

BANK OF AMERICA CORP /DE/  
Form 10-Q  
October 29, 2018

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-Q  
(Mark One)

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

For the Quarterly Period Ended September 30, 2018

or

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number:

1-6523

Exact name of registrant as specified in its charter:

Bank of America Corporation

State or other jurisdiction of incorporation or organization:

Delaware

IRS Employer Identification No.:

56-0906609

Address of principal executive offices:

Bank of America Corporate Center

100 N. Tryon Street

Charlotte, North Carolina 28255

Registrant's telephone number, including area code:

(704) 386-5681

Former name, former address and former fiscal year, if changed since last report:

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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

Emerging growth company

If an emerging growth company, 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.

Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2).

Yes  No

On October 26, 2018, there were 9,814,196,864 shares of Bank of America Corporation Common Stock outstanding.

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Bank of America Corporation and Subsidiaries

September 30, 2018

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## Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Bank of America Corporation (the “Corporation”) and its management may make certain statements that constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These statements can be identified by the fact that they do not relate strictly to historical or current facts. Forward-looking statements often use words such as “anticipates,” “targets,” “expects,” “hopes,” “estimates,” “intends,” “plans,” “goals,” “believes,” “continues,” “will,” “may,” “might,” “should,” “would” and “could.” Forward-looking statements represent the Corporation’s current expectations, plans or forecasts of its future results, revenues, expenses, efficiency ratio, capital measures, strategy and future business and economic conditions more generally, and other future matters. These statements are not guarantees of future results or performance and involve certain known and unknown risks, uncertainties and assumptions that are difficult to predict and are often beyond the Corporation’s control. Actual outcomes and results may differ materially from those expressed in, or implied by, any of these forward-looking statements.

You should not place undue reliance on any forward-looking statement and should consider the following uncertainties and risks, as well as the risks and uncertainties more fully discussed under Item 1A. Risk Factors of our 2017 Annual Report on Form 10-K and in any of the Corporation’s subsequent Securities and Exchange Commission filings: the Corporation’s potential claims, damages, penalties, fines and reputational damage resulting from pending or future litigation, regulatory proceedings and enforcement actions, including inquiries into our retail sales practices, and the possibility that amounts may be in excess of the Corporation’s recorded liability and estimated range of possible loss for litigation exposures; the possibility that the Corporation could face increased servicing, securities, fraud, indemnity, contribution or other claims from one or more counterparties, including trustees, purchasers of loans, underwriters, issuers, monolines, private-label and other investors, or other parties involved in securitizations; the possibility that future representations and warranties losses may occur in excess of the Corporation’s recorded liability and estimated range of possible loss for its representations and warranties exposures; the Corporation’s ability to resolve representations and warranties repurchase and related claims, including claims brought by investors or trustees seeking to avoid the statute of limitations for repurchase claims; uncertainties about the financial stability and growth rates of non-U.S. jurisdictions, the risk that those jurisdictions may face difficulties servicing their sovereign debt, and related stresses on financial markets, currencies and trade, and the Corporation’s exposures to such risks, including direct, indirect and operational;

the impact of U.S. and global interest rates, currency exchange rates, economic conditions, trade policies, including tariffs, and potential geopolitical instability; the impact on the Corporation’s business, financial condition and results of operations of a potential higher interest rate environment; the possibility that future credit losses may be higher than currently expected due to changes in economic assumptions, customer behavior, adverse developments with respect to U.S. or global economic conditions and other uncertainties; the Corporation’s ability to achieve its expense targets, net interest income expectations, or other projections; adverse changes to the Corporation’s credit ratings from the major credit rating agencies; estimates of the fair value of certain of the Corporation’s assets and liabilities, which may change; uncertainty regarding the content, timing and impact of regulatory capital and liquidity requirements; the potential impact of total loss-absorbing capacity requirements; potential adverse changes to our global systemically important bank surcharge; the potential impact of Federal Reserve actions on the Corporation’s capital plans; the possible impact of the Corporation’s failure to remediate a shortcoming identified by banking regulators in the Corporation’s Resolution Plan; the effect of regulations, other guidance or additional information on our estimated impact of the Tax Cuts and Jobs Act; the impact of implementation and compliance with U.S. and international laws, regulations and regulatory interpretations, including, but not limited to, recovery and resolution planning requirements, Federal Deposit Insurance Corporation assessments, the Volcker Rule, fiduciary standards and

derivatives regulations; a failure in or breach of the Corporation's operational or security systems or infrastructure, or those of third parties, including as a result of cyber attacks; the impact on the Corporation's business, financial condition and results of operations from the planned exit of the United Kingdom from the European Union; and other similar matters.

Forward-looking statements speak only as of the date they are made, and the Corporation undertakes no obligation to update any forward-looking statement to reflect the impact of circumstances or events that arise after the date the forward-looking statement was made.

Notes to the Consolidated Financial Statements referred to in the Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) are incorporated by reference into the MD&A. Certain prior-period amounts have been reclassified to conform to current-period presentation. Throughout the MD&A, the Corporation uses certain acronyms and abbreviations which are defined in the Glossary.

## Executive Summary

## Business Overview

The Corporation is a Delaware corporation, a bank holding company (BHC) and a financial holding company. When used in this report, “the Corporation” may refer to Bank of America Corporation individually, Bank of America Corporation and its subsidiaries, or certain of Bank of America Corporation’s subsidiaries or affiliates. Our principal executive offices are located in Charlotte, North Carolina. Through our banking and various nonbank subsidiaries throughout the U.S. and in international markets, we provide a diversified range of banking and nonbank financial services and products through four business segments: Consumer Banking, Global Wealth & Investment Management (GWIM), Global Banking and Global Markets, with the remaining operations recorded in All Other. We operate our banking activities primarily under the Bank of America, National Association (Bank of America, N.A. or BANA) charter. At September 30, 2018, the Corporation had approximately \$2.3 trillion in assets and a headcount of approximately 205,000 employees.

As of September 30, 2018, we served clients through operations across the United States, its territories and more than 35 countries. Our retail banking footprint covers approximately 85 percent of the U.S. population, and we serve approximately 67 million consumer and small business clients with approximately 4,400 retail financial centers, approximately 16,100 ATMs, and

leading digital banking platforms ([www.bankofamerica.com](http://www.bankofamerica.com)) with more than 36 million active users, including nearly 26 million active mobile users. We offer industry-leading support to approximately three million small business owners. Our wealth management businesses, with client balances of approximately \$2.8 trillion, provide tailored solutions to meet client needs through a full set of investment management, brokerage, banking, trust and retirement products. We are a global leader in corporate and investment banking and trading across a broad range of asset classes serving corporations, governments, institutions and individuals around the world.

## Recent Events

## Capital Management

During the third quarter of 2018, we repurchased \$5.0 billion of common stock pursuant to the Board of Directors’ (the Board) 2018 repurchase authorization of approximately \$20.6 billion announced on June 28, 2018. For additional information, see Capital Management on page 22. On July 26, 2018, the Board declared a quarterly common stock dividend of \$0.15 per share, payable on September 28, 2018 to shareholders of record as of September 7, 2018. Additionally, on October 24, 2018, the Board declared a quarterly common stock dividend of \$0.15 per share, payable on December 28, 2018 to shareholders of record as of December 7, 2018.

## Financial Highlights

Table 1 Summary Income Statement and Selected Financial Data

(Dollars in millions, except per share information)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2018	2017	2018	2017
Income statement				
Net interest income	\$11,870	\$11,161	\$35,128	\$33,205
Noninterest income	10,907	10,678	33,383	33,711
Total revenue, net of interest expense	22,777	21,839	68,511	66,916
Provision for credit losses	716	834	2,377	2,395
Noninterest expense	13,067	13,394	40,248	41,469
Income before income taxes	8,994	7,611	25,886	23,052
Income tax expense	1,827	2,187	5,017	7,185
Net income	7,167	5,424	20,869	15,867
Preferred stock dividends	466	465	1,212	1,328
Net income applicable to common shareholders	\$6,701	\$4,959	\$19,657	\$14,539

Per common share information

Earnings	\$0.67	\$0.49	\$1.93	\$1.44	
Diluted earnings	0.66	0.46	1.91	1.36	
Dividends paid	0.15	0.12	0.39	0.27	
Performance ratios					
Return on average assets	1.23	% 0.95	% 1.20	% 0.94	%
Return on average common shareholders' equity	10.99	7.89	10.86	7.91	
Return on average tangible common shareholders' equity <sup>(1)</sup>	15.48	10.98	15.30	11.10	
Efficiency ratio	57.37	61.33	58.75	61.97	

September 30  
2018

December 31  
2017

Balance sheet

Total loans and leases	\$929,801	\$936,749
Total assets	2,338,833	2,281,234
Total deposits	1,345,649	1,309,545
Total common shareholders' equity	239,832	244,823
Total shareholders' equity	262,158	267,146

Return on average tangible common shareholders' equity is a non-GAAP financial measure. For more information <sup>(1)</sup> and a corresponding reconciliation to accounting principles generally accepted in the United States of America (GAAP) financial measures, see Non-GAAP Reconciliations on page 52.

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Net income was \$7.2 billion and \$20.9 billion, or \$0.66 and \$1.91 per diluted share for the three and nine months ended September 30, 2018 compared to \$5.4 billion and \$15.9 billion, or \$0.46 and \$1.36 per diluted share for the same periods in 2017. The improvement in net income for the three and nine months ended September 30, 2018 was driven by a decrease in income tax expense due to the impacts of the Tax Cuts and Jobs Act (the Tax Act), an increase in net interest income, higher noninterest income in the three-month period, lower provision for credit losses and a decline in noninterest expense, partially offset by a decline in noninterest income in the nine-month period. Impacts from the Tax Act include a reduction in the federal tax rate to 21 percent from 35 percent.

Total assets increased \$57.6 billion from December 31, 2017 to \$2.3 trillion at September 30, 2018 driven by higher cash and cash equivalents from liquidity management actions and an increase in securities borrowed or purchased under agreements to resell primarily due to short-term investments of cash largely resulting from deposit growth. Total liabilities increased \$62.6 billion from December 31, 2017 to \$2.1 trillion at September 30, 2018 primarily driven by higher deposits due to organic growth and several large short-term

placements at the end of the quarter, increases in accrued expenses and other liabilities primarily due to trading-related payables, and higher trading account liabilities driven by client activity in Global Markets. Shareholders' equity decreased \$5.0 billion from December 31, 2017 primarily due to returns of capital to shareholders through common stock repurchases and common and preferred stock dividends, market value declines in debt securities and the redemption of preferred stock, partially offset by net income and issuances of preferred stock.

#### Net Interest Income

Net interest income increased \$709 million to \$11.9 billion, and \$1.9 billion to \$35.1 billion for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The net interest yield increased eight basis points (bps) to 2.39 percent, and four bps to 2.36 percent for the same periods. These increases were primarily driven by higher interest rates as well as loan and deposit growth, partially offset by tightening spreads, and for the nine-month period, the impact of the sale of the non-U.S. consumer credit card business in the second quarter of 2017. For more information regarding interest rate risk management, see Interest Rate Risk Management for the Banking Book on page 49.

#### Noninterest Income

Table 2 Noninterest Income

	Three Months Ended September 30		Nine Months Ended September 30	
(Dollars in millions)	2018	2017	2018	2017
Card income	\$1,470	\$1,429	\$4,469	\$4,347
Service charges	1,961	1,968	5,836	5,863
Investment and brokerage services	3,494	3,437	10,616	10,314
Investment banking income	1,204	1,477	3,979	4,593
Trading account profits	1,893	1,837	6,907	6,124
Other income	885	530	1,576	2,470
Total noninterest income	\$10,907	\$10,678	\$33,383	\$33,711

Noninterest income increased \$229 million to \$10.9 billion, and decreased \$328 million to \$33.4 billion for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The following highlights the significant changes.

Card income increased \$41 million and \$122 million primarily driven by an increase in credit and debit card spending, as well as increased late fees and annual fees, partially offset by higher rewards costs and lower cash advance fees, and for the nine-month period, the sale of the non-U.S. consumer credit card business.

Investment and brokerage services income increased \$57 million and \$302 million primarily due to assets under management (AUM) flows and higher market valuations, partially offset by the impact of changing market dynamics

on transactional revenue, and AUM pricing.

Investment banking income decreased \$273 million and \$614 million primarily due to declines in leveraged finance and advisory fees, partially offset by an increase in equity underwriting fees.

Trading account profits increased \$56 million for the three-month period primarily due to increased client activity in equity financing and derivatives, partially offset by weakness in rates products and municipal bonds, and increased \$783 million for the nine-month period primarily due to increased client activity in equity financing and derivatives, and strong trading performance in equity derivatives and macro-related products, partially offset by weakness in credit products.

Other income increased \$355 million for the three-month period primarily due to increased results from economic hedging activities, lower provision for representations and warranties and a gain on the sale of an equity investment. The \$894 million decrease for the nine-month period also reflected a \$729 million charge related to the redemption of certain trust preferred securities, partially offset by \$656 million of gains on the sale of certain loans, primarily non-core. The nine-month period in 2017 included a \$793 million pretax gain recognized in connection with the sale of the non-U.S. consumer credit card business.

### Provision for Credit Losses

The provision for credit losses decreased \$118 million to \$716 million for the three months ended September 30, 2018 compared to the same period in 2017 primarily due to asset quality improvement in the commercial portfolio including energy exposures and a lower reserve build in the U.S. credit card portfolio. The provision for credit losses decreased \$18 million to \$2.4 billion for the nine months ended September 30, 2018

compared to the same period in 2017 primarily due to asset quality improvement in the commercial portfolio including energy exposures and the impact of the sale of the non-U.S. consumer credit card business during the second quarter of 2017, largely offset by portfolio seasoning and loan growth in the U.S. credit card portfolio and a slower pace of improvement in the consumer real estate portfolio. For more information on the provision for credit losses, see Provision for Credit Losses on page 44.

### Noninterest Expense

Table 3 Noninterest Expense

(Dollars in millions)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2018	2017	2018	2017
Personnel	\$7,721	\$7,811	\$24,145	\$24,326
Occupancy	1,015	999	3,051	3,000
Equipment	421	416	1,278	1,281
Marketing	421	461	1,161	1,235
Professional fees	439	476	1,219	1,417
Data processing	791	777	2,398	2,344
Telecommunications	173	170	522	538
Other general operating	2,086	2,284	6,474	7,328
Total noninterest expense	\$13,067	\$13,394	\$40,248	\$41,469

Noninterest expense decreased \$327 million to \$13.1 billion and \$1.2 billion to \$40.2 billion for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The decrease for both periods was primarily due to lower other general operating expense, primarily driven by a decline in litigation expense and, for the nine-month period, a \$295 million impairment charge recognized in the second quarter of 2017 related to certain data centers. Personnel expense also declined for both periods.

### Income Tax Expense

Table 4 Income Tax Expense

(Dollars in millions)	Three Months Ended		Nine Months Ended		
	September 30		September 30		
	2018	2017	2018	2017	
Income before income taxes	\$8,994	\$7,611	\$25,886	\$23,052	
Income tax expense	1,827	2,187	5,017	7,185	
Effective tax rate	20.3	% 28.7	% 19.4	% 31.2	%

The effective tax rates for the three and nine months ended September 30, 2018 reflect the 21 percent federal tax rate and the other provisions of the Tax Act, as well as the impact of our recurring tax preference benefits. The nine-month effective rate also included tax benefits related to stock-based compensation.

The effective tax rates for the three and nine months ended September 30, 2017 were driven by the impact of our recurring

tax preference benefits. The nine-month effective tax rate also included a tax charge related to the sale of the non-U.S. consumer credit card business during the second quarter of 2017, partially offset by tax benefits related to stock-based compensation recognized earlier in the year.

We expect the effective tax rate for 2018 to be approximately 20 percent, absent unusual items.

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### Supplemental Financial Data

In this Form 10-Q, we present certain non-GAAP financial measures. Non-GAAP financial measures exclude certain items or otherwise include components that differ from the most directly comparable measures calculated in accordance with GAAP. Non-GAAP financial measures are provided as additional useful information to assess our financial condition, results of operations (including period-to-period operating performance) or compliance with prospective regulatory requirements. These non-GAAP financial measures are not intended as a substitute for GAAP financial measures and may not be defined or calculated the same way as non-GAAP financial measures used by other companies.

We view net interest income and related ratios and analyses on a fully taxable-equivalent (FTE) basis, which when presented on a consolidated basis, are non-GAAP financial measures. To derive the FTE basis, net interest income is adjusted to reflect tax-exempt income on an equivalent before-tax basis with a corresponding increase in income tax expense. For purposes of this calculation, we use the federal statutory tax rate of 21 percent for 2018 (35 percent for all prior periods) and a representative state tax rate. In addition, certain performance measures, including the efficiency ratio and net interest yield, utilize net interest income (and thus total revenue) on an FTE basis. The efficiency ratio measures the costs expended to generate a dollar of revenue, and net interest yield measures the bps we earn over the cost of funds. We believe that presentation of these items on an FTE basis allows for comparison of amounts from both taxable and tax-exempt sources and is consistent with industry practices.

We may present certain key performance indicators and ratios excluding certain items (e.g., debit valuation adjustment (DVA) gains (losses)) which result in non-GAAP financial measures. We believe that the presentation of measures that exclude these items is useful because such measures provide additional information to assess the underlying operational performance and trends of our businesses and to allow better comparison of period-to-period operating performance.

We also evaluate our business based on certain ratios that utilize tangible equity, a non-GAAP financial measure.

#### Tangible

equity represents an adjusted shareholders' equity or common shareholders' equity amount which has been reduced by goodwill and certain acquired intangible assets (excluding mortgage servicing rights (MSRs)), net of related deferred tax liabilities. These measures are used to evaluate our use of equity. In addition, profitability, relationship and investment models use both return on average tangible common shareholders' equity and return on average tangible shareholders' equity as key measures to support our overall growth goals. These ratios are as follows:

Return on average tangible common shareholders' equity measures our earnings contribution as a percentage of adjusted common shareholders' equity. The tangible common equity ratio represents adjusted ending common shareholders' equity divided by total assets less goodwill and certain acquired intangible assets (excluding MSRs), net of related deferred tax liabilities.

Return on average tangible shareholders' equity measures our earnings contribution as a percentage of adjusted average total shareholders' equity. The tangible equity ratio represents adjusted ending shareholders' equity divided by total assets less goodwill and certain acquired intangible assets (excluding MSRs), net of related deferred tax liabilities.

Tangible book value per common share represents adjusted ending common shareholders' equity divided by ending common shares outstanding.

We believe that the use of ratios that utilize tangible equity provides additional useful information because they present measures of those assets that can generate income. Tangible book value per share provides additional useful information about the level of tangible assets in relation to outstanding shares of common stock.

The aforementioned supplemental data and performance measures are presented in Tables 5 and 6.

For more information on the reconciliation of these non-GAAP financial measures to GAAP financial measures, see Non-GAAP Reconciliations on page 52.

Table 5 Selected Quarterly Financial Data

(In millions, except per share information)	2018 Quarters			2017 Quarters		
	Third	Second	First	Fourth	Third	
Income statement						
Net interest income	\$11,870	\$11,650	\$11,608	\$11,462	\$11,161	
Noninterest income <sup>(1)</sup>	10,907	10,959	11,517	8,974	10,678	
Total revenue, net of interest expense	22,777	22,609	23,125	20,436	21,839	
Provision for credit losses	716	827	834	1,001	834	
Noninterest expense	13,067	13,284	13,897	13,274	13,394	
Income before income taxes	8,994	8,498	8,394	6,161	7,611	
Income tax expense <sup>(1)</sup>	1,827	1,714	1,476	3,796	2,187	
Net income <sup>(1)</sup>	7,167	6,784	6,918	2,365	5,424	
Net income applicable to common shareholders	6,701	6,466	6,490	2,079	4,959	
Average common shares issued and outstanding	10,031.6	10,181.7	10,322.4	10,470.7	10,197.9	
Average diluted common shares issued and outstanding	10,170.8	10,309.4	10,472.7	10,621.8	10,746.7	
Performance ratios						
Return on average assets	1.23	% 1.17	% 1.21	% 0.41	% 0.95	%
Four quarter trailing return on average assets <sup>(2)</sup>	1.00	0.93	0.86	0.80	0.91	
Return on average common shareholders' equity	10.99	10.75	10.85	3.29	7.89	
Return on average tangible common shareholders' equity <sup>(3)</sup>	15.48	15.15	15.26	4.56	10.98	
Return on average shareholders' equity	10.74	10.26	10.57	3.43	7.88	
Return on average tangible shareholders' equity <sup>(3)</sup>	14.61	13.95	14.37	4.62	10.59	
Total ending equity to total ending assets	11.21	11.53	11.43	11.71	11.91	
Total average equity to total average assets	11.42	11.42	11.41	11.87	12.03	
Dividend payout	22.35	18.83	19.06	60.35	25.59	
Per common share data						
Earnings	\$0.67	\$0.64	\$0.63	\$0.20	\$0.49	
Diluted earnings	0.66	0.63	0.62	0.20	0.46	
Dividends paid	0.15	0.12	0.12	0.12	0.12	
Book value	24.33	24.07	23.74	23.80	23.87	
Tangible book value <sup>(3)</sup>	17.23	17.07	16.84	16.96	17.18	
Market price per share of common stock						
Closing	\$29.46	\$28.19	\$29.99	\$29.52	\$25.34	
High closing	31.80	31.22	32.84	29.88	25.45	
Low closing	27.78	28.19	29.17	25.45	22.89	
Market capitalization	\$290,424	\$282,259	\$305,176	\$303,681	\$264,992	
Average balance sheet						
Total loans and leases	\$930,736	\$934,818	\$931,915	\$927,790	\$918,129	
Total assets	2,317,829	2,322,678	2,325,878	2,301,687	2,271,104	
Total deposits	1,316,345	1,300,659	1,297,268	1,293,572	1,271,711	

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Long-term debt	233,475	229,037	229,603	227,644	227,309	
Common shareholders' equity	241,812	241,313	242,713	250,838	249,214	
Total shareholders' equity	264,653	265,181	265,480	273,162	273,238	
Asset quality						
Allowance for credit losses <sup>(4)</sup>	\$10,526	\$10,837	\$11,042	\$11,170	\$11,455	
Nonperforming loans, leases and foreclosed properties <sup>(5)</sup>	5,449	6,181	6,694	6,758	6,869	
Allowance for loan and lease losses as a percentage of total loans and leases outstanding <sup>(5)</sup>	1.05	% 1.08	% 1.11	% 1.12	% 1.16	%
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases <sup>(5)</sup>	189	170	161	161	163	
Net charge-offs <sup>(6)</sup>	\$932	\$996	\$911	\$1,237	\$900	
Annualized net charge-offs as a percentage of average loans and leases outstanding <sup>(5, 6)</sup>	0.40	% 0.43	% 0.40	% 0.53	% 0.39	%
Capital ratios at period end <sup>(7)</sup>						
Common equity tier 1 capital	11.4	% 11.4	% 11.3	% 11.5	% 11.9	%
Tier 1 capital	12.9	13.0	13.0	13.0	13.4	
Total capital	14.7	14.8	14.8	14.8	15.1	
Tier 1 leverage	8.3	8.4	8.4	8.6	8.9	
Supplementary leverage ratio	6.7	6.7	6.8	n/a	n/a	
Tangible equity <sup>(3)</sup>	8.5	8.7	8.7	8.9	9.1	
Tangible common equity <sup>(3)</sup>	7.5	7.7	7.6	7.9	8.1	

(1) Net income for the fourth quarter of 2017 included a charge of \$2.9 billion related to the Tax Act effects which consisted of \$946 million in noninterest income and \$1.9 billion in income tax expense.

(2) Calculated as total net income for four consecutive quarters divided by annualized average assets for four consecutive quarters.

Tangible equity ratios and tangible book value per share of common stock are non-GAAP financial measures. For more information on these ratios, see Supplemental Financial Data on page 6, and for corresponding reconciliations to GAAP financial measures, see Non-GAAP Reconciliations on page 52.

(4) Includes the allowance for loan and lease losses and the reserve for unfunded lending commitments.

Balances and ratios do not include loans accounted for under the fair value option. For additional exclusions from nonperforming loans, leases and foreclosed properties, see Consumer Portfolio Credit Risk Management –

(5) Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity on page 36 and corresponding Table 28 and Commercial Portfolio Credit Risk Management – Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity on page 40 and corresponding Table 35.

Net charge-offs exclude \$95 million, \$36 million, \$35 million, \$46 million and \$73 million of write-offs in the purchased credit-impaired (PCI) loan portfolio in the third, second and first quarters of 2018, and in the fourth and third quarters of 2017, respectively. For more information, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34.

(7) Basel 3 transition provisions for regulatory capital adjustments and deductions were fully phased-in as of January 1, 2018. Prior periods are presented on a fully phased-in basis. For more information, including which approach is used to assess capital adequacy, see Capital Management on page 22.

n/a = not applicable

Table 6 Selected Year-to-Date Financial Data

(In millions, except per share information)	Nine Months Ended September 30	
	2018	2017
Income statement		
Net interest income	\$35,128	\$33,205
Noninterest income	33,383	33,711
Total revenue, net of interest expense	68,511	66,916
Provision for credit losses	2,377	2,395
Noninterest expense	40,248	41,469
Income before income taxes	25,886	23,052
Income tax expense	5,017	7,185
Net income	20,869	15,867
Net income applicable to common shareholders	19,657	14,539
Average common shares issued and outstanding	10,177.5	10,103.4
Average diluted common shares issued and outstanding	10,317.9	10,832.1
Performance ratios		
Return on average assets	1.20	% 0.94 %
Return on average common shareholders' equity	10.86	7.91
Return on average tangible common shareholders' equity <sup>(1)</sup>	15.30	11.10
Return on average shareholders' equity	10.52	7.84
Return on average tangible shareholders' equity <sup>(1)</sup>	14.31	10.61
Total ending equity to total ending assets	11.21	11.91
Total average equity to total average assets	11.42	11.99
Dividend payout	20.10	19.08
Per common share data		
Earnings	\$1.93	\$1.44
Diluted earnings	1.91	1.36
Dividends paid	0.39	0.27
Book value	24.33	23.87
Tangible book value <sup>(1)</sup>	17.23	17.18
Market price per share of common stock		
Closing	\$29.46	\$25.34
High closing	32.84	25.50
Low closing	27.78	22.05
Market capitalization	\$290,424	\$264,992

Tangible equity ratios and tangible book value per share of common stock are non-GAAP financial measures. For

<sup>(1)</sup> more information on these ratios and for corresponding reconciliations to GAAP financial measures, see Non-GAAP Reconciliations on page 52.



Quarterly Average  
Table 7 Balances and Interest  
Rates - FTE Basis

	Average Balance	Interest Income/ Expense	Yield/ Rate	Average Balance	Interest Income/ Expense	Yield/ Rate
(Dollars in millions)	Third Quarter 2018			Third Quarter 2017		
Earning assets						
Interest-bearing deposits with the Federal Reserve, non-U.S.	\$144,411	\$523	1.44 %	\$127,835	\$323	1.00 %
central banks and other banks						
Time deposits placed and	8,328	48	2.26	12,503	68	2.17
other short-term investments						
Federal funds sold and securities borrowed or	241,426	799	1.31	223,585	487	0.86
purchased under agreements to resell (1)						
Trading account assets	128,896	1,195	3.68	124,068	1,125	3.60
Debt securities	445,813	3,014	2.66	436,886	2,670	2.44
Loans and leases (2):						

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Residential mortgage	209,460	1,857	3.54	199,240	1,724	3.46
Home equity	53,050	656	4.91	61,225	664	4.31
U.S. credit card	94,710	2,435	10.20	91,602	2,253	9.76
Direct/Indirect and other consumer <sup>(3)</sup>	91,828	787	3.40	96,272	706	2.91
Total consumer	449,048	5,735	5.08	448,339	5,347	4.74
U.S. commercial	303,680	3,034	3.97	293,203	2,542	3.44
Non-U.S. commercial	96,019	831	3.43	95,725	676	2.80
Commercial real estate <sup>(4)</sup>	60,754	682	4.45	59,044	552	3.71
Commercial lease financing	21,235	173	3.25	21,818	160	2.92
Total commercial	481,688	4,720	3.89	469,790	3,930	3.32
Total loans and leases	930,736	10,455	4.46	918,129	9,277	4.02
Other earning assets <sup>(1)</sup>	72,827	1,082	5.91	76,496	849	4.41
Total earning assets <sup>(1,5)</sup>	1,972,437	17,116	3.45	1,919,502	14,799	3.06
Cash and due from banks	25,639			28,990		
Other assets, less allowance for loan and lease losses	319,753			322,612		
Total assets	\$2,317,829			\$2,271,104		
Interest-bearing liabilities						

U.S. interest-bearing deposits:						
Savings	\$53,929	\$1	0.01 %	\$54,328	\$1	0.01 %
NOW and money market deposit accounts	680,285	737	0.43	631,270	333	0.21
Consumer CDs and IRAs	39,160	40	0.41	44,239	31	0.27
Negotiable CDs, public funds and other deposits	54,192	275	2.01	38,119	101	1.05
Total U.S. interest-bearing deposits	827,566	1,053	0.50	767,956	466	0.24
Non-U.S. interest-bearing deposits:						
Banks located in non-U.S. countries	2,353	12	2.06	2,259	5	0.97
Governments and official institutions	709	—	0.01	1,012	3	1.04
Time, savings and other Total	63,179	165	1.04	63,716	150	0.93
non-U.S. interest-bearing deposits	66,241	177	1.07	66,987	158	0.93
Total interest-bearing deposits	893,807	1,230	0.55	834,943	624	0.30
Federal funds purchased, securities	264,168	1,526	2.30	270,364	846	1.24

loaned or sold under agreements to repurchase, short-term borrowings and other interest-bearing liabilities (1)						
Trading account	50,904	335	2.60	48,390	319	2.62
liabilities						
Long-term debt	233,475	2,004	3.42	227,309	1,609	2.82
Total interest-bearing liabilities (1,5)	441,354	5,095	1.40	1,381,006	3,398	0.98
Noninterest-bearing sources:						
Noninterest-bearing deposits	422,538			436,768		
Other liabilities (1)	18,816			180,092		
Shareholders' equity	264,653			273,238		
Total liabilities and shareholders' equity	\$2,317,829			\$2,271,104		
Net interest spread			2.05 %			2.08 %
Impact of noninterest-bearing sources			0.37			0.28
Net interest income/yield on earning assets	\$12,021	2.42 %		\$11,401	2.36 %	

(1) Certain prior-period amounts have been reclassified to conform to current period presentation.

(2) Nonperforming loans are included in the respective average loan balances. Income on these nonperforming loans is generally recognized on a cost recovery basis. PCI loans are recorded at fair value upon acquisition and accrete

interest income over the estimated life of the loan.

- (3) Includes non-U.S. consumer loans of \$2.8 billion and \$2.9 billion in the third quarter of 2018 and 2017.
- (4) Includes U.S. commercial real estate loans of \$56.8 billion and \$55.2 billion, and non-U.S. commercial real estate loans of \$4.0 billion and \$3.8 billion in the third quarter of 2018 and 2017, respectively.

- Interest income includes the impact of interest rate risk management contracts, which decreased interest income on the underlying assets by \$57 million and \$7 million in the third quarter of 2018 and 2017. Interest expense includes
- (5) the impact of interest rate risk management contracts, which increased (decreased) interest expense on the underlying liabilities by \$68 million and \$(346) million in the third quarter of 2018 and 2017. For more information, see Interest Rate Risk Management for the Banking Book on page 49.

Table 8 Year-to-Date Average Balances and Interest Rates - FTE Basis

	Average Balance	Interest Income/ Expense	Yield/ Rate	Average Balance	Interest Income/ Expense	Yield/ Rate
Nine Months Ended September 30						
(Dollars in millions)	2018			2017		
Earning assets						
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	\$143,229	\$1,432	1.34 %	\$127,000	\$786	0.83 %
Time deposits placed and other short-term investments	9,700	157	2.16	11,820	173	1.96
Federal funds sold and securities borrowed or purchased under agreements to resell (1)	247,183	2,130	1.15	222,255	1,278	0.77
Trading account assets	130,931	3,574	3.65	128,547	3,435	3.57
Debt securities	436,080	8,729	2.62	432,775	7,875	2.42
Loans and						

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leases (2):						
Residential mortgage	206,808	5,437	3.51	196,288	5,082	3.45
Home equity	54,941	1,939	4.72	63,339	1,967	4.15
U.S. credit card	94,222	7,046	10.00	90,238	6,492	9.62
Non-U.S. credit card (3)	—	—	—	5,253	358	9.12
Direct/Indirect and other consumer (4)	93,568	2,281	3.26	95,964	2,010	2.80
Total consumer	449,539	16,703	4.96	451,082	15,909	4.71
U.S. commercial	302,981	8,734	3.85	290,632	7,167	3.30
Non-U.S. commercial	98,246	2,385	3.25	93,762	1,886	2.69
Commercial real estate (5)	60,218	1,915	4.25	58,340	1,545	3.54
Commercial lease financing	21,501	516	3.20	21,862	547	3.33
Total commercial	482,946	13,550	3.75	464,596	11,145	3.21
Total loans and leases (3)	932,485	30,253	4.34	915,678	27,054	3.95
Other earning assets (1)	78,431	3,113	5.31	74,554	2,322	4.16
Total earning assets (1,6)	1,978,039	49,388	3.34	1,912,629	42,923	3.00
Cash and due from banks	25,746			27,955		
Other assets, less allowance for loan and	318,314			316,909		

lease losses						
Total assets	\$2,322,099			\$2,257,493		
Interest-bearing liabilities						
U.S. interest-bearing deposits:						
Savings NOW and money market deposit accounts	\$54,800	\$4	0.01 %	\$53,679	\$4	0.01 %
Consumer CDs and IRAs	40,134	109	0.36	45,535	92	0.27
Negotiable CDs, public funds and other deposits	46,507	629	1.81	35,968	221	0.82
Total U.S. interest-bearing deposits	809,292	2,421	0.40	758,102	829	0.15
Non-U.S. interest-bearing deposits:						
Banks located in non-U.S. countries	2,309	32	1.88	2,643	16	0.82
Governments and official institutions	990	—	0.01	1,002	7	0.92
Time, savings and other	65,264	480	0.98	60,747	400	0.88
Total non-U.S. interest-bearing deposits	68,563	512	1.00	64,392	423	0.88
	877,855	2,933	0.45	822,494	1,252	0.20



Total interest-bearing deposits						
Federal funds purchased, securities loaned or sold under agreements to repurchase, short-term borrowings and other interest-bearing liabilities (1)	272,192	4,123	2.03	275,731	2,244	1.09
Trading account liabilities	52,815	1,040	2.63	44,128	890	2.70
Long-term debt	230,719	5,709	3.30	224,287	4,658	2.77
Total interest-bearing liabilities (1,6)	555,631	13,805	1.29	1,366,640	9,044	0.88
Noninterest-bearing sources:						
Noninterest-bearing deposits	426,972			439,288		
Other liabilities (1)	196,444			180,907		
Shareholders' equity	265,102			270,658		
Total liabilities and shareholders' equity	\$2,322,099			\$2,257,493		
Net interest spread			2.05 %			2.12 %
Impact of noninterest-bearing sources			0.34			0.24
Net interest	\$35,583	2.39 %		\$33,879	2.36 %	

income/yield  
on  
earning  
assets

- (1) Certain prior-period amounts have been reclassified to conform to current period presentation.  
Nonperforming loans are included in the respective average loan balances. Income on these nonperforming loans is
- (2) generally recognized on a cost recovery basis. PCI loans were recorded at fair value upon acquisition and accrete interest income over the estimated life of the loan.
- (3) The nine months ended September 30, 2017 includes assets of the Corporation's non-U.S. consumer credit card business, which was sold during the second quarter of 2017.
- (4) Includes non-U.S. consumer loans of \$2.9 billion in both the nine months ended September 30, 2018 and 2017.
- (5) Includes U.S. commercial real estate loans of \$56.2 billion and \$55.0 billion, and non-U.S. commercial real estate loans of \$4.0 billion and \$3.4 billion for the nine months ended September 30, 2018 and 2017, respectively.  
Interest income includes the impact of interest rate risk management contracts, which decreased interest income on the underlying assets by \$113 million and \$48 million for the nine months ended September 30, 2018 and 2017.
- (6) Interest expense includes the impact of interest rate risk management contracts, which decreased interest expense on the underlying liabilities by \$103 million and \$1.1 billion for the nine months ended September 30, 2018 and 2017. For additional information, see Interest Rate Risk Management for the Banking Book on page 49.

## Business Segment Operations

## Segment Description and Basis of Presentation

We report our results of operations through the following four business segments: Consumer Banking, GWIM, Global Banking and Global Markets, with the remaining operations recorded in All Other. We periodically review capital allocated to our businesses and allocate capital annually during the strategic and capital planning processes. We utilize a methodology that considers the effect of regulatory capital requirements in addition to internal risk-based capital models. Our internal risk-based capital models use a risk-adjusted methodology incorporating each segment's credit,

market, interest rate, business and operational risk components. For more information on the nature of these risks, see Managing Risk on page 22. The capital allocated to the business segments is referred to as allocated capital. Allocated equity in the reporting units is comprised of allocated capital plus capital for the portion of goodwill and intangibles specifically assigned to the reporting unit. For more information, see Note 8 – Goodwill and Intangible Assets to the Consolidated Financial Statements.

For more information on the basis of presentation for business segments and reconciliations to consolidated total revenue, net income and period-end total assets, see Note 17 – Business Segment Information to the Consolidated Financial Statements.

## Consumer Banking

	Deposits		Consumer Lending		Total Consumer Banking		% Change
	Three Months Ended September 30						
(Dollars in millions)	2018	2017	2018	2017	2018	2017	
Net interest income (FTE basis)	\$4,068	\$3,440	\$2,795	\$2,772	\$6,863	\$6,212	10 %
Noninterest income:							
Card income	2	1	1,279	1,242	1,281	1,243	3
Service charges	1,097	1,082	1	—	1,098	1,082	1
All other income	100	97	61	140	161	237	(32 )
Total noninterest income	1,199	1,180	1,341	1,382	2,540	2,562	(1 )
Total revenue, net of interest expense (FTE basis)	5,267	4,620	4,136	4,154	9,403	8,774	7
Provision for credit losses	48	47	822	920	870	967	(10 )
Noninterest expense	2,618	2,617	1,737	1,844	4,355	4,461	(2 )
Income before income taxes (FTE basis)	2,601	1,956	1,577	1,390	4,178	3,346	25
Income tax expense (FTE)	663	737	402	523	1,065	1,260	(15 )

basis)  
 Net income \$1,938 \$1,219 \$1,175 \$867 \$3,113 \$2,086 49

Effective tax rate (FTE basis) <sup>(1)</sup> 25.5 %37.7 %

Net interest yield (FTE basis) 2.35 %2.08 % 3.95 %4.16 % 3.78 3.56

Return on average allocated capital 64 40 19 14 33 22

Efficiency ratio (FTE basis) 49.70 56.65 41.97 44.40 46.30 50.85

#### Balance Sheet

Three Months Ended September 30

Average	2018	2017	2018	2017	2018	2017	% Change
Total loans and leases	\$5,269	\$5,079	\$279,725	\$263,731	\$284,994	\$268,810	6 %
Total earning assets <sup>(2)</sup>	685,662	657,036	280,637	264,665	720,652	692,122	4
Total assets <sup>(2)</sup>	713,942	684,642	291,370	276,014	759,665	731,077	4
Total deposits	681,726	652,286	5,804	6,688	687,530	658,974	4
Allocated capital	12,000	12,000	25,000	25,000	37,000	37,000	—

<sup>(1)</sup> Estimated at the segment level only.

In segments and businesses where the total of liabilities and equity exceeds assets, we allocate assets from All

<sup>(2)</sup> Other to match the segments' and businesses' liabilities and allocated shareholders' equity. As a result, total earning assets and total assets of the businesses may not equal total Consumer Banking.

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(Dollars in millions)	Deposits		Consumer Lending		Total Consumer Banking		% Change
	Nine Months Ended September 30						
	2018	2017	2018	2017	2018	2017	
Net interest income (FTE basis)	\$ 11,728	\$ 9,804	\$ 8,265	\$ 8,149	\$ 19,993	\$ 17,953	11 %
Noninterest income:							
Card income	6	6	3,896	3,710	3,902	3,716	5
Service charges	3,213	3,193	1	1	3,214	3,194	1
All other income	310	294	227	410	537	704	(24 )
Total noninterest income	3,529	3,493	4,124	4,121	7,653	7,614	1
Total revenue, net of interest expense (FTE basis)	15,257	13,297	12,389	12,270	27,646	25,567	8
Provision for credit losses	135	148	2,614	2,491	2,749	2,639	4
Noninterest expense	7,907	7,708	5,324	5,578	13,231	13,286	—
Income before income taxes (FTE basis)	7,215	5,441	4,451	4,201	11,666	9,642	21
Income tax expense (FTE basis)	1,840	2,052	1,135	1,584	2,975	3,636	(18 )
Net income	\$ 5,375	\$ 3,389	\$ 3,316	\$ 2,617	\$ 8,691	\$ 6,006	45
Effective tax rate (FTE basis) <sup>(1)</sup>					25.5	% 37.7	%
Net interest yield (FTE basis)	2.30	% 2.02	% 3.99	% 4.21	% 3.73	3.52	
Return on average allocated capital	60	38	18	14	31	22	
Efficiency ratio (FTE basis)	51.83	57.97	42.97	45.46	47.86	51.96	

## Balance Sheet

Average	Nine Months Ended September 30						% Change	
	2018	2017	2018	2017	2018	2017		
Total loans and leases	\$5,211	\$ 5,025	\$276,556	\$ 257,779	\$281,767	\$ 262,804	7	%
Total earning assets <sup>(2)</sup>	681,922	647,887	277,295	258,659	716,475	682,436	5	
Total assets <sup>(2)</sup>	709,997	675,159	288,224	270,196	755,479	721,245	5	
Total deposits	677,684	642,783	5,595	6,421	683,279	649,204	5	
Allocated capital	12,000	12,000	25,000	25,000	37,000	37,000	—	

  

Period end	September 30		December 31		September 30		December 31		% Change
	2018	2017	2018	2017	2018	2017	2017	2017	
Total loans and leases	\$5,276	\$ 5,143	\$282,001	\$ 275,330	\$287,277	\$ 280,473	2	%	
Total earning assets <sup>(2)</sup>	690,968	675,485	282,921	275,742	726,494	709,832	2		
Total assets <sup>(2)</sup>	719,126	703,330	293,766	287,390	765,497	749,325	2		
Total deposits	686,723	670,802	6,047	5,728	692,770	676,530	2		

See page 11 for footnotes.

Consumer Banking, which is comprised of Deposits and Consumer Lending, offers a diversified range of credit, banking and investment products and services to consumers and small businesses. Deposits and Consumer Lending include the net impact of migrating customers and their related deposit, brokerage asset and loan balances between Deposits, Consumer Lending and GWIM, as well as other client-managed business. For more information about Consumer Banking, including our Deposits and Consumer Lending businesses, see Business Segment Operations in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

## Consumer Banking Results

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Net income for Consumer Banking increased \$1.0 billion to \$3.1 billion primarily driven by higher pretax income and lower income tax expense from the reduction in the federal income tax rate. The increase in pretax income was driven by higher net interest income and lower noninterest expense and provision for credit losses. Net interest income increased \$651 million to \$6.9 billion primarily due to the beneficial impact of an increase in investable assets as a result of higher interest rates and an increase in deposits, as well as pricing discipline and loan growth. Noninterest income decreased modestly to \$2.5 billion as lower mortgage banking income was largely offset by higher card income and service charges.

The provision for credit losses decreased \$97 million to \$870 million primarily due to a lower reserve build in the U.S. credit card portfolio. Noninterest expense decreased \$106 million to \$4.4 billion driven by operating efficiencies partially offset by investments in digital capabilities and business growth combined with investments in new financial centers and renovations.

The return on average allocated capital was 33 percent, up from 22 percent, driven by higher net income. For additional information on capital allocations, see Business Segment Operations on page 11.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Net income for Consumer Banking increased \$2.7 billion to \$8.7 billion primarily driven by the same factors as described in the three-month discussion. The increase in pretax income was driven by higher revenue and lower noninterest expense, partially offset by higher provision for credit losses. Net interest income increased \$2.0 billion to \$20.0 billion primarily due to the same factors as described in the three-month discussion. Noninterest income remained relatively unchanged at \$7.7 billion as higher card income and service charges were largely offset by lower mortgage banking income.

The provision for credit losses increased \$110 million to \$2.7 billion driven by portfolio seasoning and loan growth in the U.S. credit card portfolio. Noninterest expense decreased \$55 million to \$13.2 billion driven by operating efficiencies and lower litigation

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expense. These decreases were largely offset by investments in digital capabilities and business growth, including increased primary sales professionals, combined with investments in new financial centers and renovations. The return on average allocated capital was 31 percent, up from 22 percent, driven by higher net income. For additional information on capital allocations, see Business Segment Operations on page 11.

#### Deposits

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Net income for Deposits increased \$719 million to \$1.9 billion driven by higher revenue and lower income tax expense. Net interest income increased \$628 million to \$4.1 billion primarily due to the beneficial impact of an increase in investable assets as a result of higher deposits, and pricing discipline. Noninterest income increased \$19 million to \$1.2 billion driven by higher service charges.

