asset within a 12-month period from the reporting date.

- Stage 2 (loans and other financial assets at amortized cost for which credit risk has significantly increased since initial recognition): the allowance for credit losses must cover expected credit losses from all possible defaults during the expected lifetime of the relevant loan or financial asset.

- Stage 3 (credit-impaired loans and other financial assets at amortized cost): the allowance for credit losses must cover expected credit losses from all possible defaults during the expected lifetime of the relevant loan or financial asset.

At the end of every reporting period, we evaluate whether the credit risk with respect to our loans and other financial assets at amortized cost, after taking into account forward-looking information, has significantly increased since the date of their initial recognition. When evaluating whether credit risk has significantly increased, we take into account changes in the probability of default over the remaining life of a loan or financial

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asset, rather than changes in the amount of expected credit losses relating thereto. We distinguish between corporate and retail exposures in performing such evaluation, and consider factors such as the following as indicators of a significant increase in credit risk:

- the asset quality classification of the loan or financial asset is precautionary or lower;
- payments on the loan or financial asset are more than 30 days past due;
- there has been a significant decrease in the borrower s credit rating;
- in the case of a corporate borrower, the borrower is subject to a warning under an early warning system; or
- in the case of a corporate borrower, the borrower is experiencing financial difficulties (as evidenced by factors such as a capital impairment or an adverse opinion or a disclaimer of opinion by its external auditors).

In establishing our allowance for credit losses, we take into account information available as of the relevant reporting date regarding past events, current economic conditions and forecasts of future economic conditions. The probability of default and expected loss with respect to loans and other financial assets at amortized cost are calculated by considering factors such as borrower type, credit rating and applicable portfolio. In addition, in measuring expected credit loss, we seek to use reasonable and supportable macroeconomic indicators such as economic growth rates, interest rates and stock market index levels in forecasting future economic conditions.

Our consolidated financial statements for the year ended December 31, 2018 included a total allowance for losses on loans and other financial assets at amortized cost of 1,851 billion as of that date. We recorded provisions for credit losses on loans and other financial assets at amortized cost of 415 billion in 2018.

We believe that the accounting estimates related to impairment of loans and other financial assets at amortized cost (or loans and receivables) and our allowance for credit losses are a critical accounting policy because: (1) they are highly susceptible to change from period to period based on our estimates of expected credit and losses relating to our loan portfolio; and (2) any significant difference between expected credit losses on loans and other financial assets at amortized cost (or loans and receivables), as reflected in our allowance for credit losses, and actual losses on loans and other financial assets at amortized cost (or loans and receivables) could require us to record additional provisions for credit losses or charge-offs which, if significant, could have a material impact on our profit. Our estimates of expected credit losses require significant management judgment regarding matters such as the significance of changes in credit risk and probability of default since initial recognition. Actual losses have fluctuated in the past and are expected to continue to do so, based on a variety of factors.

Valuation of Financial Assets and Liabilities

Our accounting policy for determining the fair value of financial assets and liabilities is described in Notes 2-(9)-5), 3-(2) and 11 of the notes to our consolidated financial statements.

The best evidence of fair value is a quoted price in an actively traded market. In the event that the market for a financial asset or liability is not active, a valuation technique is used. The majority of valuation techniques employ only observable market data and, as such, the reliability of the fair value measurement is high. However, certain financial instruments are valued on the basis of valuation techniques that feature one or more significant market inputs that are unobservable. Valuation techniques that rely to a greater extent on unobservable inputs require a higher level of management judgment to calculate a fair value than those based wholly on observable inputs.

Valuation techniques used to calculate fair values are discussed in Notes 2-(9)-5) and 11 of the notes to our consolidated financial statements. The main assumptions and estimates which our management considers when applying a model with valuation techniques are:

The likelihood and expected timing of future cash flows on the instrument. These cash flows are usually governed by the terms of the instrument, although judgment may be required when the ability of the counterparty to service the instrument in accordance with the contractual terms is in doubt. Future cash flows may be sensitive to changes in market rates.

Selecting an appropriate discount rate for the instrument. The determination of this rate is based on an assessment of what a market participant would regard as the appropriate spread of the rate for the instrument over the appropriate risk-free rate.

Judgment to determine what model to use to calculate fair value in areas where the choice of valuation model is particularly subjective (for example, valuation of complex derivative products).

The financial instruments carried at fair value have been categorized under the three levels of the IFRS fair value hierarchy as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Fair value is a market-based measure considered from the perspective of a market participant. As such, even when market assumptions are not readily available, our own assumptions are intended to reflect those that market participants would use in pricing the asset or liability at the measurement date.

Our consolidated financial statements for the year ended December 31, 2018 included financial assets measured at fair value using a valuation technique of 21,568 billion, representing 89.0% of total financial assets measured at fair value, and financial liabilities measured at fair value using a valuation technique of 2,305 billion, representing 98.7% of total financial liabilities measured at fair value. As used herein, the fair value using a valuation technique means the fair value at Level 2 and Level 3 in the fair value hierarchy.

We believe that the accounting estimates related to the determination of the fair value of financial instruments are a critical accounting policy because: (1) they may be highly susceptible to change from period to period based on factors beyond our control; and (2) any significant difference between our estimate of the fair value of these financial instruments on any particular date and either their estimated fair value on a different date or the actual proceeds that we receive upon sale of these financial instruments could result in valuation losses or losses on disposal which may have a material impact on our profit. Our assumptions about the fair value of financial instruments we hold require significant judgment because actual valuations have fluctuated in the past and are expected to continue to do so, based on a variety of factors.

Deferred Tax Assets

Our accounting policy for the recognition of deferred tax assets is described in Notes 2-(22) and 3-(1) of the notes to our consolidated financial statements.

The recognition of deferred tax assets relies on an assessment of the probability and sufficiency of future taxable profits, future reversals of existing taxable temporary differences and ongoing tax planning strategies.

We recognize deferred tax assets and liabilities for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, unused tax losses and unused tax credits. Deferred tax assets are recognized only to the extent it is probable that sufficient taxable profit will be available against which those deductible temporary differences, unused tax losses or unused tax credits can be utilized. This assessment requires significant management judgment and assumptions. In determining the amount of deferred tax assets, we use forecasted operating results, which are based on historical financial performance, approved business plans, including a review of the eligible carry-forward periods, available tax planning opportunities and other relevant considerations.

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Our consolidated financial statements for the year ended December 31, 2018 included deferred tax assets and liabilities of 60 billion and 18 billion, respectively, as of that date.

We believe that the estimates related to our recognition and measurement of deferred tax assets are a critical accounting policy because: (1) they may be highly susceptible to change from period to period based on our assumptions regarding our future profitability; and (2) any significant difference between our estimates of future profits on any particular date and estimates of such future profits on a different date could result in an income tax expense or benefit which may have a material impact on our net income from period to period. Our assumptions about our future profitability require significant judgment and are inherently subjective.

Goodwill

Our accounting policy for goodwill is described in Note 2-(13) of the notes to our consolidated financial statements.

Goodwill is recognized as the excess of (i) the sum of the consideration transferred and the amount of any non-controlling interest in the acquiree over (ii) the net of the acquisition-date fair value of the identifiable assets acquired and the liabilities assumed. If the net amount of the acquisition-date fair value of the identifiable assets acquired and the liabilities assumed exceeds the sum of the consideration transferred and the amount of any non-controlling interest in the acquiree, such excess is recognized as a gain as of the acquisition date.

Goodwill is not depreciated and is stated at cost less accumulated impairment losses. However, goodwill that forms part of the carrying amount of an investment in an associate or a joint venture is not separately recognized and an impairment loss recognized is not allocated to any asset, including goodwill, that forms part of the carrying amount of the investment in the associate or the joint venture.

The review of goodwill impairment reflects our management s best estimate of the certain factors. For example:

The future cash flows of the cash generating units, or CGUs, are sensitive to the cash flows projected for the periods for which detailed forecasts are available and to assumptions regarding the long-term pattern of sustainable cash flows thereafter. Forecasts are compared with actual performance and verifiable economic data, but they necessarily and appropriately reflect our management s view of future business prospects at the time of the assessment.

The rates used to discount future expected cash flows are based on the costs of capital assigned to individual CGUs and can have a significant effect on their valuation. The cost of capital percentage is generally derived from a Capital Asset Pricing Model, which incorporates inputs reflecting a number of financial and economic variables, including the risk-free interest rate in the country concerned and a premium for the inherent risk of the business being evaluated. These variables are subject to fluctuations in external market rates and economic conditions beyond our control and therefore require the exercise of significant judgment and are consequently subject to uncertainty.

A decline in a CGU s expected cash flows or an increase in its cost of capital reduces the CGU s estimated recoverable amount. If this is lower than the carrying value of the CGU, a charge for impairment of goodwill is recognized in the statement of comprehensive income for the year.

The accuracy of forecast cash flows is subject to a high degree of uncertainty in volatile market conditions. In such market conditions, our management retests goodwill for impairment more frequently than once a year to ensure that the assumptions on which the cash flow forecasts are based continue to reflect current market conditions and management s best estimate of future business prospects.

Our consolidated financial statements for the year ended December 31, 2018 included the value of goodwill of 154 billion as of that date.

We believe that the accounting estimates related to the fair values of our acquired goodwill are a critical accounting policy because: (1) they may be highly susceptible to change from period to period since they

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require assumptions about future cash flows, run-off rates and profitability; and (2) any significant changes in our estimates from period to period could result in the recognition of impairment losses which may have a material impact on our net income. Our assumptions about estimated future cash flows, run-off rates and profitability require significant judgment and the fair values of the goodwill could fluctuate in the future, based on a variety of factors.

Defined Benefit Obligations

Our accounting policy for the recognition of defined benefit obligations is described in Notes 2-(21) and 3-(4) of the notes to our consolidated financial statements.

We operate both defined contribution and defined benefit pension plans for our employees. Contributions to the defined contribution plan are recognized as employee benefit expenses in the period in which an employee has rendered services entitling them to the contributions. For defined benefit pension plans, the cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. Remeasurement, which comprises actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in our statement of financial position with a charge or credit recognized in other comprehensive income in the period in which it occurs.

Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss. Past service cost is recognized in profit or loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are composed of service cost (including current and past service costs, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement. We present the service cost and net interest expense (income) components in profit or loss, and the remeasurement component in other comprehensive income. Curtailment gains and losses are accounted for as past service costs.

The defined benefit obligations recognized in our consolidated statement of financial position represent the actual deficit or surplus in our defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans. Liabilities for termination benefits are recognized at the earlier of either (i) when we are not able to cancel our proposal for termination benefits, or (ii) when we have recognized the cost of restructuring that accompanies the payment of termination benefits.

We believe that the estimates related to our recognition of defined benefit obligations are a critical accounting policy because: (1) they may be highly susceptible to change from period to period because they require us to make assumptions about discount rates, future wage growth rates, retirement rates and mortality rates; and (2) any significant remeasurement of net defined benefit obligations may have a material impact on our other comprehensive income and retained earnings. Our actuarial assumptions require significant judgment due to the complexities involved in the valuation of our defined benefit obligations and their long-term nature.

For an analysis of the sensitivity of our defined benefit obligations to changes in actuarial assumptions, see Note 24 of the notes to our consolidated financial statements.