The provision for credit losses remained relatively unchanged at \$48 million. Noninterest expense remained relatively unchanged at \$2.6 billion as investments in new financial centers, renovations and digital capabilities combined with higher personnel expense were offset by lower litigation expense.

Average deposits increased \$29.4 billion to \$681.7 billion driven by strong organic growth. Growth in checking and money market savings of \$34.6 billion was partially offset by a decline in time deposits of \$4.8 billion.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Net income for Deposits increased \$2.0 billion to \$5.4 billion driven by higher revenue and lower income tax expense, partially offset by higher noninterest expense. Net interest income increased \$1.9 billion to \$11.7 billion, and noninterest income increased \$36 million to \$3.5 billion. These increases were primarily driven by the same factors as described in the three-month discussion.

The provision for credit losses decreased \$13 million to \$135 million. Noninterest expense increased \$199 million to \$7.9 billion primarily driven by investments in digital capabilities and business growth, including increased primary sales professionals. These increases, combined with investments in new financial centers and renovations, were partially offset by lower litigation expense.

Average deposits increased \$34.9 billion to \$677.7 billion primarily driven by the same factor as described in the three-month discussion.

#### Key Statistics – Deposits

	Three Months Ended September 30		Nine Months Ended September 30		
	2018	2017	2018	2017	
Total deposit spreads (excludes noninterest costs) <sup>(1)</sup>	2.19%	1.88%	2.10%	1.82%	%

#### Period end

Client brokerage assets (in millions)	\$203,882	\$167,274
Active digital banking users (units in thousands) <sup>(2)</sup>	36,174	34,472
Active mobile banking users (units in thousands)	25,990	23,572
Financial centers	4,385	4,515
ATMs	16,089	15,973

<sup>(1)</sup> Includes deposits held in Consumer Lending.

<sup>(2)</sup> Digital users represents mobile and/or online users across consumer businesses.

Client brokerage assets increased \$36.6 billion driven by strong client flows and market performance. Active mobile banking users increased 2.4 million reflecting continuing changes in our customers' banking preferences. The number of financial centers declined by a net 130 reflecting changes in customer preferences to self-service options as we continue to optimize our consumer banking network and improve our cost-to-serve.

#### Consumer Lending

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017



Net income for Consumer Lending increased \$308 million to \$1.2 billion driven by lower income tax expense, noninterest expense and provision for credit losses, partially offset by lower noninterest income. Net interest income increased \$23 million to \$2.8 billion primarily driven by higher interest rates and the impact of an increase in loan balances. Noninterest income decreased \$41 million to \$1.3 billion primarily driven by lower mortgage banking income, partially offset by higher card income.

The provision for credit losses decreased \$98 million to \$822 million primarily due to a lower reserve build in the U.S. credit card portfolio. Noninterest expense decreased \$107 million to \$1.7 billion primarily driven by operating efficiencies.

Average loans increased \$16.0 billion to \$279.7 billion driven by increases in residential mortgages and U.S credit card loans, partially offset by lower home equity and consumer vehicle loan balances.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Net income for Consumer Lending increased \$699 million to \$3.3 billion driven by lower income tax expense and noninterest expense, and higher net interest income, partially offset by higher provision for credit losses. Net interest income increased \$116 million to \$8.3 billion driven by the same factors as described in the three-month discussion. Noninterest income remained relatively unchanged at \$4.1 billion as higher card income was offset by lower mortgage banking income.

The provision for credit losses increased \$123 million to \$2.6 billion driven by portfolio seasoning and loan growth in the U.S. credit card portfolio. Noninterest expense decreased \$254 million to \$5.3 billion driven by the same factor as described in the three-month discussion.

Average loans increased \$18.8 billion to \$276.6 billion driven by increases in residential mortgages and U.S. credit card loans, partially offset by lower home equity balances.

At September 30, 2018, total owned loans in the core portfolio held in Consumer Lending were \$125.5 billion, an increase of \$13.9 billion from September 30, 2017, primarily driven by higher residential mortgage balances, based on a decision to retain certain loans on the balance sheet, partially offset by a decline in home equity balances. For more information on the core portfolio, see Consumer Portfolio Credit Risk Management on page 28.

#### Key Statistics – Consumer Lending

(Dollars in millions)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2018	2017	2018	2017
Total U.S. credit card <sup>(1)</sup>				
Gross interest yield	10.20	% 9.76	% 10.00	% 9.62
Risk-adjusted margin	8.15	8.63	8.18	8.64
New accounts (in thousands)	1,116	1,315	3,496	3,801
Purchase volumes	\$66,490	\$62,244	\$194,658	\$179,230
Debit card purchase volumes	\$79,920	\$74,769	\$236,669	\$220,729

<sup>(1)</sup> In addition to the U.S. credit card portfolio in Consumer Banking, the remaining U.S. credit card portfolio is in GWIM.

During the three and nine months ended September 30, 2018, the total U.S. credit card risk-adjusted margin decreased 48 bps and 46 bps compared to the same periods in 2017, primarily driven by increased net charge-offs and higher credit card rewards costs.

During the three and nine months ended September 30, 2018, total U.S. credit card purchase volumes increased \$4.2 billion to \$66.5 billion, and \$15.4 billion to \$194.7 billion compared to the same periods in 2017, and debit card purchase volumes increased \$5.2 billion to \$79.9 billion, and \$15.9 billion to \$236.7 billion, reflecting higher levels of consumer spending.

#### Key Statistics – Loan Production<sup>(1)</sup>

(Dollars in millions)	Three Months		Nine Months	
	Ended September 30		Ended September 30	
	2018	2017	2018	2017
Total <sup>(2)</sup> :				
First mortgage	\$10,682	\$13,183	\$31,778	\$37,876
Home equity	3,399	4,133	11,229	12,871
Consumer Banking:				
First mortgage	\$7,208	\$9,044	\$21,053	\$25,679
Home equity	3,053	3,722	10,042	11,604

<sup>(1)</sup> The loan production amounts represent the unpaid principal balance of loans and, in the case of home equity, the principal amount of the total line of credit.

<sup>(2)</sup> In addition to loan production in Consumer Banking, there is also first mortgage and home equity loan production in GWIM.

First mortgage loan originations in Consumer Banking and for the total Corporation decreased \$1.8 billion and \$2.5 billion in the three months ended September 30, 2018 compared to the same period in 2017 primarily driven by a higher interest rate environment driving lower first-lien mortgage refinances. First mortgage loan originations in Consumer Banking and for the total Corporation decreased \$4.6 billion and \$6.1 billion in the nine months ended September 30, 2018 primarily driven by the same factor as described in the three-month discussion.

Home equity production in Consumer Banking and for the total Corporation decreased \$669 million and \$734 million for the three months ended September 30, 2018 compared to the same period in 2017 driven by lower demand. Home equity production in Consumer Banking and for the total Corporation each decreased \$1.6 billion for the nine months ended September 30, 2018 primarily driven by the same factor as described in the three-month discussion.

## Global Wealth &amp; Investment Management

(Dollars in millions)	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Net interest income (FTE basis)	\$ 1,536	\$ 1,496	3 %	\$ 4,673	\$ 4,653	— %
Noninterest income:						
Investment and brokerage services	3,004	2,854	5	8,981	8,474	6
All other income	243	270	(10 )	694	780	(11 )
Total noninterest income	3,247	3,124	4	9,675	9,254	5
Total revenue, net of interest expense (FTE basis)	4,783	4,620	4	14,348	13,907	3
Provision for credit losses	13	16	(19 )	63	50	26
Noninterest expense	3,414	3,369	1	10,235	10,085	1
Income before income taxes (FTE basis)	1,356	1,235	10	4,050	3,772	7
Income tax expense (FTE basis)	346	465	(26 )	1,033	1,422	(27 )
Net income	\$ 1,010	\$ 770	31	\$ 3,017	\$ 2,350	28
Effective tax rate (FTE basis)	25.5	% 37.7	%	25.5	% 37.7	%
Net interest yield (FTE basis)	2.38	2.29		2.42	2.32	
Return on average allocated capital	28	22		28	23	
Efficiency ratio (FTE basis)	71.40	72.91		71.34	72.52	

## Balance Sheet

Average	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Total loans and leases	\$ 161,869	\$ 154,333	5 %	\$ 160,609	\$ 151,205	6 %
Total earning assets	256,285	259,564	(1 )	258,044	267,732	(4 )
Total assets	273,581	275,570	(1 )	275,182	283,324	(3 )
Total deposits	238,291	239,647	(1 )	239,176	247,389	(3 )
Allocated capital	14,500	14,000	4	14,500	14,000	4

Period end	September 30 2018	December 31 2017	% Change
Total loans and leases	\$ 162,191	\$ 159,378	2 %
Total earning assets	258,561	267,026	(3 )
Total assets	276,146	284,321	(3 )
Total deposits	239,654	246,994	(3 )

GWIM consists of two primary businesses: Merrill Lynch Global Wealth Management (MLGWM) and U.S. Trust, Bank of America Private Wealth Management (U.S. Trust). For more information about GWIM, see Business Segment Operations in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Net income for GWIM increased \$240 million to \$1.0 billion primarily due to higher revenue and lower income tax expense from the reduction in the federal income tax rate, partially offset by an increase in noninterest expense. The operating margin was 28 percent compared to 27 percent a year ago.

Net interest income increased \$40 million to \$1.5 billion primarily due to higher deposit spreads and average loan balances, partially offset by lower loan spreads.

Noninterest income, which primarily includes investment and brokerage services income, increased \$123 million to \$3.2 billion. The increase was driven by the impact of AUM flows and higher market valuations, partially offset by the impact of changing market dynamics on transactional revenue and AUM pricing. Noninterest expense of \$3.4 billion increased modestly, as higher revenue-related incentive expense and investment in sales professionals were largely offset by continued expense discipline.

Return on average allocated capital was 28 percent, up from 22 percent, primarily due to higher net income, somewhat offset by an increase in allocated capital.

MLGWM revenue of \$3.9 billion increased three percent reflecting higher asset management fees driven by higher net

flows and market valuations and an increase in net interest income, partially offset by lower AUM pricing and transactional revenue. U.S. Trust revenue of \$859 million increased five percent reflecting higher asset management fees driven by increased net flows and market valuations, and higher net interest income.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Net income for GWIM increased \$667 million to \$3.0 billion due to higher revenue and lower income tax expense, partially offset by an increase in noninterest expense. The decrease in tax expense was driven by the reduction in the federal tax rate. The operating margin was 28 percent compared to 27 percent a year ago.

Net interest income increased \$20 million to \$4.7 billion due to the same factors as described in the three-month discussion. Noninterest income, which primarily includes investment and brokerage services income, increased \$421 million to \$9.7 billion due to the same factors as described in the three-month discussion. Noninterest expense

increased \$150 million to \$10.2 billion primarily due to higher revenue-related incentive expense and investment in sales professionals, partially offset by expense discipline.

The return on average allocated capital was 28 percent, up from 23 percent, as higher net income was partially offset by an increased capital allocation. For more information on capital allocated to the business segments, see Business Segment Operations on page 11.

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Revenue from MLGWM of \$11.8 billion increased three percent due to higher asset management fees driven by higher AUM flows and market valuations, partially offset by lower AUM pricing, transactional revenue and net interest income. U.S. Trust revenue of \$2.6 billion increased five percent due to the same factors as described in the three-month discussion.

## Key Indicators and Metrics

(Dollars in millions, except as noted)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2018	2017	2018	2017
Revenue by Business				
Merrill Lynch Global Wealth Management	\$3,924	\$3,796	\$11,780	\$11,452
U.S. Trust	859	822	2,567	2,450
Other	—	2	1	5
Total revenue, net of interest expense (FTE basis)	\$4,783	\$4,620	\$14,348	\$13,907
Client Balances by Business, at period end				
Merrill Lynch Global Wealth Management			\$2,385,479	\$2,245,499
U.S. Trust			455,894	430,684
Total client balances			\$2,841,373	\$2,676,183
Client Balances by Type, at period end				
Assets under management			\$1,144,375	\$1,036,048
Brokerage and other assets			1,292,219	1,243,858
Deposits			239,654	237,771
Loans and leases <sup>(1)</sup>			165,125	158,506
Total client balances			\$2,841,373	\$2,676,183
Assets Under Management Rollforward				
Assets under management, beginning of period	\$1,101,001	\$990,709	\$1,080,747	\$886,148
Net client flows	7,572	20,749	42,587	77,479
Market valuation/other	35,802	24,590	21,041	72,421
Total assets under management, end of period	\$1,144,375	\$1,036,048	\$1,144,375	\$1,036,048
Associates, at period end <sup>(2)</sup>				
Number of financial advisors			17,456	17,221
Total wealth advisors, including financial advisors			19,344	19,108
Total primary sales professionals, including financial advisors and wealth advisors			20,437	20,089
Merrill Lynch Global Wealth Management Metric				
Financial advisor productivity <sup>(3)</sup> (in thousands)	\$1,035	\$994	\$1,030	\$1,009
U.S. Trust Metric, at period end				
Primary sales professionals			1,711	1,696

(1) Includes margin receivables which are classified in customer and other receivables on the Consolidated Balance Sheet.

(2) Includes financial advisors in the Consumer Banking segment of 2,618 and 2,267 at September 30, 2018 and 2017.

(3) Financial advisor productivity is defined as annualized MLGWM total revenue, excluding the allocation of certain asset and liability management (ALM) activities, divided by the total average number of financial advisors

(excluding financial advisors in the Consumer Banking segment).

**Client Balances**

Client balances increased \$165.2 billion, or six percent, to \$2.8 trillion at September 30, 2018 compared to September 30, 2017. The increase in client balances was due to higher market valuations and positive net flows. Positive net client flows in AUM decreased from the same period a year ago primarily due to a smaller shift from brokerage assets to AUM.



## Global Banking

(Dollars in millions)	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Net interest income (FTE basis)	\$2,706	\$2,642	2 %	\$8,057	\$7,786	3 %
Noninterest income:						
Service charges	754	776	(3 )	2,285	2,351	(3 )
Investment banking fees	643	806	(20 )	2,130	2,661	(20 )
All other income	635	763	(17 )	2,122	2,182	(3 )
Total noninterest income	2,032	2,345	(13 )	6,537	7,194	(9 )
Total revenue, net of interest expense (FTE basis)	4,738	4,987	(5 )	14,594	14,980	(3 )
Provision for credit losses	(70 )	48	n/m	(77 )	80	n/m
Noninterest expense	2,120	2,119	—	6,471	6,435	1
Income before income taxes (FTE basis)	2,688	2,820	(5 )	8,200	8,465	(3 )
Income tax expense (FTE basis)	699	1,062	(34 )	2,132	3,192	(33 )
Net income	\$1,989	\$1,758	13	\$6,068	\$5,273	15
Effective tax rate (FTE basis)	26.0	% 37.7	%	26.0	% 37.7	%
Net interest yield (FTE basis)	2.96	2.94		2.97	2.91	
Return on average allocated capital	19	17		20	18	
Efficiency ratio (FTE)	44.79	42.52		44.34	42.97	

basis)

Balance Sheet

Average	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Total loans and leases	\$352,712	\$346,093	2 %	\$353,167	\$344,683	2 %
Total earning assets	362,316	357,014	1	362,910	357,999	1
Total assets	422,255	414,755	2	422,041	414,867	2
Total deposits	337,685	315,692	7	328,484	307,163	7
Allocated capital	41,000	40,000	3	41,000	40,000	3

Period end	September 30		% Change
	2018	2017	
Total loans and leases	\$352,332	\$350,668	— %
Total earning assets	369,555	365,560	1
Total assets	430,846	424,533	1
Total deposits	350,748	329,273	7

n/m = not meaningful

Global Banking, which includes Global Corporate Banking, Global Commercial Banking, Business Banking and Global Investment Banking, provides a wide range of lending-related products and services, integrated working capital management and treasury solutions, and underwriting and advisory services through our network of offices and client relationship teams. For more information about Global Banking, see Business Segment Operations in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Net income for Global Banking increased \$231 million to \$2.0 billion primarily driven by lower income tax expense from the reduction in the federal income tax rate, partially offset by lower pretax income discussed below.

Pretax results were driven by lower revenue and lower provision for credit losses with noninterest expense remaining flat. Revenue decreased \$249 million to \$4.7 billion driven by lower noninterest

income, partially offset by higher net interest income. Net interest income increased \$64 million to \$2.7 billion primarily due to the impact of higher interest rates, as well as deposit growth. Noninterest income decreased \$313 million to \$2.0 billion primarily due to lower investment banking fees and the impact of tax reform on certain tax-advantaged investments, partially offset by higher leasing-related revenues. The provision for credit losses improved \$118 million to a benefit of \$70 million, driven by continued improvements in the energy sector and broader loan quality.

Noninterest expense was unchanged at \$2.1 billion as slightly lower personnel expense was offset by higher operating expense.

The return on average allocated capital was 19 percent, up from 17 percent, as higher net income was partially offset by an increased capital allocation. For more information on capital allocated to the business segments, see Business Segment Operations on page 11.



Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Net income for Global Banking increased \$795 million to \$6.1 billion primarily driven by lower income tax expense from the reduction in the federal income tax rate, partially offset by lower pretax income.

Pretax results were driven by lower revenue, slightly higher noninterest expense and lower provision for credit losses. Revenue decreased \$386 million to \$14.6 billion driven by lower noninterest income, partially offset by higher net interest income. Net interest income increased \$271 million to \$8.1 billion primarily due to the impact of higher interest rates on increased deposits. Noninterest income decreased \$657 million to \$6.5 billion primarily due to lower investment banking fees and the impact of tax reform on certain tax-advantaged investments, partially offset by higher leasing-related revenues. The provision for credit losses improved

\$157 million to a benefit of \$77 million, primarily driven by continued improvements in the energy sector and broader loan quality.

Noninterest expense increased \$36 million to \$6.5 billion primarily due to higher operating expense.

The return on average allocated capital was 20 percent, up from 18 percent, as higher net income was partially offset by an increased capital allocation. For more information on capital allocated to the business segments, see Business Segment Operations on page 11.

Global Corporate, Global Commercial and Business Banking

The table below and following discussion present a summary of the results, which exclude certain investment banking activities in Global Banking.

Global Corporate, Global Commercial and Business Banking

(Dollars in millions)	Global Corporate Banking		Global Commercial Banking		Business Banking Total			
	Three Months Ended September 30							
	2018	2017	2018	2017	2018	2017	2018	2017
Revenue (FTE basis)								
Business Lending	\$960	\$1,127	\$1,025	\$1,090	\$99	\$101	\$2,084	\$2,318
Global Transaction Services	914	840	814	758	244	217	1,972	1,815
Total revenue, net of interest expense	\$1,874	\$1,967	\$1,839	\$1,848	\$343	\$318	\$4,056	\$4,133

Balance Sheet

Average

Total loans and leases	Global Corporate Banking		Global Commercial Banking		Business Banking Total			
	Nine Months Ended September 30							
	2018	2017	2018	2017	2018	2017	2018	2017
Total loans and leases	\$162,249	\$159,417	\$174,315	\$168,945	\$16,127	\$17,659	\$352,691	\$346,021
Total deposits	165,522	149,564	134,486	129,440	37,703	36,687	337,711	315,691

	Global Corporate Banking		Global Commercial Banking		Business Banking Total			
	Nine Months Ended September 30							
	2018	2017	2018	2017	2018	2017	2018	2017
Total loans and leases	\$162,249	\$159,417	\$174,315	\$168,945	\$16,127	\$17,659	\$352,691	\$346,021
Total deposits	165,522	149,564	134,486	129,440	37,703	36,687	337,711	315,691

## Revenue (FTE basis)

Business Lending	\$3,103	\$3,322	\$2,974	\$3,186	\$297	\$301	\$6,374	\$6,809
Global Transaction Services	2,708	2,470	2,441	2,217	713	625	5,862	5,312
Total revenue, net of interest expense	\$5,811	\$5,792	\$5,415	\$5,403	\$1,010	\$926	\$12,236	\$12,121

## Balance Sheet

## Average

Total loans and leases	\$162,652	\$157,144	\$173,788	\$169,751	\$16,720	\$17,762	\$353,160	\$344,657
Total deposits	159,500	146,627	132,115	124,446	36,889	36,092	328,504	307,165

## Period end

Total loans and leases	\$162,004	\$161,441	\$174,452	\$170,825	\$15,880	\$17,579	\$352,336	\$349,845
Total deposits	174,709	147,893	138,425	135,249	37,640	36,402	350,774	319,544

Business Lending revenue decreased \$234 million and \$435 million for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The decreases for both periods were primarily driven by the impact of tax reform on certain tax-advantaged investments and lower leasing-related revenues.

Global Transaction Services revenue increased \$157 million and \$550 million for the three and nine months ended September 30, 2018 driven by higher short-term rates and increased deposit balances.

Average loans and leases increased two percent for both the three and nine months ended September 30, 2018 compared to the same periods in 2017 driven by growth in the commercial and industrial, and commercial real estate portfolios. Average deposits increased seven percent for both the three and nine months ended September 30, 2018. The increase for both periods was due to growth in international and domestic interest-bearing balances.

## Global Investment Banking

Client teams and product specialists underwrite and distribute debt, equity and loan products, and provide advisory services and tailored risk management solutions. The economics of certain investment banking and underwriting activities are shared primarily between Global Banking and Global Markets under an internal revenue-sharing arrangement. Global Banking originates certain deal-related transactions with our corporate and commercial clients that are executed and distributed by Global Markets. To provide a complete discussion of our consolidated investment banking fees, the following table presents total Corporation investment banking fees and the portion attributable to Global Banking.

## Investment Banking Fees

(Dollars in millions)	Global Banking		Total Corporation		Global Banking		Total Corporation	
	Three Months Ended September 30		Three Months Ended		Nine Months Ended		September 30	
	2018	2017	2018	2017	2018	2017	2018	2017
Products								
Advisory	\$237	\$321	\$262	\$374	\$782	\$1,177	\$861	\$1,262
Debt issuance	295	397	684	962	1,018	1,170	2,385	2,789
Equity issuance	111	88	307	193	330	314	911	736
Gross investment banking fees	643	806	1,253	1,529	2,130	2,661	4,157	4,787
Self-led deals	(14 )	(18 )	(49 )	(52 )	(63 )	(89 )	(178 )	(194 )
Total investment banking fees	\$629	\$788	\$1,204	\$1,477	\$2,067	\$2,572	\$3,979	\$4,593

Total Corporation investment banking fees, excluding self-led deals, of \$1.2 billion and \$4.0 billion, which are primarily included within Global Banking and Global Markets, decreased 18 percent and 13 percent for the three and nine months ended September 30, 2018 compared to the same periods in 2017 primarily due to declines in leveraged finance and advisory fees, partially offset by an increase in equity underwriting fees.

## Global Markets

(Dollars in millions)	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Net interest income (FTE basis)	\$754	\$899	(16 )%	\$2,425	\$2,812	(14 )%
Noninterest income:						
Investment and brokerage services	388	496	(22 )	1,306	1,548	(16 )
Investment banking fees	523	624	(16 )	1,783	1,879	(5 )
Trading account profits	1,727	1,714	1	6,614	5,634	17
All other income	451	168	n/m	722	682	6
Total noninterest income	3,089	3,002	3	10,425	9,743	7
Total revenue, net of interest expense (FTE basis)	3,843	3,901	(1 )	12,850	12,555	2
Provision for credit losses	(2 )	(6 )	(67 )	(6 )	2	n/m
	2,612	2,711	(4 )	8,145	8,117	—

Noninterest expense						
Income before income taxes (FTE basis)	1,233	1,196	3	4,711	4,436	6
Income tax expense (FTE basis)	321	440	(27 )	1,225	1,553	(21 )
Net income	\$912	\$756	21	\$3,486	\$2,883	21

Effective tax rate (FTE basis)	26.0	% 36.8	%	26.0	% 35.0	%
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Return on average allocated capital	10	9		13	11	
Efficiency ratio (FTE basis)	67.99	69.48		63.39	64.64	

## Balance Sheet

	Three Months Ended September 30			Nine Months Ended September 30		
Average	2018	2017	% Change	2018	2017	% Change
Trading-related assets:						
Trading account securities	\$215,397	\$216,988	(1 )%	\$211,668	\$214,190	(1 )%
Reverse repurchases	124,842	101,556	23	127,019	99,998	27
Securities borrowed	74,648	81,950	(9 )	80,073	83,770	(4 )
Derivative assets	45,392	41,789	9	46,754	41,184	14
Total trading-related assets	460,279	442,283	4	465,514	439,142	6
Total loans and leases	71,231	72,347	(2 )	73,340	70,692	4
Total earning assets	459,073	446,754	3	478,455	444,478	8
Total assets	652,481	642,428	2	669,688	631,684	6
Total deposits	30,721	32,125	(4 )	31,253	32,397	(4 )
Allocated capital	35,000	35,000	—	35,000	35,000	—

Period end

	September 30 2018	December 31 2017	% Change
Total trading-related assets	\$456,643	\$419,375	9 %
Total loans and leases	73,023	76,778	(5 )
Total earning assets	447,304	449,314	—
Total assets	646,359	629,013	3
Total deposits	41,102	34,029	21

n/m = not meaningful

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Global Markets offers sales and trading services and research services to institutional clients across fixed-income, credit, currency, commodity and equity businesses. Global Markets product coverage includes securities and derivative products in both the primary and secondary markets. For more information about Global Markets, see Business Segment Operations in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Net income for Global Markets increased \$156 million to \$912 million. Net DVA losses were \$99 million compared to losses of \$21 million. Excluding net DVA, net income increased \$218 million to \$987 million. These increases were primarily driven by lower noninterest expense and a decrease in income tax expense from the reduction in the federal income tax rate.

Sales and trading revenue, excluding net DVA, decreased \$79 million primarily due to lower fixed-income, currencies and commodities (FICC) revenue. Noninterest expense decreased \$99 million to \$2.6 billion driven by lower operating costs.

Average assets increased \$10.1 billion to \$652.5 billion primarily driven by increased levels of inventory to facilitate client demand.

The return on average allocated capital was 10 percent, up from nine percent, reflecting higher net income.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Net income for Global Markets increased \$603 million to \$3.5 billion. Net DVA losses were \$214 million compared to losses of

\$310 million. Excluding net DVA, net income increased \$574 million to \$3.6 billion. These increases were primarily driven by higher revenue and lower income tax expense from the reduction in the federal income tax rate.

Sales and trading revenue, excluding net DVA, increased \$172 million due to higher Equities revenue, partially offset by lower FICC revenue. Noninterest expense increased \$28 million to \$8.1 billion primarily due to continued investments in technology, partially offset by lower operating costs.

Average assets increased \$38.0 billion to \$669.7 billion primarily driven by increased levels of inventory in FICC to facilitate client demand and growth in Equities client financing activities. Total period-end assets increased \$17.3 billion from December 31, 2017 to \$646.4 billion at September 30, 2018 due to growth in Equities client financing activities.

The return on average allocated capital was 13 percent, up from 11 percent, reflecting higher net income.

#### Sales and Trading Revenue

For a description of sales and trading revenue, see Business Segment Operations in the MD&A of the Corporation's 2017 Annual Report on Form 10-K. The following table and related discussion present sales and trading revenue, substantially all of which is in Global Markets, with the remainder in Global Banking. In addition, the following table and related discussion present sales and trading revenue, excluding net DVA, which is a non-GAAP financial measure. For more information on net DVA, see Supplemental Financial Data on page 6.

#### Sales and Trading Revenue <sup>(1, 2)</sup>

	Three Months		Nine Months	
	Ended		Ended September	
(Dollars in millions)	September 30	30	2018	2017
Sales and trading revenue				
Fixed-income, currencies and commodities	\$1,982	\$2,152	\$6,702	\$7,068
Equities	990	977	3,804	3,170
Total sales and trading revenue	\$2,972	\$3,129	\$10,506	\$10,238

#### Sales and trading revenue, excluding net DVA <sup>(3)</sup>

Fixed-income, currencies and commodities	\$2,062	\$2,166	\$6,888	\$7,350
Equities	1,009	984	3,832	3,198

Total sales and trading revenue, excluding net DVA \$3,071 \$3,150 \$10,720 \$10,548

Includes FTE adjustments of \$53 million and \$199 million for the three and nine months ended September 30,

(1) 2018 compared to \$61 million and \$162 million for the same periods in 2017. For more information on sales and trading revenue, see Note 3 – Derivatives to the Consolidated Financial Statements.

(2) Includes Global Banking sales and trading revenue of \$66 million and \$307 million for the three and nine months ended September 30, 2018 compared to \$61 million and \$175 million for the same periods in 2017.

FICC and Equities sales and trading revenue, excluding net DVA, is a non-GAAP financial measure. FICC net

DVA losses were \$80 million and \$186 million for the three and nine months ended September 30, 2018 compared

(3) to losses of \$14 million and \$282 million for the same periods in 2017. Equities net DVA losses were \$19 million and \$28 million for the three and nine months ended September 30, 2018 compared to losses of \$7 million and \$28 million for the same periods in 2017.

The following explanations for period-over-period changes in sales and trading, FICC and Equities revenue exclude net DVA, but would be the same whether net DVA was included or excluded.

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

FICC revenue decreased \$104 million primarily due to lower client activity in rates products and a weaker environment for municipal bonds. Equities revenue increased \$25 million due to increased client activity in financing.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

FICC revenue decreased \$462 million primarily due to lower activity and a less favorable market in credit-related products. The decline in FICC revenue was also impacted by higher funding costs, which were driven by increases in market interest rates. Equities revenue increased \$634 million driven by increased client activity in financing and derivatives.

## All Other

(Dollars in millions)	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Net interest income (FTE basis)	\$ 162	\$ 152	7 %	\$ 435	\$ 675	(36 )%
Noninterest income (loss)	(1 )	(355 )	(100 )%	(907 )	(94 )	n/m
Total revenue, net of interest expense (FTE basis)	161	(203 )	n/m	(472 )	581	n/m
Provision for credit losses	(95 )	(191 )	(50 )	(352 )	(376 )	(6 )
Noninterest expense	566	734	(23 )	2,166	3,546	(39 )
Loss before income taxes (FTE basis)	(310 )	(746 )	(58 )	(2,286 )	(2,589 )	(12 )
Income tax expense (benefit) (FTE basis)	(453 )	(800 )	(43 )	(1,893 )	(1,944 )	(3 )
Net income (loss)	\$ 143	\$ 54	n/m	\$(393 )	\$(645 )	(39 )

## Balance Sheet

Average	Three Months Ended September 30			Nine Months Ended September 30		
	2018	2017	% Change	2018	2017	% Change
Total loans and leases	\$59,930	\$76,546	(22 )%	\$63,602	\$ 86,294	(26 )%
Total assets <sup>(1)</sup>	209,847	207,274	1	199,709	206,373	(3 )
Total deposits	22,118	25,273	(12 )	22,635	25,629	(12 )

Period end	September 30, 2018	December 31, 2017	% Change
Total loans and leases	\$54,978	\$ 69,452	(21 )%
Total assets <sup>(1)</sup>	219,985	194,042	13
Total deposits	21,375	22,719	(6 )

<sup>(1)</sup> In segments where the total of liabilities and equity exceeds assets, which are generally deposit-taking segments, we allocate assets from All Other to those segments to match liabilities (i.e., deposits) and allocated shareholders'

equity. Average allocated assets were \$516.3 billion and \$516.8 billion for the three and nine months ended September 30, 2018 compared to \$510.1 billion and \$517.9 billion for the same periods in 2017, and period-end allocated assets were \$531.3 billion and \$520.4 billion at September 30, 2018 and December 31, 2017.

n/m = not meaningful

All Other consists of ALM activities, equity investments, non-core mortgage loans and servicing activities, the net impact of periodic revisions to the MSR valuation model for core and non-core MSRs and the related economic hedge results, liquidating businesses and residual expense allocations. For more information about All Other, see Business Segment Operations in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

The Corporation classifies consumer real estate loans as core or non-core based on loan and customer characteristics. For more information on the core and non-core portfolios, see Consumer Portfolio Credit Risk Management on page 28. Residential mortgage loans that are held for ALM purposes, including interest rate or liquidity risk management, are classified as core and are presented on the balance sheet of All Other. During the nine months ended September 30, 2018, residential mortgage loans held for ALM activities decreased \$3.2 billion to \$25.3 billion at September 30, 2018 primarily as a result of payoffs and paydowns. Non-core residential mortgage and home equity loans, which are principally run-off portfolios, are also held in All Other. During the nine months ended September 30, 2018, total non-core loans decreased \$11.4 billion to \$29.9 billion at September 30, 2018 due primarily to payoffs and paydowns, as well as loan sales of \$5.9 billion.

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Net income for All Other increased \$89 million to \$143 million driven by a lower pretax loss, partially offset by a lower income tax benefit due to the reduction in the federal income tax rate. Pretax results were driven by higher revenue and lower noninterest expense, partially offset by a decrease in the benefit in provision for credit losses.

Revenue increased \$364 million to \$161 million primarily due to a lower provision for representations and warranties as well as a gain of \$84 million from the sale of a non-core consumer real estate loan portfolio.

The benefit in the provision for credit losses declined \$96 million to \$95 million due to a slower pace of portfolio improvement in the non-core consumer real estate portfolio.

Noninterest expense decreased \$168 million to \$566 million due to lower non-core mortgage costs and litigation expense.

The income tax benefit was \$453 million compared to \$800 million. The decrease in the benefit was due to the reduction in the federal income tax rate and the change in the pretax loss. Both periods included income tax benefit adjustments to eliminate the FTE treatment of certain tax credits recorded in Global Banking.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

The net loss for All Other improved \$252 million to a loss of \$393 million, reflecting lower noninterest expense, partially offset by lower revenue.

Revenue decreased \$1.1 billion to a loss of \$472 million primarily due to a prior-year \$793 million pretax gain recognized in connection with the sale of the non-U.S. consumer credit card business and, in the current-year period, a \$729 million charge related to the redemption of certain trust preferred securities, partially offset by gains of \$656 million from the sale of primarily non-core mortgage loans.

Noninterest expense decreased \$1.4 billion to \$2.2 billion primarily due to lower non-core mortgage costs and reduced operational costs from the sale of the non-U.S. consumer credit card business. Also, the prior-year period included a \$295 million impairment charge related to certain data centers.

The income tax benefit was \$1.9 billion in both periods. The current-year period reflects the lower federal income tax rate, while the prior-year period included tax expense related to the sale of the non-U.S. consumer credit card business. Both periods included income tax benefit adjustments to eliminate the FTE treatment of certain tax credits recorded in Global Banking.

#### Off-Balance Sheet Arrangements and Contractual Obligations

We have contractual obligations to make future payments on debt and lease agreements. Additionally, in the normal course of business, we enter into contractual arrangements whereby we commit to future purchases of products or services from unaffiliated parties. For more information on obligations and commitments, see Note 10 – Commitments and Contingencies to the Consolidated Financial Statements herein as well as Off-Balance Sheet Arrangements and Contractual Obligations in the MD&A, Note 11 – Long-term Debt and Note 12 – Commitments and Contingencies to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

#### Representations and Warranties

For information on representations and warranties, see Note 7 – Representations and Warranties Obligations and Corporate Guarantees to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K and Representations and Warranties in Note 10 – Commitments and Contingencies to the Consolidated Financial Statements herein. For more information related to the sensitivity of the assumptions used to estimate our reserve for representations and warranties, see Complex Accounting Estimates – Representations and Warranties Liability in the MD&A of the Corporation’s 2017 Annual Report on Form 10-K.

#### Other Mortgage-related Matters

For more information on other mortgage-related matters, see Off-Balance Sheet Arrangements and Contractual Obligations – Other Mortgage-related Matters in the MD&A of the Corporation’s 2017 Annual Report on Form 10-K.

#### Managing Risk

Risk is inherent in all our business activities. The seven key types of risk faced by the Corporation are strategic, credit, market, liquidity, compliance, operational and reputational risks. Sound risk management enables us to serve our customers and deliver for our shareholders. If not managed well, risks can result in financial loss, regulatory sanctions and penalties, and damage to our reputation, each of which may adversely impact our ability to execute our business strategies. The Corporation takes a comprehensive approach to risk management with a defined Risk Framework and an articulated Risk Appetite Statement which are reviewed at least annually and approved by the Enterprise Risk Committee and the Board.

Our Risk Framework is the foundation for consistent and effective management of risks facing the Corporation. The Risk Framework sets forth clear roles, responsibilities and accountability for the management of risk and provides a blueprint for how the Board, through delegation of authority to committees and executive officers, establishes risk appetite and associated limits for our activities.

Our Risk Appetite Statement is intended to ensure that the Corporation maintains an acceptable risk profile by providing a common framework and a comparable set of measures for senior management and the Board to clearly indicate the level of risk the

Corporation is willing to accept. Risk appetite is set at least annually and is aligned with the Corporation’s strategic, capital and financial operating plans. Our line of business strategies and risk appetite are also similarly aligned.

For more information on our Risk Framework, our risk management activities and the key types of risk faced by the Corporation, see the Managing Risk through Reputational Risk sections in the MD&A of the Corporation’s 2017 Annual Report on Form 10-K.

#### Capital Management

The Corporation manages its capital position so that its capital is more than adequate to support its business activities and to ensure capital, risk and risk appetite are aligned. Additionally, we seek to maintain safety and soundness at all times, even under adverse scenarios, take advantage of organic growth opportunities, meet obligations to creditors and counterparties, maintain ready access to financial markets, continue to serve as a credit intermediary, remain a source of strength for our subsidiaries, and satisfy current and future regulatory capital requirements. Capital management is integrated into our risk and governance processes, as capital is a key consideration in the development of our strategic plan, risk appetite and risk limits.

We periodically review capital allocated to our businesses and allocate capital annually during the strategic and capital planning processes. For additional information, see Business Segment Operations on page 11.

#### CCAR and Capital Planning

The Federal Reserve requires BHCs to submit a capital plan and requests for capital actions on an annual basis, consistent with the rules governing the Comprehensive Capital Analysis and Review (CCAR) capital plan.

On June 28, 2018, following the Federal Reserve's non-objection to our 2018 CCAR capital plan, the Board authorized the repurchase of approximately \$20.6 billion in common stock from July 1, 2018 through June 30, 2019, which includes approximately \$600 million in repurchases to offset shares awarded under equity-based compensation plans during the same period.

The repurchase program, which covers both common stock and warrants, will be subject to various factors, including the Corporation's capital position, liquidity, financial performance and alternative uses of capital, stock trading price and general market conditions, and may be suspended at any time. The repurchases may be effected through open market purchases or privately negotiated transactions, including repurchase plans that satisfy the conditions of Rule 10b5-1 of the Securities Exchange Act of 1934, as amended. As a "well-capitalized" BHC, we may notify the Federal Reserve of our intention to make additional capital distributions not to exceed 0.25 percent of Tier 1 capital, and which were not contemplated in our capital plan, subject to the Federal Reserve's non-objection.

#### Regulatory Capital

As a financial services holding company, we are subject to regulatory capital rules issued by U.S. banking regulators including Basel 3. The Corporation and its primary affiliated banking entity, BANA, are Basel 3 Advanced approaches institutions and are required to report regulatory risk-based capital ratios and risk-weighted assets under both the Standardized and Advanced approaches. The approach that yields the lower ratio is used to assess capital adequacy including under the Prompt Corrective Action (PCA) framework. As of September 30, 2018, Common equity tier 1 (CET1) and Tier 1 capital ratios for the Corporation

were lower under the Standardized approach whereas Advanced approaches yielded a lower Total capital ratio. For more information on Basel 3, see Capital Management in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

#### Minimum Capital Requirements

Minimum capital requirements and related buffers are being phased in from January 1, 2014 through January 1, 2019. The PCA framework establishes categories of capitalization including well capitalized, based on the Basel 3 regulatory ratio requirements. U.S. banking regulators are required to take certain mandatory actions depending on the category of capitalization, with no mandatory actions required for well-capitalized banking organizations.

We are subject to a capital conservation buffer, a countercyclical capital buffer and a global systemically important bank (G-SIB) surcharge that are being phased in over a three-year period ending January 1, 2019. Once fully phased-in, the Corporation's risk-based capital ratio requirements will include a capital conservation buffer greater than 2.5 percent, plus any applicable countercyclical capital buffer and a G-SIB surcharge in order to avoid restrictions on capital distributions and discretionary bonus payments. The buffers and surcharge must be comprised solely of CET1 capital. Under the phase-in provisions, we are

required to maintain a capital conservation buffer greater than 1.875 percent plus a G-SIB surcharge of 1.875 percent in 2018. The countercyclical capital buffer is currently set at zero. We estimate that our fully phased-in G-SIB surcharge will be 2.5 percent. The G-SIB surcharge may differ from this estimate over time.

Effective January 1, 2018, the Corporation is required to maintain a minimum supplementary leverage ratio (SLR) of 3.0 percent plus a leverage buffer of 2.0 percent in order to avoid certain restrictions on capital distributions and discretionary bonus payments. Our insured depository institution subsidiaries are required to maintain a minimum 6.0 percent SLR to be considered well capitalized under the PCA framework. For more information on the Corporation's capital ratios and regulatory requirements, see Table 9.

#### Capital Composition and Ratios

Table 9 presents Bank of America Corporation's capital ratios and related information in accordance with Basel 3 Standardized and Advanced approaches as measured at September 30, 2018 and December 31, 2017. As of the periods presented, the Corporation met the definition of well capitalized under current regulatory requirements.

#### Bank of America

Table 9 Corporation Regulatory  
Capital under Basel 3 <sup>(1)</sup>

	Standardized Approach	Advanced Approaches	Current Regulatory Minimum (2)	2019 Regulatory Minimum (3)
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(Dollars  
in  
millions,  
except  
as  
noted)

Risk-based capital metrics: Common equity tier 1 capital	\$ 164,386	\$ 164,386		
	186,189	186,189		

Tier 1 capital						
Total capital	218,159	209,950				
(4)						
Risk-weighted assets	1,439	1,424				
(in billions)						
Common equity tier 1 capital ratio	11.4	% 11.5	% 8.25	% 9.5	%	
Tier 1 capital ratio	12.9	13.1	9.75	11.0		
Total capital ratio	15.2	14.7	11.75	13.0		

Leverage-based metrics:

Adjusted quarterly average assets	\$2,240	\$2,240			
(in billions)					
(5)					
Tier 1 leverage ratio	8.3	% 8.3	% 4.0	4.0	

SLR leverage exposure		\$2,788		
(in billions)				
SLR		6.7	% 5.0	5.0

December 31, 2017

Risk-based capital metrics:				
Common equity tier 1 capital	\$ 168,461	\$ 168,461		
Tier 1 capital	190,189	190,189		



Total capital (4)	224,209	215,311				
Risk-weighted assets (in billions)	1,443	1,459				
Common equity tier 1 capital ratio	11.7	% 11.5	% 7.25	% 9.5	%	
Tier 1 capital ratio	13.2	13.0	8.75	11.0		
Total capital ratio	15.5	14.8	10.75	13.0		
Leverage-based metrics: Adjusted quarterly average assets (in billions) (5)	\$2,223	\$2,223				
Tier 1 leverage ratio	8.6	% 8.6	% 4.0	4.0		

(1) Basel 3 transition provisions for regulatory capital adjustments and deductions were fully phased-in as of January 1, 2018. Prior periods are presented on a fully phased-in basis.

(2) The September 30, 2018 and December 31, 2017 amounts include a transition capital conservation buffer of 1.875 percent and 1.25 percent and a transition G-SIB surcharge of 1.875 percent and 1.5 percent. The countercyclical capital buffer for both periods is zero.

(3) The 2019 regulatory minimums include a capital conservation buffer of 2.5 percent and G-SIB surcharge of 2.5 percent. The countercyclical capital buffer is zero. We will be subject to regulatory minimums on January 1, 2019.

(4) The SLR minimum includes a leverage buffer of 2.0 percent and was applicable beginning on January 1, 2018.

(4) Total capital under the Advanced approaches differs from the Standardized approach due to differences in the amount permitted in Tier 2 capital related to the qualifying allowance for credit losses.

(5) Reflects adjusted average total assets for the three months ended September 30, 2018 and December 31, 2017.

CET1 capital was \$164.4 billion at September 30, 2018, a decrease of \$4.1 billion from December 31, 2017, driven by common stock repurchases, market value declines in available-for-sale (AFS) debt securities included in accumulated other comprehensive income (OCI) and dividends, partially offset by earnings. During the nine months ended September 30, 2018, Total capital under the Advanced approaches decreased \$5.4

billion driven by the same factors as CET1 capital and a decrease in subordinated debt included in Tier 2 capital. Standardized risk-weighted assets, which yielded the lower CET1 capital ratio for September 30, 2018, remained relatively unchanged from December 31, 2017.

Table 10 shows the capital composition at September 30, 2018 and December 31, 2017.