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Results of Operations

Net Interest Income

The following table shows, for the periods indicated, the principal components of our interest income:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Interest income					
Financial assets at fair value through profit or loss (IFRS 9)			54	N/A[1]	N/A
Financial assets at fair value through profit or loss (IAS 39)	63	53		(15.9)%	N/A
Financial assets at fair value through other comprehensive income			280	N/A	N/A
Available-for-sale financial assets	340	239		(29.7)	N/A
Held-to-maturity financial assets	360	308		(14.4)	N/A
Financial assets at amortized cost:					
Securities at amortized cost			377	N/A	N/A
Loans and other financial assets at amortized cost:					
Interest on due from banks			113	N/A	N/A
Interest on loans			8,832	N/A	N/A
Interest on other receivables			28	N/A	N/A
Subtotal			9,350	N/A	N/A
Loans and receivables:					
Interest on due from banks	75	83		10.7	N/A
Interest on loans	7,635	7,836		2.6	N/A
Interest on other receivables	39	31		(20.5)	N/A
Subtotal	7,749	7,950		2.6	N/A
Total interest income	8,512	8,551	9,684	0.5	13.2%
Interest expense					
Deposits	2,547	2,380	2,917	(6.6)	22.6
Borrowings	215	238	307	10.7	29.0
Debentures	619	639	720	3.2	12.7
Others	111	73	89	(34.2)	21.9
Total interest expense	3,492	3,330	4,033	(4.6)	21.1
Net interest income	5,020	5,221	5,651	4.0%	8.2%

Net interest margin[2]	1.71%	1.74%	1.80%

(1) N/A = not applicable.
(2) The ratio of net interest income to average interest-earning assets.

Comparison of 2018 to 2017

Interest Income. Interest income increased 13.2% from 8,551 billion in 2017 to 9,684 billion in 2018, primarily due to a 12.7% increase in interest on loans. The average yield on interest-earning assets increased 23 basis point from 2.85% in 2017 to 3.08% in 2018, which reflected an increase in the general level of interest rates in Korea in 2018 compared to 2017. The effect of this increase was enhanced by a 5.0% increase in average balance of interest-earning assets from 299,691 billion in 2017 to 314,642 in 2018, principally due to the growth of our loan portfolio.

A substantial majority of loans that were previously classified as loans and receivables under IAS 39 are classified since 2018 as loans and other financial assets at amortized cost, which is part of financial assets at amortized cost, under IFRS 9, while a small portion of loans that were previously classified as loans and receivables under IAS 39 are classified since 2018 as financial assets at fair value through profit or loss under IFRS 9. See Overview Changes in Accounting Standards. The 12.7% increase in interest on loans from 7,836 billion in 2017 to 8,832 billion in 2018 was principally due to:

- a 51 basis point increase in the average yield on general purpose household loans (including home equity loans) from 3.44% in 2017 to 3.95% in 2018, which was enhanced by a 0.9% increase in the average volume of such loans from 66,420 billion in 2017 to 67,042 billion in 2018;

- a 9.4% increase in the average volume of commercial and industrial loans from 95,349 billion in 2017 to 104,269 billion in 2018, which was enhanced by a 1 basis point increase in the average yield on such loans from 3.29% in 2017 to 3.30% in 2018; and

- a 26 basis point increase in the average yield on mortgage loans from 2.96% in 2017 to 3.22% in 2018, which was enhanced by a 1.9% increase in the average volume of such loans from 47,545 billion in 2017 to 48,445 billion in 2018.

The average yields on general purpose household loans, commercial and industrial loans and mortgage loans increased mainly due to the increase in the general level of interest rates in Korea in 2018 compared to 2017. The average volumes of general purpose household loans, commercial and industrial loans and mortgage loans increased primarily due to increased demand from borrowers in anticipation of further increases in the general level of interest rates in Korea.

Overall, the average yield on loans increased by 23 basis points from 3.30% in 2017 to 3.53% in 2018, while the average volume of loans increased 5.4% from 237,340 billion in 2017 to 250,260 billion in 2018.

Our debt securities portfolio consists primarily of debt securities held for investment (as opposed to trading) purposes, including those issued by Korean financial institutions, corporations and government-owned or controlled enterprises. Investment debt securities that were previously classified as held-to-maturity financial assets under IAS 39 are classified since 2018 as securities at amortized cost, which is part of financial assets at amortized cost, under IFRS 9. A substantial majority of investment debt securities that were previously classified as available-for-sale financial assets under IAS 39 are classified since 2018 as financial assets at fair value through other comprehensive income under IFRS 9, while a small portion of investment debt securities that were previously classified as available-for-sale financial assets under IAS 39 are classified since 2018 as either securities at amortized cost or financial assets at fair value through profit or loss under IFRS 9. See Overview Changes in Accounting Standards. Interest income on investment debt securities classified in 2018 as either securities at amortized cost or financial assets at fair value through other comprehensive income, as compared to interest income on investment debt securities classified in 2017 as either held-to-maturity or available-for-sale financial assets, increased 19.9% from 548 billion in 2017 to 657 billion in 2018. Such increase was primarily due to a 36 basis point increase in the average yield on such investment debt securities from 1.67% in 2017 to 2.03% in 2018, which was partially offset by a 1.5% decrease in the average balance of such investment debt securities from 32,881 billion in 2017 to 32,404 billion in 2018. The increase in the average yield on investment debt securities resulted mainly from the increase in the general level of interest rates in Korea in 2018 compared to 2017. The decrease in the average balance of investment debt securities principally reflected a decrease in the amount of financial institution bonds that we held as investment debt securities.

Interest Expense. Interest expense increased 21.1% from 3,330 billion in 2017 to 4,033 billion in 2018, primarily due to a 22.6% increase in interest expense on deposits, which was enhanced by a 12.7% increase in interest expense on debentures and a 29.0% increase in interest expense on borrowings. The average cost of interest-bearing liabilities increased 18 basis points from 1.16% in 2017 to 1.34% in 2018, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017. The effect of this increase was enhanced by a 4.9% increase in the average balance of interest-bearing liabilities from 286,164 billion in 2017 to 300,174 billion in 2018, principally due to an increase in the average balance of deposits.

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The 22.6% increase in interest expense on deposits from 2,380 billion in 2017 to 2,917 billion in 2018 resulted mainly from:

- a 15 basis point increase in the average cost of Won-denominated time and savings deposits from 1.08% in 2017 to 1.23% in 2018, which was enhanced by a 5.7% increase in the average balance of such deposits from 186,277 billion in 2017 to 196,806 billion in 2018; and

- a 32 basis point increase in the average cost of other deposits (other than Won-denominated demand deposits, time and savings deposits and certificates of deposit) from 0.99% in 2017 to 1.31% in 2018, which was enhanced by a 7.4% increase in the average balance of such deposits from 24,444 billion in 2017 to 26,254 billion in 2018.

The increase in the average cost of Won-denominated time and savings deposits and other deposits was primarily attributable to the increase in the general level of interest rates in Korea in 2018 compared to 2017, while the increase in the average volume of such deposits mainly reflected customers continuing preference for low-risk products and institutions in Korea in light of the continuing uncertainty in financial markets in 2018.

Overall, the average cost of deposits increased by 17 basis points from 1.06% in 2017 to 1.23% in 2018, while the average volume of deposits increased 5.8% from 223,593 billion in 2017 to 236,663 billion in 2018.

The 12.7% increase in interest expense on debentures from 639 billion in 2017 to 720 billion in 2018 was primarily due to a 6.8% increase in the average balance of debentures from 25,865 billion in 2017 to 27,613 billion in 2018, which was mainly attributable to our increased use of debentures to meet our funding needs. Such increase was enhanced by a 14 basis point increase in the average cost of debentures from 2.47% in 2017 to 2.61% in 2018, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017.

The 29.0% increase in interest expense on borrowings from 238 billion in 2017 to 307 billion in 2018 was primarily due to a 60 basis point increase in the average cost of borrowings from 1.35% in 2017 to 1.95% in 2018, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017. The effect of such increase was offset in part by a 10.8% decrease in the average balance of borrowings from 17,669 billion in 2017 to 15,752 billion in 2018.

Net Interest Margin. Net interest margin represents the ratio of net interest income to average interest-earning assets. Our overall net interest margin increased from 1.74% in 2017 to 1.80% in 2018, as an 8.2% increase in our net interest income from 5,221 billion in 2017 to 5,651 billion in 2018 outpaced a 5.0% increase in the average balance of our interest-earning assets from 299,691 billion in 2017 to 314,636 billion in 2018. The growth in average interest-earning assets was largely matched by a 4.9% increase in average interest-bearing liabilities from 286,164 billion in 2017 to 300,174 billion in 2018, but the increase in interest income outpaced the increase in interest expense, resulting in the increase in net interest income. The magnitude of this increase was enhanced by an increase in our net interest spread, which represents the difference between the average yield on our interest-earning assets and the average cost of our interest-bearing liabilities, from 1.69% in 2017 to 1.74% in 2018. The increase in net interest spread resulted from a larger increase in the average yield on interest-earning assets between the two periods compared to the increase in the average cost of interest-bearing liabilities, as interest rates on interest-bearing liabilities adjusted later than those on interest-earning assets in the context of the higher interest rate environment in 2018.

Comparison of 2017 to 2016

Interest income. Interest income increased 0.5% from 8,512 billion in 2016 to 8,551 billion in 2017, primarily as a result of a 2.6% increase in interest on loans, which was partially offset by a 21.7% decrease in interest on investment debt securities. The average balance of our interest-earning assets increased 1.8% from 294,264 billion in 2016 to 299,691 billion in 2017, principally due to growth in our loan portfolio as well as financial assets portfolio. The effect of this increase was partially offset by a 4 basis point decrease in the average yield on our interest-earning assets from 2.89% in 2016 to 2.85% in 2017, which reflected a decrease in the general level of interest rates in Korea in 2017 compared to 2016.

The 2.6% increase in interest on loans from 7,635 billion in 2016 to 7,836 billion in 2017 was primarily due to:

- a 7.3% increase in the average volume of general purpose household loans from 61,918 billion in 2016 to 66,420 billion in 2017, which was enhanced by a 3 basis point increase in the average yield on such loans from 3.41% in 2016 to 3.44% in 2017; and

- a 5.6% increase in the average volume of mortgage loans from 45,007 billion in 2016 to 47,545 billion in 2017, which was enhanced by a 2 basis point increase in the average yield on such loans from 2.94% in 2016 to 2.96% in 2017.

The effect of the above increases was offset in part by a 2.9% decrease in the average volume of commercial and industrial loans from 98,202 billion in 2016 to 95,349 billion in 2017, which in turn was partially offset by a 1 basis point increase in the average yield on such loans from 3.28% in 2016 to 3.29% in 2017.

The increase in the average volume of general purpose household loans and mortgage loans was primarily due to increased demand for such loans among consumers in Korea. The average yields on general purpose household loans and mortgage loans increased mainly due to an increase in interest rates for loans in Korea commencing in the second half of 2017. The decrease in the average volume of commercial and industrial loans mainly reflected a decrease in loans to certain large corporate borrowers, primarily as a result of our efforts to decrease our exposure to such borrowers and diversify our loan portfolio.

Overall, the average volume of our loans increased 1.3% from 234,287 billion in 2016 to 237,340 billion in 2017, and the average yield on our loans increased 4 basis points, from 3.26% in 2016 to 3.30% in 2017.