Table 10 Capital Composition under Basel 3 <sup>(1)</sup>

(Dollars in millions)	September 30 2018	December 31 2017
Total common shareholders' equity	\$ 239,832	\$ 244,823
Goodwill, net of related deferred tax liabilities	(68,574 )	(68,576 )
Deferred tax assets arising from net operating loss and tax credit carryforwards	(6,166 )	(6,555 )
Intangibles, other than mortgage servicing rights and goodwill, net of related deferred tax liabilities	(1,407 )	(1,743 )
Other	701	512
Common equity tier 1 capital	164,386	168,461
Qualifying preferred stock, net of issuance cost	22,326	22,323
Other	(523 )	(595 )
Tier 1 capital	186,189	190,189
Tier 2 capital instruments	21,444	22,938
Eligible credit reserves included in Tier 2 capital	2,317	2,272
Other	—	(88 )
Total capital under the Advanced approaches	\$ 209,950	\$ 215,311

<sup>(1)</sup> Basel 3 transition provisions for regulatory capital adjustments and deductions were fully phased-in as of January 1, 2018. Prior periods are presented on a fully phased-in basis.

Table 11 shows the components of risk-weighted assets as measured under Basel 3 at September 30, 2018 and December 31, 2017.

Table 11 Risk-weighted Assets under Basel 3 <sup>(1)</sup>

(Dollars in billions)	Standard Approach	Advanced Approaches	Standard Approach	Advanced Approaches
	September 30, 2018		December 31, 2017	
Credit risk	\$1,387	\$ 840	\$1,384	\$ 867
Market risk	52	51	59	58
Operational risk	n/a	500	n/a	500
Risks related to credit valuation adjustments	n/a	33	n/a	34
Total risk-weighted assets	\$1,439	\$ 1,424	\$1,443	\$ 1,459

<sup>(1)</sup> Basel 3 transition provisions for regulatory capital adjustments and deductions were fully phased-in as of January 1, 2018. Prior periods are presented on a fully phased-in basis.

n/a = not applicable

## Bank of America, N.A. Regulatory Capital

Table 12 presents regulatory capital information for BANA in accordance with Basel 3 Standardized and Advanced approaches as measured at September 30, 2018 and December 31, 2017. BANA met the definition of well capitalized under the PCA framework for both periods.

Table 12 Bank of America, N.A. Regulatory Capital under Basel 3

	Standardized Approach		Advanced Approaches		Minimum Required <sup>(1)</sup>	
	Ratio	Amount	Ratio	Amount		
(Dollars in millions)	September 30, 2018					
Common equity tier 1 capital	12.2%	\$ 146,659	14.8%	\$ 146,659	6.5	%
Tier 1 capital	12.2	146,659	14.8	146,659	8.0	
Total capital	13.2	158,657	15.3	150,754	10.0	
Tier 1 leverage	8.6	146,659	8.6	146,659	5.0	
SLR			7.0	146,659	6.0	
	December 31, 2017					
Common equity tier 1 capital	12.5%	\$ 150,552	14.9%	\$ 150,552	6.5	%
Tier 1 capital	12.5	150,552	14.9	150,552	8.0	
Total capital	13.6	163,243	15.4	154,675	10.0	
Tier 1 leverage	9.0	150,552	9.0	150,552	5.0	

<sup>(1)</sup> Percent required to meet guidelines to be considered well capitalized under the PCA framework.

## Regulatory Developments

The following supplements the disclosure in Capital Management – Regulatory Developments in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

### Minimum Total Loss-Absorbing Capacity

The Federal Reserve's final rule, which is effective January 1, 2019, includes minimum external total loss-absorbing capacity (TLAC) and long-term debt requirements to improve the resolvability and resiliency of large, interconnected BHCs. As of September 30, 2018, the Corporation's TLAC and long-term debt exceeded our estimated 2019 minimum requirements.

### Stress Buffer Requirements

On April 10, 2018, the Federal Reserve announced a proposal to integrate the annual quantitative assessment of the CCAR program with the buffer requirements in the Basel 3 capital rule by introducing stress buffer requirements as a replacement of the CCAR quantitative objection. Under the Standardized approach, the proposal replaces the existing static 2.5 percent capital conservation buffer with a stress capital buffer, calculated as the decrease in the CET1 capital ratio in the supervisory severely adverse scenario of the modified CCAR stress test plus four quarters of planned common stock dividend payments, floored at 2.5 percent. The static 2.5 percent capital conservation buffer would be retained under the Advanced approaches. The proposal also introduces a stress leverage buffer requirement which would be calculated as the decrease in the Tier 1 leverage ratio in the supervisory severely adverse scenario of the modified CCAR stress test plus four quarters of planned common stock dividends, with no floor. The SLR would not incorporate a stress buffer requirement. The proposal also updates the capital distribution assumptions used in the CCAR stress test to better align with a firm's expected actions in stress, notably removing the assumption that a BHC will carry out all of its planned capital actions under stress.

### Enhanced Supplementary Leverage Ratio and TLAC Requirements

On April 11, 2018, the Federal Reserve and OCC announced a proposal to modify the enhanced SLR standards applicable to U.S. G-SIBs and their insured depository institution subsidiaries. The proposal replaces the existing 2.0 percent leverage buffer with a leverage buffer tailored to each G-SIB, set at 50 percent of the applicable G-SIB surcharge. This proposal also replaces the current 6.0 percent threshold at which a G-SIB's insured depository institution subsidiaries are considered well capitalized under the PCA framework with a threshold set at 3.0 percent plus 50 percent of the G-SIB surcharge applicable to the subsidiary's G-SIB holding company. Correspondingly, the proposal updates the external TLAC leverage buffer for each G-SIB to 50 percent of the applicable G-SIB surcharge and revises the leverage component of the minimum external long-term debt requirement from 4.5 percent to 2.5 percent plus 50 percent of the applicable G-SIB surcharge.

### Revisions to Basel 3 to Address Current Expected Credit Loss Accounting

On April 13, 2018, the U.S. banking regulators announced a proposal to address the regulatory capital impact of using the current expected credit loss methodology to measure credit reserves under a new accounting standard which is effective on January 1, 2020. For more information on this standard, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements. The proposal provides an

option to phase-in the impact to regulatory capital over a three-year period on a straight-line basis. It also updates the existing regulatory capital framework by creating a new defined term, allowance for credit losses, which would include credit losses on all financial instruments measured at amortized cost with the exception of purchased credit-impaired assets. The proposal continues to allow a limited amount of credit losses to be recognized in Tier 2 capital and maintains the existing limits under the Standardized and Advanced approaches.

### Single-Counterparty Credit Limits

On June 14, 2018, the Federal Reserve published a final rule establishing single-counterparty credit limits (SCCL) for BHCs with total consolidated assets of \$250 billion or more. The SCCL rule is designed to ensure that the maximum possible loss that a BHC could incur due to the default of a single counterparty or a group of connected counterparties would not endanger the BHC's survival, thereby reducing the probability of future financial crises. Beginning January 1, 2020, G-SIBs must calculate SCCL on a daily basis by dividing the aggregate net credit exposure to a given counterparty by the G-SIB's Tier 1 capital, ensuring that exposures to other G-SIBs and nonbank financial institutions regulated by the Federal Reserve do not breach 15 percent of Tier 1 capital and exposures to most other counterparties

do not breach 25 percent of Tier 1 capital. Certain exposures, including exposures to the U.S. government, U.S. government-sponsored entities and qualifying central counterparties, are exempt from the credit limits.

#### Broker-dealer Regulatory Capital and Securities Regulation

The Corporation's principal U.S. broker-dealer subsidiaries are Merrill Lynch, Pierce, Fenner & Smith Incorporated (MLPF&S) and Merrill Lynch Professional Clearing Corp (MLPCC). MLPCC is a fully-guaranteed subsidiary of MLPF&S and provides clearing and settlement services. Both entities are subject to the net capital requirements of Securities and Exchange Commission (SEC) Rule 15c3-1. Both entities are also registered as futures commission merchants and are subject to the Commodity Futures Trading Commission Regulation 1.17.

MLPF&S has elected to compute the minimum capital requirement in accordance with the Alternative Net Capital Requirement as permitted by SEC Rule 15c3-1. At September 30, 2018, MLPF&S's regulatory net capital as defined by Rule 15c3-1 was \$14.1 billion and exceeded the minimum requirement of \$1.9 billion by \$12.2 billion. MLPCC's net capital of \$4.6 billion exceeded the minimum requirement of \$614 million by \$4.0 billion.

In accordance with the Alternative Net Capital Requirements, MLPF&S is required to maintain tentative net capital in excess of \$1.0 billion, net capital in excess of \$500 million and notify the SEC in the event its tentative net capital is less than \$5.0 billion. At September 30, 2018, MLPF&S had tentative net capital and net capital in excess of the minimum and notification requirements.

The current business of MLPF&S is expected to be reorganized into two affiliated broker-dealers: MLPF&S and a newly formed broker-dealer. Under the contemplated reorganization, which is expected to occur during 2019, the newly formed broker-dealer would become the legal entity for the institutional services that are now provided by MLPF&S. MLPF&S' retail services would remain within MLPF&S. The contemplated reorganization is subject to regulatory approval.

Merrill Lynch International (MLI), a U.K. investment firm, is regulated by the Prudential Regulation Authority and the Financial Conduct Authority, and is subject to certain regulatory capital requirements. At September 30, 2018, MLI's capital resources were \$34.7 billion, which exceeded the minimum Pillar 1 requirement of \$13.9 billion.

#### Liquidity Risk

##### Funding and Liquidity Risk Management

Our primary liquidity risk management objective is to meet expected or unexpected cash flow and collateral needs while continuing to support our businesses and customers under a range of economic conditions. To achieve that objective, we analyze and monitor our liquidity risk under expected and stressed conditions, maintain liquidity and access to diverse funding sources, including our stable deposit base, and seek to align liquidity-related incentives and risks.

We define liquidity as readily available assets, limited to cash and high-quality, liquid, unencumbered securities that we can use to meet our contractual and contingent financial obligations as those obligations arise. We manage our liquidity position through line of business and ALM activities, as well as through our legal entity funding strategy, on both a forward and current (including intraday) basis under both expected and stressed conditions. We believe that a centralized approach to funding and liquidity management enhances our ability to monitor liquidity requirements, maximizes access to funding sources, minimizes borrowing costs and facilitates timely responses to liquidity events. For more information regarding global funding and liquidity risk management, as well as our liquidity sources, liquidity arrangements, contingency planning and credit ratings discussed below, see Liquidity Risk in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

##### NB Holdings Corporation

We have intercompany arrangements with certain key subsidiaries under which we transferred certain assets of Bank of America Corporation, as the parent company, which is a separate and distinct legal entity from our banking and nonbank subsidiaries, and agreed to transfer certain additional parent company assets not needed to satisfy anticipated near-term expenditures, to NB Holdings Corporation, a wholly-owned holding company subsidiary (NB Holdings). The parent company is expected to continue to have access to the same flow of dividends, interest and other amounts of cash necessary to service its debt, pay dividends and perform other obligations as it would have had if it had not entered into these arrangements and transferred any assets. These arrangements support our preferred single point of entry resolution strategy, under which only the parent company would be resolved under the U.S. Bankruptcy Code.

##### Global Liquidity Sources and Other Unencumbered Assets

Table 13 shows average global liquidity sources (GLS) for the three months ended September 30, 2018 and December 31, 2017.

Table 13 Average Global  
Liquidity Sources

(Dollars in billions)	Three Months Ended	
	September 30, 2018	December 31, 2017
Parent company and NB Holdings	\$ 80	\$ 79
Bank subsidiaries	410	394
Other regulated entities	47	49
Total	\$ 537	\$ 522
Average		

Global  
Liquidity  
Sources

We maintain liquidity available to the Corporation, including the parent company and selected subsidiaries, in the form of cash and high-quality, liquid, unencumbered securities. Typically, parent company and NB Holdings liquidity is in the form of cash deposited with BANA.

Our bank subsidiaries' liquidity is primarily driven by deposit and lending activity, as well as securities valuation and net debt activity. Liquidity at bank subsidiaries excludes the cash deposited by the parent company and NB Holdings. Our bank subsidiaries can also generate incremental liquidity by pledging a range of unencumbered loans and securities to certain Federal Home Loan Banks (FHLBs) and the Federal Reserve Discount Window. The cash we could have obtained by borrowing against this pool of specifically-identified eligible assets was \$325 billion and \$308 billion at September 30, 2018 and December 31, 2017. We have established operational procedures to enable us to borrow against these assets, including regularly monitoring our total pool of eligible loans and securities collateral. Eligibility is defined in guidelines from the FHLBs and the Federal Reserve and is subject to change at their discretion. Due to regulatory restrictions, liquidity generated by the bank subsidiaries can generally be used only to fund obligations within the bank subsidiaries, and transfers to the parent company or nonbank subsidiaries may be subject to prior regulatory approval.

Liquidity held in other regulated entities, comprised primarily of broker-dealer subsidiaries, is primarily available to meet the obligations of that entity and transfers to the parent company or to any other subsidiary may be subject to prior regulatory approval due to regulatory restrictions and minimum requirements. Our other regulated entities also hold unencumbered investment-grade securities and equities that we believe could be used to generate additional liquidity.

Table 14 presents the composition of average GLS for the three months ended September 30, 2018 and December 31, 2017.

Average Global  
Table 14 Liquidity Sources  
Composition

	Three Months Ended	
	September 30, 2018	December 31, 2017
(Dollars in billions)		
Cash on deposit	\$ 130	\$ 118
U.S. Treasury securities	64	62
U.S. agency securities and mortgage-backed securities	334	330
Non-U.S. government securities	12	
Total	\$ 537	\$ 522

Average  
Global

## Liquidity

### Sources

Our GLS are substantially the same in composition to what qualifies as High Quality Liquid Assets (HQLA) under the final U.S. Liquidity Coverage Ratio (LCR) rules. However, HQLA for purposes of calculating LCR is not reported at market value, but at a lower value that incorporates regulatory deductions and the exclusion of excess liquidity held at certain subsidiaries. The LCR is calculated as the amount of a financial institution's unencumbered HQLA relative to the estimated net cash outflows the institution could encounter over a 30-day period of significant liquidity stress, expressed as a percentage. Our average consolidated HQLA, on a net basis, was \$440 billion and \$439 billion for the three months ended September 30, 2018 and December 31, 2017. For the same periods, the average consolidated LCR was 120 percent and 125 percent. Our LCR will fluctuate due to normal business flows from customer activity.



### Liquidity Stress Analysis

We utilize liquidity stress analysis to assist us in determining the appropriate amounts of liquidity to maintain at the parent company and our subsidiaries to meet contractual and contingent cash outflows under a range of scenarios. For more information on our liquidity stress analysis, see Liquidity Risk – Liquidity Stress Analysis and Time-to-required Funding in the MD&A of the Corporation’s 2017 Annual Report on Form 10-K.

### Diversified Funding Sources

We fund our assets primarily with a mix of deposits, and secured and unsecured liabilities through a centralized, globally coordinated funding approach diversified across products, programs, markets, currencies and investor groups. We fund a substantial portion of our lending activities through our deposits, which were \$1.35 trillion and \$1.31 trillion at September 30, 2018 and December 31, 2017.

Our trading activities in other regulated entities are primarily funded on a secured basis through securities lending and repurchase agreements, and these amounts will vary based on customer activity and market conditions.

During the nine months ended September 30, 2018, we issued \$60.9 billion of long-term debt consisting of \$30.2 billion for Bank of America Corporation, substantially all of which was TLAC compliant, \$18.6 billion for Bank of America, N.A. and \$12.1 billion of other debt.

Table 15 presents the carrying value of aggregate annual contractual maturities of long-term debt at September 30, 2018. During the nine months ended September 30, 2018, we had total long-term debt contractual and non-contractual maturities of \$43.9 billion consisting of \$27.2 billion for Bank of America Corporation, \$6.5 billion for Bank of America, N.A. and \$10.2 billion of other debt.

Table 15 Long-term Debt by Maturity

(Dollars in millions)	Remainder of 2018	2019	2020	2021	2022	Thereafter	Total
Bank of America Corporation							
Senior notes	\$ 1,127	\$14,888	\$10,340	\$15,836	\$14,933	\$88,562	\$145,686
Senior structured notes	150	1,401	866	495	1,946	9,005	13,863
Subordinated notes	—	1,516	—	354	387	19,848	22,105
Junior subordinated notes	—	—	—	—	—	740	740
Total Bank of America Corporation	1,277	17,805	11,206	16,685	17,266	118,155	182,394
Bank of America, N.A.							
Senior notes	2,209	—	1,740	—	—	20	3,969
Subordinated notes	—	1	—	—	—	1,576	1,577

Advances from Federal Home Loan Banks Securitizations and other Bank VIEs <sup>(1)</sup>	2,501	11,762	3,010	2	3	105	17,383
Other Bank VIEs <sup>(1)</sup>	1	178	78	—	10	61	328
Total Bank of America, N.A. Other debt	4,711	15,141	7,926	4,024	13	1,821	33,636
Structured liabilities	1,382	4,843	2,061	1,088	576	7,475	17,425
Nonbank VIEs <sup>(1)</sup>	6	41	—	—	—	598	645
Total other debt	1,388	4,884	2,061	1,088	576	8,073	18,070
Total long-term debt	\$ 7,376	\$ 37,830	\$ 21,193	\$ 21,797	\$ 17,855	\$ 128,049	\$ 234,100

<sup>(1)</sup> Represents the total long-term debt included in the liabilities of consolidated variable interest entities (VIEs) on the Consolidated Balance Sheet.

Table 16 presents our long-term debt by major currency at September 30, 2018 and December 31, 2017.

Table 16 Long-term Debt by Major Currency

(Dollars in millions)	September 30, 2018	December 31, 2017
U.S. dollar	\$ 184,299	\$ 175,623
Euro	34,802	35,481
British pound	5,480	7,016
Canadian dollar	3,044	1,966
Japanese yen	2,927	2,993
Australian dollar	2,341	3,046
Other	1,207	1,277
Total long-term debt	\$ 234,100	\$ 227,402

Total long-term debt increased \$6.7 billion during the nine months ended September 30, 2018 primarily due to issuances outpacing maturities and redemptions, including the redemption of trust preferred securities, partially offset by changes in the fair value of hedged debt. We may, from time to time, purchase outstanding debt instruments in various transactions, depending on market conditions, liquidity and other factors. In addition, our other regulated entities may make markets in our debt instruments

to provide liquidity for investors. For information on funding and liquidity risk management, see Liquidity Risk – Liquidity Stress Analysis above, and for more information regarding long-term debt funding, see Note 11 – Long-term Debt to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

We use derivative transactions to manage the duration, interest rate and currency risks of our borrowings, considering the characteristics of the assets they are funding. For more information on our ALM activities, see Interest Rate Risk Management for the Banking Book on page 49.

We may also issue unsecured debt in the form of structured notes for client purposes, certain of which qualify as TLAC eligible debt. During the nine months ended September 30, 2018, we issued \$5.1 billion of structured notes, which are debt obligations that pay investors returns linked to other debt or equity securities, indices, currencies or commodities. We typically hedge the returns we are obligated to pay on these liabilities with derivatives and/or investments in the underlying instruments, so that from a funding perspective, the cost is similar to our other unsecured long-term debt. We could be required to settle certain structured note obligations for cash or other securities prior to maturity under certain circumstances, which we consider for liquidity planning

purposes. We believe, however, that a portion of such borrowings will remain outstanding beyond the earliest put or redemption date.

Substantially all of our senior and subordinated debt obligations contain no provisions that could trigger a requirement for an early repayment, require additional collateral support, result in changes to terms, accelerate maturity or create additional financial obligations upon an adverse change in our credit ratings, financial ratios, earnings, cash flows or stock price.

#### Credit Ratings

Credit ratings and outlooks are opinions expressed by rating agencies on our creditworthiness and that of our obligations or securities, including long-term debt, short-term borrowings, preferred stock and other securities, including asset securitizations. Table 17 presents the Corporation's current long-term/short-term senior debt ratings and outlooks expressed by the rating agencies.

The ratings from Fitch Ratings have not changed from those disclosed in the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018.

The ratings from Standard & Poor's Global Ratings and Moody's Investors Service have not changed from those disclosed in the Corporation's 2017 Annual Report on Form 10-K.

For more information on the additional collateral and termination payments that could be required in connection with certain over-the-counter (OTC) derivative contracts and other trading agreements as a result of a credit rating downgrade, see Note 3 – Derivatives to the Consolidated Financial Statements herein and Item 1A. Risk Factors of the Corporation's 2017 Annual Report on Form 10-K.

Table 17 Senior Debt Ratings

	Moody's Investors Service			Standard & Poor's Global Ratings			Fitch Ratings		
	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook	Long-term	Short-term	Outlook
Bank of America Corporation	A3	P-2	Stable	A-	A-2	Stable	A+	F1	Stable
Bank of America, N.A.	Aa3	P-1	Stable	A+	A-1	Stable	AA-	F1+	Stable
Merrill Lynch, Pierce, Fenner & Smith Incorporated	NR	NR	NR	A+	A-1	Stable	AA-	F1+	Stable
Merrill Lynch International	NR	NR	NR	A+	A-1	Stable	A+	F1	Stable

NR = not rated

#### Credit Risk Management

For information on our credit risk management activities, see Consumer Portfolio Credit Risk Management below, Commercial Portfolio Credit Risk Management on page 37, Non-U.S. Portfolio on page 43, Provision for Credit Losses on page 44, Allowance for Credit Losses on page 44, and Note 5 – Outstanding Loans and Leases and Note 6 – Allowance for Credit Losses to the Consolidated Financial Statements.

#### Consumer Portfolio Credit Risk Management

Credit risk management for the consumer portfolio begins with initial underwriting and continues throughout a borrower's credit cycle. Statistical techniques in conjunction with experiential judgment are used in all aspects of

portfolio management including underwriting, product pricing, risk appetite, setting credit limits, and establishing operating processes and metrics to quantify and balance risks and returns. Statistical models are built using detailed behavioral information from external sources such as credit bureaus and/or internal historical experience and are a component of our consumer credit risk management process. These models are used in part to assist in making both new and ongoing credit decisions, as well as portfolio management strategies, including authorizations and line management, collection practices and strategies, and determination of the allowance for loan and lease losses and allocated capital for credit risk.

#### Consumer Credit Portfolio

Improvement in home prices continued during the three and nine months ended September 30, 2018 resulting in improved credit quality and lower credit losses in the home equity portfolio, partially offset by seasoning and loan growth in the U.S. credit card portfolio compared to the same periods in 2017.

Improved credit quality, continued loan balance run-off and sales primarily in the non-core consumer real estate portfolio,

partially offset by seasoning within the U.S. credit card portfolio, drove a \$403 million decrease in the consumer allowance for loan and lease losses during the nine months ended September 30, 2018 to \$5.0 billion at September 30, 2018. For additional information, see Allowance for Credit Losses on page 44.

For more information on our accounting policies regarding delinquencies, nonperforming status, charge-offs and troubled debt restructurings (TDRs) for the consumer portfolio, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

Table 18 presents our outstanding consumer loans and leases, consumer nonperforming loans and accruing consumer loans past due 90 days or more. Nonperforming loans do not include past due consumer credit card loans, other unsecured loans and in general, consumer loans not secured by real estate (bankruptcy loans are included) as these loans are typically charged off no later than the end of the month in which the loan becomes 180 days past due. Real estate-secured past due consumer loans that are insured by the Federal Housing Administration (FHA) or individually insured under long-term standby agreements with Fannie Mae and Freddie Mac (collectively, the fully-insured loan portfolio) are reported as accruing as opposed to nonperforming since the principal repayment is insured.

Fully-insured loans included in accruing past due 90 days or more are primarily from our repurchases of delinquent FHA loans pursuant to our servicing agreements with the Government National Mortgage Association (GNMA).

Additionally, nonperforming loans and accruing balances past due 90 days or more do not include the PCI loan portfolio or loans accounted for under the fair value option even though the customer may be contractually past due. For more information on PCI loans, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34 and Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements.

Table 18 Consumer Credit Quality

(Dollars in millions)	Outstandings		Nonperforming		Accruing Past Due 90 Days or More	
	September 30 2018	December 31 2017	September 30 2018	December 31 2017	September 30 2018	December 31 2017
Residential mortgage <sup>(1)</sup>	\$208,186	\$ 203,811	\$2,034	\$ 2,476	\$2,161	\$ 3,230
Home equity	51,235	57,744	2,226	2,644	—	—
U.S. credit card	94,829	96,285	n/a	n/a	872	900
Direct/Indirect consumer <sup>(2)</sup>	91,338	96,342	46	46	35	40
Other consumer <sup>(3)</sup>	203	166	—	—	—	—
Consumer loans excluding loans accounted for under the fair value option	\$445,791	\$ 454,348	\$4,306	\$ 5,166	\$3,068	\$ 4,170
Loans accounted for under the fair value option <sup>(4)</sup>	755	928				
Total consumer loans and leases	\$446,546	\$ 455,276				
Percentage of outstanding consumer loans and leases <sup>(5)</sup>	n/a	n/a	0.97	% 1.14	% 0.69	% 0.92
Percentage of outstanding consumer loans and leases, excluding PCI and fully-insured loan portfolios <sup>(5)</sup>	n/a	n/a	1.03	1.23	0.22	0.22

<sup>(1)</sup> Residential mortgage loans accruing past due 90 days or more are fully-insured loans. At September 30, 2018 and December 31, 2017, residential mortgage includes \$1.6 billion and \$2.2 billion of loans on which interest had been curtailed by the FHA, and therefore were no longer accruing interest, although principal was still insured, and \$579 million and \$1.0 billion of loans on which interest was still accruing.

<sup>(2)</sup> Outstandings include auto and specialty lending loans and leases of \$50.1 billion and \$52.4 billion, unsecured consumer lending loans of \$392 million and \$469 million, U.S. securities-based lending loans of \$37.4 billion and \$39.8 billion, non-U.S. consumer loans of \$2.7 billion and \$3.0 billion and other consumer loans of \$756 million and \$684 million at September 30, 2018 and December 31, 2017.

<sup>(3)</sup> Substantially all of other consumer at September 30, 2018 and December 31, 2017 is consumer overdrafts.

<sup>(4)</sup> Consumer loans accounted for under the fair value option include residential mortgage loans of \$407 million and \$567 million and home equity loans of \$348 million and \$361 million at September 30, 2018 and December 31, 2017. For more information on the fair value option, see Note 15 – Fair Value Option to the Consolidated Financial Statements.

<sup>(5)</sup> Excludes consumer loans accounted for under the fair value option. At September 30, 2018 and December 31, 2017, \$16 million and \$26 million of loans accounted for under the fair value option were past due 90 days or more and not accruing interest.

n/a = not applicable

Table 19 presents net charge-offs and related ratios for consumer loans and leases.

Consumer Net  
Table 19 Charge-offs and  
Related Ratios

Net Charge-offs <sup>(1)</sup>		Net Charge-off Ratios <sup>(1, 2)</sup>	
Three Months Ended	Nine Months Ended	Three Months Ended	Nine Months Ended

	Ended September 30		September 30		September 30		September 30	
(Dollars in millions)	2018	2017	2018	2017	2018	2017	2018	2017
Residential mortgage	\$12	\$(82)	\$13	\$(84)	0.02%	(0.16)%	0.01%	(0.06)%
Home equity	(20)	83	13	197	(0.15)	0.54	0.03	0.42
U.S. credit card	698	612	2,138	1,858	2.92	2.65	3.03	2.75
Non-U.S. credit card <sup>(3)</sup>	—	—	—	75	—	—	—	1.91
Direct/Indirect consumer	42	68	142	149	0.18	0.28	0.20	0.21
Other consumer	44	50	130	114	n/m	n/m	n/m	n/m
Total	\$776	\$731	\$2,436	\$2,309	0.69	0.65	0.73	0.69

(1) Net charge-offs exclude write-offs in the PCI loan portfolio. For more information, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34.

(2) Net charge-off ratios are calculated as annualized net charge-offs divided by average outstanding loans and leases excluding loans accounted for under the fair value option.

(3) Represents net charge-offs related to the non-U.S. credit card loan portfolio, which was sold during the second quarter of 2017.

n/m = not meaningful

Net charge-offs, as shown in Tables 19 and 20, exclude write-offs in the PCI loan portfolio of \$61 million and \$92 million in residential mortgage and \$34 million and \$74 million in home equity for the three and nine months ended September 30, 2018 compared to \$62 million and \$112 million in residential mortgage and \$11 million and \$49 million in home equity for the same periods in 2017. Net charge-off (recovery) ratios including the PCI write-offs were 0.14 percent and 0.07 percent for residential mortgage and 0.11 percent and 0.22 percent for home equity for the three and nine months ended September 30, 2018 compared to (0.04) percent and 0.02 percent for residential mortgage and 0.61 percent and 0.52 percent for home equity for the same periods in 2017. For additional information on PCI write-offs, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34.

Table 20 presents outstandings, nonperforming balances, net charge-offs, allowance for loan and lease losses and provision for loan and lease losses for the core and non-core portfolios within the consumer real estate portfolio. We categorize consumer real

estate loans as core and non-core based on loan and customer characteristics such as origination date, product type, loan-to-value (LTV), Fair Isaac Corporation (FICO) score and delinquency status consistent with our current consumer and mortgage servicing strategy. Generally, loans that were originated after January 1, 2010, qualified under government-sponsored enterprise underwriting guidelines, or otherwise met our underwriting guidelines in place in 2015 are characterized as core loans. All other loans are generally characterized as non-core loans and represent run-off portfolios. Core loans as reported in Table 20 include loans held in the Consumer Banking and GWIM segments, as well as loans held for ALM activities in All Other. For more information, see Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements.

As shown in Table 20, outstanding core consumer real estate loans increased \$9.0 billion during the nine months ended September 30, 2018 driven by an increase of \$12.7 billion in residential mortgage, partially offset by a \$3.6 billion decrease in home equity.

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During the three and nine months ended September 30, 2018, certain consumer real estate loans, primarily non-core, with carrying values of \$3.7 billion and \$4.9 billion were sold, resulting in gains of \$84 million and \$656 million recorded in other income in the Consolidated Statement of Income.

Table 20 Consumer Real Estate Portfolio <sup>(1)</sup>

	Outstandings		Nonperforming		Net Charge-offs <sup>(2)</sup>			
					Three Months Ended		Nine Months Ended	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
(Dollars in millions)								
Core portfolio								
Residential mortgage	\$189,290	\$176,618	\$1,011	\$1,087	\$—	\$(42)	\$13	\$(40)
Home equity	40,596	44,245	1,056	1,079	15	26	52	85
Total core portfolio	229,886	220,863	2,067	2,166	15	(16)	65	45
Non-core portfolio								
Residential mortgage	18,896	27,193	1,023	1,389	12	(40)	—	(44)
Home equity	10,639	13,499	1,170	1,565	(35)	57	(39)	112
Total non-core portfolio	29,535	40,692	2,193	2,954	(23)	17	(39)	68
Consumer real estate portfolio								
Residential mortgage	208,186	203,811	2,034	2,476	12	(82)	13	(84)
Home equity	51,235	57,744	2,226	2,644	(20)	83	13	197
Total consumer real estate portfolio	\$259,421	\$261,555	\$4,260	\$5,120	\$(8)	\$1	\$26	\$113
			Allowance for Loan and Lease Losses	Provision for Loan and Lease Losses				
			September 30, 2018	December 31, 2017	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2017		

Core portfolio						
Residential mortgage	\$211	\$ 218	\$(2 )	\$(49 )	\$7	\$(60 )
Home equity	264	367	(27 )	(10 )	(51 )	(19 )
Total core portfolio	475	585	(29 )	(59 )	(44 )	(79 )
Non-core portfolio						
Residential mortgage	289	483	22	(59 )	(103 )	(111 )
Home equity	394	652	(112 )	(86 )	(221 )	(255 )
Total non-core portfolio	683	1,135	(90 )	(145 )	(324 )	(366 )
Consumer real estate portfolio						
Residential mortgage	500	701	20	(108 )	(96 )	(171 )
Home equity	658	1,019	(139 )	(96 )	(272 )	(274 )
Total consumer real estate portfolio	\$1,158	\$ 1,720	\$(119)	\$(204)	\$(368)	\$(445)

Outstandings and nonperforming loans exclude loans accounted for under the fair value option. Consumer loans (1) accounted for under the fair value option included residential mortgage loans of \$407 million and \$567 million and home equity loans of \$348 million and \$361 million at September 30, 2018 and December 31, 2017. For more information, see Note 15 – Fair Value Option to the Consolidated Financial Statements.

(2) Net charge-offs exclude write-offs in the PCI loan portfolio. For more information, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34.

We believe that the presentation of information adjusted to exclude the impact of the PCI loan portfolio, the fully-insured loan portfolio and loans accounted for under the fair value option is more representative of the ongoing operations and credit quality of the business. As a result, in the following tables and discussions of the residential mortgage and home equity portfolios, we exclude loans accounted for under the fair value option and provide information that excludes the impact of the PCI loan portfolio and the fully-insured loan portfolio in certain credit quality statistics. We separately disclose information on the PCI loan portfolio on page 34.

#### Residential Mortgage

The residential mortgage portfolio made up the largest percentage of our consumer loan portfolio at 47 percent of consumer loans and leases at September 30, 2018. At September 30, 2018, 43 percent of the residential mortgage portfolio was in Consumer Banking and 36 percent was in GWIM. The remaining portion was

in All Other and was comprised of originated loans, purchased loans used in our overall ALM activities, delinquent FHA loans repurchased pursuant to our servicing agreements with GNMA as well as loans repurchased related to our representations and warranties.

Outstanding balances in the residential mortgage portfolio increased \$4.4 billion during the nine months ended September 30, 2018 as retention of new originations was partially offset by loan sales of \$5.7 billion and run-off.

At September 30, 2018 and December 31, 2017, the residential mortgage portfolio included \$20.8 billion and \$23.7 billion of outstanding fully-insured loans, of which \$14.7 billion and \$17.4 billion had FHA insurance with the remainder protected by long-term standby agreements. At September 30, 2018 and December 31, 2017, \$3.9 billion and \$5.2 billion of the FHA-insured loan population were repurchases of delinquent FHA loans pursuant to our servicing agreements with GNMA.

Table 21 presents certain residential mortgage key credit statistics on both a reported basis and excluding the PCI loan portfolio and the fully-insured loan portfolio. Additionally, in the “Reported Basis” columns in the following table, accruing balances past due and nonperforming loans do not include the

PCI loan portfolio, in accordance with our accounting policies, even though the customer may be contractually past due. As such, the following discussion presents the residential mortgage portfolio excluding the PCI loan portfolio and the fully-insured loan portfolio. For more information on the PCI loan portfolio, see page 34.

Table 21 Residential Mortgage – Key Credit Statistics

(Dollars in millions)	Reported Basis <sup>(1)</sup>		Excluding Purchased Credit-impaired and Fully-insured Loans <sup>(1)</sup>	
	September 30 2018	December 31 2017	September 30 2018	December 31 2017
	Outstandings	\$208,186	\$203,811	\$181,996
Accruing past due 30 days or more	4,533	5,987	1,350	1,521
Accruing past due 90 days or more	2,161	3,230	—	—
Nonperforming loans	2,034	2,476	2,034	2,476
Percent of portfolio				
Refreshed LTV greater than 90 but less than or equal to 100	2	% 3	% 2	% 2
Refreshed LTV greater than 100	1	2	1	1
Refreshed FICO below 620	4	6	2	3
2006 and 2007 vintages <sup>(2)</sup>	7	10	6	8

Net charge-off ratio <sup>(3)</sup>	Reported Basis				Excluding Purchased Credit-impaired and Fully-insured Loans			
	Three Months Ended September 30		Nine Months Ended September 30		Three Months Ended September 30		Nine Months Ended September 30	
	2018	2017	2018	2017	2018	2017	2018	2017
	0.02 %	(0.16) %	0.01 %	(0.06) %	0.03 %	(0.20) %	0.01 %	(0.07) %

(1) Outstandings, accruing past due, nonperforming loans and percentages of portfolio exclude loans accounted for under the fair value option.

(2) These vintages of loans accounted for \$616 million, or 30 percent, and \$825 million or 33 percent, of nonperforming residential mortgage loans at September 30, 2018 and December 31, 2017.

- (3) Net charge-off ratios are calculated as annualized net charge-offs divided by average outstanding loans excluding loans accounted for under the fair value option.

Nonperforming residential mortgage loans decreased \$442 million during the nine months ended September 30, 2018 driven by sales of \$377 million. Of the nonperforming residential mortgage loans at September 30, 2018, \$757 million, or 37 percent, were current on contractual payments. Loans accruing past due 30 days or more decreased \$171 million due to continued improvement in credit quality as well as loan sales in the non-core portfolio.

Net charge-offs increased \$94 million to \$12 million and \$97 million to \$13 million for the three and nine months ended September 30, 2018 compared to the same periods in 2017 primarily due to net recoveries related to loan sales in the three and nine months ended September 30, 2017.

Loans with a refreshed LTV greater than 100 percent represented one percent of the residential mortgage loan portfolio at both September 30, 2018 and December 31, 2017. Of the loans with a refreshed LTV greater than 100 percent, 99 percent were performing at September 30, 2018 compared to 98 percent at December 31, 2017. Loans with a refreshed LTV greater than 100 percent reflect loans where the outstanding carrying value of the loan is greater than the most recent valuation of the property securing the loan. The majority of these loans have a refreshed LTV greater than 100 percent due to home price deterioration since 2006, partially offset by subsequent appreciation.

Of the \$182.0 billion in total residential mortgage loans outstanding at September 30, 2018, as shown in Table 21, 30

percent were originated as interest-only loans. The outstanding balance of interest-only residential mortgage loans that have entered the amortization period was \$9.6 billion, or 17 percent, at September 30, 2018. Residential mortgage loans that have entered the amortization period generally have experienced a higher rate of early stage delinquencies and nonperforming status compared to the residential mortgage portfolio as a whole. At September 30, 2018, \$235 million, or two percent, of outstanding interest-only residential mortgages that had entered the amortization period were accruing past due 30 days or more compared to \$1.4 billion, or one percent, for the entire residential mortgage portfolio. In addition, at September 30, 2018, \$425 million, or four percent, of outstanding interest-only residential mortgage loans that had entered the amortization period were nonperforming, of which \$162 million were contractually current, compared to \$2.0 billion, or one percent, for the entire residential mortgage portfolio, of which \$757 million were contractually current. Loans that have yet to enter the amortization period in our interest-only residential mortgage portfolio are primarily well-collateralized loans to our wealth management clients and have an interest-only period of three to ten years. More than 90 percent of these loans that have yet to enter the amortization period will not be required to make a fully-amortizing payment until 2020 or later.

Table 22 presents outstandings, nonperforming loans and net charge-offs by certain state concentrations for the residential mortgage portfolio. The Los Angeles-Long Beach-Santa Ana Metropolitan Statistical Area (MSA) within California represented 16 percent of outstandings at both September 30, 2018 and December 31, 2017. In the New York area, the New York-Northern New Jersey-Long Island MSA made up 13 percent of outstandings at both September 30, 2018 and December 31, 2017.

Table 22 Residential Mortgage State Concentrations

	Outstandings <sup>(1)</sup>		Nonperforming <sup>(1)</sup>		Net Charge-offs <sup>(2)</sup>			
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	Three Months Ended September 30, 2018		Nine Months Ended September 30, 2017	
(Dollars in millions)					2018	2017	2018	2017
California	\$73,127	\$ 68,455	\$353	\$ 433	\$(1)	\$(59)	\$(18)	\$(84)
New York <sup>(3)</sup>	18,669	17,239	217	227	4	(1)	10	(2)
Florida <sup>(3)</sup>	11,235	10,880	249	280	(2)	(9)	(7)	(11)
Texas	7,658	7,237	115	126	—	1	3	2
New Jersey <sup>(3)</sup>	6,761	6,099	100	130	—	(1)	5	1
Other	64,546	62,159	1,000	1,280	11	(13)	20	10
Residential mortgage loans <sup>(4)</sup>	\$181,996	\$ 172,069	\$2,034	\$ 2,476	\$12	\$(82)	\$13	\$(84)
Fully-insured loan portfolio	20,849	23,741						
Purchased credit-impaired residential mortgage loan portfolio <sup>(5)</sup>	5,341	8,001						
Total residential mortgage loan portfolio	\$208,186	\$ 203,811						

(1) Outstandings and nonperforming loans exclude loans accounted for under the fair value option.

(2) Net charge-offs exclude \$61 million and \$92 million of write-offs in the residential mortgage PCI loan portfolio for the three and nine months ended September 30, 2018 compared to \$62 million and \$112 million for the same periods in 2017. For more information on PCI write-offs, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34.

(3) In these states, foreclosure requires a court order following a legal proceeding (judicial states).

- (4) Amounts exclude the PCI residential mortgage and fully-insured loan portfolios.
- (5) At September 30, 2018 and December 31, 2017, 49 percent and 47 percent of PCI residential mortgage loans were in California. There were no other significant single state concentrations.

#### Home Equity

At September 30, 2018, the home equity portfolio made up 11 percent of the consumer portfolio and is comprised of home equity lines of credit (HELOCs), home equity loans and reverse mortgages.

At September 30, 2018, our HELOC portfolio had an outstanding balance of \$45.9 billion, or 90 percent of the total home equity portfolio, compared to \$51.2 billion, or 89 percent, at December 31, 2017. HELOCs generally have an initial draw period of 10 years, and after the initial draw period ends, the loans generally convert to 15-year amortizing loans.

At September 30, 2018, our home equity loan portfolio had an outstanding balance of \$3.1 billion, or six percent of the total home equity portfolio, compared to \$4.4 billion, or seven percent, at December 31, 2017. Home equity loans are almost all fixed-rate loans with amortizing payment terms of 10 to 30 years, and of the \$3.1 billion at September 30, 2018, 60 percent have 25- to 30-year terms. At September 30, 2018, our reverse mortgage portfolio had an outstanding balance of \$2.2 billion, or four percent of the total home equity portfolio, compared to \$2.1 billion, or four percent, at December 31, 2017. We no longer originate reverse mortgages.

At September 30, 2018, 72 percent of the home equity portfolio was in Consumer Banking, 21 percent was in All Other and the remainder of the portfolio was primarily in GWIM. Outstanding balances in the home equity portfolio decreased \$6.5 billion during the nine months ended September 30, 2018 primarily due to paydowns and loan sales of \$859 million outpacing new originations and draws on existing lines. Of the total home equity portfolio at September 30, 2018 and December 31, 2017, \$17.6 billion and \$18.7 billion, or 34 percent and 32 percent, were in first-lien positions (36 percent and 34 percent excluding the PCI home equity portfolio). At September 30, 2018, outstanding balances in the home equity portfolio that were in a second-lien or more junior-lien position and where we also held the first-lien loan totaled \$8.2 billion, or 17 percent of our total home equity portfolio excluding the PCI loan portfolio.

Unused HELOCs totaled \$43.2 billion at September 30, 2018 compared to \$44.2 billion at December 31, 2017. The decrease was primarily due to accounts reaching the end of their draw period, which automatically eliminates open line exposure, and customers choosing to close accounts. Both of these more than offset the impact of new production. The HELOC utilization rate was 52 percent and 54 percent at September 30, 2018 and December 31, 2017.

Table 23 presents certain home equity portfolio key credit statistics on both a reported basis and excluding the PCI loan portfolio. Additionally, in the “Reported Basis” columns in the following table, accruing balances past due 30 days or more and nonperforming loans do not include the PCI loan portfolio, in accordance with our accounting policies, even though the customer may be contractually past due. As such, the following discussion presents the home equity portfolio excluding the PCI loan portfolio. For more information on the PCI loan portfolio, see page 34.

Table 23 Home Equity – Key Credit Statistics

(Dollars in millions)	Reported Basis <sup>(1)</sup>		Excluding Purchased Credit-impaired Loans <sup>(1)</sup>	
	September 30 2018	December 31 2017	September 30 2018	December 31 2017
Outstandings	\$51,235	\$ 57,744	\$49,424	\$ 55,028
Accruing past due 30 days or more <sup>(2)</sup>	404	502	404	502
Nonperforming loans <sup>(2)</sup>	2,226	2,644	2,226	2,644
Percent of portfolio				
Refreshed CLTV greater than 90 but less than or equal to 100	3	% 3	% 2	% 3
Refreshed CLTV greater than 100	4	5	3	4
Refreshed FICO below 620	6	6	6	6
2006 and 2007 vintages <sup>(3)</sup>	25	29	23	27

Net charge-off ratio <sup>(4)</sup>	Reported Basis		Excluding Purchased Credit-impaired Loans			
	Three Months Ended September 30 2018	Nine Months Ended September 30 2017	Three Months Ended September 30 2018	Three Months Ended September 30 2017	Nine Months Ended September 30 2018	Nine Months Ended September 30 2017
	(0.15)%	0.54%	0.03%	0.42%	(0.15)%	0.56%
			0.03%	0.44%		

(1) Outstandings, accruing past due, nonperforming loans and percentages of the portfolio exclude loans accounted for under the fair value option.

Accruing past due 30 days or more include \$54 million and \$67 million and nonperforming loans include \$270

(2) million and \$344 million of loans where we serviced the underlying first lien at September 30, 2018 and December 31, 2017.

(3) These vintages of loans have higher refreshed combined loan-to-value (CLTV) ratios and accounted for 51 percent and 52 percent of nonperforming home equity loans at September 30, 2018 and December 31, 2017, and \$12 million of net recoveries and \$25 million of net charge-offs for the three and nine months ended September 30, 2018, and \$67 million and \$170 million of net charge-offs for the same periods in 2017.



- (4) Net charge-off ratios are calculated as annualized net charge-offs divided by average outstanding loans excluding loans accounted for under the fair value option.

Nonperforming outstanding balances in the home equity portfolio decreased \$418 million during the nine months ended September 30, 2018 as outflows, including \$154 million of sales, outpaced new inflows. Of the nonperforming home equity portfolio at September 30, 2018, \$1.3 billion, or 56 percent, were current on contractual payments.

Nonperforming loans that are contractually current primarily consist of collateral-dependent TDRs, including those that have been discharged in Chapter 7 bankruptcy, junior-lien loans where the underlying first lien is 90 days or more past due, as well as loans that have not yet demonstrated a sustained period of payment performance following a TDR. In addition, \$583 million, or 26 percent, of nonperforming home equity loans were 180 days or more past due and had been written down to the estimated fair value of the collateral, less costs to sell. Accruing loans that were 30 days or more past due decreased \$98 million during the nine months ended September 30, 2018.

In some cases, the junior-lien home equity outstanding balance that we hold is performing, but the underlying first lien is not. For outstanding balances in the home equity portfolio on which we service the first-lien loan, we are able to track whether the first-lien loan is in default. For loans where the first lien is serviced by a third party, we utilize credit bureau data to estimate the delinquency status of the first lien. For certain loans, we utilize a third-party vendor to combine credit bureau and public record data to better link a junior-lien loan with the underlying first-lien loan. At September 30, 2018, we estimate that \$690 million of current and \$109 million of 30 to 89 days past due junior-lien loans were behind a delinquent first-lien loan. We service the first-lien loans on \$149 million of these combined amounts, with the remaining \$650 million serviced by third parties. Of the \$799 million of current to 89 days past due junior-lien loans, based on available credit bureau data and our own internal servicing data, we estimate

that approximately \$225 million had first-lien loans that were 90 days or more past due.

Net charge-offs decreased \$103 million to a \$20 million net recovery and \$184 million to a \$13 million net charge-off for the three and nine months ended September 30, 2018 compared to the same periods in 2017 driven by favorable portfolio trends due in part to improvement in home prices and the U.S. economy.

Outstanding balances with a refreshed CLTV greater than 100 percent comprised three percent and four percent of the home equity portfolio at September 30, 2018 and December 31, 2017. Outstanding balances with a refreshed CLTV greater than 100 percent reflect loans where our loan and available line of credit combined with any outstanding senior liens against the property are equal to or greater than the most recent valuation of the property securing the loan.

Depending on the value of the property, there may be collateral in excess of the first lien that is available to reduce the severity of loss on the second lien. Of those outstanding balances with a refreshed CLTV greater than 100 percent, 96 percent of the customers were current on their home equity loan and 91 percent of second-lien loans with a refreshed CLTV greater than 100 percent were current on both their second-lien and underlying first-lien loans at September 30, 2018.

Of the \$49.4 billion in total home equity portfolio outstandings at September 30, 2018, as shown in Table 24, 21 percent require interest-only payments. The outstanding balance of HELOCs that have reached the end of their draw period and have entered the amortization period was \$17.1 billion at September 30, 2018. The HELOCs that have entered the amortization period have experienced a higher percentage of early stage delinquencies and nonperforming status when compared to the HELOC portfolio as a whole. At September 30, 2018, \$302 million, or two percent, of outstanding HELOCs that had entered the amortization period were accruing past due 30 days or more. In addition, at September 30,

2018, \$1.9 billion, or 11 percent, of outstanding HELOCs that had entered the amortization period were nonperforming, of which \$1.1 billion were contractually current. We communicate to contractually current customers more than a year prior to the end of their draw period to inform them of the potential change to the payment structure before entering the amortization period, and provide payment options to customers prior to the end of the draw period. Although we do not actively track how many of our home equity customers pay only the minimum amount due on their home equity loans and lines, we can infer some of this information through a review of our HELOC portfolio that we service and that is still in its revolving period. During the three months ended September 30, 2018, 27 percent of these customers with an outstanding balance did not pay any principal on their HELOCs.

Table 24 presents outstandings, nonperforming balances and net charge-offs by certain state concentrations for the home equity

portfolio. In the New York area, the New York-Northern New Jersey-Long Island MSA made up 13 percent of the outstanding home equity portfolio at both September 30, 2018 and December 31, 2017. For the three and nine months ended September 30, 2018, loans within this MSA contributed \$9 million and \$25 million of net charge-offs within the home equity portfolio compared to \$24 million and \$52 million for the same periods in 2017. The Los Angeles-Long Beach-Santa Ana MSA within California made up 11 percent of the outstanding home equity portfolio at both September 30, 2018 and December 31, 2017. For the three and nine months ended September 30, 2018, loans within this MSA contributed net recoveries of \$7 million and \$18 million within the home equity portfolio compared to net recoveries of \$7 million and \$16 million for the same periods in 2017.

Table 24 Home Equity State Concentrations

	Outstandings <sup>(1)</sup>		Nonperforming <sup>(1)</sup>		Net Charge-offs <sup>(2)</sup>			
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
(Dollars in millions)					2018	2017	2018	2017
California	\$13,685	\$ 15,145	\$650	\$ 766	\$(20)	\$(9)	\$(41)	\$(24)
Florida <sup>(3)</sup>	5,592	6,308	366	411	(4)	13	9	34
New Jersey <sup>(3)</sup>	4,005	4,546	168	191	6	16	20	37
New York <sup>(3)</sup>	3,732	4,195	222	252	8	14	16	31
Massachusetts	2,471	2,751	76	92	(1)	5	2	7
Other	19,939	22,083	744	932	(9)	44	7	112
Home equity loans <sup>(4)</sup>	\$49,424	\$ 55,028	\$2,226	\$ 2,644	\$(20)	\$83	\$13	\$197
Purchased credit-impaired home equity portfolio <sup>(5)</sup>	1,811	2,716						
Total home equity	\$51,235	\$ 57,744						

equity  
loan  
portfolio

- (1) Outstandings and nonperforming loans exclude loans accounted for under the fair value option.

(2) Net charge-offs exclude \$34 million and \$74 million of write-offs in the home equity PCI loan portfolio for the three and nine months ended September 30, 2018 compared to \$11 million and \$49 million for the same periods in 2017. For more information on PCI write-offs, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio.

(3) In these states, foreclosure requires a court order following a legal proceeding (judicial states).

(4) Amount excludes the PCI home equity portfolio.

(5) At September 30, 2018 and December 31, 2017, 30 percent and 28 percent of PCI home equity loans were in California. There were no other significant single state concentrations.

## Purchased Credit-impaired Loan Portfolio

Loans acquired with evidence of credit quality deterioration since origination and for which it is probable at purchase that we will be unable to collect all contractually required payments are accounted for under the accounting standards for PCI loans. For more information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the

Corporation's 2017 Annual Report on Form 10-K and Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements herein.

Table 25 presents the unpaid principal balance, carrying value, related valuation allowance and the net carrying value as a percentage of the unpaid principal balance for the PCI loan portfolio.

Table 25 Purchased Credit-impaired Loan Portfolio

	Unpaid Principal Balance	Gross Carrying Value	Related Valuation Allowance	Carrying Value Net of Valuation Allowance	Percent of Unpaid Principal Balance
(Dollars in millions)					
	September 30, 2018				
Residential mortgage	\$5,454	\$5,341	\$ 51	\$ 5,290	96.99 %
(1)					
Home equity	1,872	1,811	99	1,712	91.45
Total purchased credit-impaired loan portfolio	\$7,326	\$7,152	\$ 150	\$ 7,002	95.58
	December 31, 2017				
Residential mortgage	\$8,117	\$8,001	\$ 117	\$ 7,884	97.13 %
(1)					
Home equity	2,787	2,716	172	2,544	91.28

Total  
 purchased  
 credit-impaired  
 loan  
 portfolio

\$10,004	\$10,717	\$ 289	\$ 10,428	95.63
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(1) At September 30, 2018 and December 31, 2017, pay option loans had an unpaid principal balance of \$974 million and \$1.4 billion and a carrying value of \$965 million and \$1.4 billion. This includes \$852 million and \$1.2 billion of loans that were credit-impaired upon acquisition and \$87 million and \$141 million of loans that were 90 days or more past due at September 30, 2018 and December 31, 2017. The total unpaid principal balance of pay option loans with accumulated negative amortization was \$90 million and \$160 million, including \$5 million and \$9 million of negative amortization at September 30, 2018 and December 31, 2017.

The total PCI unpaid principal balance decreased \$3.6 billion, or 33 percent, during the nine months ended September 30, 2018 primarily driven by loan sales with a carrying value of \$2.1 billion compared to sales of \$742 million for the same period in 2017.

Of the unpaid principal balance of \$7.3 billion at September 30, 2018, \$6.5 billion, or 89 percent, was current based on the contractual terms, \$464 million, or six percent, was in early stage delinquency, and \$252 million was 180 days or more past due, including \$210 million of first-lien mortgages and \$42 million of home equity loans.

The PCI residential mortgage loan and home equity portfolios represented 75 percent and 25 percent of the total PCI loan portfolio at September 30, 2018. Those loans to borrowers with a refreshed FICO score below 620 represented 22 percent and 16 percent of the PCI residential mortgage loan and home equity portfolios at September 30, 2018.

Residential mortgage and home equity loans with a refreshed LTV or CLTV greater than 90 percent, after consideration of purchase accounting adjustments and the related valuation allowance, represented 12 percent and 29 percent of their respective PCI loan portfolios and 13 percent and 32 percent based on the unpaid principal balance at September 30, 2018.

#### U.S. Credit Card

At September 30, 2018, 97 percent of the U.S. credit card portfolio was managed in Consumer Banking with the remainder in GWIM. Outstandings in the U.S. credit card portfolio decreased \$1.5 billion to \$94.8 billion during the nine months ended September 30, 2018 due to paydowns and a seasonal decline in purchase volume, as well as a portfolio transfer of approximately \$600 million to held for sale in the first quarter. Net charge-offs increased \$86 million to \$698 million and \$280 million to \$2.1 billion for the three and nine months ended September 30, 2018 compared to the same periods in 2017 due to portfolio seasoning and loan growth. U.S. credit card loans 30 days or more past due and still accruing interest decreased \$42 million during the nine months ended September 30, 2018 driven by a reduction in 2017 hurricane-related delinquencies, and loans 90 days or more past due and still accruing interest decreased \$28 million.

Unused lines of credit for U.S. credit card totaled \$337.9 billion and \$326.3 billion at September 30, 2018 and December 31, 2017. The increase was driven by a seasonal decrease in line utilization due to a decrease in transaction volume as well as account growth and lines of credit increases.

Table 26 presents certain state concentrations for the U.S. credit card portfolio.

Table 26 U.S. Credit Card State Concentrations

	Outstandings		Accruing Past Due 90 Days or More		Net Charge-offs			
					Three Months Ended		Nine Months Ended	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	September 30 2018	2017	September 30 2018	2017
(Dollars in millions)								
California	\$ 15,304	\$ 15,254	\$ 141	\$ 136	\$ 119	\$ 104	\$ 357	\$ 303
Florida	8,408	8,359	102	94	80	58	248	195
Texas	7,448	7,451	75	76	54	46	169	143
New York	5,886	5,977	74	91	66	59	208	155
Washington	1,329	4,350	20	20	15	13	47	41
Other	53,454	54,894	460	483	364	332	1,109	1,021
	\$94,829	\$ 96,285	\$ 872	\$ 900	\$ 698	\$ 612	\$ 2,138	\$ 1,858

Total  
U.S.  
credit  
card  
portfolio

Direct/Indirect Consumer

At September 30, 2018, 55 percent of the direct/indirect portfolio was included in Consumer Banking (consumer auto and specialty lending – automotive, marine, aircraft, recreational vehicle loans and consumer personal loans) and 45 percent was included in GWIM (principally securities-based lending loans).

Outstandings in the direct/indirect portfolio decreased \$5.0 billion to \$91.3 billion during the nine months ended September 30, 2018 primarily due to declines in securities-based lending due

to higher paydowns, and in our auto portfolio as paydowns outpaced originations. Net charge-offs decreased \$26 million to \$42 million and \$7 million to \$142 million for the three and nine months ended September 30, 2018 compared to the same periods in 2017 due largely to clarifying regulatory guidance related to bankruptcy and repossession issued during 2017.

Table 27 presents certain state concentrations for the direct/indirect consumer loan portfolio.

Table 27 Direct/Indirect State Concentrations

	Outstandings		Accruing Past Due 90 Days or More		Net Charge-offs			
					Three Months Ended		Nine Months Ended	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
(Dollars in millions)					2018	2017	2018	2017
California	\$ 11,868	\$ 12,897	\$ 3	\$ 3	\$ 5	\$ 7	\$ 16	\$ 14
Florida	10,242	11,184	4	5	9	15	28	31
Texas	9,951	10,676	6	5	6	13	22	29
New York	6,403	6,557	2	2	2	2	7	3
New Jersey	3,306	3,449	1	1	—	—	2	2
Other	49,568	51,579	19	24	20	31	67	70
Total direct/indirect loan portfolio	\$ 91,338	\$ 96,342	\$ 35	\$ 40	\$ 42	\$ 68	\$ 142	\$ 149

### Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity

Table 28 presents nonperforming consumer loans, leases and foreclosed properties activity for the three and nine months ended September 30, 2018 and 2017. For more information on nonperforming loans, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K and Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements herein. During the nine months ended September 30, 2018, nonperforming consumer loans declined \$860 million to \$4.3 billion primarily driven by loan sales of \$531 million.

At September 30, 2018, \$1.3 billion, or 31 percent, of nonperforming loans were 180 days or more past due and had been written down to their estimated property value less costs to sell. In addition, at September 30, 2018, \$2.1 billion, or 48 percent, of nonperforming consumer loans were modified and are now current after successful trial periods, or are current loans classified as nonperforming loans in accordance with applicable policies.

Foreclosed properties increased \$29 million to \$265 million during the nine months ended September 30, 2018 as additions

outpaced liquidations. PCI loans are excluded from nonperforming loans as these loans were written down to fair value at the acquisition date; however, once we acquire the underlying real estate upon foreclosure of the delinquent PCI loan, it is included in foreclosed properties. Certain delinquent government-guaranteed loans (principally FHA-insured loans) are excluded from our nonperforming loans and foreclosed properties activity as we expect we will be reimbursed once the property is conveyed to the guarantor for principal and, up to certain limits, costs incurred during the foreclosure process and interest accrued during the holding period.

We classify junior-lien home equity loans as nonperforming when the first-lien loan becomes 90 days past due even if the junior-lien loan is performing. At September 30, 2018 and December 31, 2017, \$225 million and \$330 million of such junior-lien home equity loans were included in nonperforming loans and leases.

Nonperforming loans also include certain loans that have been modified in TDRs where economic concessions have been granted to borrowers experiencing financial difficulties. Nonperforming TDRs, excluding those modified loans in the PCI loan portfolio, are included in Table 28.

Table 28 Leases and Foreclosed Properties Activity				
Nonperforming Consumer Loans,				
Table 28 Leases and Foreclosed Properties Activity				
	Three Months Ended September 30		Nine Months Ended September 30	
(Dollars in millions)	2018	2017	2018	2017
Nonperforming loans and leases, beginning of period	\$4,639	\$5,282	\$5,166	\$6,004
Additions	484	999	1,895	2,499
Reductions:				
Paydowns and payoffs	(238 )	(253 )	(744 )	(811 )
Sales	(145 )	(162 )	(531 )	(423 )

Returns to performing status <sup>(1)</sup>	(309 )	(347 )	(1,009 )	(1,101 )
Charge-off	89 )	(210 )	(350 )	(551 )
Transfers to foreclosed properties	(36 )	(57 )	(119 )	(167 )
Transfers to loans held-for-sale	—	—	(2 )	(198 )
Total net reductions to nonperforming loans and leases	(333 )	(30 )	(860 )	(752 )
Total nonperforming loans and leases, September 30	4,306	5,252	4,306	5,252
Foreclosed properties, September 30 <sup>(2)</sup>	265	259	265	259
Nonperforming consumer loans, leases and foreclosed properties, September 30	\$4,571	\$5,511	\$4,571	\$5,511
Nonperforming consumer loans and leases as a percentage of outstanding consumer loans and leases <sup>(3)</sup>	0.97 %	1.17 %		
Nonperforming consumer loans,	1.03	1.23		



leases  
and  
foreclosed  
properties  
as a  
percentage  
of  
outstanding  
consumer  
loans,  
leases  
and  
foreclosed  
properties  
(3)

- Consumer loans may be returned to performing status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected, or when the loan otherwise becomes well-secured and is in the process of collection.
- (1) of the remaining contractual principal and interest is expected, or when the loan otherwise becomes well-secured and is in the process of collection.
- (2) Foreclosed property balances do not include properties insured by certain government-guaranteed loans, principally FHA-insured, of \$500 million and \$879 million at September 30, 2018 and 2017.
- (3) Outstanding consumer loans and leases exclude loans accounted for under the fair value option.
- Table 29 presents TDRs for the consumer real estate portfolio. Performing TDR balances are excluded from nonperforming loans and leases in Table 28.

Table 29 Consumer Real Estate Troubled Debt Restructurings

(Dollars in millions)	September 30, 2018			December 31, 2017		
	Nonperforming	Performing	Total	Nonperforming	Performing	Total
Residential mortgage (1, 2)	\$ 1,295	\$ 5,703	\$ 6,998	\$ 1,535	\$ 8,163	\$ 9,698
Home equity (3)	1,308	1,369	2,677	1,457	1,399	2,856
Total consumer real estate troubled debt restructurings	\$ 2,603	\$ 7,072	\$ 9,675	\$ 2,992	\$ 9,562	\$ 12,554

- At September 30, 2018 and December 31, 2017, residential mortgage TDRs deemed collateral dependent totaled
- (1) \$1.7 billion and \$2.8 billion, and included \$1.0 billion and \$1.2 billion of loans classified as nonperforming and \$668 million and \$1.6 billion of loans classified as performing.
- (2) Residential mortgage performing TDRs included \$3.0 billion and \$3.7 billion of loans that were fully-insured at September 30, 2018 and December 31, 2017.
- Home equity TDRs deemed collateral dependent totaled \$1.5 billion and \$1.6 billion and included \$1.1 billion and
- (3) \$1.2 billion of loans classified as nonperforming at September 30, 2018 and December 31, 2017, and \$363 million and \$388 million of loans classified as performing.



In addition to modifying consumer real estate loans, we work with customers who are experiencing financial difficulty by modifying credit card and other consumer loans. Credit card and other consumer loan modifications generally involve a reduction in the customer's interest rate on the account and placing the customer on a fixed payment plan not exceeding 60 months, all of which are considered TDRs (the renegotiated TDR portfolio).

Modifications of credit card and other consumer loans are made through renegotiation programs utilizing direct customer contact, but may also utilize external renegotiation programs. The renegotiated TDR portfolio is excluded in large part from Table 28 as substantially all of the loans remain on accrual status until either charged off or paid in full. At September 30, 2018 and December 31, 2017, our renegotiated TDR portfolio was \$541 million and \$490 million, of which \$465 million and \$426 million were current or less than 30 days past due under the modified terms. The increase in the renegotiated TDR portfolio was primarily driven by new renegotiated enrollments outpacing the run off of existing portfolios. For more information on the renegotiated TDR portfolio, see Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements.

#### Commercial Portfolio Credit Risk Management

Commercial credit risk is evaluated and managed with the goal that concentrations of credit exposure continue to be aligned with our risk appetite. We review, measure and manage concentrations of credit exposure by industry, product, geography, customer relationship and loan size. We also review, measure and manage commercial real estate loans by geographic location and property type. In addition, within our non-U.S. portfolio, we evaluate exposures by region and by country. Tables 34, 37 and 41 summarize our concentrations. We also utilize syndications of exposure to third parties, loan sales, hedging and other risk mitigation techniques to manage the size and risk profile of the

commercial credit portfolio. For more information on our industry concentrations, see Commercial Portfolio Credit Risk Management – Industry Concentrations on page 41 and Table 37.

For more information on our accounting policies regarding nonperforming status, net charge-offs and delinquencies for the commercial portfolio, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

#### Commercial Credit Portfolio

During the nine months ended September 30, 2018, credit quality among large corporate borrowers was strong, and there was continued improvement in the energy portfolio. Credit quality of commercial real estate borrowers in most sectors remained stable with conservative LTV ratios, stable market rents and vacancy rates that remain low.

Total commercial utilized credit exposure decreased \$895 million during the nine months ended September 30, 2018 primarily driven by decreases in loans held-for-sale (LHFS) and debt securities and other investments, partially offset by an increase in derivative assets. The utilization rate for loans and leases, standby letters of credit (SBLCs) and financial guarantees, and commercial letters of credit, in the aggregate, was 59 percent at both September 30, 2018 and December 31, 2017.

Table 30 presents commercial credit exposure by type for utilized, unfunded and total binding committed credit exposure. Commercial utilized credit exposure includes SBLCs and financial guarantees and commercial letters of credit that have been issued and for which we are legally bound to advance funds under prescribed conditions during a specified time period, and excludes exposure related to trading account assets. Although funds have not yet been advanced, these exposure types are considered utilized for credit risk management purposes.

Table 30 Commercial Credit Exposure by Type

(Dollars in millions)	Commercial Utilized <sup>(1)</sup>		Commercial Unfunded <sup>(2, 3, 4)</sup>		Total Commercial Committed	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Loans and leases <sup>(5)</sup>	\$489,368	\$ 487,748	\$369,332	\$ 364,743	\$858,700	\$ 852,491

Derivative assets <sup>(6)</sup>	45,617	37,762	—	—	45,617	37,762
Standby letters of credit and financial guarantees	33,271	34,517	524	863	33,795	35,380
Debt securities and other investments	25,636	28,161	4,692	4,864	30,328	33,025
Loans held-for-sale	3,737	10,257	16,171	9,742	19,908	19,999
Commercial letters of credit	1,336	1,467	296	155	1,632	1,622
Other	940	888	—	—	940	888
Total	\$599,905	\$600,800	\$391,015	\$380,367	\$990,920	\$981,167

Commercial utilized exposure includes loans of \$5.0 billion and \$4.8 billion and issued letters of credit with a notional amount of \$55 million and \$232 million accounted for under the fair value option at September 30, 2018 and December 31, 2017.

(2) Commercial unfunded exposure includes commitments accounted for under the fair value option with a notional amount of \$3.1 billion and \$4.6 billion at September 30, 2018 and December 31, 2017.

(3) Excludes unused business card lines, which are not legally binding.

Includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were \$10.8 billion and \$11.0 billion at September 30, 2018 and December 31, 2017.

(5) Includes credit risk exposure associated with assets under operating lease arrangements of \$6.1 billion and \$6.3 billion at September 30, 2018 and December 31, 2017.

Derivative assets are carried at fair value, reflect the effects of legally enforceable master netting agreements and have been reduced by cash collateral of \$32.0 billion and \$34.6 billion at September 30, 2018 and December 31,

(6) 2017. Not reflected in utilized and committed exposure is additional non-cash derivative collateral held of \$35.7 billion and \$26.2 billion at September 30, 2018 and December 31, 2017, which consists primarily of other marketable securities.

Outstanding commercial loans and leases increased \$1.8 billion during the nine months ended September 30, 2018 primarily in the commercial real estate portfolio. The allowance for loan and lease losses for the commercial portfolio decreased \$256 million to \$4.8 billion at September 30, 2018. For more information, see Allowance for Credit Losses on page 44. Table 31 presents our commercial loans and leases portfolio and related credit quality information at September 30, 2018 and December 31, 2017.

Table 31 Commercial Credit Quality

(Dollars in millions)	Outstandings		Nonperforming		Accruing Past Due 90 Days or More	
	September 2018	December 31 2017	September 2018	December 31 2017	September 2018	December 31 2017
Commercial and industrial: U.S. commercial	\$285,662	\$ 284,836	\$ 699	\$ 814	\$ 114	\$ 144
Non-U.S. commercial	96,002	97,792	31	299	—	3
Total commercial and industrial	381,664	382,628	730	1,113	114	147
Commercial real estate <sup>(1)</sup>	60,835	58,298	46	112	1	4
Commercial lease financing	21,546	22,116	14	24	33	19
	464,045	463,042	790	1,249	148	170
U.S. small business commercial <sup>(2)</sup>	14,234	13,649	58	55	73	75
Commercial loans excluding loans accounted for under the fair value option	478,279	476,691	848	1,304	221	245
Loans accounted for under the fair value option <sup>(3)</sup>	4,976	4,782	—	43	—	—
Total commercial loans and leases <sup>(1)</sup>	\$483,255	\$ 481,473	\$ 848	\$ 1,347	\$ 221	\$ 245

Includes U.S. commercial real estate of \$56.9 billion and \$54.8 billion and non-U.S. commercial real estate of \$3.9 billion and \$3.5 billion at September 30, 2018 and December 31, 2017.

(2) Includes card-related products.

Commercial loans accounted for under the fair value option include U.S. commercial of \$3.6 billion and \$2.6

(3) billion and non-U.S. commercial of \$1.4 billion and \$2.2 billion at September 30, 2018 and December 31, 2017.

For more information on the fair value option, see Note 15 – Fair Value Option to the Consolidated Financial Statements.

Table 32 presents net charge-offs and related ratios for our commercial loans and leases for the three and nine months ended September 30, 2018 and 2017.

Table 32 Commercial Net Charge-offs and Related Ratios

	Net Charge-offs				Net Charge-off Ratios <sup>(1)</sup>			
	Three Months Ended September 30		Nine Months Ended September 30		Three Months Ended September 30		Nine Months Ended September 30	
(Dollars in millions)	2018	2017	2018	2017	2018	2017	2018	2017
Commercial and industrial:								
U.S. commercial	\$70	\$80	\$172	\$176	0.10%	0.11%	0.08%	0.09%
Non-U.S. commercial	25	33	48	94	0.10	0.14	0.07	0.14
Total commercial and industrial	95	113	220	270	0.10	0.12	0.08	0.10
Commercial real estate	2	2	3	3	0.02	0.02	0.01	0.01
Commercial lease financing	—	(1)	—	—	—	(0.02)	—	—
	97	114	223	273	0.08	0.10	0.06	0.08
U.S. small business commercial	59	55	180	160	1.67	1.61	1.72	1.60
Total commercial	\$156	\$169	\$403	\$433	0.13	0.14	0.11	0.13

(1) Net charge-off ratios are calculated as annualized net charge-offs divided by average outstanding loans and leases excluding loans accounted for under the fair value option.

Table 33 presents commercial reservable criticized utilized exposure by loan type. Criticized exposure corresponds to the Special Mention, Substandard and Doubtful asset categories as defined by regulatory authorities. Total commercial reservable criticized utilized exposure decreased \$2.0 billion, or 14 percent, during the nine months ended September 30, 2018 driven by broad-based improvements including the energy sector. At September 30, 2018 and December 31, 2017, 87 percent and 84 percent of commercial reservable criticized utilized exposure was secured.

Table 33 Commercial Reservable  
Criticized Utilized Exposure <sup>(1, 2)</sup>

(Dollars in millions)	September 30, 2018	December 31, 2017		
Commercial and industrial:				
U.S. commercial	\$8,631	2.75 %	\$9,891	3.15 %
Non-U.S. commercial	1,298	1.27	1,766	1.70
Total commercial and industrial	9,929	2.39	11,657	2.79
Commercial real estate	565	0.91	566	0.95
Commercial lease financing	373	1.73	581	2.63
	10,867	2.18	12,804	2.57
U.S. small business commercial	730	5.13	759	5.56
Total commercial reservable criticized utilized exposure (1)	\$11,597	2.26	\$13,563	2.65

Total commercial reservable criticized utilized exposure includes loans and leases of \$10.7 billion and \$12.5 billion and commercial letters of credit of \$866 million and \$1.1 billion at September 30, 2018 and December 31, 2017.

(2) Percentages are calculated as commercial reservable criticized utilized exposure divided by total commercial reservable utilized exposure for each exposure category.

Commercial and Industrial

Commercial and industrial loans include U.S. commercial and non-U.S. commercial portfolios.

U.S. Commercial

At September 30, 2018, 69 percent of the U.S. commercial loan portfolio, excluding small business, was managed in Global Banking, 16 percent in Global Markets, 12 percent in GWIM (generally business-purpose loans for high net worth clients) and the remainder primarily in Consumer Banking. U.S. commercial loans remained relatively unchanged during the nine months ended September 30, 2018. Reservable criticized utilized exposure decreased \$1.3 billion, or 13 percent, driven by broad-based improvements including the energy sector.

Non-U.S. Commercial

At September 30, 2018, 80 percent of the non-U.S. commercial loan portfolio was managed in Global Banking and 20 percent in Global Markets. Outstanding loans decreased \$1.8 billion during the nine months ended September 30, 2018 driven by paydowns primarily in Global Markets. Reservable criticized utilized exposure decreased \$468 million, or 27 percent, and nonperforming loans and leases decreased \$268 million, or 90 percent, due primarily to paydowns and sales. For additional information on the non-U.S. commercial portfolio, see Non-U.S. Portfolio on page 43.

Commercial Real Estate

Commercial real estate primarily includes commercial loans and leases secured by non-owner-occupied real estate and is

dependent on the sale or lease of the real estate as the primary source of repayment. The portfolio remains diversified across property types and geographic regions. California represented the largest state concentration at 23 percent of the commercial real estate loans and leases portfolio at both September 30, 2018 and December 31, 2017. The commercial real estate portfolio is predominantly managed in Global Banking and consists of loans made primarily to public and private developers, and commercial real estate firms. Outstanding loans increased \$2.5 billion, or four percent, during the nine months ended September 30, 2018 to \$60.8 billion due to new originations, including higher hold levels on syndicated loans, outpacing paydowns.

For the three and nine months ended September 30, 2018, we continued to see low default rates and solid credit quality in both the residential and non-residential portfolios. We use a number of proactive risk mitigation initiatives to reduce adversely rated exposure in the commercial real estate portfolio, including transfers of deteriorating exposures to management by independent special asset officers and the pursuit of loan restructurings or asset sales to achieve the best results for our customers and the Corporation.

Nonperforming commercial real estate loans and foreclosed properties decreased \$88 million, or 54 percent, during the nine months ended September 30, 2018 to \$76 million at September 30, 2018, primarily due to loan paydowns. Table 34 presents outstanding commercial real estate loans by geographic region, based on the geographic location of the collateral, and by property type.

Table 34 Outstanding Commercial Real Estate Loans

(Dollars in millions)	September 30 2018	December 31 2017
By Geographic Region		
California	\$ 14,227	\$ 13,607
Northeast	10,954	10,072
Southwest	7,374	6,970
Southeast	5,718	5,487
Midwest	3,916	3,769



Florida	3,559	3,170
Illinois	2,970	3,263
Midsouth	2,917	2,962
Northwest	2,290	2,657
Non-U.S.	3,937	3,538
Other <sup>(1)</sup>	2,973	2,803
Total outstanding commercial real estate loans	\$ 60,835	\$ 58,298
By Property Type		
Non-residential		
Office	\$ 17,680	\$ 16,718
Shopping centers /	8,752	8,825
Retail		
Multi-family rental	8,180	8,280
Hotels / Motels	6,944	6,344
Industrial /	5,364	6,070
Warehouse		
Unsecured	3,146	2,187
Multi-use	2,390	2,771
Land and land development	140	160
Other	6,642	5,485
Total non-residential	59,238	56,840
Residential	1,597	1,458
Total outstanding commercial real estate loans	\$ 60,835	\$ 58,298

(1) Includes unsecured loans to real estate investment trusts and national home builders whose portfolios of properties span multiple geographic regions and properties in the states of Colorado, Utah, Hawaii, Wyoming and Montana.

#### U.S. Small Business Commercial

The U.S. small business commercial loan portfolio is comprised of small business card loans and small business loans managed in Consumer Banking. Credit card-related products were 51 percent and 50 percent of the U.S. small business commercial portfolio at September 30, 2018 and December 31, 2017. Of the U.S. small business commercial net charge-offs, 95 percent and 94 percent were credit card-related products for the three and nine months ended September 30, 2018 compared to 92 percent and 90 percent for the same periods in 2017.



## Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity

Table 35 presents the nonperforming commercial loans, leases and foreclosed properties activity during the three and nine months ended September 30, 2018 and 2017. Nonperforming loans do not include loans accounted for under the fair value option. During the nine months ended September 30, 2018, nonperforming commercial loans and leases decreased \$456 million to \$848

million. At September 30, 2018, 96 percent of commercial nonperforming loans, leases and foreclosed properties were secured and 46 percent were contractually current. Commercial nonperforming loans were carried at 82 percent of their unpaid principal balance before consideration of the allowance for loan and lease losses as the carrying value of these loans has been reduced to the estimated collateral value less costs to sell.

Table 35 Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity (1, 2)					
		Three Months Ended September 30		Nine Months Ended September 30	
		2018	2017	2018	2017
(Dollars in millions)					
Nonperforming loans and leases, beginning of period					
		\$ 1,258	\$ 1,520	\$ 1,304	\$ 1,703
Additions					
		235	412	915	1,172
Reductions:					
Paydowns		(287 )	(270 )	(649 )	(803 )
Sales		(130 )	(61 )	(204 )	(116 )
Returns to performing status <sup>(3)</sup>		(95 )	(100 )	(213 )	(240 )
Charge-off		116 )	(145 )	(276 )	(312 )
Transfers to foreclosed properties					
		(12 )	—	(12 )	(27 )
Transfers to loans held-for-sale					
		(5 )	(38 )	(17 )	(59 )
Total net reductions to nonperforming loans and		(410 )	(202 )	(456 )	(385 )

leases				
Total				
nonperforming				
loans and	848	1,318	848	1,318
leases,				
September				
30				
Foreclosed				
properties,	30	40	30	40
September				
30				
Nonperforming				
commercial				
loans,				
leases				
and	\$878	\$1,358	\$878	\$1,358
foreclosed				
properties,				
September				
30				
Nonperforming				
commercial				
loans and				
leases as				
a				
percentage	0.18	% 0.28	%	
of				
outstanding				
commercial				
loans and				
leases <sup>(4)</sup>				
Nonperforming				
commercial				
loans,				
leases				
and				
foreclosed				
properties				
as a				
percentage	0.18	0.29		
of				
outstanding				
commercial				
loans,				
leases				
and				
foreclosed				
properties <sup>(4)</sup>				

(1) Balances do not include nonperforming LHFS of \$177 million and \$322 million at September 30, 2018 and 2017.

(2) Includes U.S. small business commercial activity. Small business card loans are excluded as they are not classified as nonperforming.

Commercial loans and leases may be returned to performing status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected, or when the loan otherwise becomes well-secured and is in the process of collection. TDRs are generally classified as performing after a sustained period of demonstrated payment performance.

(4) Outstanding commercial loans exclude loans accounted for under the fair value option.

Table 36 presents our commercial TDRs by product type and performing status. U.S. small business commercial TDRs are comprised of renegotiated small business card loans and small business loans. The renegotiated small business card loans are not classified as nonperforming as they are charged off no later than the end of the month in which the loan becomes 180 days past due. For more information on TDRs, see Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements.

Table 36 Commercial Troubled Debt Restructurings

	September 30, 2018			December 31, 2017		
(Dollars in millions)	Nonperforming	Performing	Total	Nonperforming	Performing	Total
Commercial and industrial:						
U.S. commercial	\$285	\$ 1,058	\$ 1,343	\$370	\$ 866	\$ 1,236
Non-U.S. commercial	9	204	213	11	219	230
Total commercial and industrial	294	1,262	1,556	381	1,085	1,466
Commercial real estate	4	6	10	38	9	47
Commercial lease financing	2	72	74	5	13	18
	300	1,340	1,640	424	1,107	1,531
U.S. small business commercial	4	18	22	4	15	19
Total commercial troubled debt restructurings	\$304	\$ 1,358	\$ 1,662	\$428	\$ 1,122	\$ 1,550

### Industry Concentrations

Table 37 presents commercial committed and utilized credit exposure by industry and the total net credit default protection purchased to cover the funded and unfunded portions of certain credit exposures. Our commercial credit exposure is diversified across a broad range of industries. Total commercial committed exposure increased \$9.8 billion, or one percent, during the nine months ended September 30, 2018 to \$990.9 billion. The increase in commercial committed exposure was concentrated in the Asset Managers and Funds, Real Estate, Capital Goods and Food, Beverage and Tobacco industry sectors. Increases were partially offset by reduced exposure to the Food and Staples Retailing, Media and Global Commercial Banks industry sectors.

Industry limits are used internally to manage industry concentrations and are based on committed exposure that is allocated on an industry-by-industry basis. A risk management framework is in place to set and approve industry limits as well as to provide ongoing monitoring. The Management Risk Committee oversees industry limit governance.

Asset Managers and Funds, our largest industry concentration with committed exposure of \$103.1 billion, increased \$12.0 billion, or 13 percent, during the nine months ended September 30, 2018. The change reflects an increase in exposure to several counterparties.

Real Estate, our second largest industry concentration with committed exposure of \$90.7 billion, increased \$6.9 billion, or eight percent, during the nine months ended September 30, 2018. For more information on the commercial real estate and related portfolios, see Commercial Portfolio Credit Risk Management – Commercial Real Estate on page 39.

Capital Goods, our third largest industry concentration with committed exposure of \$74.7 billion, increased \$4.3 billion, or six percent, during the nine months ended September 30, 2018. The increase in committed exposure occurred primarily as a result of increases in large conglomerates, as well as trading companies and distributors, partially offset by a decrease in machinery companies.

Our energy-related committed exposure decreased \$2.3 billion, or six percent, during the nine months ended September 30, 2018 to \$34.5 billion. Energy sector net charge-offs were \$34 million for the nine months ended September 30, 2018 compared to \$131 million for the same period in 2017. Energy sector reservable criticized exposure decreased \$745 million during the nine months ended September 30, 2018 to \$875 million due to improvement in credit quality of some borrowers coupled with exposure reductions. The energy allowance for credit losses decreased \$225 million during the nine months ended September 30, 2018 to \$335 million.

Table 37 Commercial Credit Exposure by Industry <sup>(1)</sup>

(Dollars in millions)	Commercial Utilized		Total Commercial Committed <sup>(2)</sup>	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Asset managers and funds	\$68,733	\$ 59,190	\$103,066	\$ 91,092
Real estate <sup>(3)</sup>	64,460	61,940	90,664	83,773
Capital goods	40,327	36,705	74,720	70,417
Government and public education	44,436	48,684	55,296	58,067
	34,943	37,780	54,889	57,256

Healthcare equipment and services				
Finance companies	33,549	34,050	53,375	53,107
Materials	25,727	24,001	49,461	47,386
Retailing	25,714	26,117	47,823	48,796
Food, beverage and tobacco	23,199	23,252	45,166	42,815
Consumer services	24,975	27,191	42,276	43,605
Commercial services and supplies	21,861	22,100	37,644	35,496
Energy	16,319	16,345	34,462	36,765
Transportation	11,887	21,704	30,694	29,946
Media	10,581	19,155	28,523	33,955
Global commercial banks	25,471	29,491	27,752	31,764
Utilities	11,496	11,342	27,495	27,935
Individuals and trusts	18,706	18,549	25,332	25,097
Technology hardware and equipment	10,054	10,728	21,759	22,071
Pharmaceuticals and biotechnology	7,430	5,653	19,396	18,623
Vehicle dealers	15,930	16,896	19,128	20,361
Consumer durables and apparel	9,432	8,859	18,129	17,296
Software and services	7,489	8,562	16,558	18,202
Automobiles and components	6,990	5,988	14,271	13,318
Insurance	5,818	6,411	13,785	12,990
Telecommunication services	6,837	6,389	12,786	13,108
Food and staples	4,840	4,955	10,100	15,589

retailing				
Religious				
and social	3,705	4,454	5,586	6,318
organizations				
Financial				
markets				
infrastructure	1,111	688	2,906	2,403
(clearinghouses)				
Other	7,885	3,621	7,878	3,616
Total				
commercial				
credit	\$599,905	\$ 600,800	\$990,920	\$ 981,167
exposure				
by				
industry				
Net credit				
default				
protection				
purchased			\$(2,197 )	\$(2,129 )
on total				
commitments <sup>(4)</sup>				

(1) Includes U.S. small business commercial exposure.

Includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e.,

(2) syndicated or participated) to other financial institutions. The distributed amounts were \$10.8 billion and \$11.0 billion at September 30, 2018 and December 31, 2017.

Industries are viewed from a variety of perspectives to best isolate the perceived risks. For purposes of this table,

(3) the real estate industry is defined based on the primary business activity of the borrowers or counterparties using operating cash flows and primary source of repayment as key factors.

(4) Represents net notional credit protection purchased. For more information, see Commercial Portfolio Credit Risk Management – Risk Mitigation.



### Risk Mitigation

We purchase credit protection to cover the funded portion as well as the unfunded portion of certain credit exposures. To lower the cost of obtaining our desired credit protection levels, we may add credit exposure within an industry, borrower or counterparty group by selling protection.

At September 30, 2018 and December 31, 2017, net notional credit default protection purchased in our credit derivatives portfolio to hedge our funded and unfunded exposures for which we elected the fair value option, as well as certain other credit exposures, was \$2.2 billion and \$2.1 billion. We recorded net losses of \$33 million and \$43 million for the three and nine months ended September 30, 2018 compared to net losses of \$10 million and \$57 million for the same periods in 2017 on these positions. The gains and losses on these instruments were offset by gains and losses on the related exposures. The Value-at-Risk (VaR) results for these exposures are included in the fair value option portfolio information in Table 44. For more information, see Trading Risk Management on page 47.

Tables 38 and 39 present the maturity profiles and the credit exposure debt ratings of the net credit default protection portfolio at September 30, 2018 and December 31, 2017.

Table 38 Net Credit Default Protection by Maturity

	September 30 2018		December 31 2017	
Less than or equal to one year	33	%	42	%
Greater than one year and less than or equal to five years	61		58	
Greater than five years	6		—	
Total net credit default protection	100	%	100	%

Table 39 Net Credit Default Protection by Credit Exposure Debt Rating

	Net Notional (1)	Percent of Total	Net Notional (1)	Percent of Total
(Dollars in millions)	September 30, 2018		December 31, 2017	
Ratings (2, 3)				
A	\$ (546 )	24.9 %	\$ (280 )	13.2 %

BBB	(259 )	11.8	(459 )	21.6
BB	(794 )	36.1	(893 )	41.9
B	(373 )	17.0	(403 )	18.9
CCC and below	(198 )	9.0	(84 )	3.9
NR <sup>(4)</sup>	(27 )	1.2	(10 )	0.5
Total net credit default protection	\$ (2,197)	100.0%	\$ (2,129)	100.0%

(1) Represents net credit default protection purchased.

(2) Ratings are refreshed on a quarterly basis.

(3) Ratings of BBB- or higher are considered to meet the definition of investment grade.

(4) NR is comprised of index positions held and any names that have not been rated.

In addition to our net notional credit default protection purchased to cover the funded and unfunded portion of certain credit exposures, credit derivatives are used for market-making activities for clients and establishing positions intended to profit from directional or relative value changes. We execute the majority of our credit derivative trades in the OTC market with large, multinational financial institutions, including broker-dealers and,

to a lesser degree, with a variety of other investors. Because these transactions are executed in the OTC market, we are subject to settlement risk. We are also subject to credit risk in the event that these counterparties fail to perform under the terms of these contracts. In most cases, credit derivative transactions are executed on a daily margin basis.

Therefore, events such as a credit downgrade, depending on the ultimate rating level, or a breach of credit covenants would typically require an increase in the amount of collateral required by the counterparty, where applicable, and/or allow us to take additional protective measures such as early termination of all trades.

Table 40 presents the total contract/notional amount of credit derivatives outstanding and includes both purchased and written credit derivatives. The credit risk amounts are measured as net asset exposure by counterparty, taking into consideration all contracts with the counterparty. For more information on our written credit derivatives, see Note 3 – Derivatives to the Consolidated Financial Statements.

The credit risk amounts discussed above and presented in Table 40 take into consideration the effects of legally enforceable master netting agreements while amounts disclosed in Note 3 – Derivatives to the Consolidated Financial Statements are shown on a gross basis. Credit risk reflects the potential benefit from offsetting exposure to non-credit derivative products with the same counterparties that may be netted upon the occurrence of certain events, thereby reducing our overall exposure.

Table 40 Credit Derivatives

	Contract/Credit Notional Risk	
(Dollars in billions)	September 30, 2018	
Purchased credit derivatives:		
Credit default swaps	\$ 430.3	\$ 2.2
Total return	64.6	0.5

swaps/options  
 Total  
 purchased \$ 494.9 \$ 2.7  
 credit  
 derivatives  
 Written  
 credit  
 derivatives:  
 Credit  
 default \$ 398.2 n/a  
 swaps  
 Total  
 return 62.5 n/a  
 swaps/options  
 Total  
 written \$ 460.7 n/a  
 credit  
 derivatives

December 31,  
 2017

Purchased  
 credit  
 derivatives:  
 Credit  
 default \$ 470.9 \$ 2.4  
 swaps  
 Total  
 return 54.1 0.3  
 swaps/options  
 Total  
 purchased \$ 525.0 \$ 2.7  
 credit  
 derivatives  
 Written  
 credit  
 derivatives:  
 Credit  
 default \$ 448.2 n/a  
 swaps  
 Total  
 return 55.2 n/a  
 swaps/options  
 Total  
 written \$ 503.4 n/a  
 credit  
 derivatives

n/a = not applicable

We record counterparty credit risk valuation adjustments on certain derivative assets, including our credit default protection purchased, in order to properly reflect the credit risk of the counterparty. For more information, see Note 3 – Derivatives to the Consolidated Financial Statements herein and Note 2 – Derivatives to the Consolidated Financial

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## Non-U.S. Portfolio

Our non-U.S. credit and trading portfolios are subject to country risk. We define country risk as the risk of loss from unfavorable economic and political conditions, currency fluctuations, social instability and changes in government policies. A risk management framework is in place to measure, monitor and manage non-U.S. risk and exposures. In addition to the direct risk of doing business in a country, we also are exposed to indirect country risks (e.g., related to the collateral received on secured financing transactions or related to client clearing activities). These indirect exposures are managed in the normal course of business through credit, market and operational risk governance, rather than through country risk governance.