The 21.9% decrease in interest on investment debt securities from 700 billion in 2016 to 548 billion in 2017 was primarily due to a 56 basis point decrease in the average yield on such assets from 2.23% in 2016 to 1.67% in 2017, which was partially offset by a 4.9% increase in the average balance of such assets from 31,348 billion in 2016 to 32,881 billion in 2017. The decrease in the average yield on investment debt securities resulted mainly from the decrease in the general level of interest rates in Korea in 2017 compared to 2016. The increase in the average balance of investment debt securities principally reflected an increase in the amount of financial institution bonds that we held as investment debt securities.

Interest expense. Interest expense decreased 4.6% from 3,492 billion in 2016 to 3,330 billion in 2017, primarily due to a 6.6% decrease in interest expense on deposits. The average balance of interest-bearing liabilities increased 1.9% from 280,732 billion in 2016 to 286,164 billion in 2017, principally due to an increase in the average balance of deposits and debentures. The effect of this increase was more than offset by a decrease of 8 basis points in the average cost of interest-bearing liabilities from 1.24% in 2016 to 1.16% in 2017, which was driven mainly by a decrease in the average cost of debentures and deposits.

The 6.6% decrease in interest expense on deposits from 2,547 billion in 2016 to 2,380 billion in 2017 resulted mainly from a 7.3% decrease in interest expense on Won-denominated time and savings deposits from 2,166 billion in 2016 to 2,008 billion in 2017. The decrease in interest expense on Won-denominated time and savings deposits was mainly due to a 12 basis point decrease in the average cost of such deposits from 1.20% in 2016 to 1.08% in 2017, which was partially offset by a 2.9% increase in the average balance of such deposits from 181,073 billion in 2016 to 186,277 billion in 2017. The decrease in the average cost of Won-denominated time and savings deposits was primarily attributable to the decrease in the general level of interest rates in Korea in 2017 compared to 2016, while the increase in the average volume of such deposits mainly reflected customers continuing preference for low-risk products and institutions in Korea in light of the continuing uncertainty in financial markets in 2017.

Overall, the average volume of our deposits increased 2.7% from 217,696 billion in 2016 to 223,593 billion in 2017, while the average cost of our deposits decreased 11 basis points from 1.17% in 2016 to 1.06% in 2017.

Interest expense on debentures increased 3.2% from 619 billion in 2016 to 639 billion in 2017, primarily due to a 12.5% increase in the average balance of debentures from 22,988 billion in 2016 to

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25,865 billion in 2017, which was mainly attributable to our increased use of debentures to meet our funding needs. Such increase was partially offset by a 22 basis point decrease in the average cost of debentures from 2.69% in 2016 to 2.47% in 2017, which mainly reflected the lower interest rate environment in Korea in 2017 compared to 2016.

Net interest margin. Our overall net interest margin increased from 1.71% in 2016 to 1.74% in 2017, as a 4.0% increase in net interest income from 5,020 billion in 2016 to 5,221 billion in 2017 outpaced a 1.8% increase in the average balance of our interest-earning assets from 294,264 billion in 2016 to 299,691 billion in 2017. The effect of the increase in interest income was enhanced by a decrease in interest expense, resulting in an increase in net interest income, while the growth in average interest-earning assets was largely matched by a 1.9% increase in average interest-bearing liabilities from 280,732 billion in 2016 to 286,164 billion in 2017. The increase in net interest margin was driven mainly by an increase in our net interest spread from 1.65% in 2016 to 1.69% in 2017. The increase in our net interest spread reflected a larger decrease in the average cost of our interest-bearing liabilities, compared to the decrease in the average yield on our interest-earning assets from 2016 to 2017, which was primarily attributable to the earlier adjustment of interest rates on interest-earning assets compared to interest rates on interest-bearing liabilities in the context of an increase in the general level of interest rates in Korea commencing in the second half of 2017.

Impairment Losses Due to Credit Loss

The following table shows, for the periods indicated, the components of our impairment losses due to credit loss.

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017 / 2016	2018 / 2017
	(in billions of Won)			(%)	
Impairment loss due to credit loss on financial assets measured at fair value through other comprehensive income			(2)	N/A[(1)]	N/A
Impairment loss due to credit loss on securities at amortized cost			(2)	N/A	N/A
Provisions for credit loss on loans and other financial assets at amortized cost			(415)	N/A	N/A
Provisions for credit losses	(891)	(862)		(3.3)%	N/A
Reversal of provisions on guarantees	60	55	106	(8.3)	92.7%
Reversal of provisions on (provisions for) unused loan commitments	(3)	22	(17)	N/M[(2)]	N/M
Total impairment losses due to credit loss	(834)	(785)	(330)	(5.9)%	(58.0)%

(1) N/A = not applicable.
(2) N/M = not meaningful.

Comparison of 2018 to 2017

Our impairment losses due to credit loss decreased 58.0% from 785 billion in 2017 to 330 billion in 2018, primarily due to a 51.9% decrease in provisions for credit loss on loans and other financial assets at amortized cost in 2018 compared to provisions for credit losses in 2017, which was enhanced by a 92.7% increase in reversal of provisions on guarantees. Such impairment losses were measured under IFRS 9 in 2018, as opposed to IAS 39 in 2017, and as of January 1, 2018, we recognized in retained earnings a (294) billion adjustment relating to the adoption of IFRS 9, which reflected an increase in allowances for credit losses. See Item 4.B. Business Overview Assets and Liabilities Asset Quality of Loans Loan Loss Provisioning Policy.

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The 51.9% decrease from provisions for credit losses of 862 billion in 2017 to provisions for credit loss on loans and other financial assets at amortized cost of 415 billion in 2018 was primarily due to a net reversal of loan loss allowances for corporate loans in 2018, mainly reflecting an improvement in the overall asset quality of such loans, which was partially offset by an increase in loan loss provisions for consumer loans, principally as a result of an increase in the outstanding balance of our consumer loans. The 92.7% increase in reversal of provisions on guarantees from 55 billion in 2017 to 106 billion in 2018 was mainly attributable to an improvement in the financial condition of certain corporate customers on behalf of which we had extended guarantees.

Comparison of 2017 to 2016

Our impairment losses due to credit loss decreased 5.9% from 834 billion in 2016 to 785 billion in 2017, primarily due to a 3.3% decrease in provisions for credit losses and a reversal of provisions for loan commitments.

The 3.3% decrease in provisions for credit losses from 891 billion in 2016 to 862 billion in 2017 was mainly attributable to a reversal of provisions primarily caused by debt-to-equity swaps of certain corporate bonds and changes in exchange rates, which was partially offset by an increase in provisions for credit losses on consumer loans.

Provisions for loan commitments changed from net provisions of 3 billion in 2016 to a net reversal of provisions of 22 billion in 2017, principally as a result of our efforts to eliminate undrawn loan commitments of corporate borrowers by monitoring the credit activity of such borrowers.

Allowance for Credit Losses

For information on our allowance for credit losses, see Item 5.A. Operating Results Critical Accounting Policies Impairment of Loans and Allowance for Credit Losses and Item 4.B. Business Overview Assets and Liabilities Loan Portfolio Allocation and Analysis of Allowances for Credit Losses.

Corporate Loans

The following table shows, for the periods indicated, certain information regarding our impaired corporate loans (including government loans and bank loans):

	As of December 31,		
	2016	**2017**	**2018**
Impaired corporate loans as a percentage of total corporate loans	1.5%	1.2%	0.7%
Allowance for credit losses for corporate loans as a percentage of total corporate loans	1.2	1.0	0.9
Allowance for credit losses for corporate loans as a percentage of impaired corporate loans	80.2	82.6	120.0
Net charge-offs of corporate loans as a percentage of total corporate loans	0.4	0.2	0.1

During 2018, impaired corporate loans, allowance for credit losses for corporate loans and net charge-offs, each as a percentage of total corporate loans, decreased primarily due to an improvement in the overall credit quality of our corporate loans, as well as the application of modified criteria for the determination of loan impairment under IFRS 9. Such decrease was enhanced by a slight increase in the total amount of our corporate loans from 136,676 billion as of December 31, 2017 to 136,888 billion as of December 31, 2018. However, allowance for credit losses for corporate loans as a percentage of impaired corporate loans increased during 2018, as an 11.4% decrease in allowance for credit losses for corporate loans from 1,383 billion as of December 31, 2017 to 1,225 billion as of December 31, 2018 was outpaced by a 39.0% decrease in impaired corporate loans from 1,674 billion as of December 31, 2017 to 1,021 billion as of December 31, 2018, which was mainly attributable to improved credit ratings of certain corporate borrowers and redemptions of such loans.

During 2017, impaired corporate loans, allowance for credit losses for corporate loans and net charge-offs, each as a percentage of total corporate loans, decreased due to an improvement in the overall credit quality of our corporate loans, as well as an increase in the total amount of our corporate loans from 125,643 billion as of December 31, 2016 to 136,676 billion as of December 31, 2017. However, allowance for credit losses for corporate loans as a percentage of impaired corporate loans increased during 2017, as a 9.5% decrease in allowance for credit losses for corporate loans from 1,528 billion as of December 31, 2016 to 1,383 billion as of December 31, 2017 was outpaced by a 13.6% decrease in impaired corporate loans from 1,905 billion as of December 31, 2016 to 1,646 billion as of December 31, 2017, which was mainly attributable to debt-to-equity conversions of such loans.

Consumer Loans and Credit Card Balances

The following table shows, for the periods indicated, certain information regarding our impaired loans to the consumer sector, excluding credit card balances:

	As of December 31,		
	2016	**2017**	**2018**
Impaired consumer loans as a percentage of total consumer loans	0.3%	0.3%	0.3%
Allowance for credit losses for consumer loans as a percentage of total consumer loans	0.2	0.2	0.3
Allowance for credit losses for consumer loans as a percentage of impaired consumer loans	52.5	64.7	75.2
Net charge-offs of consumer loans as a percentage of total consumer loans	0.1	0.1	0.1

During 2018, impaired consumer loans and net charge-offs, each as a percentage of total consumer loans, remained stable. However, allowance for credit losses for consumer loans as a percentage of total consumer loans and as a percentage of impaired consumer loans increased, primarily due to a one-off increase in allowance for credit losses for consumer loans in connection with the application of IFRS 9 in the opening balances as of January 1, 2018. Such increase contributed to a 43.4% increase in the level of our allowance for credit losses for consumer loans from 205 billion as of December 31, 2017 to 294 billion as of December 31, 2018, which outpaced a 7.1% increase in total consumer loans from 109,290 billion as of December 31, 2017 to 117,095 billion as of December 31, 2018 as well as a 23.3% increase in impaired consumer loans from 317 billion as of December 31, 2017 to 391 billion as of December 31, 2018.

During 2017, impaired consumer loans, allowance for credit losses for consumer loans and net charge-offs of consumer loans, each as a percentage of total consumer loans, remained stable. However, allowance for credit losses for consumer loans as a percentage of impaired consumer loans increased, as the degree of overall impairment of our impaired consumer loans became more severe in 2017 compared to 2016, resulting in a 22.0% increase in the level of our allowance for credit losses for consumer loans from 168 billion as of December 31, 2016 to 205 billion as of December 31, 2017, which outpaced a 4.6% increase in impaired consumer loans from 303 billion as of December 31, 2016 to 317 billion as of December 31, 2017.