Table 41 presents our 20 largest non-U.S. country exposures at September 30, 2018. These exposures accounted for 90 percent and 86 percent of our total non-U.S. exposure at September 30, 2018 and December 31, 2017. Net country exposure for these 20 countries increased \$45.5 billion in the nine months ended September 30, 2018, primarily driven by increased placements with central banks in the U.K., Japan and Germany.

Non-U.S. exposure is presented on an internal risk management basis and includes sovereign and non-sovereign credit exposure, securities and other investments issued by or domiciled in countries other than the U.S.

Funded loans and loan equivalents include loans, leases, and other extensions of credit and funds, including letters of credit and due from placements. Unfunded commitments are the undrawn portion of legally binding commitments related to loans and loan equivalents. Net counterparty exposure includes the fair value of derivatives, including the counterparty risk associated with credit default swaps, and secured financing transactions. Securities and other investments are carried at fair value and long securities exposures are netted against short exposures with the same underlying issuer to, but not below, zero. Net country exposure represents country exposure less hedges and credit default protection purchased, net of credit default protection sold. For more information on our non-U.S. credit and trading portfolios, see Non-U.S. Portfolio in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

Table 41 Top 20 Non-U.S. Countries Exposure

(Dollars in millions)	Funded Loans and Loan Equivalents	Unfunded Loan Commitments	Net Counterparty Exposure	Securities/ Other Investments	Country Exposure at September 30 2018	Hedges and Credit Default Protection	Net Country Exposure at September 30 2018	Increase (Decrease) from December 31 2017
United Kingdom	\$ 39,114	\$ 15,034	\$ 5,601	\$ 1,111	\$ 60,860	\$(3,757)	\$ 57,103	\$ 19,508
Germany	26,417	6,278	2,428	789	35,912	(3,499)	32,413	10,910
Japan	17,109	2,280	1,397	2,781	23,567	(1,418)	22,149	13,059
Canada	7,515	6,944	1,669	2,682	18,810	(462)	18,348	(375)
France	6,654	5,590	2,935	3,347	18,526	(3,429)	15,097	4,554
China	12,307	377	1,096	866	14,646	(292)	14,354	(1,571)
Netherlands	7,220	2,044	817	1,306	11,387	(922)	10,465	1,998
Australia	5,188	3,524	589	1,550	10,851	(612)	10,239	(350)
Brazil	6,779	811	326	2,323	10,239	(391)	9,848	(868)
India	6,656	513	343	2,205	9,717	(104)	9,613	(884)
South Korea	5,561	613	684	1,554	8,412	(284)	8,128	227
Hong Kong	6,144	216	475	1,289	8,124	(34)	8,090	(588)
Switzerland	7,752	3,128	331	199	8,410	(1,030)	7,380	1,583
Singapore	3,305	142	602	1,739	5,788	(71)	5,717	(546)
Mexico	3,349	1,450	99	684	5,582	(151)	5,431	(56)

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Belgium	3,444	1,029	124	407	5,004	(509 )	4,495	530
United Arab Emirates	2,895	154	142	107	3,298	(17 )	3,281	(106 )
Spain	2,470	990	144	860	4,464	(1,379 )	3,085	(23 )
Taiwan	1,741	13	405	597	2,756	—	2,756	44
Italy	2,256	1,007	615	527	4,405	(1,679 )	2,726	(1,520 )
Total top 20 non-U.S. countries exposure	\$ 170,876	\$ 52,137	\$ 20,822	\$ 26,923	\$ 270,758	\$(20,040 )	\$ 250,718	\$ 45,526

A number of economic conditions and geopolitical events have given rise to risk aversion in certain emerging markets. Our largest emerging market country exposure at September 30, 2018 was China, with net exposure of \$14.4 billion, concentrated in large state-owned companies, subsidiaries of multinational corporations and commercial banks.

The outlook for policy direction and therefore economic performance in the EU remains uncertain as a consequence of reduced political cohesion among EU countries. Additionally, we believe that the uncertainty in the U.K.'s ability to negotiate a favorable exit from the EU will further weigh on economic

performance. Our largest EU country exposure at September 30, 2018 was the U.K. with net exposure of \$57.1 billion, a \$19.5 billion increase from December 31, 2017. The increase was driven by corporate loan growth and increased placements with the central bank as part of liquidity management.

Markets have reacted negatively to the escalating tensions between the U.S. and several key trading partners. We are closely monitoring our exposures to tariff-sensitive industries and our international exposure, particularly to countries that account for a large percentage of U.S. trade.

### Provision for Credit Losses

The provision for credit losses decreased \$118 million to \$716 million, and \$18 million to \$2.4 billion for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The provision for credit losses was \$216 million and \$462 million lower than net charge-offs for the three and nine months ended September 30, 2018, resulting in a decrease in the allowance for credit losses. This compared to a reduction of \$66 million and \$347 million in the allowance for credit losses for the three and nine months ended September 30, 2017.

The provision for credit losses for the consumer portfolio decreased \$20 million to \$710 million, and increased \$107 million to \$2.2 billion for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The decrease in the three-month period was primarily driven by a lower reserve build in the U.S. credit card portfolio. The increase in the nine-month period was primarily driven by portfolio seasoning and loan growth in the U.S. credit card portfolio and a slower pace of improvement in the consumer real estate portfolio, partially offset by the sale of the non-U.S. consumer credit card business in the second quarter of 2017. Included in the provision is an expense of \$53 million and \$28 million related to the PCI loan portfolio for the three and nine months ended September 30, 2018 compared to an expense of \$12 million and \$56 million for the same periods in 2017.

The provision for credit losses for the commercial portfolio, including unfunded lending commitments, decreased \$98 million to \$6 million, and \$125 million to \$162 million for the three and nine months ended September 30, 2018 compared to the same periods in 2017. The decrease for both periods was primarily driven by improvement in asset quality in the commercial portfolio including energy exposures.

### Allowance for Credit Losses

#### Allowance for Loan and Lease Losses

The allowance for loan and lease losses is comprised of two components. The first component covers nonperforming commercial loans and TDRs. The second component covers loans and leases on which there are incurred losses that are not yet individually identifiable, as well as incurred losses that may not be represented in the loss forecast models. We evaluate the adequacy of the allowance for loan and lease losses based on the total of these two components. The allowance for loan and lease losses excludes LHFS and loans accounted for under the fair value option as the fair value reflects a credit risk component. For more information on the allowance for loan and lease losses, see Allowance for Credit Losses in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

During the three and nine months ended September 30, 2018, the factors that impacted the allowance for loan and lease losses included improvement in the credit quality of the consumer real estate portfolios driven by continuing improvements in the U.S.

economy and strong labor markets, proactive credit risk management initiatives and the impact of high credit quality originations. Evidencing the improvements in the U.S. economy and strong labor markets are low levels of unemployment and increases in home prices. In addition to these improvements, in the consumer portfolio, nonperforming consumer loans decreased \$860 million in the nine months ended September 30, 2018 as returns to performing status, paydowns, loan sales and charge-offs continued to outpace new nonaccrual loans. During the nine months ended September 30, 2018, the allowance for loan and lease losses in the commercial portfolio reflected decreased energy reserves primarily driven by improvement in energy exposures including reservable criticized utilized exposures.

The allowance for loan and lease losses for the consumer portfolio, as presented in Table 43, was \$5.0 billion at September 30, 2018, a decrease of \$403 million from December 31, 2017. The decrease was primarily in the consumer real estate portfolio, partially offset by an increase in the U.S. credit card portfolio. The reduction in the allowance for the consumer real estate portfolio was due to improved home prices, lower nonperforming loans and a decrease in loan balances in our non-core portfolio. The increase in the allowance for the U.S. credit card portfolio was driven by portfolio seasoning.

The allowance for loan and lease losses for the commercial portfolio, as presented in Table 43, was \$4.8 billion at September 30, 2018, a decrease of \$256 million from December 31, 2017 primarily driven by improvement in energy exposures. Commercial reservable criticized utilized exposure decreased to \$11.6 billion at September 30, 2018 from \$13.6 billion (to 2.26 percent from 2.65 percent of total commercial reservable utilized exposure) at December 31, 2017, driven by broad-based improvements including the energy sector. Nonperforming commercial loans decreased

to \$848 million at September 30, 2018 from \$1.3 billion (to 0.18 percent from 0.27 percent of outstanding commercial loans excluding loans accounted for under the fair value option) at December 31, 2017. See Tables 31, 32 and 33 for more details on key commercial credit statistics.

The allowance for loan and lease losses as a percentage of total loans and leases outstanding was 1.05 percent at September 30, 2018 compared to 1.12 percent at December 31, 2017.

#### Reserve for Unfunded Lending Commitments

In addition to the allowance for loan and lease losses, we also estimate probable losses related to unfunded lending commitments such as letters of credit, financial guarantees, unfunded bankers' acceptances and binding loan commitments, excluding commitments accounted for under the fair value option. For more information on the reserve for unfunded lending commitments, see Allowance for Credit Losses in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

The reserve for unfunded lending commitments was \$792 million at September 30, 2018 compared to \$777 million at December 31, 2017.



Table 42 presents a rollforward of the allowance for credit losses, which includes the allowance for loan and lease losses and the reserve for unfunded lending commitments, for the three and nine months ended September 30, 2018 and 2017.

Table 42 Allowance for Credit Losses

(Dollars in millions)	Three Months		Nine Months	
	Ended September 30 2018	2017	Ended September 30 2018	2017
Allowance for loan and lease losses, beginning of period	\$10,050	\$10,875	\$10,393	\$11,237
Loans and leases charged off				
Residential mortgage	(45 )	(51 )	(137 )	(157 )
Home equity	(110 )	(180 )	(329 )	(476 )
U.S. credit card	(826 )	(727 )	(2,515 )	(2,198 )
Non-U.S. credit card <sup>(1)</sup>	—	—	—	(103 )
Direct/Indirect consumer	(120 )	(136 )	(376 )	(358 )
Other consumer	(46 )	(56 )	(140 )	(160 )
Total consumer charge-offs	(1,147 )	(1,150 )	(3,497 )	(3,452 )
U.S. commercial <sup>(2)</sup>	(161 )	(171 )	(437 )	(449 )
Non-U.S. commercial	(25 )	(34 )	(61 )	(100 )
Commercial real estate	(2 )	(4 )	(9 )	(12 )
Commercial lease financing	(1 )	(3 )	(6 )	(9 )
Total commercial charge-offs	(189 )	(212 )	(513 )	(570 )
Total loans and leases charged off	(1,336 )	(1,362 )	(4,010 )	(4,022 )
Recoveries of loans and leases previously charged off				
Residential mortgage	33	133	124	241
Home equity	130	97	316	279
U.S. credit card	128	115	377	340
Non-U.S. credit card <sup>(1)</sup>	—	—	—	28
Direct/Indirect consumer	78	68	234	209
Other consumer	2	6	10	46
Total consumer recoveries	371	419	1,061	1,143
U.S. commercial <sup>(3)</sup>	32	36	85	113
Non-U.S. commercial	—	1	13	6
Commercial real estate	—	2	6	9
Commercial lease financing	1	4	6	9
Total commercial recoveries	33	43	110	137
Total recoveries of loans and leases previously charged off	404	462	1,171	1,280
Net charge-offs	(932 )	(900 )	(2,839 )	(2,742 )
Write-offs of PCI loans	(95 )	(73 )	(166 )	(161 )
Provision for loan and lease losses	711	829	2,362	2,395
Other <sup>(4)</sup>	—	(38 )	(16 )	(36 )
Allowance for loan and lease losses, September 30	9,734	10,693	9,734	10,693
Reserve for unfunded lending commitments, beginning of period	787	757	777	762

Provision for unfunded lending commitments	5	5	15	—
Reserve for unfunded lending commitments, September 30	792	762	792	762
Allowance for credit losses, September 30	\$10,526	\$11,455	\$10,526	\$11,455

- (1) Represents net charge-offs related to the non-U.S. credit card loan portfolio, which was sold in the second quarter of 2017.
- (2) Includes U.S. small business commercial charge-offs of \$72 million and \$215 million for the three and nine months ended September 30, 2018 compared to \$65 million and \$193 million for the same periods in 2017.
- (3) Includes U.S. small business commercial recoveries of \$13 million and \$35 million for the three and nine months ended September 30, 2018 compared to \$10 million and \$33 million for the same periods in 2017.
- (4) Primarily represents the net impact of portfolio sales, consolidations and deconsolidations, foreign currency translation adjustments, transfers to held for sale and certain other reclassifications.

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Table 42 Allowance for Credit Losses (continued)

(Dollars in millions)	Three Months Ended		Nine Months Ended		
	September 30		September 30		
	2018	2017	2018	2017	
Loan and allowance ratios:					
Loans and leases outstanding at September 30 <sup>(5)</sup>	\$924,070	\$920,832	\$924,070	\$920,832	
Allowance for loan and lease losses as a percentage of total loans and leases outstanding at September 30 <sup>(5)</sup>	1.05	% 1.16	% 1.05	% 1.16	%
Consumer allowance for loan and lease losses as a percentage of total consumer loans and leases outstanding at September 30 <sup>(6)</sup>	1.12	1.25	1.12	1.25	
Commercial allowance for loan and lease losses as a percentage of total commercial loans and leases outstanding at September 30 <sup>(7)</sup>	0.99	1.08	0.99	1.08	
Average loans and leases outstanding <sup>(5)</sup>	\$925,091	\$911,945	\$926,664	\$908,670	
Annualized net charge-offs as a percentage of average loans and leases outstanding <sup>(5, 8)</sup>	0.40	% 0.39	% 0.41	% 0.40	%
Annualized net charge-offs and PCI write-offs as a percentage of average loans and leases outstanding <sup>(5)</sup>	0.44	0.42	0.43	0.43	
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases at September 30 <sup>(5)</sup>	189	163	189	163	
Ratio of the allowance for loan and lease losses at September 30 to annualized net charge-offs <sup>(8)</sup>	2.63	3.00	2.56	2.92	
Ratio of the allowance for loan and lease losses at September 30 to annualized net charge-offs and PCI write-offs	2.39	2.77	2.42	2.76	
Amounts included in allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at September 30 <sup>(9)</sup>	\$4,027	\$3,880	\$4,027	\$3,880	
Allowance for loan and lease losses as a percentage of total nonperforming loans and leases, excluding the allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at September 30 <sup>(5, 9)</sup>	111	% 104	% 111	% 104	%

<sup>(5)</sup> Outstanding loan and lease balances and ratios do not include loans accounted for under the fair value option of \$5.7 billion and \$6.3 billion at September 30, 2018 and 2017. Average loans accounted for under the fair value option were \$5.6 billion and \$5.8 billion for the three and nine months ended September 30, 2018 compared to \$6.2 billion and \$7.0 billion for the same periods in 2017.

<sup>(6)</sup> Excludes consumer loans accounted for under the fair value option of \$755 million and \$978 million at September 30, 2018 and 2017.

<sup>(7)</sup> Excludes commercial loans accounted for under the fair value option of \$5.0 billion and \$5.3 billion at September 30, 2018 and 2017.

<sup>(8)</sup>

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Net charge-offs exclude \$95 million and \$166 million of write-offs in the PCI loan portfolio for the three and nine months ended September 30, 2018 compared to \$73 million and \$161 million for the same periods in 2017. For more information on PCI write-offs, see Consumer Portfolio Credit Risk Management – Purchased Credit-impaired Loan Portfolio on page 34.

- (9) Primarily includes amounts allocated to U.S. credit card and unsecured consumer lending portfolios in Consumer Banking and PCI loans in All Other.

For reporting purposes, we allocate the allowance for credit losses across products as presented in Table 43.

Table 43 Allocation of the Allowance for Credit Losses by Product Type

	September 30, 2018			December 31, 2017		
	Amount	Percent of Total	Percent of Loans and Leases Outstanding <sup>(1)</sup>	Amount	Percent of Total	Percent of Loans and Leases Outstanding <sup>(1)</sup>
(Dollars in millions)						
Allowance for loan and lease losses						
Residential mortgage	\$500	5.14 %	0.24 %	\$701	6.74 %	0.34 %
Home equity	658	6.76	1.28	1,019	9.80	1.76
U.S. credit card	3,530	36.26	3.72	3,368	32.41	3.50
Direct/Indirect consumer	262	2.69	0.29	264	2.54	0.27
Other consumer	30	0.31	n/m	31	0.30	n/m
Total consumer	4,980	51.16	1.12	5,383	51.79	1.18
U.S. commercial <sup>(2)</sup>	2,974	30.55	0.99	3,113	29.95	1.04
Non-U.S. commercial	687	7.06	0.72	803	7.73	0.82
Commercial real estate	946	9.72	1.56	935	9.00	1.60
Commercial lease financing	147	1.51	0.68	159	1.53	0.72
Total commercial	4,754	48.84	0.99	5,010	48.21	1.05
Allowance for loan and lease losses <sup>(3)</sup>	9,734	100.00 %	1.05	10,393	100.00 %	1.12
	792			777		

Reserve  
for  
unfunded  
lending  
commitments

Allowance

for credit \$10,526

\$11,170

losses

Ratios are calculated as allowance for loan and lease losses as a percentage of loans and leases outstanding excluding loans accounted for under the fair value option. Consumer loans accounted for under the fair value option included residential mortgage loans of \$407 million and \$567 million and home equity loans of \$348 million and \$361 million at September 30, 2018 and December 31, 2017. Commercial loans accounted for under the fair value option included U.S. commercial loans of \$3.6 billion and \$2.6 billion and non-U.S. commercial loans of \$1.4 billion and \$2.2 billion at September 30, 2018 and December 31, 2017.

(1) Includes allowance for loan and lease losses for U.S. small business commercial loans of \$472 million and \$439 million at September 30, 2018 and December 31, 2017.

(2) Includes \$150 million and \$289 million of valuation allowance presented with the allowance for loan and lease losses related to PCI loans at September 30, 2018 and December 31, 2017.

n/m = not meaningful

Market Risk Management

For more information on our market risk management process, see Market Risk Management in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

Trading Risk Management

To evaluate risk arising from trading activities, the Corporation focuses on the actual and potential volatility of revenues generated by individual positions as well as portfolios of positions.

VaR is a common statistic used to measure market risk as it allows the aggregation of market risk factors, including the effects of portfolio diversification. A VaR model simulates the value of a portfolio under a range of scenarios in order to generate a distribution of potential gains and losses. VaR represents the loss a portfolio is not expected to exceed more than a certain number of times per period, based on a specified holding period, confidence level and window of historical data. We use one VaR model consistently across the trading portfolios and it uses a historical simulation approach based on a three-year window of historical data. Our primary VaR statistic is equivalent to a 99 percent confidence level. This means that for a VaR with a one-day holding period, there should not be losses in excess of VaR, on average, 99 out of 100 trading days. For more information on our trading risk management process, see Trading Risk Management in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

Table 44 presents the total market-based trading portfolio VaR which is the combination of the covered positions trading portfolio and the impact from less liquid trading exposures. For more information on the market risk VaR for trading activities, see Trading Risk Management in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

The total market-based portfolio VaR results in Table 44 include market risk, excluding credit valuation adjustment (CVA), DVA and related hedges, to which we are exposed from all business segments. The majority of this portfolio is within the Global Markets segment. Table 44 presents period-end, average, high and low daily trading VaR for the three months ended September 30, 2018, June 30, 2018 and September 30, 2017, as well as average daily trading VaR for the nine months ended September 30, 2018 and 2017, using a 99 percent confidence level. The amounts disclosed in Table 44 and Table 45 align to the view of covered positions used in the Basel 3 capital calculations. Foreign exchange and commodity positions are always considered covered positions, regardless of trading or banking treatment for the trade, except for structural foreign currency positions that are excluded with prior regulatory approval.

The average total covered positions and less liquid trading positions portfolio VaR decreased for the three months ended September 30, 2018 compared to the same period in 2017 primarily due to an increase in portfolio diversification.

Table 44 Market Risk VaR for Trading Activities

	Three Months Ended									Nine Months Ended				
	September 30, 2018			June 30, 2018			September 30, 2017			September 30				
(Dollars in millions)	Period End	Average	High <sup>(1)</sup>	Low <sup>(1)</sup>	Period End	Average	High <sup>(1)</sup>	Low <sup>(1)</sup>	Period End	Average	High <sup>(1)</sup>	Low <sup>(1)</sup>	2018 Average	2017 Average
Foreign exchange	\$3	\$ 7	\$ 12	\$ 2	\$8	\$ 10	\$ 15	\$ 7	\$6	\$ 10	\$ 15	\$ 5	\$8	\$ 12
Interest rate	22	26	36	16	27	23	32	15	15	21	41	14	24	20
Credit	24	24	30	20	30	25	30	20	24	25	29	23	25	25
Equity	17	18	27	13	24	16	26	11	17	17	33	12	18	18
Commodities	6	8	5	7	9	14	4	4	4	5	7	4	7	5
	(47)	(52)	—	—	(65)	(55)	—	—	(40)	(44)	—	—	(52)	(45)

Portfolio diversification														
Total covered positions portfolio	26	29	36	21	31	28	38	20	26	34	51	24	30	35
Impact from less liquid exposures	2	2	—	—	2	2	—	—	3	7	—	—	4	6
Total covered positions and less liquid trading positions portfolio	28	31	38	23	33	30	42	24	29	41	63	26	34	41
Fair value option loans	10	13	15	10	12	13	18	8	10	10	12	9	12	11
Fair value option hedges	6	9	11	6	8	11	17	5	8	8	9	6	9	6
Fair value option portfolio diversification	(8 )	(13 )	—	—	(12 )	(13 )	—	—	(11 )	(9 )	—	—	(11 )	(8 )
Total fair value option portfolio	8	9	11	8	8	11	16	5	7	9	10	7	10	9
Portfolio diversification	(6 )	(6 )	—	—	(5 )	(7 )	—	—	(4 )	(3 )	—	—	(6 )	(4 )
Total market-based portfolio	\$30	\$ 34	44	26	\$36	\$ 34	47	28	\$32	\$ 47	69	29	\$38	\$ 46

The high and low for each portfolio may have occurred on different trading days than the high and low for the components. Therefore the impact from less liquid exposures and the amount of portfolio diversification, which is the difference between the total portfolio and the sum of the individual components, is not relevant.

The graph below presents the daily covered positions and less liquid trading positions portfolio VaR for the previous five quarters, corresponding to the data in Table 44.

Additional VaR statistics produced within our single VaR model are provided in Table 45 at the same level of detail as in Table 44. Evaluating VaR with additional statistics allows for an increased understanding of the risks in the portfolio as the historical market data used in the VaR calculation does not necessarily follow a predefined statistical distribution. Table 45 presents average trading VaR statistics at 99 percent and 95 percent confidence levels for the three months ended September 30, 2018, June 30, 2018 and September 30, 2017.

Average Market Risk VaR for Trading

Table 45 Activities – 99 percent and 95 percent VaR Statistics

(Dollars in millions)	Three Months Ended					
	September 30, 2018		June 30, 2018		September 30, 2017	
	99 percent	95 percent	99 percent	95 percent	99 percent	95 percent
Foreign exchange	\$ 7	\$ 4	\$ 10	\$ 6	\$ 10	\$ 6
Interest rate	26	16	23	14	21	14
Credit	24	14	25	15	25	15
Equity	18	10	16	9	17	9
Commodities	3	3	9	5	5	3
Portfolio diversification	(52)	(31)	(55)	(34)	(44)	(30)
Total covered positions	29	16	28	15	34	17
Impact from less liquid exposures	2	1	2	2	7	2
Total covered positions and less liquid trading positions	31	17	30	17	41	19
Fair value option loans	13	7	13	7	10	6
Fair value option hedges	9	6	11	8	8	6
	(13)	(8)	(13)	(10)	(9)	(7)



Fair value option portfolio diversification						
Total fair value option portfolio	9	5	11	5	9	5
Portfolio diversification	(6 )	(4 )	(7 )	(3 )	(3 )	(3 )
Total market-based portfolio	\$34	\$ 18	\$34	\$ 19	\$ 47	\$ 21

Backtesting

The accuracy of the VaR methodology is evaluated by backtesting, which compares the daily VaR results, utilizing a one-day holding period, against a comparable subset of trading revenue. A backtesting excess occurs when a trading loss exceeds the VaR for the corresponding day. These excesses are evaluated to understand the positions and market moves that produced the trading loss and to ensure that the VaR methodology accurately

represents those losses. For more information on our backtesting process, see Trading Risk Management – Backtesting in the MD&A of the Corporation’s 2017 Annual Report on Form 10-K.

During the three and nine months ended September 30, 2018, there were no days in which there was a backtesting excess for our total market-based portfolio VaR, utilizing a one-day holding period.

### Total Trading-related Revenue

Total trading-related revenue, excluding brokerage fees, and CVA, DVA and funding valuation adjustment gains (losses), represents the total amount earned from trading positions, including market-based net interest income, which are taken in a diverse range of financial instruments and markets. Trading account assets and liabilities are reported at fair value. For more information on fair value, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K. Trading-related revenue can be volatile and is largely driven by general market conditions and customer demand. Also, trading-related revenue is dependent on the volume and type of transactions, the level of risk assumed, and the volatility of price and rate movements at any given time within the ever-changing market environment. Significant daily revenue by business is monitored and the primary drivers of these are reviewed.

The following histogram is a graphic depiction of trading volatility and illustrates the daily level of trading-related revenue for the three months ended September 30, 2018 compared to the three months ended June 30, 2018 and March 31, 2018. During the three months ended September 30, 2018, positive trading-related revenue was recorded for 100 percent of the trading days, of which 86 percent were daily trading gains of over \$25 million. This compares to the three months ended June 30, 2018 where positive trading-related revenue was recorded for 98 percent of the trading days, of which 91 percent were daily trading gains of over \$25 million. During the three months ended March 31, 2018, positive trading-related revenue was recorded for 100 percent of the trading days of which 88 percent were daily trading gains of over \$25 million.

### Trading Portfolio Stress Testing

Because the very nature of a VaR model suggests results can exceed our estimates and it is dependent on a limited historical window, we also stress test our portfolio using scenario analysis. This analysis estimates the change in the value of our trading portfolio that may result from abnormal market movements. For additional information, see Trading Risk Management – Trading Portfolio Stress Testing in the MD&A of the Corporation’s 2017 Annual Report on Form 10-K.

### Interest Rate Risk Management for the Banking Book

The following discussion presents net interest income for banking book activities.

Interest rate risk represents the most significant market risk exposure to our banking book balance sheet. Interest rate risk is measured as the potential change in net interest income caused by movements in market interest rates.

Client-facing activities, primarily lending and deposit-taking, create interest rate sensitive positions on our balance sheet.

We prepare forward-looking forecasts of net interest income. The baseline forecast takes into consideration expected future business growth, ALM positioning and the direction of interest rate movements as implied by the market-based forward curve. We then measure and evaluate the impact that alternative interest rate scenarios have on the baseline forecast in order to assess interest rate sensitivity under varied conditions. The net interest income forecast is frequently updated for changing assumptions and differing outlooks based on economic trends, market conditions and business strategies. Thus, we continually monitor our balance sheet position in order to maintain an acceptable level of exposure to interest rate changes.

The interest rate scenarios that we analyze incorporate balance sheet assumptions such as loan and deposit growth and pricing, changes in funding mix, product repricing, maturity characteristics and investment securities premium amortization. Our overall goal is to manage interest rate risk so that movements in interest rates do not significantly adversely affect earnings and capital.

Table 46 presents the spot and 12-month forward rates used in our baseline forecasts at September 30, 2018 and December 31, 2017.

Table 46 Forward Rates

September 30, 2018				
	Federal Funds	Three-month LIBOR	10-Year Swap	
Spot rates	2.25 %	2.40 %	3.12 %	
12-month forward rates	3.00	3.07	3.16	

December 31, 2017				
	Federal Funds	Three-month LIBOR	10-Year Swap	
Spot rates	1.50 %	1.69 %	2.40 %	
12-month forward rates	2.00	2.14	2.48	

Table 47 shows the pretax impact to forecasted net interest income over the next 12 months from September 30, 2018 and December 31, 2017, resulting from instantaneous parallel and non-parallel shocks to the market-based forward curve. Periodically we evaluate the scenarios presented so that they are meaningful in the context of the current rate environment.

In the nine months ended September 30, 2018, the asset sensitivity of our balance sheet to rising rates has declined modestly primarily due to increases in long-end rates. We continue to be asset sensitive to a parallel move in interest rates with the majority of that impact coming from the short end of the yield curve. Additionally, higher interest rates impact the fair value of debt securities and, accordingly, for debt securities classified as AFS, may adversely affect accumulated OCI and thus capital levels under the Basel 3 capital rules. Under instantaneous upward parallel shifts, the near-term adverse impact to Basel 3 capital is reduced over time by offsetting positive impacts to net interest income. For more information on Basel 3, see Capital Management – Regulatory Capital on page 22.

Table 47 Estimated Banking Book Net Interest Income Sensitivity to Curve Changes

(Dollars in millions)	Short Rate (bps)	Long Rate (bps)	Net Interest Income	
			September 30 2018	December 31 2017
Parallel Shifts				
+100 bps instantaneous shift	+100	+100	\$ 2,927	\$ 3,317
-100 bps instantaneous shift	-100	-100	(4,256)	(5,183)
Flatteners				
Short-end instantaneous change	+100	—	2,316	2,182

Long-end instantaneous change	-100	(1,421	)	(2,765	)	
Steeper Short-end instantaneous change	100	—	(2,798	)	(2,394	)
Long-end instantaneous change	+100	628		1,135		

The sensitivity analysis in Table 47 assumes that we take no action in response to these rate shocks and does not assume any change in other macroeconomic variables normally correlated with changes in interest rates. As part of our ALM activities, we use securities, certain residential mortgages, and interest rate and foreign exchange derivatives in managing interest rate sensitivity.

The behavior of our deposit portfolio in the baseline forecast and in alternate interest rate scenarios is a key assumption in our projected estimates of net interest income. The sensitivity analysis in Table 47 assumes no change in deposit portfolio size or mix from the baseline forecast in alternate rate environments. In higher rate scenarios, any customer activity resulting in the replacement of low-cost or noninterest-bearing deposits with higher-yielding deposits or market-based funding would reduce our benefit in those scenarios.

#### Interest Rate and Foreign Exchange Derivative Contracts

Interest rate and foreign exchange derivative contracts are utilized in our ALM activities and serve as an efficient tool to manage our interest rate and foreign exchange risk. We use derivatives to hedge the variability in cash flows or changes in fair value on our balance sheet due to interest rate and foreign exchange components. For more information on our hedging activities, see Note 3 – Derivatives to the Consolidated Financial Statements. For more information on interest rate contracts and risk management, see Interest Rate Risk Management for the Banking Book in the MD&A of the Corporation's 2017 Annual Report on Form 10-K.

We use interest rate derivative instruments to hedge the variability in the cash flows of our assets and liabilities and other forecasted transactions (collectively referred to as cash flow hedges). The net losses on both open and terminated cash flow hedge derivative instruments recorded in accumulated OCI were \$1.7 billion and \$1.3 billion, on a pretax basis, at September 30, 2018 and December 31, 2017. These net losses are expected to be reclassified into earnings in the same period as the hedged cash flows affect earnings and will decrease income or increase expense on the respective hedged cash flows. Assuming no change in open cash flow derivative hedge positions and no changes in prices or interest rates beyond what is implied in forward yield curves at September 30, 2018, the pretax net losses are expected to be reclassified into earnings as follows: 21 percent within the next year, 63 percent in years two through five and nine percent in years six through 10, with the remaining seven percent thereafter. For more information on derivatives designated as cash flow hedges, see Note 3 – Derivatives to the Consolidated Financial Statements.

We hedge our net investment in non-U.S. operations determined to have functional currencies other than the U.S. dollar using forward foreign exchange contracts that typically settle in less than 180 days, cross-currency basis swaps and foreign exchange options. We recorded net after-tax losses on derivatives in accumulated OCI associated with net investment hedges which were offset by gains on our net investments in consolidated non-U.S. entities at September 30, 2018.

Table 48 presents derivatives utilized in our ALM activities and shows the notional amount, fair value, weighted-average receive-fixed and pay-fixed rates, expected maturity and average estimated durations of our open ALM derivatives at September 30, 2018 and December 31, 2017. These amounts do not include derivative hedges on our MSRs.

Table 48 Asset and Liability Management Interest Rate and Foreign Exchange Contracts

(Dollars in millions, average estimated duration in years)	Fair Value	September 30, 2018 Expected Maturity							Average Estimated Duration
		Total	Remainder of 2018	2019	2020	2021	2022	Thereafter	
Receive-fixed interest rate swaps <sup>(1)</sup>	\$(4,571)								4.85
Notional amount		\$254,129	\$4,879	\$27,176	\$26,229	\$21,581	\$30,365	\$143,899	
Weighted-average fixed-rate		2.51	% 2.57	% 1.87	% 2.28	% 2.85	% 2.40	% 2.65	%
Pay-fixed interest rate swaps <sup>(1)</sup>	1,842								4.62
Notional amount		\$111,131	\$11,247	\$1,210	\$14,226	\$8,949	\$11,245	\$64,254	
Weighted-average fixed-rate		2.60	% 1.70	% 2.07	% 2.70	% 2.80	% 2.91	% 2.66	%
Same-currency basis swaps <sup>(2)</sup>									
Notional amount		\$162,172	\$1,085	\$13,755	\$34,628	\$26,227	\$22,849	\$63,628	
Foreign exchange basis swaps <sup>(1, 3, 4)</sup>	(1,572)								
Notional amount		110,129	7,290	13,326	21,156	17,395	10,377	40,585	
Option products	—								
Notional amount		16	—	—	—	—	—	16	
Foreign exchange	339								

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contracts  
(1, 4, 5)

Notional amount (4,571 ) (24,033 ) (326 ) 3 4,273 2,826 12,686  
(6)

Net ALM contracts \$(3,952)

December 31, 2017  
Expected Maturity

(Dollars in millions, average estimated duration in years)

Receive-fixed interest rate

Fair Value	Total	2018	2019	2020	2021	2022	Thereafter	Average Estimated Duration
------------	-------	------	------	------	------	------	------------	----------------------------

\$2,330

5.38

swaps (1)

Notional amount \$176,390 \$21,850 \$27,176 \$16,347 \$6,498 \$19,120 \$85,399

Weighted-average fixed-rate 2.42 % 3.20 % 1.87 % 1.88 % 2.99 % 2.10 % 2.52 %

Pay-fixed interest rate

(37 )

5.63

swaps (1)

Notional amount \$45,873 \$11,555 \$1,210 \$4,344 \$1,616 \$— \$27,148

Weighted-average fixed-rate 2.15 % 1.73 % 2.07 % 2.16 % 2.22 % — % 2.32 %

Same-currency basis

(17 )

swaps (2)

Notional amount \$38,622 \$11,028 \$6,789 \$1,180 \$2,807 \$955 \$15,863

Foreign exchange basis

(1,616 )

swaps (1, 3, 4)

Notional amount 107,263 24,886 11,922 13,367 9,301 6,860 40,927

Option products 13

Notional amount 1,218 1,201 — — — — 17

Foreign exchange 1,424

contracts

(1, 4, 5)

Notional

amount	(11,783 )	(28,689 )	2,231	(24 )	2,471	2,919	9,309
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(6)

Net ALM contracts \$2,097

Does not include basis adjustments on either fixed-rate debt issued by the Corporation or AFS debt securities, which are hedged using derivatives designated as fair value hedging instruments, that substantially offset the fair values of these derivatives.

At September 30, 2018 and December 31, 2017, the notional amount of same-currency basis swaps included \$162.2 billion and \$38.6 billion in both foreign currency and U.S. dollar-denominated basis swaps in which both sides of the swap are in the same currency.

Foreign exchange basis swaps consisted of cross-currency variable interest rate swaps used separately or in conjunction with receive-fixed interest rate swaps.

Does not include foreign currency translation adjustments on certain non-U.S. debt issued by the Corporation that substantially offset the fair values of these derivatives.

The notional amount of foreign exchange contracts of \$(4.6) billion at September 30, 2018 was comprised of \$34.1 billion in foreign currency-denominated and cross-currency receive-fixed swaps, \$(33.5) billion in net foreign currency forward rate contracts, \$(6.0) billion in foreign currency-denominated pay-fixed swaps and \$831 million in net foreign currency futures contracts. Foreign exchange contracts of \$(11.8) billion at December 31, 2017 were comprised of \$29.1 billion in foreign currency-denominated and cross-currency receive-fixed swaps, \$(35.6) billion in net foreign currency forward rate contracts, \$(6.2) billion in foreign currency-denominated pay-fixed swaps and \$940 million in foreign currency futures contracts.

Reflects the net of long and short positions. Amounts shown as negative reflect a net short position.

#### Mortgage Banking Risk Management

We originate, fund and service mortgage loans, which subject us to credit, liquidity and interest rate risks, among others. We determine whether loans will be held for investment or held for sale at the time of commitment and manage credit and liquidity risks by selling or securitizing a portion of the loans we originate.

Interest rate risk and market risk can be substantial in the mortgage business. Changes in interest rates and other market factors impact the volume of mortgage originations. Changes in interest rates also impact the value of interest rate lock

commitments (IRLCs) and the related residential first mortgage LHFS between the date of the IRLC and the date the loans are sold to the secondary market. An increase in mortgage interest rates typically leads to a decrease in the value of these instruments. Conversely, when there is an increase in interest rates, the value of the MSRMs will increase driven by lower prepayment expectations. Because the interest rate risks of these two hedged items offset, we combine them into one overall hedged item with one combined economic hedge portfolio consisting of derivative contracts and securities.

For the three and nine months ended September 30, 2018, we recorded gains of \$61 million and \$190 million related to the change in fair value of the MSRs, IRLCs and LHFS, net of gains and losses on the hedge portfolio, compared to gains of \$34 million and \$100 million for the same periods in 2017. For more information on MSRs, see Note 14 – Fair Value Measurements to the Consolidated Financial Statements.

#### Complex Accounting Estimates

Our significant accounting principles are essential in understanding the MD&A. Many of our significant accounting principles require complex judgments to estimate the values of assets and liabilities. We have procedures and processes in place to facilitate making these judgments. For additional information, see Complex Accounting Estimates in the MD&A of the Corporation's 2017 Annual Report on Form 10-K and Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

#### Non-GAAP Reconciliations

Tables 49 and 50 provide reconciliations of certain non-GAAP financial measures to GAAP financial measures.

Table 49 Quarterly Supplemental Financial Data and Reconciliations to GAAP Financial Measures

(Dollars in millions)	Three Months Ended September 30 2018			2017		
	As Reported	Fully taxable-equivalent adjustment	Fully taxable-equivalent basis	As Reported	Fully taxable-equivalent adjustment	Fully taxable-equivalent basis
Net interest income	\$ 11,870	\$ 151	\$ 12,021	\$ 11,161	\$ 240	\$ 11,401
Total revenue, net of interest expense	22,777	151	22,928	21,839	240	22,079
Income tax expense	1,827	151	1,978	2,187	240	2,427
	Nine Months Ended September 30 2018			2017		
Net interest income	\$ 35,128	\$ 455	\$ 35,583	\$ 33,205	\$ 674	\$ 33,879
Total revenue, net of interest expense	68,511	455	68,966	66,916	674	67,590
Income tax expense	5,017	455	5,472	7,185	674	7,859

Table 50 Period-end and Average Supplemental Financial Data and Reconciliations to GAAP Financial Measures



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	Period-end		Average		Nine Months Ended	
	September 30 2018	December 31 2017	Three Months Ended September 30		September 30	
(Dollars in millions)			2018	2017	2018	2017
Common shareholders' equity	\$239,832	\$244,823	\$241,812	\$249,214	\$241,943	\$245,841
Goodwill	(68,951 )	(68,951 )	(68,951 )	(68,969 )	(68,951 )	(69,398 )
Intangible assets (excluding MSRs)	(1,908 )	(2,312 )	(1,992 )	(2,549 )	(2,125 )	(2,737 )
Related deferred tax liabilities	878	943	896	1,465	917	1,503
Tangible common shareholders' equity	\$169,851	\$174,503	\$171,765	\$179,161	\$171,784	\$175,209
Shareholders' equity	\$262,158	\$267,146	\$264,653	\$273,238	\$265,102	\$270,658
Goodwill	(68,951 )	(68,951 )	(68,951 )	(68,969 )	(68,951 )	(69,398 )
Intangible assets (excluding MSRs)	(1,908 )	(2,312 )	(1,992 )	(2,549 )	(2,125 )	(2,737 )
Related deferred tax liabilities	878	943	896	1,465	917	1,503
Tangible shareholders' equity	\$192,177	\$196,826	\$194,606	\$203,185	\$194,943	\$200,026
Total assets	\$2,338,833	\$2,281,234				
Goodwill	(68,951 )	(68,951 )				
Intangible assets (excluding MSRs)	(1,908 )	(2,312 )				
Related deferred tax liabilities	878	943				
Tangible assets	\$2,268,852	\$2,210,914				



**Item 3. Quantitative and Qualitative Disclosures about Market Risk**

See Market Risk Management on page 47 in the MD&A and the sections referenced therein for Quantitative and Qualitative Disclosures about Market Risk.

**Item 4. Controls and Procedures**

**Disclosure Controls and Procedures**

As of the end of the period covered by this report, the Corporation's management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness and design of the Corporation's disclosure controls and procedures (as that term is defined in Rule 13a-15(e) of the Exchange Act). Based upon that evaluation, the Corporation's Chief Executive Officer and Chief Financial Officer concluded that the Corporation's disclosure controls and procedures were effective, as of the end of the period covered by this report.

**Changes in Internal Control Over Financial Reporting**

There have been no changes in the Corporation's internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) during the three months ended September 30, 2018, that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

## Part I. Financial Information

## Item 1. Financial Statements

## Bank of America Corporation and Subsidiaries

## Consolidated Statement of Income

	Three Months		Nine Months	
	Ended September		Ended September	
	30		30	
(In millions, except per share information)	2018	2017	2018	2017
Interest income				
Loans and leases	\$10,401	\$9,203	\$30,095	\$26,877
Debt securities	2,986	2,629	8,646	7,764
Federal funds sold and securities borrowed or purchased under agreements to resell	799	659	2,130	1,658
Trading account assets	1,172	1,091	3,506	3,330
Other interest income	1,607	1,075	4,556	2,884
Total interest income	16,965	14,657	48,933	42,513
Interest expense				
Deposits	1,230	624	2,933	1,252
Short-term borrowings	1,526	944	4,123	2,508
Trading account liabilities	335	319	1,040	890
Long-term debt	2,004	1,609	5,709	4,658
Total interest expense	5,095	3,496	13,805	9,308
Net interest income	11,870	11,161	35,128	33,205
Noninterest income				
Card income	1,470	1,429	4,469	4,347
Service charges	1,961	1,968	5,836	5,863
Investment and brokerage services	3,494	3,437	10,616	10,314
Investment banking income	1,204	1,477	3,979	4,593
Trading account profits	1,893	1,837	6,907	6,124
Other income	885	530	1,576	2,470
Total noninterest income	10,907	10,678	33,383	33,711
Total revenue, net of interest expense	22,777	21,839	68,511	66,916
Provision for credit losses	716	834	2,377	2,395
Noninterest expense				
Personnel	7,721	7,811	24,145	24,326
Occupancy	1,015	999	3,051	3,000
Equipment	421	416	1,278	1,281
Marketing	421	461	1,161	1,235
Professional fees	439	476	1,219	1,417
Data processing	791	777	2,398	2,344
Telecommunications	173	170	522	538
Other general operating	2,086	2,284	6,474	7,328
Total noninterest expense	13,067	13,394	40,248	41,469
Income before income taxes	8,994	7,611	25,886	23,052
Income tax expense	1,827	2,187	5,017	7,185

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Net income	\$7,167	\$ 5,424	\$20,869	\$15,867
Preferred stock dividends	466	465	1,212	1,328
Net income applicable to common shareholders	\$6,701	\$ 4,959	\$19,657	\$14,539

Per common share information

Earnings	\$0.67	\$ 0.49	\$1.93	\$1.44
Diluted earnings	0.66	0.46	1.91	1.36
Dividends paid	0.15	0.12	0.39	0.27
Average common shares issued and outstanding	10,031.6	10,197.9	10,177.5	10,103.4
Average diluted common shares issued and outstanding	10,170.8	10,746.7	10,317.9	10,832.1

See accompanying Notes to Consolidated Financial Statements.

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## Bank of America Corporation and Subsidiaries

## Consolidated Statement of Comprehensive Income

	Three Months		Nine Months	
	Ended September 30		Ended September 30	
(Dollars in millions)	2018	2017	2018	2017
Net income	\$7,167	\$5,424	\$20,869	\$15,867
Other comprehensive income (loss), net-of-tax:				
Net change in debt and equity securities	(1,172 )	462	(6,166 )	931
Net change in debit valuation adjustments	(269 )	(80 )	183	(149 )
Net change in derivatives	21	24	(346 )	156
Employee benefit plan adjustments	31	26	91	80
Net change in foreign currency translation adjustments	(114 )	5	(303 )	102
Other comprehensive income (loss)	(1,503 )	437	(6,541 )	1,120
Comprehensive income	\$5,664	\$5,861	\$14,328	\$16,987

See accompanying Notes to Consolidated Financial Statements.

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## Bank of America Corporation and Subsidiaries

## Consolidated Balance Sheet

(Dollars in millions)	September 30 2018	December 31 2017
Assets		
Cash and due from banks	\$27,440	\$29,480
Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks	157,418	127,954
Cash and cash equivalents	184,858	157,434
Time deposits placed and other short-term investments	7,865	11,153
Federal funds sold and securities borrowed or purchased under agreements to resell (includes \$52,524 and \$52,906 measured at fair value)	248,237	212,747
Trading account assets (includes \$110,199 and \$106,274 pledged as collateral)	219,118	209,358
Derivative assets	45,617	37,762
Debt securities:		
Carried at fair value	251,635	315,117
Held-to-maturity, at cost (fair value – \$187,988 and \$123,299)	194,472	125,013
Total debt securities	446,107	440,130
Loans and leases (includes \$5,731 and \$5,710 measured at fair value)	929,801	936,749
Allowance for loan and lease losses	(9,734	) (10,393
Loans and leases, net of allowance	920,067	926,356
Premises and equipment, net	9,680	9,247
Goodwill	68,951	68,951
Loans held-for-sale (includes \$3,116 and \$2,156 measured at fair value)	5,576	11,430
Customer and other receivables	56,962	61,623
Other assets (includes \$23,738 and \$22,581 measured at fair value)	125,795	135,043
Total assets	\$2,338,833	\$2,281,234
Assets of consolidated variable interest entities included in total assets above (isolated to settle the liabilities of the variable interest entities)		
Trading account assets	\$6,145	\$6,521
Loans and leases	44,163	48,929
Allowance for loan and lease losses	(920	) (1,016
Loans and leases, net of allowance	43,243	47,913
All other assets	357	1,721
Total assets of consolidated variable interest entities	\$49,745	\$56,155
See accompanying Notes to Consolidated Financial Statements.		

## Bank of America Corporation and Subsidiaries

## Consolidated Balance Sheet (continued)

(Dollars in millions)	September 30 2018	December 31 2017
<b>Liabilities</b>		
Deposits in U.S. offices:		
Noninterest-bearing	\$414,853	\$430,650
Interest-bearing (includes \$529 and \$449 measured at fair value)	844,204	796,576
Deposits in non-U.S. offices:		
Noninterest-bearing	12,896	14,024
Interest-bearing	73,696	68,295
Total deposits	1,345,649	1,309,545
Federal funds purchased and securities loaned or sold under agreements to repurchase (includes \$34,242 and \$36,182 measured at fair value)	171,600	176,865
Trading account liabilities	89,964	81,187
Derivative liabilities	36,189	34,300
Short-term borrowings (includes \$1,789 and \$1,494 measured at fair value)	29,035	32,666
Accrued expenses and other liabilities (includes \$24,516 and \$22,840 measured at fair value and \$792 and \$777 of reserve for unfunded lending commitments)	170,138	152,123
Long-term debt (includes \$28,677 and \$31,786 measured at fair value)	234,100	227,402
Total liabilities	2,076,675	2,014,088
Commitments and contingencies (Note 7 – Securitizations and Other Variable Interest Entities and Note 10 – Commitments and Contingencies)		
<b>Shareholders' equity</b>		
Preferred stock, \$0.01 par value; authorized – 100,000,000 shares; issued and outstanding – 3,843,140 and 3,837,683 shares	22,326	22,323
Common stock and additional paid-in capital, \$0.01 par value; authorized – 12,800,000,000 shares; issued and outstanding – 9,858,252,641 and 10,287,302,431 shares	123,921	138,089
Retained earnings	130,747	113,816
Accumulated other comprehensive income (loss)	(14,836)	(7,082)
Total shareholders' equity	262,158	267,146
Total liabilities and shareholders' equity	\$2,338,833	\$2,281,234
Liabilities of consolidated variable interest entities included in total liabilities above		
Short-term borrowings	\$905	\$312
Long-term debt (includes \$11,024 and \$9,872 of non-recourse debt)	11,024	9,873
All other liabilities (includes \$37 and \$34 of non-recourse liabilities)	39	37
Total liabilities of consolidated variable interest entities	\$11,968	\$10,222
See accompanying Notes to Consolidated Financial Statements.		



## Bank of America Corporation and Subsidiaries

## Consolidated Statement of Changes in Shareholders' Equity

(In millions)	Preferred Stock	Common Stock and Additional Paid-in		Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
		Capital Shares	Amount			
Balance, December 31, 2016	\$25,220	10,052.6	\$ 147,038	\$ 101,225	\$ (7,288 )	\$ 266,195
Net income				15,867		15,867
Net change in debt and equity securities					931	931
Net change in debit valuation adjustments					(149 )	(149 )
Net change in derivatives					156	156
Employee benefit plan adjustments					80	80
Net change in foreign currency translation adjustments					102	102
Dividends declared:						
Common				(2,768 )		(2,768 )
Preferred				(1,292 )		(1,292 )
Common stock issued in connection with exercise of warrants and exchange of preferred stock	(2,897 )	700.0	2,933	(36 )		—
Common stock issued under employee plans, net and other		39.5	792			792
Common stock repurchased		(334.6 )	(7,945 )			(7,945 )
Balance, September 30, 2017	\$22,323	10,457.5	\$ 142,818	\$ 112,996	\$ (6,168 )	\$ 271,969
Balance, December 31, 2017	\$22,323	10,287.3	\$ 138,089	\$ 113,816	\$ (7,082 )	\$ 267,146
Cumulative adjustment for adoption of hedge accounting standard				(32 )	57	25
Adoption of accounting standard related to certain tax effects stranded in accumulated other comprehensive income (loss)				1,270	(1,270 )	—
Net income				20,869		20,869
Net change in debt and equity securities					(6,166 )	(6,166 )
Net change in debit valuation adjustments					183	183
Net change in derivatives					(346 )	(346 )
Employee benefit plan adjustments					91	91
Net change in foreign currency translation adjustments					(303 )	(303 )
Dividends declared:						
Common				(3,952 )		(3,952 )
Preferred				(1,212 )		(1,212 )
Issuance of preferred stock	4,515					4,515
Redemption of preferred stock	(4,512 )					(4,512 )
Common stock issued under employee plans, net and other		52.8	695	(12 )		683
Common stock repurchased		(481.8 )	(14,863 )			(14,863 )
Balance, September 30, 2018	\$22,326	9,858.3	\$ 123,921	\$ 130,747	\$ (14,836 )	\$ 262,158

See accompanying Notes to Consolidated Financial Statements.

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## Bank of America Corporation and Subsidiaries

## Consolidated Statement of Cash Flows

(Dollars in millions)	Nine Months Ended September 30	
	2018	2017
Operating activities		
Net income	\$20,869	\$15,867
Adjustments to reconcile net income to net cash provided by operating activities:		
Provision for credit losses	2,377	2,395
Gains on sales of debt securities	(76 )	(278 )
Depreciation and premises improvements amortization	1,135	1,115
Amortization of intangibles	404	473
Net amortization of premium/discount on debt securities	1,411	1,647
Deferred income taxes	2,845	5,131
Stock-based compensation	1,323	1,222
Loans held-for-sale:		
Originations and purchases	(16,830 )	(31,404 )
Proceeds from sales and paydowns of loans originally classified as held for sale and instruments from related securitization activities	23,221	27,484
Net change in:		
Trading and derivative instruments	(13,347 )	(12,553 )
Other assets	13,648	(9,993 )
Accrued expenses and other liabilities	18,266	11,201
Other operating activities, net	(1,804 )	4,657
Net cash provided by operating activities	53,442	16,964
Investing activities		
Net change in:		
Time deposits placed and other short-term investments	3,288	368
Federal funds sold and securities borrowed or purchased under agreements to resell	(35,490 )	(18,990 )
Debt securities carried at fair value:		
Proceeds from sales	3,070	64,597
Proceeds from paydowns and maturities	56,458	71,628
Purchases	(54,923 )	(134,915 )
Held-to-maturity debt securities:		
Proceeds from paydowns and maturities	13,566	12,194
Purchases	(35,215 )	(17,850 )
Loans and leases:		
Proceeds from sales of loans originally classified as held for investment and instruments from related securitization activities	13,600	8,874
Purchases	(3,323 )	(4,511 )
Other changes in loans and leases, net	(6,432 )	(29,654 )
Other investing activities, net	(1,750 )	8,635
Net cash used in investing activities	(47,151 )	(39,624 )
Financing activities		
Net change in:		
Deposits	36,104	23,483
Federal funds purchased and securities loaned or sold under agreements to repurchase	(5,313 )	19,987

Short-term borrowings	(3,631 )	8,583
Long-term debt:		
Proceeds from issuance	60,873	50,702
Retirement	(44,817 )	(44,652 )
Preferred stock:		
Proceeds from issuance	4,515	—
Redemption	(4,512 )	—
Common stock repurchased	(14,863 )	(7,945 )
Cash dividends paid	(5,150 )	(4,124 )
Other financing activities, net	(644 )	(609 )
Net cash provided by financing activities	22,562	45,425
Effect of exchange rate changes on cash and cash equivalents	(1,429 )	1,878
Net increase in cash and cash equivalents	27,424	24,643
Cash and cash equivalents at January 1	157,434	147,738
Cash and cash equivalents at September 30	\$184,858	\$172,381
See accompanying Notes to Consolidated Financial Statements.		

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Bank of America Corporation and Subsidiaries

Notes to Consolidated Financial Statements

NOTE 1 Summary of Significant Accounting Principles

Bank of America Corporation, a bank holding company and a financial holding company, provides a diverse range of financial services and products throughout the U.S. and in certain international markets. The term “the Corporation” as used herein may refer to Bank of America Corporation, individually, Bank of America Corporation and its subsidiaries, or certain of Bank of America Corporation’s subsidiaries or affiliates.

Principles of Consolidation and Basis of Presentation

The Consolidated Financial Statements include the accounts of the Corporation and its majority-owned subsidiaries and those variable interest entities (VIEs) where the Corporation is the primary beneficiary. Intercompany accounts and transactions have been eliminated. Results of operations of acquired companies are included from the dates of acquisition and for VIEs, from the dates that the Corporation became the primary beneficiary. Assets held in an agency or fiduciary capacity are not included in the Consolidated Financial Statements. The Corporation accounts for investments in companies for which it owns a voting interest and for which it has the ability to exercise significant influence over operating and financing decisions using the equity method of accounting. These investments are included in other assets. Equity method investments are subject to impairment testing, and the Corporation’s proportionate share of income or loss is included in other income.

The preparation of the Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect reported amounts and disclosures. Realized results could materially differ from those estimates and assumptions.

These unaudited Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

The nature of the Corporation’s business is such that the results of any interim period are not necessarily indicative of results for a full year. In the opinion of management, all adjustments, which consist of normal recurring adjustments necessary for a fair statement of the interim period results, have been made. The Corporation evaluates subsequent events through the date of filing with the Securities and Exchange Commission (SEC). Certain prior-period amounts have been reclassified to conform to current period presentation.

Change in Tax Law

On December 22, 2017, the President signed into law the Tax Cuts and Jobs Act (the Tax Act) which made significant changes to federal income tax law including, among other things, reducing the statutory corporate income tax rate to 21 percent from 35 percent and changing the taxation of the Corporation’s non-U.S. business activities. On the same date, the SEC issued Staff Accounting Bulletin No. 118 which specifies, among other things, that reasonable estimates of the income tax effects of the Tax Act should be used, if determinable. The Corporation has accounted for the effects of the Tax Act using reasonable estimates based on currently available information and its interpretations thereof. This accounting may change due to, among other things, changes

in interpretations the Corporation has made and the issuance of new tax or accounting guidance.

Accounting Standards Adopted on January 1, 2018

Effective January 1, 2018, the Corporation adopted the following new accounting standards on a prospective basis.

For additional information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

Revenue Recognition – The new accounting standard addresses the recognition of revenue from contracts with customers. For additional information, see Revenue Recognition Accounting Policies in this Note, Note 2 – Noninterest Income and Note 17 – Business Segment Information.

Hedge Accounting – The new accounting standard simplifies and expands the ability to apply hedge accounting to certain risk management activities. For additional information, see Note 3 – Derivatives.

Recognition and Measurement of Financial Assets and Liabilities – The new accounting standard relates to the recognition and measurement of financial instruments, including equity investments. For additional information, see Note 4 – Securities and Note 16 – Fair Value of Financial Instruments.

**Tax Effects in Accumulated Other Comprehensive Income** – The new accounting standard addresses certain tax effects stranded in accumulated other comprehensive income (OCI) related to the Tax Act. For additional information, see Note 12 – Accumulated Other Comprehensive Income (Loss).

Effective January 1, 2018, the Corporation adopted the following new accounting standards on a retrospective basis, resulting in restatement of all prior periods presented in the Consolidated Statement of Income and the Consolidated Statement of Cash Flows. The changes in presentation are not material to the individual line items affected.

**Presentation of Pension Costs** – The new accounting standard requires separate presentation of the service cost component of pension expense from all other components of net pension benefit/cost in the Consolidated Statement of Income. As a result, the service cost component continues to be presented in personnel expense while other components of net pension benefit/cost (e.g., interest cost, actual return on plan assets, amortization of prior service cost) are now presented in other general operating expense.

**Classification of Cash Flows and Restricted Cash** – The new accounting standards address the classification of certain cash receipts and cash payments in the statement of cash flows as well as the presentation and disclosure of restricted cash. For more information on restricted cash, see Note 9 – Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash.

**Accounting Standards Issued and Not Yet Adopted**

**Lease Accounting**

The Financial Accounting Standards Board (FASB) issued a new accounting standard effective on January 1, 2019 that requires lessees to recognize operating leases on the Consolidated Balance Sheet as right-of-use assets and lease liabilities based on the value of the discounted future lease payments. Lessor accounting is largely unchanged.

Expanded disclosures about the nature and terms of lease agreements will be required. The Corporation intends to elect the optional transition method, which

allows for the recognition of leases at the beginning of the period of adoption through a cumulative-effect adjustment in retained earnings, with no adjustment to comparative prior periods presented. The effect of the adoption will depend on the lease portfolio at the time of transition; however, based on current estimates, the Corporation expects to recognize right-of-use assets and lease liabilities within a range of approximately \$9 billion to \$11 billion. Adoption of the standard is not expected to have a significant effect on the Corporation's regulatory capital measures.

#### Accounting for Financial Instruments -- Credit Losses

The FASB issued a new accounting standard effective on January 1, 2020, with early adoption permitted on January 1, 2019, that will replace the existing measurement of the allowance for credit losses with management's best estimate of probable credit losses inherent in the Corporation's lending activities. The new standard will reflect management's best estimate of all expected credit losses for substantially all of the Corporation's financial assets that are recognized at amortized cost. The standard also requires expanded credit quality disclosures. The Corporation is in the process of identifying and implementing required changes to credit loss estimation models and processes and evaluating the impact of this new accounting standard, which at the date of adoption is expected to increase the allowance for credit losses with a resulting negative adjustment to retained earnings. The change will be dependent on the characteristics of the Corporation's portfolio at adoption date as well as the macroeconomic conditions and forecast as of that date. While a final decision has not been made, the Corporation does not expect to early adopt the standard.

#### Significant Accounting Principles Update

##### Revenue Recognition

The following summarizes the Corporation's revenue recognition accounting policies for certain noninterest income activities.

##### Card Income

Card income includes annual, late and over-limit fees as well as fees earned from interchange, cash advances and other miscellaneous transactions and is presented net of direct costs. Interchange fees are recognized upon settlement of the credit and debit card payment transactions and are generally determined on a percentage basis for credit cards and fixed rates for debit cards based on the corresponding payment network's rates. Substantially all card fees are recognized at the transaction date, except for certain time-based fees such as annual fees, which are recognized over 12 months. Fees charged to cardholders that are estimated to be uncollectible are reserved in the allowance for loan and lease losses. Rewards paid to cardholders are related to points earned by the cardholder that can be redeemed for a broad range of rewards including cash, travel and gift cards. Based on past redemption behavior, card product type, account transaction activity and other historical card performance, the Corporation estimates a liability based on the amount of earned reward points that are expected to be redeemed. The Corporation also makes payments to credit card partners. The payments are based on revenue-sharing agreements that are generally driven by cardholder transactions and partner sales volumes.

##### Service Charges

Service charges include deposit and lending-related fees. Deposit-related fees consist of fees earned on consumer and commercial

deposit activities and are generally recognized when the transactions occur or as the service is performed. Consumer fees are earned on consumer deposit accounts for account maintenance and various transaction-based services, such as ATM transactions, wire transfer activities, check and money order processing and insufficient funds/overdraft transactions. Commercial deposit-related fees are from the Corporation's Global Transaction Services business and consist of commercial deposit and treasury management services, including account maintenance and other services, such as payroll, sweep account and other cash management services. Lending-related fees generally represent transactional fees earned from certain loan commitments, financial guarantees and standby letters of credit (SBLCs).

##### Investment and Brokerage Services

Investment and brokerage services consist of asset management and brokerage fees. Asset management fees are earned from the management of client assets under advisory agreements or the full discretion of the Corporation's financial advisors (collectively referred to as assets under management (AUM)). Asset management fees are earned as a percentage of the client's AUM and generally range from 50 basis points (bps) to 150 bps of the AUM. In cases where a third party is used to obtain a client's investment allocation, the fee remitted to the third party is recorded net

and is not reflected in the transaction price, as the Corporation is an agent for those services.

Brokerage fees include income earned from transaction-based services that are performed as part of investment management services and are based on a fixed price per unit or as a percentage of the total transaction amount. Brokerage fees also include distribution fees and sales commissions that are primarily in the Global Wealth & Investment Management (GWIM) segment and are earned over time. In addition, primarily in the Global Markets segment, brokerage fees are earned when the Corporation fills customer orders to buy or sell various financial products or when it acknowledges, affirms, settles and clears transactions and/or submits trade information to the appropriate clearing broker. Certain customers pay brokerage, clearing and/or exchange fees imposed by relevant regulatory bodies or exchanges in order to execute or clear trades. These fees are recorded net and are not reflected in the transaction price, as the Corporation is an agent for those services.

#### Investment Banking Income

Investment banking income includes underwriting income and financial advisory services income. Underwriting consists of fees earned for the placement of a customer's debt or equity securities. The revenue is generally earned based on a percentage of the fixed number of shares or principal placed. Once the number of shares or notes is determined and the service is completed, the underwriting fees are recognized. The Corporation incurs certain out-of-pocket expenses, such as legal costs, in performing these services. These expenses are recovered through the revenue the Corporation earns from the customer and are included in operating expenses. Syndication fees represent fees earned as the agent or lead lender responsible for structuring, arranging and administering a loan syndication. Financial advisory services consist of fees earned for assisting customers with transactions related to mergers and acquisitions and financial restructurings. Revenue varies depending on the size



and number of services performed for each contract and is generally contingent on successful execution of the transaction. Revenue is typically recognized once the transaction is completed and all services have been rendered. Additionally, the Corporation may earn a fixed fee in merger and acquisition transactions to provide a fairness opinion, with the fees recognized when the opinion is delivered to the customer.

#### Other Revenue Measurement and Recognition Policies

The Corporation did not disclose the value of any open performance obligations at September 30, 2018, as its contracts with customers generally have a fixed term that is less than one year, an open term with a cancellation period that is less than one year, or provisions that allow the Corporation to recognize revenue at the amount it has the right to invoice.

#### NOTE 2 Noninterest Income

The table below presents the Corporation's noninterest income disaggregated by revenue source for the three and nine months ended September 30, 2018 and 2017. For more information, see Note 1 – Summary of Significant Accounting Principles. For a disaggregation of noninterest income by business segment and All Other, see Note 17 – Business Segment Information.

(Dollars in millions)	Three Months		Nine Months	
	Ended September 30 2018	2017	Ended September 30 2018	2017
Card income				
Interchange fees <sup>(1)</sup>	\$978	\$941	\$3,018	\$2,883
Other card income	492	488	1,451	1,464
Total card income	1,470	1,429	4,469	4,347
Service charges				
Deposit-related fees	1,682	1,691	5,009	5,040
Lending-related fees	279	277	827	823
Total service charges	1,961	1,968	5,836	5,863
Investment and brokerage services				
Asset management fees	2,576	2,367	7,652	6,855
Brokerage fees	918	1,070	2,964	3,459
Total investment and brokerage services	3,494	3,437	10,616	10,314
Investment banking income				
Underwriting income	701	698	2,160	2,185
Syndication fees	241	405	958	1,146
Financial advisory services	262	374	861	1,262
Total investment banking income	1,204	1,477	3,979	4,593
Trading account profits	1,893	1,837	6,907	6,124
Other income	885	530	1,576	2,470
Total noninterest income	\$10,907	\$10,678	\$33,383	\$33,711

Gross interchange fees were \$2.4 billion and \$2.2 billion for the three months ended September 30, 2018 and 2017, and are presented net of \$1.4 billion and \$1.3 billion of expenses for rewards and partner payments. For the nine months ended September 30, 2018 and 2017, gross interchange fees were \$7.0 billion and \$6.5 billion and are presented net of \$4.0 billion and \$3.6 billion of expenses for rewards and partner payments.

## NOTE 3 Derivatives

## Derivative Balances

Derivatives are entered into on behalf of customers, for trading or to support risk management activities. Derivatives used in risk management activities include derivatives that may or may not be designated in qualifying hedge accounting relationships. Derivatives that are not designated in qualifying hedge accounting relationships are referred to as other risk management derivatives. For more information on the Corporation's derivatives and hedging activities, see Note 1 – Summary of Significant Accounting

Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K. The following tables present derivative instruments included on the Consolidated Balance Sheet in derivative assets and liabilities at September 30, 2018 and December 31, 2017. Balances are presented on a gross basis, prior to the application of counterparty and cash collateral netting. Total derivative assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements and have been reduced by cash collateral received or paid.

(Dollars in billions)	Contract/ Notional <sup>(1)</sup>	September 30, 2018 Gross Derivative Assets			Gross Derivative Liabilities		
		Trading and Other Risk Management Derivatives	Qualifying Accounting Hedges	Total	Trading and Other Risk Management Derivatives	Qualifying Accounting Hedges	Total
Interest rate contracts							
Swaps	\$ 17,788.7	\$ 138.9	\$ 1.3	\$ 140.2	\$ 132.7	\$ 4.5	\$ 137.2
Futures and forwards	6,270.1	1.3	—	1.3	1.2	—	1.2
Written options	1,433.4	—	—	—	26.7	—	26.7
Purchased options	1,488.2	28.7	—	28.7	—	—	—
Foreign exchange contracts							
Swaps	1,904.9	49.6	1.6	51.2	50.4	2.4	52.8
Spot, futures and forwards	4,568.7	42.1	0.7	42.8	41.7	0.5	42.2
Written options	300.4	—	—	—	5.1	—	5.1
Purchased options	296.0	4.4	—	4.4	—	—	—
Equity contracts							
Swaps	278.2	4.9	—	4.9	4.7	—	4.7
Futures and forwards	104.8	1.0	—	1.0	1.3	—	1.3
Written options	651.4	—	—	—	30.0	—	30.0
Purchased options	586.1	40.0	—	40.0	—	—	—
Commodity contracts							
Swaps	48.2	2.4	—	2.4	5.0	—	5.0
Futures and forwards	63.5	3.2	—	3.2	0.5	—	0.5
Written options	32.5	—	—	—	2.1	—	2.1
Purchased options	29.5	2.1	—	2.1	—	—	—
Credit derivatives <sup>(2)</sup>							
Purchased credit derivatives:							
Credit default swaps	430.3	4.9	—	4.9	9.8	—	9.8
Total return swaps/options	64.6	0.4	—	0.4	0.9	—	0.9
Written credit derivatives:							
Credit default swaps	398.2	9.3	—	9.3	4.3	—	4.3
Total return swaps/options	62.5	0.5	—	0.5	0.3	—	0.3

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Gross derivative assets/liabilities	\$333.7	\$ 3.6	\$337.3	\$316.7	\$ 7.4	\$324.1
Less: Legally enforceable master netting agreements			(259.7 )			(259.7 )
Less: Cash collateral received/paid			(32.0 )			(28.2 )
Total derivative assets/liabilities			\$45.6			\$36.2

(1) Represents the total contract/notional amount of derivative assets and liabilities outstanding.

The net derivative asset and notional amount of written credit derivatives for which the Corporation held purchased

(2) credit derivatives with identical underlying referenced names were \$4.3 billion and \$429.2 billion at September 30, 2018.

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(Dollars in billions)	December 31, 2017				December 31, 2017			
	Contract/ Notional <sup>(1)</sup>	Other Risk Management Derivatives	Qualifying Accounting Hedges	Total	Trading and Other Risk Management Derivatives	Qualifying Accounting Hedges	Total	Trading and Other Risk Management Derivatives
Interest rate contracts								
Swaps	\$ 15,416.4	\$ 175.1	\$ 2.9	\$ 178.0	\$ 172.5	\$ 1.7	\$ 174.2	
Futures and forwards	4,332.4	0.5	—	0.5	0.5	—	0.5	
Written options	1,170.5	—	—	—	35.5	—	35.5	
Purchased options	1,184.5	37.6	—	37.6	—	—	—	
Foreign exchange contracts								
Swaps	2,011.1	35.6	2.2	37.8	36.1	2.7	38.8	
Spot, futures and forwards	3,543.3	39.1	0.7	39.8	39.1	0.8	39.9	
Written options	291.8	—	—	—	5.1	—	5.1	
Purchased options	271.9	4.6	—	4.6	—	—	—	
Equity contracts								
Swaps	265.6	4.8	—	4.8	4.4	—	4.4	
Futures and forwards	106.9	1.5	—	1.5	0.9	—	0.9	
Written options	480.8	—	—	—	23.9	—	23.9	
Purchased options	428.2	24.7	—	24.7	—	—	—	
Commodity contracts								
Swaps	46.1	1.8	—	1.8	4.6	—	4.6	
Futures and forwards	47.1	3.5	—	3.5	0.6	—	0.6	
Written options	21.7	—	—	—	1.4	—	1.4	
Purchased options	22.9	1.4	—	1.4	—	—	—	
Credit derivatives <sup>(2)</sup>								
Purchased credit derivatives:								
Credit default swaps	470.9	4.1	—	4.1	11.1	—	11.1	
Total return swaps/options	54.1	0.1	—	0.1	1.3	—	1.3	
Written credit derivatives:								
Credit default swaps	448.2	10.6	—	10.6	3.6	—	3.6	
Total return swaps/options	55.2	0.8	—	0.8	0.2	—	0.2	
Gross derivative assets/liabilities		\$ 345.8	\$ 5.8	\$ 351.6	\$ 340.8	\$ 5.2	\$ 346.0	
Less: Legally enforceable master netting agreements				(279.2 )			(279.2 )	
Less: Cash collateral received/paid				(34.6 )			(32.5 )	
Total derivative assets/liabilities				\$ 37.8			\$ 34.3	

<sup>(1)</sup> Represents the total contract/notional amount of derivative assets and liabilities outstanding.

The net derivative asset and notional amount of written credit derivatives for which the Corporation held purchased

<sup>(2)</sup> credit derivatives with identical underlying referenced names were \$6.4 billion and \$435.1 billion at December 31, 2017.

#### Offsetting of Derivatives

The Corporation enters into International Swaps and Derivatives Association, Inc. (ISDA) master netting agreements or similar agreements with substantially all of the Corporation's derivative counterparties. For additional information, see Note 2 – Derivatives to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

The following table presents derivative instruments included in derivative assets and liabilities on the Consolidated Balance Sheet at September 30, 2018 and December 31, 2017 by primary risk (e.g., interest rate risk) and the platform, where applicable,

on which these derivatives are transacted. Balances are presented on a gross basis, prior to the application of counterparty and cash collateral netting. Total gross derivative assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements which include reducing the balance for counterparty netting and cash collateral received or paid.

For more information on offsetting of securities financing agreements, see Note 9 – Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash.

Offsetting of Derivatives <sup>(1)</sup>

(Dollars in billions)	Derivative		Derivative	
	Assets	Liabilities	Assets	Liabilities
	September 30, 2018		December 31, 2017	
Interest rate contracts				
Over-the-counter	\$ 165.9	\$ 161.0	\$ 211.7	\$ 206.0
Over-the-counter cleared	2.7	2.5	1.9	1.8
Foreign exchange contracts				
Over-the-counter	95.2	97.1	78.7	80.8
Over-the-counter cleared	1.1	1.0	0.9	0.7
Equity contracts				
Over-the-counter	27.2	17.3	18.3	16.2
Exchange-traded	13.5	12.2	9.1	8.5
Commodity contracts				
Over-the-counter	3.6	5.1	2.9	4.4
Exchange-traded	1.0	1.1	0.7	0.8
Credit derivatives				
Over-the-counter	7.9	8.4	9.1	9.6
Over-the-counter cleared	6.9	6.6	6.1	6.0
Total gross derivative assets/liabilities, before netting				
Over-the-counter	299.8	288.9	320.7	317.0
Exchange-traded	14.5	13.3	9.8	9.3
Over-the-counter cleared	10.7	10.1	8.9	8.5
Less: Legally enforceable master netting agreements and cash collateral received/paid				
Over-the-counter	(270.1 )	(266.1 )	(296.9 )	(294.6 )
Exchange-traded	(11.9 )	(11.9 )	(8.6 )	(8.6 )
Over-the-counter cleared	(9.7 )	(9.9 )	(8.3 )	(8.5 )
Derivative assets/liabilities, after netting	33.3	24.4	25.6	23.1
Other gross derivative assets/liabilities <sup>(2)</sup>	12.3	11.8	12.2	11.2
Total derivative assets/liabilities	45.6	36.2	37.8	34.3
Less: Financial instruments collateral <sup>(3)</sup>	(18.4 )	(9.3 )	(11.2 )	(10.4 )
Total net derivative assets/liabilities	\$ 27.2	\$ 26.9	\$ 26.6	\$ 23.9

Over-the-counter (OTC) derivatives include bilateral transactions between the Corporation and a particular counterparty. OTC-cleared derivatives include bilateral transactions between the Corporation and a counterparty where the transaction is cleared through a clearinghouse, and exchange-traded derivatives include listed options transacted on an exchange.

<sup>(2)</sup> Consists of derivatives entered into under master netting agreements where the enforceability of these agreements is uncertain under bankruptcy laws in some countries or industries.

<sup>(3)</sup> Amounts are limited to the derivative asset/liability balance and, accordingly, do not include excess collateral received/pledged. Financial instruments collateral includes securities collateral received or pledged and cash securities held and posted at third-party custodians that are not offset on the Consolidated Balance Sheet but shown as a reduction to derive net derivative assets and liabilities.

## ALM and Risk Management Derivatives

The Corporation's asset and liability management (ALM) and risk management activities include the use of derivatives to mitigate risk to the Corporation including derivatives designated in qualifying hedge accounting relationships and derivatives used in other risk management activities. For additional information, see Note 2 – Derivatives to the

Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.  
Derivatives Designated as Accounting Hedges

The Corporation uses various types of interest rate and foreign exchange derivative contracts to protect against changes in the fair value of its assets and liabilities due to fluctuations in interest rates and exchange rates (fair value hedges). The Corporation also

uses these types of contracts and equity derivatives to protect against changes in the cash flows of its assets and liabilities, and other forecasted transactions (cash flow hedges). The Corporation hedges its net investment in consolidated non-U.S. operations determined to have functional currencies other than the U.S. dollar using forward exchange contracts and cross-currency basis swaps, and by issuing foreign currency-denominated debt (net investment hedges).

Effective January 1, 2018, the Corporation early adopted the hedge accounting standard on a prospective basis and, accordingly, prior-period hedge accounting disclosures were not conformed to the current-period presentation. For more information, see Note 1 – Summary of Significant Accounting Principles.

Fair Value Hedges

The table below summarizes information related to fair value hedges for the three and nine months ended September 30, 2018 and 2017.

Gains and Losses on Derivatives Designated as Fair Value Hedges

(Dollars in millions)	Three Months Ended September 30, 2018		Three Months Ended September 30, 2017		Hedge Ineffectiveness
	Derivative	Hedged Item	Derivative	Hedged Item	
Interest rate risk on long-term debt <sup>(1)</sup>	\$(1,129)	\$1,122	\$(273)	\$169	\$ (104 )
Interest rate and foreign currency risk on long-term debt <sup>(2, 3)</sup>	(182 )	207	607	(593 )	14
Interest rate risk on available-for-sale securities <sup>(4)</sup>	12	(12 )	(8 )	7	(1 )
Total	\$(1,299)	\$1,317	\$326	\$(417 )	\$ (91 )

  

(Dollars in millions)	Nine Months Ended September 30, 2018		Nine Months Ended September 30, 2017		Hedge Ineffectiveness
	Derivative	Hedged Item	Derivative	Hedged Item	
Interest rate risk on long-term debt <sup>(1)</sup>	\$(4,303)	\$4,179	\$(751)	\$313	\$ (438 )
Interest rate and foreign currency risk on long-term debt <sup>(2, 3)</sup>	(927 )	795	1,631	(1,603 )	28
Interest rate risk on available-for-sale securities <sup>(4)</sup>	(20 )	19	(71 )	40	(31 )
Total	\$(5,250)	\$4,993	\$809	\$(1,250)	\$ (441 )

<sup>(1)</sup> Amounts are recorded in interest expense in the Consolidated Statement of Income.

For the three and nine months ended September 30, 2018, the derivative amount includes losses of \$96 million and \$672 million in other income and losses of \$117 million and \$156 million in interest expense. For the same periods in 2017, the derivative amount includes gains of \$635 million and \$1.9 billion in other income and losses of \$29 million and \$310 million in interest expense. Line item totals are in the Consolidated Statement of Income.

For the three and nine months ended September 30, 2018, the derivative amount includes gains of \$31 million and losses of \$99 million related to certain changes in the fair value of derivatives that were excluded from effectiveness testing and recognized in accumulated OCI. None of the excluded amounts have been reclassified into earnings.

<sup>(4)</sup> Amounts are recorded in interest income in the Consolidated Statement of Income.

The table below summarizes the carrying value of hedged assets and liabilities that are designated and qualifying in fair value hedging relationships along with the cumulative amount of fair value hedging adjustments included in the carrying value that have been recorded in the current hedging relationships. These fair value hedging adjustments are open basis adjustments that are not subject to amortization as long as the hedging relationship remains designated.

Designated Fair Value Hedged Assets (Liabilities)

(Dollars in millions)	September 30, 2018	
	Carrying Value	Cumulative Fair Value Adjustments <sup>(1)</sup>
Long-term debt	\$(137,610)	\$ 1,839
Available-for-sale securities <sup>(2)</sup>	951	(61 )

<sup>(1)</sup> For assets, increase (decrease) to carrying value and for liabilities, (increase) decrease to carrying value.



(2) The amortized cost of available-for-sale securities in fair value hedging relationships was \$948 million and is included in debt securities carried at fair value on the Consolidated Balance Sheet.

At September 30, 2018, the cumulative fair value adjustments remaining on long-term debt and available-for-sale (AFS) securities from discontinued hedging relationships were a decrease of \$400 million of the related liability, and a decrease of \$34 million of the related asset, which are being amortized over the remaining contractual life of the de-designated hedged items.

#### Cash Flow and Net Investment Hedges

The following table summarizes certain information related to cash flow hedges and net investment hedges for the three and nine months ended September 30, 2018 and 2017. Of the \$1.3 billion

after-tax net loss (\$1.7 billion pretax) on derivatives in accumulated OCI at September 30, 2018, \$280 million after-tax (\$368 million pretax) is expected to be reclassified into earnings in the next 12 months. These net losses reclassified into earnings are expected to primarily reduce net interest income related to the respective hedged items. For terminated cash flow hedges, the time period over which the majority of the forecasted transactions are hedged is approximately six years, with a maximum length of time for certain forecasted transactions of 18 years.



Interest rate risk on mortgage activities <sup>(1)</sup>	\$ (45 )	\$ 1	\$(206)	\$32
Credit risk on loans	(2 )	—	(7 )	(3 )
Interest rate and foreign currency risk on ALM activities <sup>(2)</sup>	487	26	1,050	(26 )

Primarily related to hedges of interest rate risk on mortgage servicing rights (MSRs) and interest rate lock commitments (IRLCs) to originate mortgage loans that will be held for sale. The net gains on IRLCs, which are not included in the table but are considered derivative instruments, were \$8 million and \$36 million for the three and nine months ended September 30, 2018 compared to \$76 million and \$192 million for the same periods in 2017.

<sup>(2)</sup> Primarily related to hedges of debt securities carried at fair value and hedges of foreign currency-denominated debt.

#### Transfers of Financial Assets with Risk Retained through Derivatives

The Corporation enters into certain transactions involving the transfer of financial assets that are accounted for as sales where substantially all of the economic exposure to the transferred financial assets is retained through derivatives (e.g., interest rate and/or credit), but the Corporation does not retain control over the assets transferred. As of both September 30, 2018 and December 31, 2017, the Corporation had transferred \$6.0 billion of non-U.S. government-guaranteed mortgage-backed securities

(MBS) to a third-party trust and retained economic exposure to the transferred assets through derivative contracts. In connection with these transfers, the Corporation received gross cash proceeds of \$6.0 billion at the transfer dates. At September 30, 2018 and December 31, 2017, the fair value of the transferred securities was \$5.9 billion and \$6.1 billion. At September 30, 2018 and December 31, 2017, derivative assets of \$58 million and \$46 million and liabilities of \$1 million and \$3 million were recorded and are included in credit derivatives in the derivative instruments table on page 63.

## Sales and Trading Revenue

The Corporation enters into trading derivatives to facilitate client transactions and to manage risk exposures arising from trading account assets and liabilities. It is the Corporation's policy to include these derivative instruments in its trading activities which include derivatives and non-derivative cash instruments. The resulting risk from these derivatives is managed on a portfolio basis as part of the Corporation's Global Markets business segment. For more information on sales and trading revenue, see Note 2 – Derivatives to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

The table below, which includes both derivatives and non-derivative cash instruments, identifies the amounts in the

respective income statement line items attributable to the Corporation's sales and trading revenue in Global Markets, categorized by primary risk, for the three and nine months ended September 30, 2018 and 2017. The difference between total trading account profits in the following table and in the Consolidated Statement of Income represents trading activities in business segments other than Global Markets. This table includes debit valuation adjustment (DVA) and funding valuation adjustment (FVA) gains (losses). Global Markets results in Note 17 – Business Segment Information are presented on a fully taxable-equivalent (FTE) basis. The table below is not presented on an FTE basis.

## Sales and Trading Revenue

(Dollars in millions)	Three Months Ended September 30, 2018				Nine Months Ended September 30, 2018			
	Trading Account Profits	Net Interest Income	Other (1)	Total	Trading Account Profits	Net Interest Income	Other (1)	Total
Interest rate risk	\$182	\$307	\$134	\$623	\$1,070	\$946	\$203	\$2,219
Foreign exchange risk	379	(2)	2	379	1,175	(15)	5	1,165
Equity risk	853	(215)	350	988	3,105	(542)	1,196	3,759
Credit risk	266	465	106	837	1,093	1,424	377	2,894
Other risk	47	26	19	92	171	39	60	270
Total sales and trading revenue	\$1,727	\$581	\$611	\$2,919	\$6,614	\$1,852	\$1,841	\$10,307
	Three Months Ended September 30, 2017				Nine Months Ended September 30, 2017			
Interest rate risk	\$330	\$365	\$49	\$744	\$833	\$1,182	\$200	\$2,215
Foreign exchange risk	348	2	2	352	1,063	(2)	5	1,066
Equity risk	639	(142)	467	964	2,088	(372)	1,427	3,143
Credit risk	362	482	105	949	1,482	1,467	450	3,399
Other risk	35	8	16	59	168	18	67	253
Total sales and trading revenue	\$1,714	\$715	\$639	\$3,068	\$5,634	\$2,293	\$2,149	\$10,076

Represents amounts in investment and brokerage services and other income that are recorded in Global Markets and included in the definition of sales and trading revenue. Includes investment and brokerage services revenue of (1) \$378 million and \$1.3 billion for the three and nine months ended September 30, 2018 compared to \$488 million and \$1.5 billion for the same periods in 2017.

## Credit Derivatives

The Corporation enters into credit derivatives primarily to facilitate client transactions and to manage credit risk exposures. Credit derivatives derive value based on an underlying third-party referenced obligation or a portfolio of referenced obligations and generally require the Corporation, as the seller of credit protection, to make payments to a buyer upon the occurrence of a predefined credit event. Such credit events generally include bankruptcy of the referenced credit entity and failure to pay under the obligation,

as well as acceleration of indebtedness and payment repudiation or moratorium. For credit derivatives based on a portfolio of referenced credits or credit indices, the Corporation may not be required to make payment until a specified amount of loss has occurred and/or may only be required to make payment up to a specified amount.

Credit derivative instruments where the Corporation is the seller of credit protection and their expiration at September 30, 2018 and December 31, 2017 are summarized in the table below.

## Credit Derivative Instruments

	Less than One Year	One to Three Years	Three to Five Years	Over Five Years	Total
September 30, 2018					
(Dollars in millions) Carrying Value					
Credit default swaps:					
Investment grade	\$2	\$38	\$335	\$590	\$965
Non-investment grade	61	492	1,007	1,802	3,362
Total	63	530	1,342	2,392	4,327
Total return swaps/options:					
Investment grade	22	—	—	—	22
Non-investment grade	263	28	—	—	291
Total	285	28	—	—	313
Total credit derivatives	\$348	\$558	\$1,342	\$2,392	\$4,640
Credit-related notes:					
Investment grade	\$—	\$—	\$5	\$602	\$607
Non-investment grade	3	1	4	1,455	1,463
Total credit-related notes	\$3	\$1	\$9	\$2,057	\$2,070
Maximum Payout/Notional					
Credit default swaps:					
Investment grade	\$61,224	\$93,646	\$82,657	\$30,883	\$268,410
Non-investment grade	22,980	37,907	47,164	21,785	129,836
Total	84,204	131,553	129,821	52,668	398,246
Total return swaps/options:					
Investment grade	40,115	1,263	62	76	41,516
Non-investment grade	20,648	207	39	72	20,966
Total	60,763	1,470	101	148	62,482
Total credit derivatives	\$144,967	\$133,023	\$129,922	\$52,816	\$460,728
December 31, 2017					
Carrying Value					
Credit default swaps:					
Investment grade	\$4	\$3	\$61	\$245	\$313
Non-investment grade	203	453	484	2,133	3,273
Total	207	456	545	2,378	3,586

Total return swaps/options:					
Investment grade	30	—	—	—	30
Non-investment grade	150	—	—	3	153
Total	180	—	—	3	183
Total credit derivatives	\$387	\$456	\$545	\$2,381	\$3,769
Credit-related notes:					
Investment grade	\$—	\$—	\$7	\$689	\$696
Non-investment grade	12	4	34	1,548	1,598
Total credit-related notes	\$12	\$4	\$41	\$2,237	\$2,294
Maximum Payout/Notional					
Credit default swaps:					
Investment grade	\$61,388	\$115,480	\$107,081	\$21,579	\$305,528
Non-investment grade	39,312	49,843	39,098	14,420	142,673
Total	100,700	165,323	146,179	35,999	448,201
Total return swaps/options:					
Investment grade	37,394	2,581	—	143	40,118
Non-investment grade	13,751	514	143	697	15,105
Total	51,145	3,095	143	840	55,223
Total credit derivatives	\$151,845	\$168,418	\$146,322	\$36,839	\$503,424

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Credit derivatives are classified as investment and non-investment grade based on the credit quality of the underlying referenced obligation. The Corporation considers ratings of BBB- or higher as investment grade. Non-investment grade includes non-rated credit derivative instruments. The Corporation discloses internal categorizations of investment grade and non-investment grade consistent with how risk is managed for these instruments.

The notional amount represents the maximum amount payable by the Corporation for most credit derivatives. However, the Corporation does not monitor its exposure to credit derivatives based solely on the notional amount because this measure does not take into consideration the probability of occurrence. As such, the notional amount is not a reliable indicator of the Corporation's exposure to these contracts. Instead, a risk framework is used to define risk tolerances and establish limits so that certain credit risk-related losses occur within acceptable, predefined limits. Credit-related notes in the table above include investments in securities issued by collateralized debt obligation (CDO), collateralized loan obligation and credit-linked note vehicles. These instruments are primarily classified as trading securities. The carrying value of these instruments equals the Corporation's maximum exposure to loss. The Corporation is not obligated to make any payments to the entities under the terms of the securities owned.