The following table shows, for the periods indicated, certain information regarding our impaired credit card balances:

	As of December 31,		
	2016	**2017**	**2018**
	2.3%	2.6%	2.6%

Impaired credit card balances as a percentage of total credit card balances[1]			
Allowance for credit losses for credit card balances as a percentage of total credit card balances[1]	2.3	2.7	3.2
Allowance for credit losses for credit card balances as a percentage of impaired credit card balances[1]	102.0	102.2	124.4
Net charge-offs of credit card balances as a percentage of total credit card balances[1]	3.0	2.6	2.3

(1) Includes corporate credit card balances.

During 2018, while impaired credit card balances as a percentage of total credit card balances remained stable, net charge-offs of credit card balances as a percentage of total credit card balances decreased mainly as a result of a 17.9% increase in the total amount of our credit card balances from 6,827 billion as of December 31, 2017 to 8,051 billion as of December 31, 2018. However, allowance for credit losses for credit card balances as a percentage of total credit card balances and as a percentage of impaired credit card balances increased, primarily due to a one-off increase in allowance for credit losses for credit card balances in connection with the application of IFRS 9 in the opening balances as of January 1, 2018, which contributed to a 42.9% increase in the level of our allowance for credit losses for credit card balances from 182 billion as of December 31, 2017 to 260 billion as of December 31, 2018.

During 2017, impaired credit card balances and allowance for credit losses for credit card balances, each as a percentage of total credit card balances, increased mainly due to a deterioration in the overall credit quality of our credit card portfolio, which resulted in an increase in the level of our allowance for credit losses for credit card balances from 155 billion as of December 31, 2016 to 182 billion as of December 31, 2017. Allowance for credit losses for credit card balances as a percentage of impaired credit card balances also increased as the degree of overall impairment of our impaired credit card balances became more severe in 2017 compared to 2016. Net charge-offs of credit card balances as a percentage of total credit card balances decreased mainly as a result of lower net charge-offs, as well as an increase in the total amount of our credit card balances.

Net Fees and Commissions Income

The following table shows, for the periods indicated, the components of our net fees and commissions income:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2017/2018
	(in billions of Won)			(%)	
Fees and commissions income	1,865	2,069	1,681	10.9%	(18.8)%
Fees and commissions expense	(928)	(999)	(611)	7.7	(38.8)
Total fees and commissions income, net	937	1,070	1,070	14.2%	0.0%

Comparison of 2018 to 2017

Our net fees and commissions income remained stable at 1,070 billion in 2017 and 2018, as an 18.8% decrease in fees and commissions income from 2,069 billion in 2017 to 1,681 billion in 2018 was offset by a 38.8% decrease in fees and commissions expense from 999 billion in 2017 to 611 billion in 2018. The 18.8% decrease in fees and commissions income was primarily due to a 44.1% decrease in credit card fees from 1,072 billion in 2017 to 599 billion in 2018, which was attributable mainly to our adoption of IFRS 15 in 2018, pursuant to which rewards and points provided to credit card users are deducted from revenue as they are considered as consideration provided to customers. As a result of such change to our accounting policies, fees and commissions received on credit cards and fees and commissions paid on credit cards were both reduced by 526 billion in 2018. See Note 2-(1)-1)-e) of the notes to our consolidated financial statements included elsewhere in this annual report. The 38.8% decrease in fees and commissions expense was principally due to a 48.2% decrease in credit card commissions from 828 billion in 2017 to 429 billion in 2018, which was attributable mainly to our adoption of IFRS 15 in 2018, as discussed above.

Comparison of 2017 to 2016

Our net fees and commissions income increased 14.2% from 937 billion in 2016 to 1,070 billion in 2017, as a 10.9% increase in fees and commissions income from 1,865 billion in 2016 to 2,069 billion in 2017 outpaced a 7.7% increase in fees and commissions expense from 928 billion in 2016 to 999 billion in 2017. The 10.9% increase in fees and commissions income was mainly the result of a 12.3% increase in credit card fees from 955 billion in 2016 to 1,072 billion in 2017, which primarily reflected an increase in the average volume of credit card receivables as well as an increase in credit card issuances. Such increase was enhanced by a 75.3% increase in other fee income from 93 billion in 2016 to 163 billion in 2017, which was

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primarily attributable to an increase in fee income from trust management services. The 7.7% increase in fees and commissions expense was principally due to an 8.8% increase in credit card commissions from 761 billion in 2016 to 828 billion in 2017, which mainly reflected the increase in the average volume of credit card receivables.

For further information regarding our net fees and commissions income, see Note 34 of the notes to our consolidated financial statements included elsewhere in this annual report.

Net Gain on Financial Assets

The following table shows, for the periods indicated, the components of our net gain on financial assets:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Net gain on financial assets at fair value through profit or loss (IFRS 9)			214	N/A[2]	N/A
Net gain (loss) on financial assets at fair value through profit or loss (IAS 39)	114	(105)		N/M[3]	N/A
Net gain on financial assets at fair value through other comprehensive income			2	N/A	N/A
Net gain (loss) on available-for-sale financial assets[1]	(1)	193		N/M	N/A
Net gain on disposals of financial assets at amortized cost			80	N/A	N/A
Total net gain on financial assets	113	88	296	(22.1)%	236.4%

(1) Includes impairment losses on available-for-sale financial assets of 50 billion in 2016 and 31 billion in 2017.
(2) N/A = not applicable.
(3) N/M = not meaningful.

Comparison of 2018 to 2017

Our net gain on financial assets increased 236.4% from 88 billion in 2017 to 296 billion in 2018. This increase was primarily attributable to a change in net gain (loss) on financial instruments at fair value through profit or loss from a net loss of 105 billion in 2017 to a net gain of 214 billion in 2018. Financial instruments at fair value through profit or loss under IFRS 9 include all financial instruments at fair value through profit or loss that were classified as such under IAS 39 in 2017 as well as certain other financial instruments that were classified as available-for-sale financial assets and loans and receivables under IAS 39 in 2017. See Overview Changes in Accounting Standards. The effect of such change was partially offset by a 99.0% decrease in net gain on available-for-sale financial assets of 193 billion in 2017 compared to net gain on financial assets at fair value through other comprehensive income of 2 billion in 2018.

The change in net gain (loss) on financial instruments at fair value through profit or loss from a net loss to a net gain was principally the result of a significant increase in net gain on financial instruments held for trading of 6 billion in 2017 compared to net gain on financial instruments at fair value through profit or loss mandatorily measured at fair value of 197 billion in 2018, which was enhanced by a change to a net gain on financial instruments at fair value through profit or loss designated as upon initial recognition of 17 billion in 2018 compared to a net loss on financial instruments designated as at fair value through profit or loss of 111 billion in 2017. The significant increase in net gain on financial instruments held for trading in 2017 compared to net gain on financial instruments at fair value through profit or loss mandatorily measured at fair value in 2018 was primarily due to a significant increase in gains on valuation of securities from 3 billion in 2017 to 137 billion in 2018, which was enhanced by a significant increase in net gain on transactions and valuation of derivatives held for trading from 3 billion in 2017 to 66 billion in 2018. Derivatives held for trading were classified as financial assets held for trading under IAS 39 in 2017 but are classified since 2018 as financial assets at fair value through profit or loss under IFRS 9. The change to a net gain on financial instruments at fair value through profit or loss designated as upon initial recognition in 2018, compared to a net loss on financial instruments designated as at fair value through profit or loss in 2017, resulted mainly from a change in net gain (loss) on equity-linked securities from a net loss of 112 billion in 2017 to a net gain of 16 billion in 2018.

The 99.0% decrease in net gain on available-for-sale financial assets compared to net gain on financial assets at fair value through other comprehensive income resulted mainly from a 99.1% decrease in gains on transaction of securities from 224 billion in 2017 to 2 billion in 2018. Such decrease was attributable primarily to the reclassification of certain equity and debt securities that were classified as available-for-sale financial assets in 2017 under IAS 39 to classifications other than financial assets at fair value through other comprehensive income, including financial assets at fair value through profit or loss and securities at amortized cost, in 2018 under IFRS 9. See Overview Changes in Accounting Standards.

Comparison of 2017 to 2016

Our net gain on financial assets decreased 22.1% from 113 billion in 2016 to 88 billion in 2017, primarily as a result of a change in net gain (loss) on financial assets at fair value through profit or loss from a net gain of 114 billion in 2016 to a net loss of 105 billion in 2017, which was partially offset by a change in net gain (loss) on available-for-sale financial assets from a net loss of 1 billion in 2016 to a net gain of 193 billion in 2017.

The change in net gain (loss) on financial assets at fair value through profit or loss was principally due to a 96.8% decrease in gain on financial assets held for trading from 186 billion in 2016 to 6 billion in 2017, which was enhanced by 56.3% increase in net loss on financial assets designated at fair value through profit or loss from 71 billion in 2016 to 111 billion in 2017. The 96.8% decrease in gain on financial assets held for trading was primarily due to a change in net gain (loss) on currency derivatives from a net gain of 121 billion in 2016 to a net loss of 155 billion in 2017, which was partially offset by a 235.3% increase in gains on equity derivatives from 34 billion in 2016 to 114 billion in 2017.

The 56.3% increase in net loss on financial assets designated at fair value through profit or loss resulted mainly from a 47.4% increase in net loss on equity-linked securities from 76 billion in 2016 to 112 billion in 2017, which was primarily attributable to an increase in losses on investments in securities linked to certain indices. Such losses were offset in part through derivative transactions and fees and commissions income generated in connection therewith.

The change in net gain (loss) on available-for-sale financial assets was principally due to a more than four-fold increase in gains on transaction of such securities from 48 billion in 2016 to 224 billion in 2017. Such increase mainly reflected an increase in the number of such transactions in 2017 compared to 2016.

Unrealized gains and losses (other than impairment losses) on valuation of available-for-sale financial assets are recorded in our statement of financial position as part of accumulated other comprehensive income, under other equity. In 2017, we recognized a net loss on valuation of available-for-sale financial assets of 84 billion as part of other comprehensive income (loss) net of tax.

For further information regarding our net gain on financial assets, see Notes 36 and 37 of the notes to our consolidated financial statements included elsewhere in this annual report.

General and Administrative Expenses

The following table shows, for the periods indicated, the components of our general and administrative expenses:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Employee benefits	2,125	2,324	2,322	9.4%	(0.1)%
Depreciation and amortization	248	184	217	(25.8)	17.9
Other general and administrative expenses	1,105	1,023	1,085	(7.4)	6.1
General and administrative expenses	3,478	3,531	3,624	1.5%	2.6%

Comparison of 2018 to 2017

Our general and administrative expenses increased 2.6% from 3,531 billion in 2017 to 3,624 billion in 2018, primarily as a result of a 6.1% increase in other general and administrative expenses from 1,023 billion in 2017 to 1,085 billion in 2018, which was enhanced by a 17.9% increase in depreciation and amortization expenses from 184 billion in 2017 to 217 billion in 2018.

The increase in other general and administrative expenses was primarily due to a 12.1% increase in service charges from 199 billion in 2017 to 223 billion in 2018 and a 25.4% increase in computer and IT-related expenses from 71 billion in 2017 to 89 billion in 2018. The increase in service charges was principally due to higher rates charged by service providers as a result of an increase in the national minimum wage under Korean law, while the increase in computer and IT-related expenses resulted mainly from the incurrence of additional expenses relating to an upgrade of our computer systems, which was completed in May 2018.