#### Credit-related Contingent Features and Collateral

A majority of the Corporation's derivative contracts contain credit risk-related contingent features, primarily in the form of ISDA master netting agreements and credit support documentation that enhance the creditworthiness of these instruments compared to other obligations of the respective counterparty with whom the Corporation has transacted. These contingent features may be for the benefit of the Corporation as well as its counterparties with respect to changes in the Corporation's creditworthiness and the mark-to-market exposure under the derivative transactions. At September 30, 2018 and December 31, 2017, the Corporation held cash and securities collateral of \$83.7 billion and \$77.2 billion, and posted cash and securities collateral of \$55.1 billion and \$59.2 billion in the normal course of business under derivative agreements, excluding cross-product margining agreements where clients are permitted to margin on a net basis for both derivative and secured financing arrangements.

In connection with certain OTC derivative contracts and other trading agreements, the Corporation can be required to provide additional collateral or to terminate transactions with certain counterparties in the event of a downgrade of the senior debt ratings of the Corporation or certain subsidiaries. The amount of additional collateral required depends on the contract and is usually a fixed incremental amount and/or the market value of the exposure. For more information on credit-related contingent features and collateral, see Note 2 – Derivatives to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

At September 30, 2018, the amount of collateral, calculated based on the terms of the contracts, that the Corporation and certain subsidiaries could be required to post to counterparties but had not yet posted to counterparties was \$2.3 billion, including \$1.2 billion for Bank of America, National Association (Bank of America, N.A. or BANA).

Some counterparties are currently able to unilaterally terminate certain contracts, or the Corporation or certain subsidiaries may be required to take other action such as find a

suitable replacement or obtain a guarantee. At September 30, 2018 and December 31, 2017, the liability recorded for these derivative contracts was not significant.

The table below presents the amount of additional collateral that would have been contractually required by derivative contracts and other trading agreements at September 30, 2018 if the rating agencies had downgraded their long-term senior debt ratings for the Corporation or certain subsidiaries by one incremental notch and by an additional second incremental notch.

#### Additional Collateral Required to be Posted Upon Downgrade at September 30, 2018

(Dollars in millions)	One incremental notch	Second incremental notch
Bank of America Corporation	\$ 554	\$ 314
Bank of America, N.A. and subsidiaries <sup>(1)</sup>	212	264

(1) Included in Bank of America Corporation collateral requirements in this table.

The table below presents the derivative liabilities that would be subject to unilateral termination by counterparties and the amounts of collateral that would have been contractually required at September 30, 2018 if the long-term senior debt ratings for the Corporation or certain subsidiaries had been lower by one incremental notch and by an additional second incremental notch.

Derivative Liabilities Subject to Unilateral Termination Upon Downgrade at September 30, 2018

	One incremental notch	Second incremental notch
Derivative liabilities	\$ 260	\$ 607
Collateral posted	201	399

Valuation Adjustments on Derivatives

The table below presents credit valuation adjustment (CVA), DVA and FVA gains (losses) on derivatives, which are recorded in trading account profits, on a gross and net of hedge basis for the three and nine months ended September 30, 2018 and 2017. For more information on the valuation adjustments on derivatives, see Note 2 – Derivatives to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

Valuation Adjustments on Derivatives <sup>(1)</sup>

Gains (Losses)	Three Months Ended September 30			
	2018		2017	
(Dollars in millions)	Gross	Net	Gross	Net
Derivative assets (CVA)	\$71	\$27	\$23	\$15
Derivative assets/liabilities (FVA)	45	35	37	43
Derivative liabilities (DVA)	(69)	(79)	29	17

	Nine Months Ended September 30			
	2018		2017	
Derivative assets (CVA)	\$186	\$172	\$281	\$93
Derivative assets/liabilities (FVA)	36	16	113	140
Derivative liabilities (DVA)	(112)	(132)	(249)	(201)

At September 30, 2018 and December 31, 2017, cumulative CVA reduced the derivative assets balance by \$491

<sup>(1)</sup> million and \$677 million, cumulative FVA reduced the net derivatives balance by \$100 million and \$136 million, and cumulative DVA reduced the derivative liabilities balance by \$338 million and \$450 million, respectively.



## NOTE 4 Securities

The table below presents the amortized cost, gross unrealized gains and losses, and fair value of AFS debt securities, other debt securities carried at fair value and held-to-maturity (HTM) debt securities at September 30, 2018 and December 31, 2017.

## Debt Securities

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
(Dollars in millions)	September 30, 2018			
Available-for-sale debt securities				
Mortgage-backed securities:				
Agency	\$ 141,721	\$ 101	\$(5,710)	\$ 136,112
Agency-collateralized mortgage obligations	5,878	9	(209)	5,678
Commercial	14,138	2	(630)	13,510
Non-agency residential <sup>(1)</sup>	1,926	217	(6)	2,137
Total mortgage-backed securities	163,663	329	(6,555)	157,437
U.S. Treasury and agency securities	54,664	8	(2,366)	52,306
Non-U.S. securities	7,076	5	(2)	7,079
Other taxable securities, substantially all asset-backed securities	3,806	77	(7)	3,876
Total taxable securities	229,209	419	(8,930)	220,698
Tax-exempt securities	18,401	36	(87)	18,350
Total available-for-sale debt securities	247,610	455	(9,017)	239,048
Other debt securities carried at fair value	12,409	205	(27)	12,587
Total debt securities carried at fair value	260,019	660	(9,044)	251,635
Held-to-maturity debt securities, substantially all U.S. agency mortgage-backed securities <sup>(2)</sup>	194,472	1	(6,485)	187,988
Total debt securities <sup>(3, 4)</sup>	\$ 454,491	\$ 661	\$(15,529)	\$ 439,623
	December 31, 2017			
Available-for-sale debt securities				
Mortgage-backed securities:				
Agency	\$ 194,119	\$ 506	\$(1,696)	\$ 192,929
Agency-collateralized mortgage obligations	6,846	39	(81)	6,804
Commercial	13,864	28	(208)	13,684
Non-agency residential <sup>(1)</sup>	2,410	267	(8)	2,669
Total mortgage-backed securities	217,239	840	(1,993)	216,086
U.S. Treasury and agency securities	54,523	18	(1,018)	53,523
Non-U.S. securities	6,669	9	(1)	6,677
Other taxable securities, substantially all asset-backed securities	5,699	73	(2)	5,770
Total taxable securities	284,130	940	(3,014)	282,056
Tax-exempt securities	20,541	138	(104)	20,575
Total available-for-sale debt securities	304,671	1,078	(3,118)	302,631
Other debt securities carried at fair value	12,273	252	(39)	12,486
Total debt securities carried at fair value	316,944	1,330	(3,157)	315,117
Held-to-maturity debt securities, substantially all U.S. agency mortgage-backed securities	125,013	111	(1,825)	123,299
Total debt securities <sup>(3, 4)</sup>	\$ 441,957	\$ 1,441	\$(4,982)	\$ 438,416
Available-for-sale marketable equity securities <sup>(5)</sup>	\$ 27	\$ —	\$(2)	\$ 25

- (1) At September 30, 2018 and December 31, 2017, the underlying collateral type included approximately 65 percent and 62 percent prime, seven percent and 13 percent Alt-A and 28 percent and 25 percent subprime.
- (2) During the three and nine months ended September 30, 2018, the Corporation transferred \$25 billion and \$50 billion of available-for-sale debt securities to held to maturity.
- (3) Includes securities pledged as collateral of \$39.7 billion and \$35.8 billion at September 30, 2018 and December 31, 2017.  
The Corporation had debt securities from Fannie Mae (FNMA) and Freddie Mac (FHLMC) that each exceeded 10 percent of shareholders' equity, with an amortized cost of \$165.3 billion and \$53.1 billion, and a fair value of \$159.3 billion and \$51.4 billion at September 30, 2018, and an amortized cost of \$163.6 billion and \$50.3 billion, and a fair value of \$162.1 billion and \$50.0 billion at December 31, 2017.
- (5) Classified in other assets on the Consolidated Balance Sheet.

At September 30, 2018, the accumulated net unrealized loss on AFS debt securities included in accumulated OCI was \$6.4 billion, net of the related income tax benefit of \$2.1 billion. The Corporation had nonperforming AFS debt securities of \$71 million and \$99 million at September 30, 2018 and December 31, 2017.

Effective January 1, 2018, the Corporation adopted an accounting standard applicable to equity securities. For more information, see Note 1 – Summary of Significant Accounting Principles. At September 30, 2018, the Corporation held equity securities at an aggregate fair value of \$947 million and other equity securities, as valued under the measurement alternative, at cost of \$252 million, both of which are included in other assets.

At September 30, 2018, the Corporation also held equity securities at fair value of \$1.5 billion included in time deposits placed and other short-term investments.

The following table presents the components of other debt securities carried at fair value where the changes in fair value are reported in other income. In the three and nine months ended September 30, 2018, the Corporation recorded unrealized mark-to-market net losses of \$106 million and \$37 million, and realized net gains of \$114 million and \$123 million, compared to unrealized mark-to-market net gains of \$124 million and \$323 million and realized net losses of \$11 million and \$129 million for the same periods in 2017. These amounts exclude hedge results.

## Other Debt Securities Carried at Fair Value

(Dollars in millions)	September 30		December 31	
	2018	2017	2018	2017
Mortgage-backed securities	\$1,696	\$ 2,769		
Non-U.S. securities <sup>(1)</sup>	10,888	9,488		
Other taxable securities, substantially all asset-backed securities	3	229		
Total	\$12,587	\$ 12,486		

<sup>(1)</sup> These securities are primarily used to satisfy certain international regulatory liquidity requirements.

The gross realized gains and losses on sales of AFS debt securities for the three and nine months ended September 30, 2018 and 2017 are presented in the table below.

## Gains and Losses on Sales of AFS Debt Securities

(Dollars in millions)	Three Months Ended September 30		Nine Months Ended September 30	
	2018	2017	2018	2017
Gross gains	\$83	\$130	\$86	\$286
Gross losses	(10)	(5)	(10)	(8)
Net gains on sales of AFS debt securities	\$73	\$125	\$76	\$278
Income tax expense attributable to realized net gains on sales of AFS debt securities	\$17	\$48	\$18	\$106

The table below presents the fair value and the associated gross unrealized losses on AFS debt securities and whether these securities have had gross unrealized losses for less than 12 months or for 12 months or longer at September 30, 2018 and December 31, 2017.

## Temporarily Impaired and Other-than-temporarily Impaired AFS Debt Securities

(Dollars in millions)	Less than Twelve Months		Twelve Months or Longer		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Temporarily impaired AFS debt securities	September 30, 2018					
Mortgage-backed securities:						
Agency	\$45,433	\$(1,190)	\$87,214	\$(4,520)	\$132,647	\$(5,710)
Agency-collateralized mortgage obligations	1,959	(47)	3,344	(162)	5,303	(209)
Commercial	4,923	(146)	7,962	(484)	12,885	(630)
Non-agency residential	23	(2)	51	(4)	74	(6)
Total mortgage-backed securities	52,338	(1,385)	98,571	(5,170)	150,909	(6,555)
U.S. Treasury and agency securities	10,651	(409)	40,337	(1,957)	50,988	(2,366)
Non-U.S. securities	706	(1)	81	(1)	787	(2)
Other taxable securities, substantially all asset-backed securities	208	(3)	150	(4)	358	(7)
Total taxable securities	63,903	(1,798)	139,139	(7,132)	203,042	(8,930)
Tax-exempt securities	474	(1)	4,324	(86)	4,798	(87)

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Total temporarily impaired AFS debt securities	64,377	(1,799	)	143,463	(7,218	)	207,840	(9,017	)
Other-than-temporarily impaired AFS debt securities <sup>(1)</sup>									
Non-agency residential mortgage-backed securities	93	—	—	—	—	—	93	—	
Total temporarily impaired and other-than-temporarily impaired AFS debt securities	\$64,470	\$(1,799	)	\$143,463	\$(7,218	)	\$207,933	\$(9,017	)

December 31, 2017

Temporarily impaired AFS debt securities									
Mortgage-backed securities:									
Agency	\$73,535	\$(352	)	\$72,612	\$(1,344	)	\$146,147	\$(1,696	)
Agency-collateralized mortgage obligations	2,743	(29	)	1,684	(52	)	4,427	(81	)
Commercial	5,575	(50	)	4,586	(158	)	10,161	(208	)
Non-agency residential	335	(7	)	—	—	—	335	(7	)
Total mortgage-backed securities	82,188	(438	)	78,882	(1,554	)	161,070	(1,992	)
U.S. Treasury and agency securities	27,537	(251	)	24,035	(767	)	51,572	(1,018	)
Non-U.S. securities	772	(1	)	—	—	—	772	(1	)
Other taxable securities, substantially all asset-backed securities	—	—		92	(2	)	92	(2	)
Total taxable securities	110,497	(690	)	103,009	(2,323	)	213,506	(3,013	)
Tax-exempt securities	1,090	(2	)	7,100	(102	)	8,190	(104	)
Total temporarily impaired AFS debt securities	111,587	(692	)	110,109	(2,425	)	221,696	(3,117	)
Other-than-temporarily impaired AFS debt securities <sup>(1)</sup>									
Non-agency residential mortgage-backed securities	58	(1	)	—	—	—	58	(1	)
Total temporarily impaired and other-than-temporarily impaired AFS debt securities	\$111,645	\$(693	)	\$110,109	\$(2,425	)	\$221,754	\$(3,118	)

<sup>(1)</sup> Includes other-than-temporarily impaired (OTTI) AFS debt securities on which an OTTI loss, primarily related to changes in interest rates, remains in accumulated OCI.

The Corporation had \$12 million and \$23 million of credit-related OTTI losses on AFS debt securities which were recognized in other income for the three and nine months ended September 30, 2018 compared to \$0 and \$33 million for the same periods in 2017. The amount of noncredit-related OTTI losses recognized in OCI was not significant for all periods presented.

The cumulative OTTI credit losses recognized in income on AFS debt securities that the Corporation does not intend to sell were \$135 million and \$284 million at September 30, 2018 and 2017.

For more information on OTTI losses and significant assumptions used for the Corporation's underlying collateral, see Note 3 – Securities to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K. Significant assumptions used in estimating the expected cash flows for measuring credit losses on non-agency residential mortgage-backed securities (RMBS) were as follows at September 30, 2018.

#### Significant Assumptions

	Weighted average	Range <sup>(1)</sup>	
		10th Percentile <sup>(2)</sup>	90th Percentile <sup>(2)</sup>
Prepayment speed	12.0 %	3.1 %	23.3 %
Loss severity	18.1	8.4	31.0
Life default rate	20.1	0.7	73.5

<sup>(1)</sup> Represents the range of inputs/assumptions based upon the underlying collateral.

<sup>(2)</sup> The value of a variable below which the indicated percentile of observations will fall.

Annual constant prepayment speed and loss severity rates are projected considering collateral characteristics such as loan-to-value (LTV), creditworthiness of borrowers as measured using Fair Isaac Corporation (FICO) scores, and geographic concentrations. The weighted-average severity by collateral type was 16.2 percent for prime, 16.4 percent for Alt-A and 22.2 percent for subprime at September 30, 2018. Default rates are projected by considering collateral characteristics including, but not limited to, LTV, FICO and geographic concentration. Weighted-average life default rates by collateral type were 16.1 percent for prime, 21.9 percent for Alt-A and 22.7 percent for subprime at September 30, 2018.

The remaining contractual maturity distribution and yields of the Corporation's debt securities carried at fair value and HTM debt securities at September 30, 2018 are summarized in the table below. Actual duration and yields may differ as prepayments on the loans underlying the mortgages or other asset-backed securities (ABS) are passed through to the Corporation.

#### Maturities of Debt Securities Carried at Fair Value and Held-to-maturity Debt Securities

	Due in One		Due after One		Due after Five		Due after		Total	
	Year or Less	Yield (1)	Year through Five Years	Yield (1)	Years through Ten Years	Yield (1)	Ten Years	Yield (1)		
(Dollars in millions)	Amount	Yield (1)	Amount	Yield (1)	Amount	Yield (1)	Amount	Yield (1)	Amount	Yield (1)
Amortized cost of debt securities carried at fair value										

Mortgage-backed securities:											
Agency	\$—	—	% \$24	4.12	% \$463	2.62	% \$141,234	3.31	% \$141,721	3.31	%
Agency-collateralized mortgage obligations	—	—	—	—	31	2.48	5,847	3.17	5,878	3.17	
Commercial	314	1.74	2,391	2.36	10,658	2.50	775	2.97	14,138	2.49	
Non-agency residential	—	—	—	—	19	n/m	3,439	9.66	3,458	9.61	
Total mortgage-backed securities	314	1.74	2,415	2.38	11,171	2.50	151,295	3.45	165,195	3.36	
U.S. Treasury and agency securities	643	0.71	33,567	1.47	20,418	2.27	36	2.70	54,664	1.76	
Non-U.S. securities	16,518	0.77	1,305	1.08	2	3.56	128	6.15	17,953	0.83	
Other taxable securities, substantially all asset-backed securities	685	3.88	2,236	3.28	789	3.47	96	4.68	3,806	3.46	
Total taxable securities	18,160	0.90	39,523	1.61	32,380	2.38	151,555	3.45	241,618	2.82	
Tax-exempt securities	1,737	2.57	7,234	2.42	6,929	2.38	2,501	2.78	18,401	2.47	
Total amortized cost of debt securities carried at fair value	\$19,897	1.05	\$46,757	1.74	\$39,309	2.38	\$154,056	3.44	\$260,019	2.79	
Amortized cost of HTM debt securities <sup>(2)</sup>	\$4	3.36	\$55	3.62	\$1,484	2.76	\$192,929	3.22	\$194,472	3.22	
Debt securities carried at fair value											
Mortgage-backed securities:											
Agency	\$—		\$25		\$452		\$135,635		\$136,112		
Agency-collateralized mortgage obligations	—		—		29		5,649		5,678		
Commercial	312		2,323		10,138		737		13,510		
Non-agency residential	—		—		36		3,797		3,833		
Total mortgage-backed securities	312		2,348		10,655		145,818		159,133		
U.S. Treasury and agency securities	642		32,106		19,523		35		52,306		
Non-U.S. securities	16,519		1,314		2		132		17,967		
Other taxable securities, substantially all asset-backed securities	681		2,255		829		114		3,879		
Total taxable securities	18,154		38,023		31,009		146,099		233,285		
Tax-exempt securities	1,736		7,235		6,897		2,482		18,350		
Total debt securities carried at fair value	\$19,890		\$45,258		\$37,906		\$148,581		\$251,635		
Fair value of HTM debt securities <sup>(2)</sup>	\$4		\$55		\$1,415		\$186,514		\$187,988		

The average yield is computed based on a constant effective interest rate over the contractual life of each security.

(1) The average yield considers the contractual coupon and the amortization of premiums and accretion of discounts, excluding the effect of related hedging derivatives.

(2) Substantially all U.S. agency MBS.

n/m = not meaningful

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## NOTE 5 Outstanding Loans and Leases

The following tables present total outstanding loans and leases and an aging analysis for the Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments, by class of financing receivables, at September 30, 2018 and December 31, 2017.

	30-59 Days Past Due (1)	60-89 Days Past Due (1)	90 Days or More Past Due (2)	Total Past Due 30 Days or More	Total Current or Less Than 30 Days Past Due (3)	Purchased Credit-impaired (4)	Loans Accounted for Under the Fair Value Option	Total Outstandings	
(Dollars in millions)	September 30, 2018								
Consumer real estate									
Core portfolio									
Residential mortgage	\$ 1,248	\$ 253	\$ 814	\$ 2,315	\$ 186,975			\$ 189,290	
Home equity	200	89	453	742	39,854			40,596	
Non-core portfolio									
Residential mortgage	815	351	2,345	3,511	10,044	\$ 5,341		18,896	
Home equity	162	78	398	638	8,190	1,811		10,639	
Credit card and other consumer									
U.S. credit card	546	387	872	1,805	93,024			94,829	
Direct/Indirect consumer (5)	297	84	37	418	90,920			91,338	
Other consumer (6)	—	—	—	—	203			203	
Total consumer	3,268	1,242	4,919	9,429	429,210	7,152		445,791	
Consumer loans accounted for under the fair value option (7)							\$ 755	755	
Total consumer loans and leases	3,268	1,242	4,919	9,429	429,210	7,152	755	446,546	
Commercial									
U.S. commercial	433	127	469	1,029	284,633			285,662	
Non-U.S. commercial	29	—	—	29	95,973			96,002	
Commercial real estate (8)	20	33	10	63	60,772			60,835	
Commercial lease financing	48	94	41	183	21,363			21,546	
U.S. small business commercial	68	48	89	205	14,029			14,234	
Total commercial	598	302	609	1,509	476,770			478,279	
Commercial loans accounted for under the fair value option (7)							4,976	4,976	
Total commercial loans and leases	598	302	609	1,509	476,770		4,976	483,255	
Total loans and leases (9)	\$ 3,866	\$ 1,544	\$ 5,528	\$ 10,938	\$ 905,980	\$ 7,152	\$ 5,731	\$ 929,801	
Percentage of outstandings	0.42	% 0.17	% 0.59	% 1.18	% 97.44	% 0.77	% 0.61	% 100.00	%



- Consumer real estate loans 30-59 days past due includes fully-insured loans of \$714 million and nonperforming loans of \$233 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of \$309 million and nonperforming loans of \$175 million.
- (2) Consumer real estate includes fully-insured loans of \$2.2 billion.
  - (3) Consumer real estate includes \$2.0 billion and direct/indirect consumer includes \$44 million of nonperforming loans.
  - (4) Purchased credit-impaired (PCI) loan amounts are shown gross of the valuation allowance.  
Total outstandings includes auto and specialty lending loans and leases of \$50.1 billion, unsecured consumer
  - (5) lending loans of \$392 million, U.S. securities-based lending loans of \$37.4 billion, non-U.S. consumer loans of \$2.7 billion and other consumer loans of \$756 million.
  - (6) Substantially all of other consumer is consumer overdrafts.  
Consumer loans accounted for under the fair value option includes residential mortgage loans of \$407 million and home equity loans of \$348 million. Commercial loans accounted for under the fair value option includes U.S.
  - (7) commercial loans of \$3.6 billion and non-U.S. commercial loans of \$1.4 billion. For more information, see Note 14 – Fair Value Measurements and Note 15 – Fair Value Option.
  - (8) Total outstandings includes U.S. commercial real estate loans of \$56.9 billion and non-U.S. commercial real estate loans of \$3.9 billion.  
Total outstandings includes loans and leases pledged as collateral of \$45.6 billion. The Corporation also pledged
  - (9) \$158.5 billion of loans with no related outstanding borrowings to secure potential borrowing capacity with the Federal Reserve Bank and Federal Home Loan Bank (FHLB).

	30-59 Days Past Due (1)	60-89 Days Past Due (1)	90 Days or More Past Due (2)	Total Past Due 30 Days or More	Total Current or Less Than 30 Days Past Due (3)	Purchased Credit-impaired (4)	Loans Accounted for Under the Fair Value Option	Total Outstandings	
(Dollars in millions)	December 31, 2017								
Consumer real estate									
Core portfolio									
Residential mortgage	\$1,242	\$321	\$1,040	\$2,603	\$174,015			\$176,618	
Home equity	215	108	473	796	43,449			44,245	
Non-core portfolio									
Residential mortgage	1,028	468	3,535	5,031	14,161	\$ 8,001		27,193	
Home equity	224	121	572	917	9,866	2,716		13,499	
Credit card and other consumer									
U.S. credit card	542	405	900	1,847	94,438			96,285	
Direct/Indirect consumer (5)	330	104	44	478	95,864			96,342	
Other consumer (6)	—	—	—	—	166			166	
Total consumer	3,581	1,527	6,564	11,672	431,959	10,717		454,348	
Consumer loans accounted for under the fair value option (7)							\$ 928	928	
Total consumer loans and leases	3,581	1,527	6,564	11,672	431,959	10,717	928	455,276	
Commercial									
U.S. commercial	547	244	425	1,216	283,620			284,836	
Non-U.S. commercial	52	1	3	56	97,736			97,792	
Commercial real estate (8)	48	10	29	87	58,211			58,298	
Commercial lease financing	110	68	26	204	21,912			22,116	
U.S. small business commercial	95	45	88	228	13,421			13,649	
Total commercial	852	368	571	1,791	474,900			476,691	
Commercial loans accounted for under the fair value option (7)							4,782	4,782	
Total commercial loans and leases	852	368	571	1,791	474,900		4,782	481,473	
Total loans and leases (9)	\$4,433	\$1,895	\$7,135	\$13,463	\$906,859	\$ 10,717	\$ 5,710	\$936,749	
Percentage of outstandings	0.48	% 0.20	% 0.76	% 1.44	% 96.81	% 1.14	% 0.61	% 100.00	%

Consumer real estate loans 30-59 days past due includes fully-insured loans of \$850 million and nonperforming (1) loans of \$253 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of \$386 million and nonperforming loans of \$195 million.

(2) Consumer real estate includes fully-insured loans of \$3.2 billion.

- (3) Consumer real estate includes \$2.3 billion and direct/indirect consumer includes \$43 million of nonperforming loans.
- (4) PCI loan amounts are shown gross of the valuation allowance.  
Total outstandings includes auto and specialty lending loans and leases of \$52.4 billion, unsecured consumer
- (5) lending loans of \$469 million, U.S. securities-based lending loans of \$39.8 billion, non-U.S. consumer loans of \$3.0 billion and other consumer loans of \$684 million.
- (6) Substantially all of other consumer is consumer overdrafts.  
Consumer loans accounted for under the fair value option includes residential mortgage loans of \$567 million and
- (7) home equity loans of \$361 million. Commercial loans accounted for under the fair value option includes U.S. commercial loans of \$2.6 billion and non-U.S. commercial loans of \$2.2 billion. For more information, see Note 14 – Fair Value Measurements and Note 15 – Fair Value Option.
- (8) Total outstandings includes U.S. commercial real estate loans of \$54.8 billion and non-U.S. commercial real estate loans of \$3.5 billion.  
Total outstandings includes loans and leases pledged as collateral of \$40.1 billion. The Corporation also pledged
- (9) \$160.3 billion of loans with no related outstanding borrowings to secure potential borrowing capacity with the Federal Reserve Bank and FHLB.

The Corporation categorizes consumer real estate loans as core and non-core based on loan and customer characteristics such as origination date, product type, LTV, FICO score and delinquency status consistent with its current consumer and mortgage servicing strategy. Generally, loans that were originated after January 1, 2010, qualified under government-sponsored enterprise (GSE) underwriting guidelines, or otherwise met the Corporation's underwriting guidelines in place in 2015 are characterized as core loans. All other loans are generally characterized as non-core loans and represent run-off portfolios.

The Corporation has entered into long-term credit protection agreements with FNMA and FHLMC on loans totaling \$6.1 billion and \$6.3 billion at September 30, 2018 and December 31, 2017, providing full credit protection on residential mortgage loans that become severely delinquent. All of these loans are individually insured and therefore the Corporation does not record an allowance for credit losses related to these loans.

During the three and nine months ended September 30, 2018, certain consumer real estate loans, primarily non-core, with carrying values of \$3.7 billion and \$4.9 billion were sold, resulting in gains of \$84 million and \$656 million recorded in other income in the Consolidated Statement of Income.

#### Nonperforming Loans and Leases

The Corporation classifies junior-lien home equity loans as nonperforming when the first-lien loan becomes 90 days past due even if the junior-lien loan is performing. At September 30, 2018 and December 31, 2017, \$225 million and \$330 million of such junior-lien home equity loans were included in nonperforming loans.

The Corporation classifies consumer real estate loans that have been discharged in Chapter 7 bankruptcy and not reaffirmed by the borrower as troubled debt restructurings (TDRs), irrespective of payment history or delinquency status, even if the repayment terms for the loan have not been otherwise modified. The Corporation continues to have a lien on the underlying collateral. At September 30, 2018, nonperforming loans discharged in Chapter 7 bankruptcy with no change in repayment terms were \$220 million of which \$113 million were current on their contractual payments, while \$90 million were 90 days or more past due. Of the contractually current nonperforming loans, 66 percent were discharged in Chapter 7 bankruptcy over 12 months ago, and 58 percent were discharged 24 months or more ago.

During the three and nine months ended September 30, 2018, the Corporation sold nonperforming and PCI consumer real estate loans with a carrying value of \$2.1 billion and \$2.7 billion, including \$2.0 billion and \$2.1 billion of PCI loans, compared to \$700 million and \$1.2 billion, including \$538 million and \$742 million of PCI loans, for the same periods in 2017. During the nine months ended September 30, 2018 and 2017, the Corporation transferred consumer nonperforming loans with a net carrying value of \$2 million and \$198 million to held for sale.

The table below presents the Corporation's nonperforming loans and leases including nonperforming TDRs, and loans accruing past due 90 days or more at September 30, 2018 and December 31, 2017. Nonperforming loans held-for-sale (LHFS) are excluded from nonperforming loans and leases as they are recorded at either fair value or the lower of cost or fair value. For more information on the criteria for classification as nonperforming, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

### Credit Quality

(Dollars in millions)	Nonperforming Loans and Leases		Accruing Past Due 90 Days or More	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Consumer real estate				
Core portfolio				
Residential mortgage <sup>(1)</sup>	\$1,011	\$ 1,087	\$308	\$ 417
Home equity	1,056	1,079	—	—
Non-core portfolio				
Residential mortgage <sup>(1)</sup>	1,023	1,389	1,853	2,813
Home equity	1,170	1,565	—	—
Credit card and other consumer				
U.S. credit card	n/a	n/a	872	900
Direct/Indirect consumer	46	46	35	40
Other consumer	—	—	—	—
Total consumer	4,306	5,166	3,068	4,170
Commercial				
U.S. commercial	699	814	114	144
Non-U.S. commercial	31	299	—	3
Commercial real estate	46	112	1	4
Commercial lease financing	14	24	33	19
U.S. small business commercial	58	55	73	75
Total commercial	848	1,304	221	245
Total loans and leases	\$5,154	\$ 6,470	\$3,289	\$ 4,415

Residential mortgage loans in the core and non-core portfolios accruing past due 90 days or more are fully-insured loans. At September 30, 2018 and December 31, 2017, residential mortgage includes \$1.6 billion and \$2.2 billion <sup>(1)</sup> of loans on which interest has been curtailed by the Federal Housing Administration (FHA), and therefore are no longer accruing interest, although principal is still insured, and \$579 million and \$1.0 billion of loans on which interest is still accruing.

n/a = not applicable

### Credit Quality Indicators

The Corporation monitors credit quality within its Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments based on primary credit quality indicators. For more information on the portfolio segments and their related credit quality indicators, see Significant Accounting Principles – Loans and Leases in Note 1

– Summary of Significant Accounting Principles and Credit Quality Indicators in Note 4 – Outstanding Loans and Leases to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

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The following tables present certain credit quality indicators for the Corporation's Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments, by class of financing receivables, at September 30, 2018 and December 31, 2017.

 Consumer Real Estate – Credit Quality Indicators<sup>(1)</sup>

	Core Residential Mortgage (2)	Non-core Residential Mortgage (2)	Residential Mortgage PCI	Core Home Equity (2)	Non-core Home Equity (2)	Home Equity PCI
(Dollars in millions)	September 30, 2018					
Refreshed LTV <sup>(3)</sup>						
Less than or equal to 90 percent	\$ 168,949	\$ 8,594	\$ 4,720	\$ 39,719	\$ 6,862	\$ 1,277
Greater than 90 percent but less than or equal to 100 percent	2,483	503	310	409	757	248
Greater than 100 percent	923	544	311	468	1,209	286
Fully-insured loans <sup>(4)</sup>	16,935	3,914				
Total consumer real estate	\$ 189,290	\$ 13,555	\$ 5,341	\$ 40,596	\$ 8,828	\$ 1,811
Refreshed FICO score						
Less than 620	\$ 2,115	\$ 1,673	\$ 1,185	\$ 1,118	\$ 1,650	\$ 290
Greater than or equal to 620 and less than 680	4,379	1,387	1,010	2,096	1,883	288
Greater than or equal to 680 and less than 740	22,973	2,327	1,574	7,113	2,288	511
Greater than or equal to 740	142,888	4,254	1,572	30,269	3,007	722
Fully-insured loans <sup>(4)</sup>	16,935	3,914				
Total consumer real estate	\$ 189,290	\$ 13,555	\$ 5,341	\$ 40,596	\$ 8,828	\$ 1,811

(1) Excludes \$755 million of loans accounted for under the fair value option.

(2) Excludes PCI loans.

(3) Refreshed LTV percentages for PCI loans are calculated using the carrying value net of the related valuation allowance.

(4) Credit quality indicators are not reported for fully-insured loans as principal repayment is insured.

## Credit Card and Other Consumer – Credit Quality Indicators

	U.S. Credit Card	Direct/Indirect Consumer	Other Consumer
(Dollars in millions)	September 30, 2018		
Refreshed FICO score			
Less than 620	\$ 4,683	\$ 1,752	
Greater than or equal to 620 and less than 680	11,974	3,260	
Greater than or equal to 680 and less than 740	34,896	9,090	
Greater than or equal to 740	43,276	36,351	
Other internal credit metrics <sup>(1, 2)</sup>		40,885	\$ 203
Total credit card and other consumer	\$ 94,829	\$ 91,338	\$ 203

(1) Other internal credit metrics may include delinquency status, geography or other factors.

(2) Direct/indirect consumer includes \$40.1 billion of securities-based lending which is overcollateralized and therefore has minimal credit risk.

 Commercial – Credit Quality Indicators<sup>(1)</sup>

	U.S. Commercial	Non-U.S. Commercial	Commercial Real Estate	Commercial Lease Financing	U.S. Small Business Commercial (2)
(Dollars in millions)	September 30, 2018				
Risk ratings					
Pass rated	\$277,732	\$ 94,868	\$ 60,271	\$ 21,173	\$ 275
Reservable criticized	7,930	1,134	564	373	31
Refreshed FICO score (3)					
Less than 620					242
Greater than or equal to 620 and less than 680					650
Greater than or equal to 680 and less than 740					1,993
Greater than or equal to 740					4,181
Other internal credit metrics (3, 4)					6,862
Total commercial	\$285,662	\$ 96,002	\$ 60,835	\$ 21,546	\$ 14,234

(1) Excludes \$5.0 billion of loans accounted for under the fair value option.

(2) U.S. small business commercial includes \$699 million of criticized business card and small business loans which are evaluated using refreshed FICO scores or internal credit metrics, including delinquency status, rather than risk ratings. At September 30, 2018, 99 percent of the balances where internal credit metrics are used was current or less than 30 days past due.

(3) Refreshed FICO score and other internal credit metrics are applicable only to the U.S. small business commercial portfolio.

(4) Other internal credit metrics may include delinquency status, application scores, geography or other factors.

Consumer Real Estate – Credit Quality Indicators<sup>(1)</sup>

	Core Residential Mortgage (2)	Non-core Residential Mortgage (2)	Residential Mortgage PCI	Core Home Equity (2)	Non-core Home Equity (2)	Home Equity PCI
(Dollars in millions)	December 31, 2017					
Refreshed LTV <sup>(3)</sup>						
Less than or equal to 90 percent	\$153,669	\$12,135	\$6,872	\$43,048	\$7,944	\$1,781
Greater than 90 percent but less than or equal to 100 percent	3,082	850	559	549	1,053	412
Greater than 100 percent	1,322	1,011	570	648	1,786	523
Fully-insured loans <sup>(4)</sup>	18,545	5,196				
Total consumer real estate	\$176,618	\$19,192	\$8,001	\$44,245	\$10,783	\$2,716
Refreshed FICO score						
Less than 620	\$2,234	\$2,390	\$1,941	\$1,169	\$2,098	\$452
Greater than or equal to 620 and less than 680	4,531	2,086	1,657	2,371	2,393	466
Greater than or equal to 680 and less than 740	22,934	3,519	2,396	8,115	2,723	786
Greater than or equal to 740	128,374	6,001	2,007	32,590	3,569	1,012
Fully-insured loans <sup>(4)</sup>	18,545	5,196				
Total consumer real estate	\$176,618	\$19,192	\$8,001	\$44,245	\$10,783	\$2,716

(1) Excludes \$928 million of loans accounted for under the fair value option.

(2) Excludes PCI loans.

(3) Refreshed LTV percentages for PCI loans are calculated using the carrying value net of the related valuation allowance.

(4) Credit quality indicators are not reported for fully-insured loans as principal repayment is insured.

Credit Card and Other Consumer – Credit Quality Indicators

	U.S. Credit Card	Direct/Indirect Consumer	Other Consumer
(Dollars in millions)	December 31, 2017		
Refreshed FICO score			
Less than 620	\$4,730	\$2,005	
Greater than or equal to 620 and less than 680	12,422	4,064	
Greater than or equal to 680 and less than 740	35,656	10,371	
Greater than or equal to 740	43,477	36,445	
Other internal credit metrics <sup>(1, 2)</sup>		43,457	\$166
Total credit card and other consumer	\$96,285	\$96,342	\$166

(1) Other internal credit metrics may include delinquency status, geography or other factors.

(2) Direct/indirect consumer includes \$42.8 billion of securities-based lending which is overcollateralized and therefore has minimal credit risk.

Commercial – Credit Quality Indicators<sup>(1)</sup>

U.S. Commercial	Non-U.S. Commercial	Commercial Real Estate	Commercial Lease Financing	U.S. Small Business
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(Dollars in millions)	December 31, 2017				Commercial (2)
Risk ratings					
Pass rated	\$275,904	\$ 96,199	\$ 57,732	\$ 21,535	\$ 322
Reservable criticized	8,932	1,593	566	581	50
Refreshed FICO score (3)					
Less than 620					223
Greater than or equal to 620 and less than 680					625
Greater than or equal to 680 and less than 740					1,875
Greater than or equal to 740					3,713
Other internal credit metrics (3, 4)					6,841
Total commercial	\$284,836	\$ 97,792	\$ 58,298	\$ 22,116	\$ 13,649

(1) Excludes \$4.8 billion of loans accounted for under the fair value option.

(2) U.S. small business commercial includes \$709 million of criticized business card and small business loans which are evaluated using refreshed FICO scores or internal credit metrics, including delinquency status, rather than risk ratings. At December 31, 2017, 98 percent of the balances where internal credit metrics are used was current or less than 30 days past due.

(3) Refreshed FICO score and other internal credit metrics are applicable only to the U.S. small business commercial portfolio.

(4) Other internal credit metrics may include delinquency status, application scores, geography or other factors.

### Impaired Loans and Troubled Debt Restructurings

A loan is considered impaired when, based on current information, it is probable that the Corporation will be unable to collect all amounts due from the borrower in accordance with the contractual terms of the loan. For additional information on impaired loans, see Note 1 – Summary of Significant Accounting Principles and Note 4 – Outstanding Loans and Leases to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

#### Consumer Real Estate

Impaired consumer real estate loans within the Consumer Real Estate portfolio segment consist entirely of TDRs. Excluding PCI loans, most modifications of consumer real estate loans meet the definition of TDRs when a binding offer is extended to a borrower. For more information on impaired consumer real estate loans, see Note 4 – Outstanding Loans and Leases to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K. Consumer real estate loans that have been discharged in Chapter 7 bankruptcy with no change in repayment terms and not reaffirmed by the borrower of \$951 million were included in TDRs at September 30, 2018, of which \$220 million were classified as nonperforming and \$362 million were loans fully-insured by the FHA. For more information on loans discharged in Chapter 7 bankruptcy, see Nonperforming Loans and Leases in this Note.

At September 30, 2018 and December 31, 2017, remaining commitments to lend additional funds to debtors whose terms have been modified in a consumer real estate TDR were not significant. Consumer real estate foreclosed properties totaled \$265 million and \$236 million at September 30, 2018 and December 31, 2017. The carrying value of consumer real estate loans, including fully-insured and PCI loans, for which formal foreclosure proceedings were in process at September 30, 2018 was \$2.7 billion. During the three and nine months ended September 30, 2018, the Corporation reclassified \$186 million and \$505 million of consumer real estate loans to foreclosed properties or, for properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans), to other assets. This compared to reclassifications of \$198 million and \$624 million for the same periods in 2017. The reclassifications represent non-cash investing activities and, accordingly, are not reflected in the Consolidated Statement of Cash Flows.

The table below provides the unpaid principal balance, carrying value and related allowance at September 30, 2018 and December 31, 2017, and the average carrying value and interest income recognized for the three and nine months ended September 30, 2018 and 2017 for impaired loans in the Corporation’s Consumer Real Estate portfolio segment. Certain impaired consumer real estate loans do not have a related allowance as the current valuation of these impaired loans exceeded the carrying value, which is net of previously recorded charge-offs.

#### Impaired Loans – Consumer Real Estate

(Dollars in millions)	September 30, 2018			December 31, 2017		
	Unpaid Principal Balance	Carrying Value	Related Allowance	Unpaid Principal Balance	Carrying Value	Related Allowance
With no recorded allowance						
Residential mortgage	\$6,016	\$ 4,783	\$—	\$8,856	\$6,870	\$ —
Home equity	3,345	1,828	—	3,622	1,956	—
With an allowance recorded						
Residential mortgage	\$2,271	\$ 2,215	\$134	\$2,908	\$2,828	\$ 174
Home equity	910	849	165	972	900	174
Total <sup>(1)</sup>						
Residential mortgage	\$8,287	\$ 6,998	\$134	\$11,764	\$9,698	\$ 174
Home equity	4,255	2,677	165	4,594	2,856	174
	Average Carrying Value	Average Carrying Value	Average Carrying Value	Average Carrying Value	Average Carrying Value	Average Carrying Value
	Interest Recognized	Interest Recognized	Interest Recognized	Interest Recognized	Interest Recognized	Interest Recognized

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	(2)		(2)		(2)		(2)	
	Three Months Ended September 30				Nine Months Ended September 30			
	2018		2017		2018		2017	
With no recorded allowance								
Residential mortgage	\$5,056	\$ 52	\$7,498	\$ 77	\$5,685	\$167	\$7,964	\$ 237
Home equity	1,908	27	2,000	27	1,937	79	2,001	82
With an allowance recorded								
Residential mortgage	\$2,330	\$ 22	\$3,254	\$ 29	\$2,508	\$71	\$3,565	\$ 97
Home equity	864	7	873	6	879	19	850	18
Total <sup>(1)</sup>								
Residential mortgage	\$7,386	\$ 74	\$10,752	\$ 106	\$8,193	\$238	\$11,529	\$ 334
Home equity	2,772	34	2,873	33	2,816	98	2,851	100

(1) During the nine months ended September 30, 2018, previously impaired consumer real estate loans with a carrying value of \$1.6 billion were sold.

Interest income recognized includes interest accrued and collected on the outstanding balances of accruing

(2) impaired loans as well as interest cash collections on nonaccruing impaired loans for which the principal is considered collectible.

The table below presents the September 30, 2018 and 2017 unpaid principal balance, carrying value, and average pre- and post-modification interest rates on consumer real estate loans that were modified in TDRs during the three and nine months ended September 30, 2018 and 2017. The following Consumer Real Estate portfolio segment tables include loans that were initially classified as TDRs during the period and also loans that had previously been classified as TDRs and were modified again during the period.

Consumer Real Estate – TDRs Entered into During the Three and Nine Months Ended September 30, 2018 and 2017

	Three Months Ended September 30, 2018				Nine Months Ended September 30, 2018			
	Unpaid Principal Balance	Carrying Value	Pre-Modification Interest Rate	Post-Modification Interest Rate <sup>(1)</sup>	Unpaid Principal Balance	Carrying Value	Pre-Modification Interest Rate	Post-Modification Interest Rate <sup>(1)</sup>
(Dollars in millions)	Three Months Ended September 30, 2018				Nine Months Ended September 30, 2018			
Residential mortgage	\$226	\$195	4.27 %	4.12 %	\$747	\$635	4.22 %	4.03 %
Home equity	120	90	4.67	4.60	482	356	4.42	3.78
Total <sup>(2)</sup>	\$346	\$285	4.41	4.29	\$1,229	\$991	4.30	3.94
	Three Months Ended September 30, 2017				Nine Months Ended September 30, 2017			
Residential mortgage	\$294	\$263	4.42 %	4.33 %	\$738	\$657	4.49 %	4.25 %
Home equity	212	172	4.01	3.96	630	491	4.16	3.52
Total <sup>(2)</sup>	\$506	\$435	4.25	4.17	\$1,368	\$1,148	4.33	3.90

<sup>(1)</sup> The post-modification interest rate reflects the interest rate applicable only to permanently completed modifications, which exclude loans that are in a trial modification period.

<sup>(2)</sup> Net charge-offs, which include amounts recorded on loans modified during the period that are no longer held by the Corporation at September 30, 2018 and 2017 due to sales and other dispositions, were \$9 million and \$33 million for the three and nine months ended September 30, 2018 compared to \$17 million and \$37 million for the same periods in 2017.

The table below presents the September 30, 2018 and 2017 carrying value for consumer real estate loans that were modified in a TDR during the three and nine months ended September 30, 2018 and 2017, by type of modification.