The 17.9% increase in depreciation and amortization was mainly related to the upgrade of our computer systems during 2018, as discussed above.

Comparison of 2017 to 2016

Our general and administrative expenses increased 1.5% from 3,478 billion in 2016 to 3,531 billion in 2017, primarily as a result of a 9.4% increase in employee benefits from 2,125 billion in 2016 to 2,324 billion in 2017, which was partially offset by a 7.4% decrease in other general and administrative expenses from 1,105 billion in 2016 to 1,023 billion in 2017 and a 25.8% decrease in depreciation and amortization from 248 billion in 2016 to 184 billion in 2017.

The 9.4% increase in employee benefits was principally due to a 67.6% increase in redundancy payments from 179 billion in 2016 to 300 billion in 2017, resulting mainly from the early retirement program we implemented in September 2017. Such increase was enhanced by a 19.9% increase in other short-term employee benefits from 467 billion in 2016 to 560 billion in 2017, which mainly reflected an increase in benefit levels for our employees.

The 7.4% decrease in other general and administrative expenses was mainly due to an 18.8% decrease in service charges from 245 billion in 2016 to 199 billion in 2017, principally reflecting a decrease in the number of our banking branches, and a 32.9% decrease in miscellaneous other expenses from 70 billion in 2016 to 47 billion in 2017.

The 25.8% decrease in depreciation and amortization was also mainly due to the decrease in the number of our banking branches.

For further information regarding our general and administrative expenses, see Note 39-(1) of the notes to our consolidated financial statements included elsewhere in this annual report.

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Other Net Operating Expenses

The following table shows, for the periods indicated, the components of our other net operating expenses:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Other operating income	5,208	3,736	1,389	(28.2)%	(62.8)%
Other operating expenses	(5,575)	(3,768)	(1,783)	(32.4)	(52.7)
Total other net operating expenses	(367)	(31)	(394)	(91.6)%	1,171.0%

Comparison of 2018 to 2017

Our other net operating expenses increased significantly from 31 billion in 2017 to 394 billion in 2018, as a 62.8% decrease in other operating income from 3,736 billion in 2017 to 1,389 billion in 2018 outpaced a 52.7% decrease in other operating expenses from 3,768 billion in 2017 to 1,783 billion in 2018.

Other operating income includes principally gains on transactions of foreign exchange, gains on disposals of loans and receivables (for 2017 under IAS 39), gains related to derivatives, gains on fair value hedged items and miscellaneous other operating income. The 62.8% decrease in other operating income was attributable mainly to a 63.8% decrease in gains on transactions of foreign exchange from 3,391 billion in 2017 to 1,228 billion in 2018. This decrease, which was principally due to lower exchange rate volatility in 2018, was partially offset by a 65.7% decrease in losses on transactions of foreign exchange from 2,887 billion in 2017 to 991 billion in 2018, which is recorded as part of other operating expenses. On a net basis, net gains on transactions of foreign exchange decreased 53.0% from 504 billion in 2017 to 237 billion in 2018. The decrease in gains on transactions of foreign exchange was enhanced by a 100.0% decrease in gains on disposals of loans and receivables from 205 billion in 2017 to nil in 2018, which reflected the change in classification of gains and losses on disposal of loans and receivables to net gain (loss) on disposal of financial assets at amortized costs, which is part of net gain on financial assets, under IFRS 9. We recognized a net gain on disposal of financial assets at amortized cost of 80 billion in 2018.

Other operating expenses include principally losses on transaction of foreign exchange, deposit insurance premiums, contributions to miscellaneous funds, losses on disposals of loans and receivables (for 2017 under IAS 39), losses related to derivatives, losses on fair value hedged items and miscellaneous other operating expenses. The 52.7% decrease in other operating expenses was primarily the result of a 65.7% decrease in losses on transactions of foreign exchange from 2,887 billion in 2017 to 991 billion in 2018, which mainly reflected lower exchange rate volatility in 2018. This decrease was more than offset by a decrease in gains on transaction of foreign exchange, which is recorded as part of other operating income as discussed above.

Comparison of 2017 to 2016

Our other net operating expenses decreased 91.6% from 367 billion in 2016 to 31 billion in 2017, primarily due to a 32.4% decrease in other operating expenses from 5,575 billion in 2016 to 3,768 billion in 2017, which was partially offset by a 28.2% decrease in other operating income from 5,208 billion in 2016 to 3,737 billion in 2017.

The 28.2% decrease in other operating income was attributable mainly to a 29.2% decrease in gains on transaction of foreign exchange from 4,792 billion in 2016 to 3,391 billion in 2017. This decrease, which primarily reflected lower exchange rate volatility in 2017, was more than offset by a greater decrease in loss on transaction of foreign exchange, which is recorded as part of other operating expenses. On a net basis, our net gain on transaction of foreign exchange increased more than five-fold from 86 billion in 2016 to 504 billion in 2017. The decrease in gains on transaction of foreign exchange was enhanced by a 45.5% decrease in gains on fair value hedged items from 99 billion in 2016 to 54 billion in 2017, as well as a 23.2% decrease in other miscellaneous operating income from 112 billion in 2016 to 86 billion in 2017, which was primarily due to a

60.7% decrease in amounts receivable from other creditor financial institutions under the terms of borrower debt restructuring programs from 75 billion in 2016 to 29 billion in 2017.

The 32.4% decrease in other operating expenses was primarily the result of a 38.7% decrease in loss on transaction of foreign exchange from 4,706 billion in 2016 to 2,887 billion in 2017, which mainly reflected lower exchange rate volatility in 2017. This decrease was partially offset by a decrease in gains on transaction of foreign exchange, which is recorded as part of other operating income as discussed above.

For further information regarding our other net operating expense, see Notes 39-(2) and (3) of the notes to our consolidated financial statements included elsewhere in this annual report.

Net Other Non-operating Income (Expenses)

The following table shows, for the periods indicated, the components of our other net non-operating income (expenses):

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Other non-operating income	132	84	130	(36.4)%	54.8%
Other non-operating expenses	(133)	(190)	(87)	42.9	(54.2)
Total net other non-operating income (expenses)	(1)	(106)	43	N/M[1]	N/M

[1] N/M = not meaningful.

Comparison of 2018 to 2017

Our net other non-operating income (expenses) changed from net expenses of 106 billion in 2017 to net income of 43 billion in 2018, as a 54.8% increase in other non-operating income from 84 billion in 2017 to 130 billion in 2018 was enhanced by a 54.2% decrease in other non-operating expenses from 190 billion in 2017 to 87 billion in 2018.

Other non-operating income includes principally rental fee income, gain on disposal of investment in joint ventures and associates, gain on disposal of premises and equipment, intangible assets and other assets, reversal of impairment loss on premises and equipment, intangible assets and other assets and miscellaneous other non-operating income. The 54.8% increase in other non-operating income was attributable primarily to gains recognized in 2018 on the disposal of certain investments in joint ventures and associates after improvements in their financial condition.

Other non-operating expenses include principally depreciation on investment properties, interest expenses of refundable deposits, losses on disposal of investment in joint ventures and associates, losses on disposal of premises and equipment, intangible assets and other assets, impairment losses on premises and equipment, intangible assets and other assets, donations and miscellaneous other non-operating expenses. The 54.2% decrease in other non-operating expenses was attributable mainly to a 46.9% decrease in donations from 98 billion in 2017 to 52 billion in 2018, primarily reflecting our donation of issuance fees of dormant cashier s checks for the preceding five years to the Korea Inclusive Finance Agency in 2017 in accordance with the amended Microfinance Support Act, which significantly decreased in 2018. Such decrease was enhanced by a 92.3% decrease in losses on disposal of investment in joint ventures and associates from 39 billion in 2017 to 3 billion in 2018, which was principally due to a decrease in the number of such transactions in 2018 compared to 2017.

Comparison of 2017 to 2016

Our net other non-operating loss increased significantly from 1 billion in 2016 to 106 billion in 2017, as the effect of a 42.9% increase in other non-operating expenses from 133 billion in 2016 190 billion in 2017 was enhanced by a 36.4% decrease in other non-operating income from 132 billion in 2016 to 84 billion in 2017.

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The 36.4% decrease in other non-operating income was attributable mainly to a 66.7% decrease in miscellaneous other non-operating income from 96 billion in 2016 to 32 billion in 2017, which was partially offset by a 73.9% increase in gains on disposal of investment in joint ventures and associates from 23 billion in 2016 to 40 billion in 2017. The increase in gains on disposal of investment in joint ventures and associates was primarily attributable to an increase in the number of such transactions in 2017 compared to 2016.

The 42.9% increase in other non-operating expenses was attributable mainly to a 122.7% increase in donations from 44 billion in 2016 to 98 billion in 2017 and a 160.0% increase in losses on disposal of investment in joint ventures and associates from 15 billion in 2016 to 39 billion in 2017, which were partially offset by a 35.6% decrease in miscellaneous other non-operating expenses from 59 billion in 2016 to 38 billion in 2017. The increase in donations mainly reflected our donation of issuance fees of dormant cashier s checks for the preceding five years to the Korea Inclusive Finance Agency, as discussed above. The increase in losses on disposal of investment in joint ventures and associates was primarily attributable to an increase in the number of such transactions in 2017 compared to 2016.

For further information regarding our net other non-operating income (expenses), see Notes 40-(3) and (4) of the notes to our consolidated financial statements included elsewhere in this annual report.

Share of Gain (Loss) on Joint Ventures and Associates

Comparison of 2018 to 2017

Our share of gain (loss) on joint ventures and associates changed from a loss of 102 billion in 2017 to a gain of 3 billion in 2018. Such change was primarily due to a significant decrease in impairment losses from 115 billion in 2017 to less than 1 billion in 2018, resulting mainly from a 103 billion impairment loss we recorded in 2017 in respect of our 14.2% equity interest in Kumho Tire Co., Inc. (which we had acquired in 2010 as a result of a debt-to-equity swap in connection with its workout), due to further deterioration in its financial condition in 2017, which was not repeated in 2018. We no longer hold an equity interest in Kumho Tire Co., Inc. as a result of our loss of significant influence over the entity due to termination of the joint management procedures of the creditor financial institutions in 2018.

Comparison of 2017 to 2016

Our share of losses of joint ventures and associates increased more than five-fold from 20 billion in 2016 to 101 billion in 2017. Such increase was primarily attributable to a significant increase in impairment losses from 1 billion in 2016 to 115 billion in 2017, which mainly reflected a 103 billion impairment loss we recorded in respect of our 14.2% equity interest in Kumho Tire Co., Inc., as discussed above.

For further information regarding our investments in joint ventures and associates, see Note 13 of the notes to our consolidated financial statements included elsewhere in this annual report.

Income Tax Expense

Our income tax expense is calculated by adding or subtracting changes in deferred income tax liabilities and assets to income tax amounts payable for the period. Deferred tax assets are recognized for deductible temporary differences, including operating losses and tax credit carry-forwards, while deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are those between the carrying values of assets and liabilities for financial reporting purposes and their tax bases. Deferred tax assets, including the carry-forwards of unused tax losses, are recognized to the extent it is probable that the deferred tax assets will be realized.

Comparison of 2018 to 2017

Income tax expense increased 79.7% from 419 billion in 2017 to 753 billion in 2018, mainly as a result of an increase in our net income before income tax expense, as well as an increase in the applicable corporate income tax rate in Korea, inclusive of local income surtax, from 24.2% in 2017 to 27.5% in 2018. Our effective tax rate was 21.5% in 2017 and 26.9% in 2018.

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Comparison of 2017 to 2016

Income tax expense increased 51.8% from 276 billion in 2016 to 419 billion in 2017, mainly as a result of an increase in our net income before income tax expense, the effect of which was enhanced by decreases in non-exempt income and tax adjustments recognized in respect of prior periods. The statutory tax rate was 24.2% for pre-tax income over 20 billion in 2016 and 2017. Our effective tax rate was 17.8% in 2016 and 21.5% in 2017.

For further information regarding our income tax expense, see Note 41 of the notes to our consolidated financial statements included elsewhere in this annual report.

Net Income

Due to the factors described above, we recorded net income of 2,052 billion in 2018, compared to 1,530 billion in 2017 and 1,277 billion in 2016.

Results by Principal Business Segment

We compile and analyze financial information for our business segments based upon segment information used by our management for the purposes of resource allocation and performance evaluation. We currently have six operational business segments: consumer banking, corporate banking, investment banking, capital markets, credit card and other operations.

The following table shows, for the periods indicated, our results of operations by segment:

	Net income Year ended December 31,			Total operating income[1] Year ended December 31,		
	2016	2017	2018	2016	2017	2018
	(in billions of Won)					
Consumer banking	99	264	383	166	446	548
Corporate banking	610	918	1,201	815	1,217	1,646
Investment banking	84	106	178	65	100	213
Capital markets	(3)	92	40	1	122	56
Credit card	109	101	115	144	138	157
Other operations	514	23	172	441	73	156
Total[2]	1,413	1,503	2,089	1,632	2,096	2,776

(1) Comprises net interest income and net non-interest income after administrative expenses and impairment losses due to credit losses.

(2) Before adjustments for inter-segment transactions (other than inter-segment loans and borrowings) and certain differences in classification under our management reporting system.

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Consumer Banking

This segment consists of our consumer banking operations. The following table shows, for the periods indicated, our income statement data for this segment:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Income statement data					
Interest income	2,980	3,150	3,530	5.7%	12.1%
Interest expense	(1,024)	(956)	(1,022)	(6.6)	6.9
Inter-segment	(472)	(491)	(634)	4.0	29.1
Net interest income	1,484	1,703	1,874	14.8	10.0
Non-interest income	924	802	678	(13.2)	(15.5)
Non-interest expense	(406)	(254)	(144)	(37.4)	(43.3)
Inter-segment	39	102	133	161.5	30.4
Net non-interest income	557	650	667	16.7	2.6
Administrative expenses	(1,788)	(1,809)	(1,866)	1.2	3.2
Impairment losses due to credit loss and others(1)	(87)	(98)	(127)	12.6	29.6
Total other expenses	(1,875)	(1,907)	(1,993)	1.7	4.5
Operating income	166	446	548	168.7	22.9
Net non-operating loss	(35)	(98)	(20)	180.0	(79.8)
Net income before tax	131	348	528	165.6	51.7
Income tax expense	(32)	(84)	(145)	162.5	72.6
Net income	99	264	383	166.7%	45.1%

(1) Consist of reversal of allowance for (impairment losses due to) credit loss, gain (loss) on loan sales and reversal of provisions (provisions).

Comparison of 2018 to 2017

Our net income before tax for this segment increased 51.8% from 348 billion in 2017 to 528 billion in 2018. Net income after tax also increased 45.1% from 264 billion in 2017 to 383 billion in 2018.

Interest income for this segment increased 12.1% from 3,150 billion in 2017 to 3,530 billion in 2018, primarily due to an increase in the average yields on general purpose household loans (including home equity loans) and mortgage loans, mainly reflecting the increase in the general level of interest rates in Korea in 2018 compared to 2017, which was enhanced by an increase in the average balances of such loans, principally as a result of increased demand for such loans among consumers.

Interest expense attributable to this segment increased 6.9% from 956 billion in 2017 to 1,022 billion in 2018. The increase in interest expense was primarily due to an increase in the average cost of time and savings deposits held by consumers, mainly as a result of the increase in the general level of interest rates in Korea in 2018 compared to 2017, which was enhanced by an increase in the average balance of such deposits, principally due to increased demand for such deposits among consumers.

Net interest expense from inter-segment transactions for this segment increased 29.1% from 491 billion in 2017 to 634 billion in 2018, principally as a result of increased funding needs for this segment in light of the increase in the average volume of mortgage loans and general purpose household loans (including home equity loans).

Impairment losses due to credit loss and others for this segment increased 29.6% from 98 billion in 2017 to 127 billion in 2018, primarily as a result of an increase in provisions for general purpose household loans (including home equity loans), which was mainly due to an overall increase in the outstanding balance of such loans.

Non-interest income attributable to this segment decreased 15.5% from 802 billion in 2017 to 678 billion in 2018, primarily due to a decrease in gains on transaction of foreign exchange.

Non-interest expense for this segment decreased 43.3% from 254 billion in 2017 to 144 billion in 2018, primarily as a result of a decrease in losses on transaction of foreign exchange.

Net non-interest income from inter-segment transactions for this segment increased 30.4% from 102 billion in 2017 to 133 billion in 2018, principally as a result of an increase in fee income from our asset management products, including mutual funds and money trust products.

Administrative expenses attributable to this segment increased 3.2% from 1,809 billion in 2017 to 1,866 billion in 2018, mainly due to increases in service charges and salaries paid to our employees in this segment.

Comparison of 2017 to 2016

Our net income before tax for this segment increased 165.6% from 131 billion in 2016 to 348 billion in 2017. Net income after tax also increased 166.7% from 99 billion in 2016 to 264 billion in 2017.

Interest income for this segment increased 5.7% from 2,980 billion in 2016 to 3,150 billion in 2017, primarily due to an increase in the average balances of general purpose household loans (including home equity loans) and mortgage loans, mainly reflecting increased demand for such loans among consumers, which was enhanced by a slight increase in the average yields on such loans, principally as a result of an increase in interest rates for loans in Korea commencing in the second half of 2017.

Interest expense attributable to this segment decreased 6.6% from 1,024 billion in 2016 to 956 billion in 2017. The decrease in interest expense was primarily due to a decrease in the average cost of time and savings deposits held by consumers, which was mainly attributable to the decrease in the general level of interest rates in Korea in 2017 compared to 2016.

Net interest expense from inter-segment transactions for this segment increased 4.0% from 472 billion in 2016 to 491 billion in 2017, principally as a result of increased funding needs for this segment in light of the increase in the average volumes of general purpose household loans (including home equity loans) and mortgage loans.

Impairment losses due to credit loss and others for this segment increased 12.6% from 87 billion in 2016 to 98 billion in 2017, primarily as a result of an increase in provisions for general purpose household loans (including home equity loans) and mortgage loans, mainly reflecting the increase in the outstanding balances of such loans.

Non-interest income attributable to this segment decreased 13.2% from 924 billion in 2016 to 802 billion in 2017, primarily due to a decrease in gains on transaction of foreign exchange.

Non-interest expense for this segment decreased 37.4% from 406 billion in 2016 to 254 billion in 2017, primarily as a result of a decrease in losses on transaction of foreign exchange.

Net non-interest income from inter-segment transactions for this segment increased 161.5% from 39 billion in 2016 to 102 billion in 2017, principally as a result of an increase in fee income from our asset management products, including mutual funds, money trust products and bancassurance products.

Administrative expenses attributable to this segment increased 1.2% from 1,788 billion in 2016 to 1,809 billion in 2017, primarily due to an increase in benefit levels for our employees in this segment.

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Corporate Banking

This segment consists of our corporate banking (including small- and medium-sized enterprise banking and large corporate banking) operations. The following table shows, for the periods indicated, our income statement data for this segment:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Income statement data					
Interest income	3,026	2,965	3,410	(2.0)%	15.0%
Interest expense	(1,781)	(1,682)	(2,168)	(5.6)	28.9
Inter-segment	496	512	833	3.2	62.7
Net interest income	1,741	1,795	2,075	3.1	15.6
Non-interest income	535	681	721	27.3	5.9
Non-interest expense	(33)	(170)	(290)	415.2	70.6
Inter-segment	48	60	70	25.0	16.7
Net non-interest income	550	571	501	3.8	(12.3)
Administrative expenses	(967)	(832)	(869)	(14.0)	4.4
Impairment losses due to credit loss and others(1)	(509)	(317)	(61)	(37.7)	(80.8)
Total other expenses	(1,476)	(1,149)	(930)	(22.2)	(19.1)
Operating income	815	1,217	1,646	49.3	35.3
Net non-operating income (loss)	(1)	(3)	1	200.0	N/M(2)
Net income before tax	814	1,214	1,647	49.1	35.7
Income tax expense	(204)	(296)	(446)	45.1	50.7
Net income	610	918	1,201	50.5%	30.8%

(1) Consist of reversal of allowance for (impairment losses due to) credit loss, gain (loss) on loan sales and reversal of provisions (provisions).

(2) N/M = not meaningful.

Comparison of 2018 to 2017

Our net income before tax for this segment increased 35.7% from 1,214 billion in 2017 to 1,647 billion in 2018. Net income after tax also increased 30.8% from 918 billion in 2017 to 1,201 billion in 2018.

Interest income for this segment increased 15.0% from 2,965 billion in 2017 to 3,410 billion in 2018, primarily due to an increase in the average balances of commercial and industrial and other commercial loans, mainly reflecting increased demand from corporate borrowers in anticipation of further increases in the general level of interest rates in Korea, as well as our efforts to increase our lending to small and medium-sized enterprises. Such increase was enhanced by an increase in the average yields on such loans as well as trade financing loans, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017.

Interest expense attributable to this segment, which consists mainly of interest expense on corporate deposits, borrowings and debentures, increased 28.9% from 1,682 billion in 2017 to 2,168 billion in 2018. The increase in interest expense was primarily due to an increase in the average cost of time and savings deposits held by corporate customers, which was mainly attributable to the increase in the general level of interest rates in Korea in 2018 compared to 2017. Such increase was enhanced by an increase in the average balance of such deposits.

Net interest income from inter-segment transactions for this segment increased 62.7% from 512 billion in 2017 to 833 billion in 2018, principally as a result of an increase in the average yield on loans to other segments, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017.

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Impairment losses due to credit loss and others for this segment decreased 80.8% from 317 billion in 2017 to 61 billion in 2018, primarily as a result of improvements in the overall asset quality of our corporate loan portfolio and the credit ratings of certain corporate borrowers.

Non-interest income attributable to this segment increased 5.9% from 681 billion in 2017 to 721 billion in 2018, primarily due to an increase in gains on transaction of derivatives, which was more than offset by an increase in losses on transaction of derivatives, contributing to a decrease in net non-interest income in this segment.

Non-interest expense for this segment increased 70.6% from 170 billion in 2017 to 290 billion in 2018, primarily as a result of an increase in losses on transaction of derivatives, which more than offset the increase in gains on transaction of derivatives, as discussed above.

Administrative expenses attributable to this segment increased 4.4% from 832 billion in 2017 to 869 billion in 2018, mainly due to increases in service charges and salaries paid to our employees in this segment.

Comparison of 2017 to 2016

Our net income before tax for this segment increased 49.1% from 814 billion in 2016 to 1,214 billion in 2017. Net income after tax also increased 50.5% from 610 billion in 2016 to 918 billion in 2017.

Interest income for this segment decreased 2.0% from 3,026 billion in 2016 to 2,965 billion in 2017, primarily due to a decrease in the average balances of commercial and industrial and other commercial loans, mainly reflecting a decrease in loans to certain large corporate borrowers, principally as a result of our efforts to decrease our exposure to such borrowers and diversify our loan portfolio, which was partially offset by a slight increase in the average yields on such loans.

Interest expense attributable to this segment decreased 5.6% from 1,781 billion in 2016 to 1,682 billion in 2017. The decrease in interest expense was primarily due to a decrease in the average cost of time and savings deposits held by corporate customers, mainly attributable to the decrease in the general level of interest rates in Korea in 2017 compared to 2016.

Net interest income from inter-segment transactions for this segment increased 3.2% from 496 billion in 2016 to 512 billion in 2017, principally as a result of an increase in the average balance of loans to other segments, which mainly reflected increased funding needs of the consumer banking segment.

Impairment losses due to credit loss and others for this segment decreased 37.7% from 509 billion in 2016 to 317 billion in 2017, primarily as a result of a decrease in provisions for corporate loans, mainly reflecting an overall improvement in the asset quality of our corporate loan portfolio.

Non-interest income attributable to this segment increased 27.3% from 535 billion in 2016 to 681 billion in 2017, primarily due to an increase in gains on transaction of derivatives.

Non-interest expense for this segment increased more than five-fold from 33 billion in 2016 to 170 billion in 2017, primarily as a result of an increase in losses on transaction of derivatives.

Administrative expenses attributable to this segment decreased 14.0% from 967 billion in 2016 to 832 billion in 2017, primarily due to increased efficiency from the consolidation of corporate banking branches with consumer banking branches, which was reflected in this segment.

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Investment Banking

This segment consists of our investment banking operations, including principally project finance, structured finance, merger and acquisition financing and financial advisory services. The following table shows, for the periods indicated, our income statement data for this segment:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Income statement data					
Interest income	153	148	152	(3.3)%	2.7%
Interest expense					
Inter-segment	(138)	(136)	(164)	(1.4)	20.6
Net interest income	15	12	(12)	(20.0)	N/M[2]
Non-interest income	605	367	230	(39.3)	(37.3)
Non-interest expense	(444)	(215)	(54)	(51.6)	(74.9)
Inter-segment					
Net non-interest income	161	152	177	(5.6)	16.4
Administrative expenses	(15)	(13)	(14)	(13.3)	7.7
Reversal of allowance for (impairment losses due to) credit loss and others[1]	(96)	(51)	62	(46.9)	N/M
Total other income (expenses)	(111)	(64)	48	(42.3)	N/M
Operating income	65	100	213	53.8	113.0
Net non-operating income	46	39	33	(15.2)	(15.4)
Net income before tax	111	139	246	25.2	77.0
Income tax expense	(27)	(33)	(68)	22.2	106.1
Net income	84	106	178	26.2%	67.9%

(1) Consists of reversal of allowance for (impairment losses due to) credit loss, gain (loss) on loan sales and reversal of provisions (provisions).

(2) N/M = not meaningful.

Comparison of 2018 to 2017

Our net income before tax for this segment increased 77.0% from 139 billion in 2017 to 246 billion in 2018. Net income after tax also increased 67.9% from 106 billion in 2017 to 178 billion in 2018.

Interest income for this segment, which consists mainly of interest income from financing provided to corporations, increased 2.7% from 148 billion in 2017 to 152 billion in 2018, primarily reflecting an increase in the average balance of such financing provided to corporate customers.

Net interest expense on inter-segment transactions for this segment increased 20.6% from 136 billion in 2017 to 164 billion in 2018, principally as a result of an increase in the average cost of borrowings from other segments, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017.

Reversal of allowance for (impairment losses due to) credit loss and others for this segment changed from a net loss of 51 billion in 2017 to a net reversal of 62 billion in 2018, primarily as a result of improvements in the overall asset quality of our financing portfolio and the credit ratings of certain corporate borrowers.

Non-interest income attributable to this segment decreased 37.3% from 367 billion in 2017 to 230 billion in 2018, primarily due to decreases in gains on transaction of foreign exchange and on securities classified as financial assets at fair value through other comprehensive income.

Non-interest expense for this segment decreased 74.9% from 215 billion in 2017 to 54 billion in 2018, primarily as a result of a decrease in losses on transaction of foreign exchange.

Administrative expenses attributable to this segment increased 7.7% from 13 billion in 2017 to 14 billion in 2018.

Comparison of 2017 to 2016

Our net income before tax for this segment increased 25.2% from 111 billion in 2016 to 139 billion in 2017. Net income after tax also increased 26.2% from 84 billion in 2016 to 106 billion in 2017.

Interest income for this segment, which consists mainly of interest income from financing provided to corporations, decreased 3.3% from 153 billion in 2016 to 148 billion in 2017, primarily reflecting the decrease in the general level of interest rates in Korea in 2017 compared to 2016.

Net interest expense on inter-segment transactions for this segment decreased 1.4% from 138 billion in 2016 to 136 billion in 2017, principally as a result of a decrease in the average cost of borrowings from other segments, which mainly reflected the lower interest rate environment in Korea.

Impairment losses due to credit loss and others for this segment decreased 46.9% from 96 billion in 2016 to 51 billion in 2017, primarily as a result of an improvement in the overall asset quality of our financing portfolio.

Non-interest income attributable to this segment decreased 39.3% from 605 billion in 2016 to 367 billion in 2017, primarily due to a decrease in gains on transaction of foreign exchange.

Non-interest expense for this segment decreased 51.6% from 444 billion in 2016 to 215 billion in 2017, primarily as a result of a decrease in losses on transaction of foreign exchange.

Administrative expenses attributable to this segment decreased 13.3% from 15 billion in 2016 to 13 billion in 2017, primarily due to increased efficiency in the use of our sales channels.

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Capital Markets

This segment consists of our core capital markets operations, including principally securities investment and trading of securities, foreign exchange and derivatives. The following table shows, for the periods indicated, our income statement data for this segment:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Income statement data					
Interest income	19	19	9	%	(52.6)%
Interest expense					
Inter-segment	30	18	26	(40.0)	44.4
Net interest income	49	37	35	(24.5)	(5.4)
Non-interest income	7,590	9,548	7,021	25.8	(26.5)
Non-interest expense	(7,586)	(9,478)	(6,965)	24.9	(26.5)
Inter-segment					
Net non-interest income	4	70	56	1,650.0	(20.0)
Administrative expenses	(18)	(16)	(18)	(11.1)	12.5
Reversal of allowance for (impairment losses due to) credit loss and others[1]	(34)	31	(17)	N/M[2]	N/M
Total other income (expenses)	(52)	15	(35)	(128.8)	N/M
Operating income	1	122	56	N/M	(54.1)
Net non-operating loss	(5)			N/M	
Net income (loss) before tax	(4)	122	56	N/M	(54.1)
Income tax benefit (expense)	1	(30)	(16)	N/M	(46.7)
Net income (loss)	(3)	92	40	N/M	(56.5)

(1) Consists of reversal of allowance for (impairment losses due to) credit loss, gain (loss) on loan sales and reversal of provisions (provisions).

(2) N/M = not meaningful.

Comparison of 2018 to 2017

Our net income before tax for this segment decreased 54.1% from 122 billion in 2017 to 56 billion in 2018. Net income after tax also decreased 56.5% from 92 billion in 2017 to 40 billion in 2018.

Interest income for this segment, which consists mainly of interest income from securities held for trading purposes, decreased 52.6% from 19 billion in 2017 to 9 billion in 2018, primarily due to a decrease in the average yield on such securities.

Net interest income on inter-segment transactions for this segment increased 44.4% from 18 billion in 2017 to 26 billion in 2018, principally as a result of an increase in the average yield on loans to other segments, which mainly reflected the increase in the general level of interest rates in Korea in 2018 compared to 2017.

Reversal of allowance for (impairment losses due to) credit loss and others for this segment changed from a net reversal of 31 billion in 2017 to a net loss of 17 billion in 2018, primarily as a result of a significant reversal of allowance in 2017 relating to a downward adjustment in the valuation of the derivative products of a corporate customer, which was not repeated in 2018.

Non-interest income attributable to this segment decreased 26.5% from 9,548 billion in 2017 to 7,021 billion in 2018, primarily due to a decrease in gains on transaction of foreign exchange.

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Non-interest expense for this segment decreased 26.5% from 9,478 billion in 2017 to 6,965 billion in 2018, primarily as a result of a decrease in losses on transaction of foreign exchange.

Administrative expenses attributable to this segment increased 12.5% from 16 billion in 2017 to 18 billion in 2018, primarily due to an increase in service charges resulting from higher rates charged by service providers as a result of an increase in the national minimum wage under Korean law.

Comparison of 2017 to 2016

Our net income (loss) before tax for this segment changed from a net loss of 4 billion in 2016 to a net gain of 122 billion in 2017. Net income (loss) after tax also changed from a net loss of 3 billion in 2016 to a net gain of 92 billion in 2017.

Interest income for this segment, which consists mainly of interest income from securities held for trading purposes, remained stable at 19 billion in 2016 and 2017.

Net interest income on inter-segment transactions for this segment decreased 40.0% from 30 billion in 2016 to 18 billion in 2017, principally as a result of a decrease in the average balance of loans to other segments.

Impairment losses due to credit loss and others for this segment changed from net loss of 34 billion in 2016 to a net reversal of 31 billion in 2017, primarily as a result of a significant reversal of allowance relating to a downward adjustment in the valuation of the derivative products of a corporate customer.

Non-interest income attributable to this segment increased 25.8% from 7,590 billion in 2016 to 9,548 billion in 2017, primarily due to an increase in gains on transaction of foreign exchange.

Non-interest expense for this segment increased 24.9% from 7,586 billion in 2016 to 9,478 billion in 2017, primarily as a result of an increase in losses on transaction of foreign exchange.

Administrative expenses attributable to this segment decreased 11.1% from 18 billion in 2016 to 16 billion in 2017, primarily due to decreases in salaries and benefits paid, attributable mainly to a reduction in the number of employees in this segment.

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Credit Card

This segment consists of our credit card operations. The following table shows, for the periods indicated, our income statement data for this segment:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Income statement data					
Interest income	557	600	670	7.7%	11.7%
Interest expense	(129)	(136)	(161)	5.4	18.4
Inter-segment					
Net interest income	428	464	509	8.4	9.7
Non-interest income	986	1,164	666	18.1	(42.8)
Non-interest expense	(906)	(1,090)	(621)	20.3	(43.0)
Inter-segment					
Net non-interest expense	80	74	45	(7.5)	(39.2)
Administrative expenses	(148)	(165)	(171)	11.5	3.6
Impairment losses due to credit loss and others[1]	(216)	(235)	(227)	8.8	(3.4)
Total other expenses	(364)	(400)	(398)	9.9	(0.5)
Operating income	144	138	156	(4.2)	13.0
Net non-operating loss	(2)	(5)	(5)	150.0	
Net income before tax	142	133	151	(6.3)	13.5
Income tax expense	(33)	(32)	(36)	(3.0)	12.5
Net income	109	101	115	(7.3)%	13.9%

(1) Consist of reversal of allowance for (impairment losses due to) credit loss, gain (loss) on loan sales and reversal of provisions (provisions).

Comparison of 2018 to 2017

Our net income before tax for this segment increased 13.5% from 133 billion in 2017 to 151 billion in 2018. Net income after tax also increased 13.9% from 101 billion in 2017 to 115 billion in 2018.

Interest income for this segment increased 11.7% from 600 billion in 2017 to 670 billion in 2018, primarily due to an increase in the average balance of credit card receivables, mainly reflecting an increase in the volume of credit card transactions, including cash advances and credit card loans, which was offset in part by a decrease in the average yield on such receivables.

Interest expense attributable to this segment increased 18.4% from 136 billion in 2017 to 161 billion in 2018, primarily due to increased funding needs for this segment in light of the increase in the average balance of credit card receivables, including cash advances and credit card loans.

Impairment losses due to credit loss and others for this segment decreased 3.4% from 235 billion in 2017 to 227 billion in 2018, primarily as a result of an increase in the outstanding balance of our credit card receivables.

Non-interest income attributable to this segment decreased 42.8% from 1,164 billion in 2017 to 666 billion in 2018, primarily due to a decrease in credit card fees, including merchant processing fees and holder annual fees, which was attributable mainly to our adoption of IFRS 15 in 2018. See Results of Operations Net Fees and Commissions Income Comparison of 2018 to 2017.

Non-interest expense for this segment decreased 43.0% from 1,090 billion in 2017 to 621 billion in 2018, primarily as a result of a decrease in credit card commissions, which was attributable mainly to our adoption of IFRS 15 in 2018. See Results of Operations Net Fees and Commissions Income Comparison of 2018 to 2017.

Administrative expenses attributable to this segment increased 3.6% from 165 billion in 2017 to 171 billion in 2018, primarily due to an increase in salaries paid to our employees in this segment, principally reflecting an increase in the number of such employees, as well as increases in advertising expenses relating to new products and depreciation expenses relating to IT facilities.

Comparison of 2017 to 2016

Our net income before tax for this segment decreased 6.3% from 142 billion in 2016 to 133 billion in 2017. Net income after tax also decreased 7.3% from 109 billion in 2016 to 101 billion in 2017.

Interest income for this segment increased 7.7% from 557 billion in 2016 to 600 billion in 2017, primarily due to an increase in the average balance of credit card receivables, mainly reflecting an increase in the volume of credit card transactions as well as an increase in credit card issuances, which was offset in part by a decrease in the average yield on such receivables.

Interest expense attributable to this segment increased 5.4% from 129 billion in 2016 to 136 billion in 2017, primarily due to increased funding needs for this segment in light of the increase in the average balance of credit card receivables.

Impairment losses due to credit loss and others for this segment increased 8.8% from 216 billion in 2016 to 235 billion in 2017, primarily as a result of an increase in provisions for credit losses, mainly due to a deterioration in the overall asset quality of our credit card receivables.

Non-interest income attributable to this segment increased 18.1% from 986 billion in 2016 to 1,164 billion in 2017, primarily due to an increase in credit card fees, mainly reflecting the increase in the average balance of credit card receivables.

Non-interest expense for this segment increased 20.3% from 906 billion in 2016 to 1,090 billion in 2017, primarily as a result of an increase in credit card commissions, mainly reflecting the increase in the average balance of credit card receivables.

Administrative expenses attributable to this segment increased 11.5% from 148 billion in 2016 to 165 billion in 2017, primarily due to an increase in salaries paid to our employees in this segment.

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Other Operations

Other operations include all of our operations not included in the other segments, including principally the operations of our Credit Management and Collection Department and our Corporate Restoration Department, our treasury operations involving transactions of securities at fair value through other comprehensive income and financing among financial institutions as well as the operations of all of our subsidiaries other than Woori Card. The following table shows, for the periods indicated, our income statement data for this segment:

	Year ended December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Income statement data					
Interest income	1,492	1,361	1,606	(8.8)%	18.0%
Interest expense	(864)	(835)	(984)	(3.4)	17.8
Inter-segment	85	97	(61)	14.1	N/M[2]
Net interest income	713	623	561	(12.6)	(10.0)
Non-interest income	4,563	2,683	1,214	(41.2)	(54.8)
Non-interest expense	(4,173)	(2,132)	(551)	(48.9)	(74.2)
Inter-segment	(87)	(162)	(202)	86.2	24.7
Net non-interest income	303	389	461	28.4	18.5
Administrative expenses	(794)	(954)	(968)	20.2	1.5
Reversal of allowance for credit loss and others[1]	219	15	103	(93.2)	586.7
Total other expenses	(575)	(939)	(865)	63.3	(7.9)
Operating income	441	73	156	(83.4)	113.7
Net non-operating income (loss)	56	(113)	57	N/M	N/M
Net income (loss) before tax	497	(40)	213	N/M	N/M
Income tax benefit (expense)	17	63	(41)	270.6	N/M
Net income	514	23	172	(95.7)%	647.8%

(1) Consists of reversal of allowance for (impairment losses due to) credit loss, gain (loss) on loan sales and reversal of provisions (provisions).

(2) N/M = not meaningful.

Comparison of 2018 to 2017

Our net income (loss) before tax for this segment changed from a net loss of 40 billion in 2017 to a net gain of 213 billion in 2018. Net income after tax increased more than seven-fold from 23 billion in 2017 to 172 billion in 2018.

Interest income for this segment, which mainly includes interest income due from banks and on certain other loans and financial assets, increased 18.0% from 1,361 billion in 2017 to 1,606 billion in 2018, primarily due to the increase in the general level of interest rates in Korea in 2018 compared to 2017.

Interest expense attributable to this segment, which mainly includes interest expense on debentures, borrowings, call money and deposits due to customers, increased 17.8% from 835 billion in 2017 to 984 billion in 2018, primarily due to increased funding costs for this segment in light of the higher interest rate environment in Korea in 2018.

Net interest income (expense) from inter-segment transactions for this segment changed from net income of 97 billion in 2017 to a net expense of 61 billion in 2018, principally as a result of increased funding needs of this segment compared to other segments.

Reversal of allowance for credit loss and others for this segment increased more than six-fold from 15 billion in 2017 to 103 billion in 2018, primarily as a result of a decrease in provisions for credit losses of our Corporate Restoration Department, mainly reflecting the improvement in the financial condition of certain companies, the securities of which were held by such department.

Non-interest income attributable to this segment, which mainly includes gains on transaction of foreign exchange, gains on fair value hedged items and gains on transactions of derivatives, decreased 54.8% from 2,683 billion in 2017 to 1,214 billion in 2018, primarily due to decreases in such gains relating to our treasury operations.

Non-interest expense for this segment, which mainly includes losses on transaction of foreign exchange, losses on fair value hedged items and losses on transactions of derivatives, decreased 74.2% from 2,132 billion in 2017 to 551 billion in 2018, primarily as a result of decreases in such losses relating to our treasury operations.

Administrative expenses attributable to this segment increased 1.5% from 954 billion in 2017 to 968 billion in 2018, primarily due to an increase in computer and IT-related expenses relating to an upgrade of our computer systems, which was completed in May 2018.

Comparison of 2017 to 2016

Our net income (loss) before tax for this segment changed from net income of 497 billion in 2016 to a net loss of 40 billion in 2017. Net income after tax decreased 95.7% from 514 billion in 2016 to 23 billion in 2017.

Interest income for this segment, which mainly includes interest income due from banks and on certain other loans and financial assets, decreased 8.8% from 1,492 billion in 2016 to 1,361 billion in 2017, primarily due to the decrease in the general level of interest rates in Korea in 2017 compared to 2016.

Interest expense attributable to this segment, which mainly includes interest expense on debentures, borrowings, call money and deposits due to customers, decreased 3.4% from 864 billion in 2016 to 835 billion in 2017, primarily due to decreased funding costs for this segment in light of the lower interest rate environment in Korea in 2017.

Net interest income from inter-segment transactions for this segment increased 14.1% from 85 billion in 2016 to 97 billion in 2017, principally as a result of an increase in the average balance of loans to other segments.

Reversal of allowance for credit loss and others for this segment decreased from 93.2% from 219 billion in 2016 to 15 billion in 2017, primarily as a result of an increase in provisions for credit losses of our Corporate Restoration Department, mainly reflecting the deterioration of the financial condition of certain companies, the securities of which were held by such department.

Non-interest income attributable to this segment, which mainly includes gains on transaction of foreign exchange, gains on fair value hedged items and gains on transactions of derivatives, decreased 41.2% from 4,563 billion in 2016 to 2,683 billion in 2017, primarily due a decrease in gains on transactions of foreign exchange, mainly reflecting lower exchange rate volatility in 2017.

Non-interest expense for this segment, which mainly includes losses on transaction of foreign exchange, losses on fair value hedged items and losses on transactions of derivatives, decreased 48.9% from 4,173 billion in 2016 to 2,132 billion in 2017, primarily as a result of a decrease in losses on transactions of foreign exchange, mainly reflecting lower exchange rate volatility in 2017.

Administrative expenses attributable to this segment increased 20.2% from 794 billion in 2016 to 954 billion in 2017, primarily due to an increase in redundancy payments, which are recorded in this segment, resulting mainly from our implementation of an early retirement program in September 2017.

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Item 5.B. *Liquidity and Capital Resources*
Financial Condition

Assets

The following table sets forth, as of the dates indicated, the principal components of our assets:

	As of December 31,			Percentage change	
	2016	2017	2018	2017/2016	2018/2017
	(in billions of Won)			(%)	
Cash and cash equivalents	7,591	6,908	6,748	(9.0)%	(2.3)%
Financial assets at fair value through profit or loss (IFRS 9)			6,126	N/A(1)	N/A
Financial assets at fair value through profit or loss (IAS 39)	5,651	5,843		3.4	N/A
Financial assets at fair value through other comprehensive income			18,063	N/A	N/A
Available-for-sale financial assets	20,818	15,353		(26.3)	N/A
Securities at amortized cost			22,933	N/A	N/A
Held-to-maturity financial assets	13,910	16,749		20.4	N/A
Loans and other financial assets at amortized cost:			282,458	N/A	N/A
Loans and receivables:	258,393	267,106		3.4	N/A
Due from banks(2)	14,821	8,868	14,151	(40.1)	59.6
Loans(2)	235,401	251,523	260,820	6.8	3.7
Loans in local currency	191,309	200,213	210,701	4.7	5.2
Loans in foreign currencies	14,102	13,148	15,239	(6.8)	15.9
Domestic banker s letter of credit	3,754	2,517	2,934	(33.0)	16.6
Credit card accounts	6,674	6,827	8,051	2.3	17.9
Bills bought in foreign currencies	7,759	8,197	7,874	5.6	(3.9)
Bills bought in local currency	414	335	23	(19.1)	(93.1)
Factoring receivables	97	138	46	42.3	(66.7)
Advances for customers on guarantees	25	24	14	(4.0)	(41.7)
Privately placed bonds	328	362	366	10.4	1.1
Securitized loans	253	563	1,377	122.5	144.6
Call loans	2,985	3,003	2,669	0.6	(11.1)
Bonds purchased under resale agreements	8,855	16,859	11,702	90.4	(30.6)
Loan origination costs and fees	251	511	574	103.6	12.3
Others	459	607	1,037	32.2	70.8
Discounted present value	(14)	(11)	(10)	(21.4)	