Consumer Real Estate – Modification Programs

	TDRs Entered into During the			
	Three Months Ended September 30		Nine Months Ended September 30	
(Dollars in millions)	2018	2017	2018	2017
Modifications under government programs				
Contractual interest rate reduction	\$5	\$10	\$19	\$56
Principal and/or interest forbearance	—	1	—	4
Other modifications <sup>(1)</sup>	7	7	29	22
Total modifications under government programs	12	18	48	82
Modifications under proprietary programs				
Contractual interest rate reduction	7	15	159	178
Capitalization of past due amounts	10	12	67	47

Principal and/or interest forbearance	2	2	25	28
Other modifications <sup>(1)</sup>	14	1	195	45
Total modifications under proprietary programs	33	30	446	298
Trial modifications	201	329	376	605
Loans discharged in Chapter 7 bankruptcy <sup>(2)</sup>	39	58	121	163
Total modifications	\$285	\$435	\$991	\$1,148

Includes other modifications such as term or payment extensions and repayment plans. During the nine months ended September 30, 2018, this included \$197 million of modifications that met the definition of a TDR related to the 2017 hurricanes. These modifications had been written down to their net realizable value less costs to sell or were fully insured as of September 30, 2018.

<sup>(2)</sup> Includes loans discharged in Chapter 7 bankruptcy with no change in repayment terms that are classified as TDRs. The table below presents the carrying value of consumer real estate loans that entered into payment default during the three and nine months ended September 30, 2018 and 2017 that were modified in a TDR during the 12 months preceding payment default. A payment default for consumer real estate TDRs is recognized when a borrower has missed three monthly payments (not necessarily consecutively) since modification.

Consumer Real Estate – TDRs Entering Payment Default that were Modified During the Preceding 12 Months

	Three Months Ended September 30		Nine Months Ended September 30	
(Dollars in millions)	2018	2017	2018	2017
Modifications under government programs	\$8	\$16	\$32	\$62
Modifications under proprietary programs	43	32	130	99
Loans discharged in Chapter 7 bankruptcy <sup>(1)</sup>	12	16	51	93
Trial modifications <sup>(2)</sup>	18	54	85	312
Total modifications	\$81	\$118	\$298	\$566

<sup>(1)</sup> Includes loans discharged in Chapter 7 bankruptcy with no change in repayment terms that are classified as TDRs.

<sup>(2)</sup> Includes trial modification offers to which the customer did not respond.

Credit Card and Other Consumer

Impaired loans within the Credit Card and Other Consumer portfolio segment consist entirely of loans that have been modified in TDRs. The Corporation seeks to assist customers that are experiencing financial difficulty by modifying loans while ensuring compliance with federal, local and international laws and guidelines. Credit card and other consumer loan modifications generally involve reducing the interest rate on the account, placing the customer on a fixed payment plan not exceeding 60 months and canceling the customer's available line of credit, all of which are considered TDRs. The Corporation makes loan modifications directly with borrowers for debt held only by the Corporation (internal programs). Additionally, the Corporation makes loan modifications for borrowers working with third-party renegotiation agencies that

provide solutions to customers' entire unsecured debt structures (external programs). The Corporation classifies other secured consumer loans that have been discharged in Chapter 7 bankruptcy as TDRs which are written down to collateral value and placed on nonaccrual status no later than the time of discharge. For more information on the regulatory guidance on loans discharged in Chapter 7 bankruptcy, see Nonperforming Loans and Leases in this Note. The table below provides the unpaid principal balance, carrying value and related allowance at September 30, 2018 and December 31, 2017, and the average carrying value and interest income recognized for the three and nine months ended September 30, 2018 and 2017 on TDRs within the Credit Card and Other Consumer portfolio segment.

Impaired Loans – Credit Card and Other Consumer

	Unpaid Principal Balance		Related Allowance	Unpaid Principal Balance		Related Allowance
	September 30, 2018	Carrying Value <sup>(1)</sup>		December 31, 2017	Carrying Value <sup>(1)</sup>	
(Dollars in millions)						
With no recorded allowance						
Direct/Indirect consumer	\$63	\$ 29	\$—	\$58	\$28	\$ —
With an allowance recorded						
U.S. credit card	\$501	\$ 512	\$143	\$454	\$461	\$ 125
Direct/Indirect consumer	—	—	—	1	1	—
Total						
U.S. credit card	\$501	\$ 512	\$143	\$454	\$461	\$ 125
Direct/Indirect consumer	63	29	—	59	29	—
	Average Carrying Value <sup>(2)</sup>	Interest Income Recognized	Average Carrying Value <sup>(2)</sup>	Interest Income Recognized	Average Carrying Value <sup>(2)</sup>	Interest Income Recognized
	Three Months Ended September 30		Nine Months Ended		September 30	
	2018	2017	2018	2017		
With no recorded allowance						
Direct/Indirect consumer	\$30	\$ 1	\$20	\$ —	\$29	\$2
With an allowance recorded						
U.S. credit card	\$498	\$ 7	\$457	\$ 6	\$481	\$19
Non-U.S. credit card <sup>(3)</sup>	—	—	—	—	62	1
Direct/Indirect consumer	1	—	2	—	1	—
Total						
U.S. credit card	\$498	\$ 7	\$457	\$ 6	\$481	\$19
Non-U.S. credit card <sup>(3)</sup>	—	—	—	—	62	1
Direct/Indirect consumer	31	1	22	—	30	2

(1) Includes accrued interest and fees.

Interest income recognized includes interest accrued and collected on the outstanding balances of accruing

(2) impaired loans as well as interest cash collections on nonaccruing impaired loans for which the principal is considered collectible.

(3) In the second quarter of 2017, the Corporation sold its non-U.S. consumer credit card business.

The table below provides information on the Corporation's primary modification programs for the Credit Card and Other Consumer TDR portfolio at September 30, 2018 and December 31, 2017.

Credit Card and Other Consumer – TDRs by Program Type

(Dollars in millions)	U.S. Credit Card		Direct/Indirect Consumer		Total TDRs by Program Type	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
	2018	2017	2018	2017	2018	2017
Internal programs	\$242	\$ 203	\$—	\$ 1	\$242	\$ 204
External programs	269	257	—	—	269	257
Other	1	1	29	28	30	29
Total	\$512	\$ 461	\$29	\$ 29	\$541	\$ 490
Percent of balances current or less than 30 days past due	86 %	87 %	90 %	88 %	86 %	87 %

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The table below provides information on the Corporation's Credit Card and Other Consumer TDR portfolio including the September 30, 2018 and 2017 unpaid principal balance, carrying value, and average pre- and post-modification interest rates of loans that were modified in TDRs during the three and nine months ended September 30, 2018 and 2017.

Credit Card and Other Consumer – TDRs Entered into During the Three and Nine Months Ended September 30, 2018 and 2017

	Unpaid Principal Balance		Carrying Value		Pre-Modification Interest Rate		Post-Modification Interest Rate		Unpaid Principal Balance		Carrying Value		Pre-Modification Interest Rate		Post-Modification Interest Rate	
	(Dollars in millions)															
	Three Months Ended September 30, 2018								Nine Months Ended September 30, 2018							
U.S. credit card	\$84	\$ 91	19.45	%	5.19	%	\$212	\$ 224	19.30	%	5.24	%				
Direct/Indirect consumer	18	10	4.61		4.50		33	19	4.77		4.58					
Total <sup>(2)</sup>	\$102	\$ 101	17.94		5.12		\$245	\$ 243	18.16		5.19					
	Three Months Ended September 30, 2017								Nine Months Ended September 30, 2017							
U.S. credit card	\$60	\$ 64	17.96	%	5.40	%	\$152	\$ 161	17.88	%	5.49	%				
Direct/Indirect consumer	22	14	4.92		4.53		29	18	4.99		4.37					
Total <sup>(2)</sup>	\$82	\$ 78	15.64		5.25		\$181	\$ 179	16.57		5.37					

<sup>(1)</sup> Includes accrued interest and fees.

<sup>(2)</sup> Net charge-offs were \$16 million and \$38 million for the three and nine months ended September 30, 2018 compared to \$14 million and \$33 million for the same periods in 2017.

Credit card and other consumer loans are deemed to be in payment default during the quarter in which a borrower misses the second of two consecutive payments. Payment defaults are one of the factors considered when projecting future cash flows in the calculation of the allowance for loan and lease losses for impaired credit card and other consumer loans. Based on historical experience, the Corporation estimates that 13 percent of new U.S. credit card TDRs and 16 percent of new direct/indirect consumer TDRs may be in payment default within 12 months after modification. Loans that entered into payment default during the three and nine months ended September 30, 2018 that had been modified in a TDR during the preceding 12 months were \$10 million and \$26 million for U.S. credit card and \$1 million and \$6 million for direct/indirect consumer. During the three and nine months ended September 30, 2017, loans that entered into payment default that had been modified in a TDR during the preceding 12

months were \$7 million and \$19 million for U.S. credit card and \$1 million and \$3 million for direct/indirect consumer.

#### Commercial Loans

Impaired commercial loans include nonperforming loans and TDRs (both performing and nonperforming). For more information on impaired commercial loans, see Note 4 – Outstanding Loans and Leases to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

At September 30, 2018 and December 31, 2017, remaining commitments to lend additional funds to debtors whose terms have been modified in a commercial loan TDR were \$256 million and \$205 million.

Commercial foreclosed properties totaled \$30 million and \$52 million at September 30, 2018 and December 31, 2017.



The table below provides information on impaired loans in the Commercial loan portfolio segment including the unpaid principal balance, carrying value and related allowance at September 30, 2018 and December 31, 2017, and the average carrying value and interest income recognized for the three and nine months ended September 30, 2018 and 2017. Certain impaired commercial loans do not have a related allowance because the valuation of these impaired loans exceeded the carrying value, which is net of previously recorded charge-offs.

## Impaired Loans – Commercial

(Dollars in millions)	September 30, 2018			December 31, 2017				
	Unpaid Principal Balance	Carrying Value	Related Allowance	Unpaid Principal Balance	Carrying Value	Related Allowance		
With no recorded allowance								
U.S. commercial	\$697	\$ 684	\$—	\$576	\$571	\$ —		
Non-U.S. commercial	10	10	—	14	11	—		
Commercial real estate	42	32	—	83	80	—		
Commercial lease financing	2	2	—	—	—	—		
With an allowance recorded								
U.S. commercial	\$1,334	\$ 1,073	\$115	\$1,393	\$1,109	\$ 98		
Non-U.S. commercial	233	225	19	528	507	58		
Commercial real estate	104	20	2	133	41	4		
Commercial lease financing	72	72	—	20	18	3		
U.S. small business commercial <sup>(1)</sup>	90	76	29	84	70	27		
Total								
U.S. commercial	\$2,031	\$ 1,757	\$115	\$1,969	\$1,680	\$ 98		
Non-U.S. commercial	243	235	19	542	518	58		
Commercial real estate	146	52	2	216	121	4		
Commercial lease financing	74	74	—	20	18	3		
U.S. small business commercial <sup>(1)</sup>	90	76	29	84	70	27		
	Average Carrying Value	Interest Income Recognized <sup>(2)</sup>	Average Carrying Value	Interest Income Recognized <sup>(2)</sup>	Average Carrying Value	Interest Income Recognized <sup>(2)</sup>	Average Carrying Value	Interest Income Recognized <sup>(2)</sup>
	Three Months Ended September 30, 2018		September 30, 2017		Nine Months Ended September 30, 2018		September 30, 2017	
With no recorded allowance								
U.S. commercial	\$640	\$ 4	\$726	\$ 3	\$659	\$12	\$822	\$ 9
Non-U.S. commercial	9	—	14	—	35	2	55	—
Commercial real estate	68	—	77	1	72	1	61	1
Commercial lease financing	3	—	—	—	4	—	—	—
With an allowance recorded								
U.S. commercial	\$1,159	\$ 11	\$1,166	\$ 9	\$1,168	\$32	\$1,305	\$ 25
Non-U.S. commercial	287	3	463	3	381	9	466	9
Commercial real estate	10	—	72	—	19	—	85	2
Commercial lease financing	58	1	10	—	32	1	6	—
U.S. small business commercial <sup>(1)</sup>	74	—	72	—	74	—	74	—
Total								
U.S. commercial	\$1,799	\$ 15	\$1,892	\$ 12	\$1,827	\$44	\$2,127	\$ 34
Non-U.S. commercial	296	3	477	3	416	11	521	9

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Commercial real estate	78	—	149	1	91	1	146	3
Commercial lease financing	61	1	10	—	36	1	6	—
U.S. small business commercial <sup>(1)</sup>	74	—	72	—	74	—	74	—

<sup>(1)</sup> Includes U.S. small business commercial renegotiated TDR loans and related allowance.

Interest income recognized includes interest accrued and collected on the outstanding balances of accruing

<sup>(2)</sup> impaired loans as well as interest cash collections on nonaccruing impaired loans for which the principal is considered collectible.

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The table below presents the September 30, 2018 and 2017 unpaid principal balance and carrying value of commercial loans that were modified as TDRs during the three and nine months ended September 30, 2018 and 2017. The table below includes loans that were initially classified as TDRs during the period and also loans that had previously been classified as TDRs and were modified again during the period.

Commercial – TDRs Entered into During the Three and Nine Months Ended September 30, 2018 and 2017

(Dollars in millions)	Unpaid Principal Balance		Carrying Value	
	Three Months Ended September 30, 2018	September 30, 2018	Nine Months Ended September 30, 2018	September 30, 2018
U.S. commercial	\$595	\$ 544	\$1,111	\$ 1,006
Non-U.S. commercial	11	9	4	4
Commercial real estate	—	—	71	71
Commercial lease financing	29	29	92	91
U.S. small business commercial <sup>(1)</sup>	3	2	8	6
Total <sup>(2)</sup>	\$638	\$ 584	\$1,286	\$ 1,178

  

(Dollars in millions)	Unpaid Principal Balance		Carrying Value	
	Three Months Ended September 30, 2017	September 30, 2017	Nine Months Ended September 30, 2017	September 30, 2017
U.S. commercial	\$357	\$ 322	\$763	\$ 700
Non-U.S. commercial	105	105	105	105
Commercial real estate	—	—	16	9
Commercial lease financing	12	12	12	12
U.S. small business commercial <sup>(1)</sup>	3	3	11	12
Total <sup>(2)</sup>	\$477	\$ 442	\$907	\$ 838

<sup>(1)</sup> U.S. small business commercial TDRs are comprised of renegotiated small business card loans.

<sup>(2)</sup> Net charge-offs were \$38 million and \$64 million for the three and nine months ended September 30, 2018 compared to \$27 million and \$89 million for the same periods in 2017.

A commercial TDR is generally deemed to be in payment default when the loan is 90 days or more past due, including delinquencies that were not resolved as part of the modification. U.S. small business commercial TDRs are deemed to be in payment default during the quarter in which a borrower misses the second of two consecutive payments. Payment defaults are one of the factors considered when projecting future cash flows, along with observable market prices or fair value of collateral when measuring the allowance for loan and lease losses. TDRs that were in payment default had a carrying value of \$174 million and \$57 million for

U.S. commercial and \$4 million and \$32 million for commercial real estate at September 30, 2018 and 2017.

Purchased Credit-impaired Loans

The table below shows activity for the accretable yield on PCI loans. The reclassifications from nonaccretable difference during the three and nine months ended September 30, 2018 were primarily due to an increase in the expected principal and interest cash flows due to lower default estimates and the rising interest rate environment.

Rollforward of Accretable Yield

(Dollars in millions)	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
Accretable yield, beginning of period	\$ 2,558	\$ 2,789
Accretion	(117 )	(371 )
Disposals/transfers	(612 )	(824 )
Reclassifications from nonaccretable difference	56	291
Accretable yield, September 30, 2018	\$ 1,885	\$ 1,885

During the three and nine months ended September 30, 2018, the Corporation sold PCI loans with a carrying value of \$2.0 billion and \$2.1 billion. During the three and nine months ended September 30, 2017, the Corporation sold PCI loans with a carrying value of \$538 million and \$742 million. For more information on PCI loans, see Note 1 – Summary of Significant Accounting Principles and Note 4 – Outstanding Loans and Leases to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K, and for the carrying value and valuation allowance for PCI loans, see Note 6 – Allowance for Credit Losses herein.

#### Loans Held-for-sale

The Corporation had LHFS of \$5.6 billion and \$11.4 billion at September 30, 2018 and December 31, 2017. For the nine months ended September 30, 2018 and 2017, cash and non-cash proceeds from sales and paydowns of loans originally classified as LHFS were \$23.4 billion and \$28.0 billion, and cash used for originations and purchases of LHFS totaled \$16.8 billion and \$31.4 billion.

## NOTE 6 Allowance for Credit Losses

The table below summarizes the changes in the allowance for credit losses by portfolio segment for the three and nine months ended September 30, 2018 and 2017.

	Consumer Real Estate (1)	Card and Other Consumer	Commercial	Total Allowance
(Dollars in millions)				
Three Months Ended September 30, 2018				
Allowance for loan and lease losses, July 1	\$ 1,366	\$ 3,774	\$ 4,910	\$ 10,050
Loans and leases charged off	(155 )	(992 )	(189 )	(1,336 )
Recoveries of loans and leases previously charged off	163	208	33	404
Net charge-offs	8	(784 )	(156 )	(932 )
Write-offs of PCI loans <sup>(2)</sup>	(95 )	—	—	(95 )
Provision for loan and lease losses <sup>(3)</sup>	(119 )	829	1	711
Other <sup>(4)</sup>	(2 )	3	(1 )	—
Allowance for loan and lease losses, September 30	1,158	3,822	4,754	9,734
Reserve for unfunded lending commitments, July 1	—	—	787	787
Provision for unfunded lending commitments	—	—	5	5
Reserve for unfunded lending commitments, September 30	—	—	792	792
Allowance for credit losses, September 30	\$ 1,158	\$ 3,822	\$ 5,546	\$ 10,526
Three Months Ended September 30, 2017				
Allowance for loan and lease losses, July 1	\$ 2,309	\$ 3,386	\$ 5,180	\$ 10,875
Loans and leases charged off	(231 )	(919 )	(212 )	(1,362 )
Recoveries of loans and leases previously charged off	230	189	43	462
Net charge-offs	(1 )	(730 )	(169 )	(900 )
Write-offs of PCI loans <sup>(2)</sup>	(73 )	—	—	(73 )
Provision for loan and lease losses <sup>(3)</sup>	(204 )	934	99	829
Other <sup>(4)</sup>	1	(40 )	1	(38 )
Allowance for loan and lease losses, September 30	2,032	3,550	5,111	10,693
Reserve for unfunded lending commitments, July 1	—	—	757	757
Provision for unfunded lending commitments	—	—	5	5
Reserve for unfunded lending commitments, September 30	—	—	762	762
Allowance for credit losses, September 30	\$ 2,032	\$ 3,550	\$ 5,873	\$ 11,455
Nine Months Ended September 30, 2018				
Allowance for loan and lease losses, January 1	\$ 1,720	\$ 3,663	\$ 5,010	\$ 10,393
Loans and leases charged off	(466 )	(3,031 )	(513 )	(4,010 )
Recoveries of loans and leases previously charged off	440	621	110	1,171
Net charge-offs	(26 )	(2,410 )	(403 )	(2,839 )
Write-offs of PCI loans <sup>(2)</sup>	(166 )	—	—	(166 )
Provision for loan and lease losses <sup>(3)</sup>	(368 )	2,583	147	2,362
Other <sup>(4)</sup>	(2 )	(14 )	—	(16 )
Allowance for loan and lease losses, September 30	1,158	3,822	4,754	9,734
Reserve for unfunded lending commitments, January 1	—	—	777	777
Provision for unfunded lending commitments	—	—	15	15
Reserve for unfunded lending commitments, September 30	—	—	792	792
Allowance for credit losses, September 30	\$ 1,158	\$ 3,822	\$ 5,546	\$ 10,526

	Nine Months Ended September 30, 2017			
Allowance for loan and lease losses, January 1	\$2,750	\$ 3,229	\$ 5,258	\$ 11,237
Loans and leases charged off	(633 )	(2,819 )	(570 )	(4,022 )
Recoveries of loans and leases previously charged off	520	623	137	1,280
Net charge-offs	(113 )	(2,196 )	(433 )	(2,742 )
Write-offs of PCI loans <sup>(2)</sup>	(161 )	—	—	(161 )
Provision for loan and lease losses <sup>(3)</sup>	(445 )	2,553	287	2,395
Other <sup>(4)</sup>	1	(36 )	(1 )	(36 )
Allowance for loan and lease losses, September 30	2,032	3,550	5,111	10,693
Reserve for unfunded lending commitments, January 1 and September 30	—	—	762	762
Allowance for credit losses, September 30	\$2,032	\$ 3,550	\$ 5,873	\$ 11,455

<sup>(1)</sup> Includes valuation allowance associated with the PCI loan portfolio.

<sup>(2)</sup> Includes write-offs associated with the sale of PCI loans of \$71 million and \$88 million during the three and nine months ended September 30, 2018 compared to \$45 million and \$80 million for the same periods in 2017.

<sup>(3)</sup> Includes provision expense associated with the PCI loan portfolio of \$53 million and \$28 million during the three and nine months ended September 30, 2018 compared to \$12 million and \$56 million for the same periods in 2017.

<sup>(4)</sup> Primarily represents the net impact of portfolio sales, consolidations and deconsolidations, foreign currency translation adjustments, transfers to held for sale and certain other reclassifications.



n/a = not applicable

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**NOTE 7 Securitizations and Other Variable Interest Entities**

The Corporation utilizes VIEs in the ordinary course of business to support its own and its customers' financing and investing needs. The tables in this Note present the assets, liabilities and maximum loss exposure of consolidated and unconsolidated VIEs at September 30, 2018 and December 31, 2017 where the Corporation has continuing involvement with transferred assets or if the Corporation otherwise has a variable interest in the VIE. For additional information on the Corporation's use of VIEs and related maximum loss exposure, see Note 1 – Summary of Significant Accounting Principles and Note 6 – Securitizations and Other Variable Interest Entities to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

The Corporation invests in ABS issued by third-party VIEs with which it has no other form of involvement and enters into certain commercial lending arrangements that may also incorporate the use of VIEs, for example to hold collateral. These securities and loans are included in Note 4 – Securities or Note 5 – Outstanding Loans and Leases.

Except as described below, the Corporation did not provide financial support to consolidated or unconsolidated VIEs during the nine months ended September 30, 2018 or the year ended December 31, 2017 that it was not previously contractually required to provide, nor does it intend to do so.

The Corporation had liquidity commitments, including written put options and collateral value guarantees, with certain unconsolidated VIEs of \$271 million and \$442 million at September 30, 2018 and December 31, 2017.

**First-lien Mortgage Securitizations****First-lien Mortgages**

As part of its mortgage banking activities, the Corporation securitizes a portion of the first-lien residential mortgage loans it originates or purchases from third parties. Except as described below and in Note 10 – Commitments and Contingencies, the Corporation does not provide guarantees or recourse to the securitization trusts other than standard representations and warranties.

The table below summarizes select information related to first-lien mortgage securitizations for the three and nine months ended September 30, 2018 and 2017.

**First-lien Mortgage Securitizations**

	Residential Mortgage - Agency				Commercial Mortgage			
	Three Months Ended		Nine Months Ended		Three Months Ended		Nine Months Ended	
(Dollars in millions)	September 30 2018	September 30 2017	September 30 2018	September 30 2017	September 30 2018	September 30 2017	September 30 2018	September 30 2017
Cash proceeds from new securitizations <sup>(1)</sup>	\$ 1,596	\$ 3,833	\$ 4,661	\$ 11,791	\$ 1,797	\$ 1,225	\$ 3,981	\$ 2,931
Gains on securitizations <sup>(2)</sup>	13	40	54	140	29	14	68	67
Repurchases from securitization trusts <sup>(3)</sup>	357	609	1,215	2,083	—	—	—	—

The Corporation transfers residential mortgage loans to securitizations sponsored by the GSEs or Government

<sup>(1)</sup> National Mortgage Association (GNMA) in the normal course of business and receives RMBS in exchange which may then be sold into the market to third-party investors for cash proceeds.

A majority of the first-lien residential mortgage loans securitized are initially classified as LHFS and accounted for under the fair value option. Gains recognized on these LHFS prior to securitization, which totaled \$15 million and \$60 million, net of hedges, during the three and nine months ended September 30, 2018, compared to \$63 million and \$195 million for the same periods in 2017, are not included in the table above.

The Corporation may have the option to repurchase delinquent loans out of securitization trusts, which reduces the amount of servicing advances it is required to make. The Corporation may also repurchase loans from securitization trusts to perform modifications. Repurchased loans include FHA-insured mortgages collateralizing GNMA securities.

In addition to cash proceeds as reported in the table above, the Corporation received securities with an initial fair value of \$169 million and \$566 million in connection with first-lien mortgage securitizations for the three and nine months ended September 30, 2018, compared to \$770 million and \$1.3 billion for the same periods in 2017. The

receipt of these securities represents non-cash operating and investing activities and, accordingly, is not reflected in the Consolidated Statement of Cash Flows. Substantially all of these securities were initially classified as Level 2 assets within the fair value hierarchy. During the three and nine months ended September 30, 2018 and 2017, there were no changes to the initial classification.

The Corporation recognizes consumer MSRs from the sale or securitization of consumer real estate loans. The unpaid principal

balance of loans serviced for investors, including residential mortgage and home equity loans, totaled \$234.4 billion and \$289.3 billion at September 30, 2018 and 2017. Servicing fee and ancillary fee income on serviced loans was \$168 million and \$546 million during the three and nine months ended September 30, 2018, compared to \$213 million and \$691 million for the same periods in 2017. Servicing advances on serviced loans, including loans serviced for others and loans held for investment, were \$3.5 billion and \$4.5 billion at September 30, 2018 and December 31, 2017. For more information on MSRs, see Note 14 – Fair Value Measurements.

During the three and nine months ended September 30, 2018 and 2017, there were no significant deconsolidations of agency residential mortgage securitizations.

The table below summarizes select information related to first-lien mortgage securitization trusts in which the Corporation held a variable interest at September 30, 2018 and December 31, 2017.

## First-lien Mortgage VIEs

(Dollars in millions)	Residential Mortgage		Non-agency				Alt-A		Commercial Mortgage	
	Agency		Prime		Subprime					
	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017
<b>Unconsolidated VIEs</b>										
Maximum loss exposure <sup>(1)</sup>	\$ 16,461	\$ 19,110	\$ 458	\$ 689	\$ 2,063	\$ 2,643	\$ 218	\$ 403	\$ 659	\$ 585
<b>On-balance sheet assets</b>										
<b>Senior securities:</b>										
Trading account assets	\$ 509	\$ 716	\$ 21	\$ 6	\$ 47	\$ 10	\$ 71	\$ 50	\$ 57	\$ 108
Debt securities carried at fair value	10,232	15,036	262	477	1,592	2,221	145	351	—	—
Held-to-maturity securities	5,720	3,348	—	—	—	—	—	—	419	274
All other assets <sup>(2)</sup>	—	10	3	5	66	38	2	2	44	88
Total retained positions	\$ 16,461	\$ 19,110	\$ 286	\$ 488	\$ 1,705	\$ 2,269	\$ 218	\$ 403	\$ 520	\$ 470
Principal balance outstanding <sup>(3)</sup>	\$ 195,110	\$ 232,761	\$ 9,448	\$ 10,549	\$ 9,156	\$ 10,254	\$ 24,439	\$ 28,129	\$ 31,251	\$ 26,504
<b>Consolidated VIEs</b>										
Maximum loss exposure <sup>(1)</sup>	\$ 13,206	\$ 14,502	\$ 551	\$ 571	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
<b>On-balance sheet assets</b>										
Trading account assets	\$ 733	\$ 232	\$ 704	\$ 571	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Loans and leases, net	12,312	14,030	—	—	—	—	—	—	—	—
All other assets	162	240	—	—	—	—	—	—	—	—
Total assets	\$ 13,207	\$ 14,502	\$ 704	\$ 571	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Total liabilities	\$ 3	\$ 3	\$ 153	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

Maximum loss exposure includes obligations under loss-sharing reinsurance and other arrangements for non-agency residential mortgage and commercial mortgage securitizations, but excludes the reserve for

<sup>(1)</sup> representations and warranties obligations and corporate guarantees and also excludes servicing advances and other servicing rights and obligations. For more information, see Note 10 – Commitments and Contingencies and Note 14 – Fair Value Measurements.

<sup>(2)</sup> Not included in the table above are all other assets of \$12 million and \$148 million, representing the unpaid principal balance of mortgage loans eligible for repurchase from unconsolidated residential mortgage securitization VIEs, principally guaranteed by GNMA, and all other liabilities of \$12 million and \$148 million, representing the principal amount that would be payable to the securitization VIEs if the Corporation was to exercise the repurchase

option, at September 30, 2018 and December 31, 2017.

- (3) Principal balance outstanding includes loans where the Corporation was the transferor to securitization VIEs with which it has continuing involvement, which may include servicing the loans.

Other Asset-backed Securitizations

The table below summarizes select information related to home equity, credit card and other asset-backed VIEs in which the Corporation held a variable interest at September 30, 2018 and December 31, 2017.

Home Equity Loan, Credit Card and Other Asset-backed VIEs

(Dollars in millions)	Home Equity <sup>(1)</sup>		Credit Card <sup>(2, 3)</sup>		Resecuritization Trusts		Municipal Bond Trusts	
	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017	Sept 30 2018	December 31 2017
<b>Unconsolidated VIEs</b>								
Maximum loss exposure	\$1,101	\$ 1,522	\$—	\$ —	\$8,185	\$ 8,204	\$1,837	\$ 1,631
<b>On-balance sheet assets</b>								
<b>Senior securities <sup>(4)</sup>:</b>								
Trading account assets	\$—	\$ —	\$—	\$ —	\$1,757	\$ 869	\$22	\$ 33
Debt securities carried at fair value	29	36	—	—	1,380	1,661	—	—
Held-to-maturity securities	—	—	—	—	5,048	5,644	—	—
All other assets <sup>(4)</sup>	—	—	—	—	—	30	—	—
Total retained positions	\$29	\$ 36	\$—	\$ —	\$8,185	\$ 8,204	\$22	\$ 33
Total assets of VIEs <sup>(5)</sup>	\$1,944	\$ 2,432	\$—	\$ —	\$18,469	\$ 19,281	\$2,560	\$ 2,287
<b>Consolidated VIEs</b>								
Maximum loss exposure	\$91	\$ 112	\$18,600	\$ 24,337	\$109	\$ 628	\$1,726	\$ 1,453
<b>On-balance sheet assets</b>								
Trading account assets	\$—	\$ —	\$—	\$ —	\$376	\$ 1,557	\$1,740	\$ 1,452
Loans and leases	143	177	29,726	32,554	—	—	—	—
Allowance for loan and lease losses	(6	)(9	)(907	)(988	) —	—	—	—
All other assets	4	6	128	1,385	—	—	1	1
Total assets	\$141	\$ 174	\$28,947	\$ 32,951	\$376	\$ 1,557	\$1,741	\$ 1,453
<b>On-balance sheet liabilities</b>								
Short-term borrowings	\$—	\$ —	\$—	\$ —	\$—	\$ —	\$905	\$ 312
Long-term debt	59	76	10,320	8,598	267	929	12	—
All other liabilities	—	—	27	16	—	—	—	—
Total liabilities	\$59	\$ 76	\$10,347	\$ 8,614	\$267	\$ 929	\$917	\$ 312

For unconsolidated home equity loan VIEs, the maximum loss exposure includes outstanding trust certificates issued by trusts in rapid amortization, net of recorded reserves. For both consolidated and unconsolidated home equity loan VIEs, the maximum loss exposure excludes the reserve for representations and warranties obligations and corporate guarantees. For more information, see Note 10 – Commitments and Contingencies.

(2) At September 30, 2018 and December 31, 2017, loans and leases in the consolidated credit card trust included \$10.8 billion and \$15.6 billion of seller's interest.

(3) At September 30, 2018 and December 31, 2017, all other assets in the consolidated credit card trust included restricted cash, certain short-term investments, and unbilled accrued interest and fees.

(4) All other assets includes subordinate securities. The retained senior and subordinate securities were valued using quoted market prices or observable market inputs (Level 2 of the fair value hierarchy).

(5)

Total assets of VIEs includes loans the Corporation transferred with which it has continuing involvement, which may include servicing the loan.

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### Home Equity Loans

The Corporation retains interests in home equity securitization trusts to which it transferred home equity loans. These retained interests primarily include senior securities. In addition, the Corporation may be obligated to provide subordinate funding to the trusts during a rapid amortization event. This obligation is included in the maximum loss exposure in the table above. The charges that will ultimately be recorded as a result of the rapid amortization events depend on the undrawn portion of the home equity lines of credit (HELOCs), performance of the loans, the amount of subsequent draws and the timing of related cash flows.

There were no deconsolidations of HELOC trusts during the nine months ended September 30, 2018 and 2017.

### Credit Card Securitizations

The Corporation securitizes originated and purchased credit card loans. The Corporation's continuing involvement with the securitization trust includes servicing the receivables, retaining an undivided interest (seller's interest) in the receivables, and holding certain retained interests including subordinate interests in accrued interest and fees on the securitized receivables and cash reserve accounts.

During the nine months ended September 30, 2018 and 2017, new senior debt securities issued to third-party investors from the credit card securitization trust were \$4.0 billion and \$3.1 billion.

At September 30, 2018 and December 31, 2017, the Corporation held subordinate securities issued by the credit card securitization trust with a notional principal amount of \$7.7 billion and \$7.4 billion. These securities serve as a form of credit enhancement to the senior debt securities and have a stated interest rate of zero percent. There were \$650 million and \$500 million of these subordinate securities issued during the nine months ended September 30, 2018 and 2017.

### Resecuritization Trusts

The Corporation transfers securities, typically MBS, into resecuritization VIEs at the request of customers seeking securities with specific characteristics. Generally, there are no

significant ongoing activities performed in a resecuritization trust, and no single investor has the unilateral ability to liquidate the trust.

The Corporation resecuritized \$7.7 billion and \$21.3 billion of securities during the three and nine months ended September 30, 2018 compared to \$5.0 billion and \$20.1 billion for the same periods in 2017. Securities transferred into resecuritization VIEs during the three and nine months ended September 30, 2018 and 2017 were measured at fair value with changes in fair value recorded in trading account profits prior to the resecuritization and no gain or loss on sale was recorded. Resecuritization proceeds included securities with an initial fair value of \$1.5 billion and \$3.7 billion during the three and nine months ended September 30, 2018 compared to \$855 million and \$2.7 billion for the same periods in 2017. Substantially all of the other securities received as resecuritization proceeds were classified as trading securities and were categorized as Level 2 within the fair value hierarchy.

### Municipal Bond Trusts

The Corporation administers municipal bond trusts that hold highly-rated, long-term, fixed-rate municipal bonds. The trusts obtain financing by issuing floating-rate trust certificates that reprice on a weekly or other short-term basis to third-party investors.

The Corporation's liquidity commitments to unconsolidated municipal bond trusts, including those for which the Corporation was transferor, totaled \$1.8 billion and \$1.6 billion at September 30, 2018 and December 31, 2017. The weighted-average remaining life of bonds held in the trusts at September 30, 2018 was 6.3 years. There were no material write-downs or downgrades of assets or issuers during the nine months ended September 30, 2018 and 2017.

### Other Variable Interest Entities

The table below summarizes select information related to other VIEs in which the Corporation held a variable interest at September 30, 2018 and December 31, 2017.

### Other VIEs

	Consolidated	Unconsolidated	Total	Consolidated	Unconsolidated	Total
(Dollars in millions)	September 30, 2018			December 31, 2017		

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Maximum loss exposure	\$4,407	\$ 21,188	\$25,595	\$4,660	\$ 19,785	\$24,445
On-balance sheet assets						
Trading account assets	\$2,592	\$ 331	\$2,923	\$2,709	\$ 346	\$3,055
Debt securities carried at fair value	—	20	20	—	160	160
Loans and leases	1,977	4,155	6,132	2,152	3,596	5,748
Allowance for loan and lease losses	(2 )	(29 )	(31 )	(3 )	(32 )	(35 )
All other assets	62	15,300	15,362	89	15,216	15,305
Total	\$4,629	\$ 19,777	\$24,406	\$4,947	\$ 19,286	\$24,233
On-balance sheet liabilities						
Long-term debt	\$213	\$ —	\$213	\$270	\$ —	\$270
All other liabilities	10	4,067	4,077	18	3,417	3,435
Total	\$223	\$ 4,067	\$4,290	\$288	\$ 3,417	\$3,705
Total assets of VIEs	\$4,629	\$ 79,564	\$84,193	\$4,947	\$ 69,746	\$74,693

Customer VIEs

Customer VIEs include credit-linked, equity-linked and commodity-linked note VIEs, repackaging VIEs, and asset acquisition VIEs, which are typically created on behalf of customers who wish to obtain market or credit exposure to a specific company, index, commodity or financial instrument.

The Corporation's maximum loss exposure to consolidated and unconsolidated customer VIEs totaled \$2.2 billion and \$2.3 billion at September 30, 2018 and December 31, 2017, including the notional amount of derivatives to which the Corporation is a counterparty, net of losses previously recorded, and the Corporation's investment, if any, in securities issued by the VIEs.

#### Collateralized Debt Obligation VIEs

The Corporation receives fees for structuring CDO VIEs, which hold diversified pools of fixed-income securities, typically corporate debt or ABS, which the CDO VIEs fund by issuing multiple tranches of debt and equity securities. CDOs are generally managed by third-party portfolio managers. The Corporation typically transfers assets to these CDOs, holds securities issued by the CDOs and may be a derivative counterparty to the CDOs. The Corporation's maximum loss exposure to consolidated and unconsolidated CDOs totaled \$433 million and \$358 million at September 30, 2018 and December 31, 2017.

#### Investment VIEs

The Corporation sponsors, invests in or provides financing, which may be in connection with the sale of assets, to a variety of investment VIEs that hold loans, real estate, debt securities or other financial instruments and are designed to provide the desired investment profile to investors or the Corporation. At September 30, 2018 and December 31, 2017, the Corporation's consolidated investment VIEs had total assets of \$337 million and \$249 million. The Corporation also held investments in unconsolidated VIEs with total assets of \$29.2 billion and \$20.3 billion at September 30, 2018 and December 31, 2017. The Corporation's maximum loss exposure associated with both consolidated and unconsolidated investment VIEs totaled \$6.2 billion and \$5.7 billion at September 30, 2018 and December 31, 2017 comprised primarily of on-balance sheet assets less non-recourse liabilities.

#### Leveraged Lease Trusts

The Corporation's net investment in consolidated leveraged lease trusts totaled \$1.8 billion and \$2.0 billion at September 30, 2018 and December 31, 2017. The trusts hold long-lived equipment such as rail cars, power generation and distribution equipment, and commercial aircraft. The Corporation structures the trusts and holds a significant residual interest. The net investment represents the Corporation's maximum loss exposure to the trusts in the unlikely event that the leveraged lease investments become worthless. Debt issued by the leveraged lease trusts is non-recourse to the Corporation.

#### Tax Credit VIEs

The Corporation holds investments in unconsolidated limited partnerships and similar entities that construct, own and operate affordable housing, wind and solar projects. An unrelated third party is typically the general partner or managing member and has control over the significant activities of the VIE. The Corporation earns a return primarily through the receipt of tax credits allocated to the projects. The maximum loss exposure included in the Other VIEs table was \$14.7 billion and \$13.8 billion at September 30, 2018 and December 31, 2017. The Corporation's risk of loss is generally mitigated by policies requiring that the project qualify for the expected tax credits prior to making its investment.

The Corporation's investments in affordable housing partnerships, which are reported in other assets on the Consolidated Balance Sheet, totaled \$8.4 billion and \$8.0 billion, including unfunded commitments to provide capital contributions of \$3.6 billion and \$3.1 billion at September 30, 2018 and December 31, 2017. The unfunded commitments are expected to be paid over the next five years. The Corporation recognized tax credits and other tax benefits from investments in affordable housing partnerships of \$265 million and \$750 million, and reported pretax losses in other noninterest income of \$215 million and \$640 million for the three and nine months ended September 30, 2018. For the same periods in 2017, the Corporation recognized tax credits and other tax benefits of \$293 million and \$825 million, and pretax losses of \$209 million and \$612 million. Tax credits are recognized as part of the Corporation's annual effective tax rate used to determine tax expense in a given quarter. Accordingly, the portion of a year's expected tax benefits recognized in any given quarter may differ from 25 percent. The Corporation may from time to time be asked to invest additional amounts to support a troubled affordable housing project. Such additional investments have not been and are not expected to be significant.



## NOTE 8 Goodwill and Intangible Assets

## Goodwill

The table below presents goodwill balances by business segment and All Other at September 30, 2018 and December 31, 2017. The reporting units utilized for goodwill impairment testing are the operating segments or one level below. For more information, see Note 8 – Goodwill and Intangible Assets to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

## Goodwill

(Dollars in millions)	September 30	December 31
	2018	2017
Consumer Banking	\$ 30,123	\$ 30,123
Global Wealth & Investment Management	9,677	9,677
Global Banking	23,923	23,923
Global Markets	5,182	5,182
All Other	46	46
Total goodwill	\$ 68,951	\$ 68,951

## Intangible Assets

The table below presents the gross and net carrying values and accumulated amortization for intangible assets at September 30, 2018 and December 31, 2017.

Intangible Assets <sup>(1, 2)</sup>

(Dollars in millions)	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
	September 30, 2018			December 31, 2017		
Purchased credit card and affinity relationships	\$5,919	\$ 5,721	\$ 198	\$5,919	\$ 5,604	\$ 315
Core deposit and other intangibles <sup>(3)</sup>	3,835	2,201	1,634	3,835	2,140	1,695
Customer relationships	3,886	3,810	76	3,886	3,584	302
Total intangible assets	\$13,640	\$ 11,732	\$ 1,908	\$13,640	\$ 11,328	\$ 2,312

<sup>(1)</sup> Excludes fully amortized intangible assets.

<sup>(2)</sup> At September 30, 2018 and December 31, 2017, none of the intangible assets were impaired.

<sup>(3)</sup> Includes \$1.6 billion at both September 30, 2018 and December 31, 2017 of intangible assets associated with trade names that have an indefinite life and, accordingly, are not amortized.

Amortization of intangibles expense was \$134 million and \$404 million for the three and nine months ended September 30, 2018 compared to \$151 million and \$473 million for the same periods in 2017. The Corporation estimates aggregate amortization expense will be \$134 million for the remainder of 2018, \$105 million for 2019, \$53 million for 2020 and none for the years thereafter.

NOTE 9 Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash

The table below presents federal funds sold or purchased, securities financing agreements (which include securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase) and short-term borrowings. The Corporation elects to account for certain securities financing agreements and short-term borrowings under the fair value option. For more information on the fair value option, see Note 15 – Fair Value Option.

(Dollars in millions)	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate
	Three Months Ended September 30 2018		September 30 2017		Nine Months Ended September 30 2018		September 30 2017	
Federal funds sold and securities borrowed or purchased under agreements to resell								
Average during period	\$241,426	1.31 %	\$223,585	0.86 %	\$247,183	1.15 %	\$222,255	0.77 %
Maximum month-end balance during period	267,989	n/a	224,815	n/a	267,989	n/a	237,064	n/a
Federal funds purchased and securities loaned or sold under agreements to repurchase								
Average during period	\$191,693	1.88 %	\$197,794	1.37 %	\$193,854	1.71 %	\$199,433	1.18 %
Maximum month-end balance during period	189,206	n/a	197,604	n/a	199,419	n/a	218,017	n/a
Short-term borrowings								
Average during period	33,410	2.89	32,153	2.54	40,048	2.49	38,329	2.43
Maximum month-end balance during period	36,043	n/a	32,679	n/a	52,480	n/a	46,202	n/a

n/a = not applicable

Offsetting of Securities Financing Agreements

The Corporation enters into securities financing agreements to accommodate customers (also referred to as “matched-book transactions”), obtain securities to cover short positions, and to finance inventory positions. Substantially all of the Corporation’s securities financing activities are transacted under legally enforceable master repurchase agreements or legally enforceable master securities lending agreements that give the Corporation, in the event of default by the counterparty, the right to liquidate securities held and to offset receivables and payables with the same counterparty. The Corporation offsets securities financing transactions with the same counterparty on the Consolidated Balance Sheet where it has such a legally enforceable master

netting agreement and the transactions have the same maturity date.

The Securities Financing Agreements table presents securities financing agreements included on the Consolidated Balance Sheet in federal funds sold and securities borrowed or purchased under agreements to resell, and in federal funds purchased and securities loaned or sold under agreements to repurchase at September 30, 2018 and December 31, 2017. Balances are presented on a gross basis, prior to the application of counterparty netting. Gross assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements. For more information on the offsetting of derivatives, see Note 3 – Derivatives.

Securities Financing Agreements

(Dollars in millions)	Gross Assets/Liabilities (1)	Amounts Offset	Net Balance Sheet Amount	Financial Instruments (2)	Net Assets/Liabilities
	September 30, 2018				
Securities borrowed or purchased under agreements to resell (3)	\$373,800	\$(125,563)	\$248,237	\$(218,291)	\$ 29,946
	\$297,163	\$(125,563)	\$171,600	\$(151,842)	\$ 19,758

Securities loaned or sold under agreements to repurchase					
Other <sup>(4)</sup>	24,446	—	24,446	(24,446)	—
Total	\$321,609	\$(125,563)	\$196,046	\$(176,288)	\$ 19,758

## December 31, 2017

Securities borrowed or purchased under agreements to resell <sup>(3)</sup>	\$348,472	\$(135,725)	\$212,747	\$(165,720)	\$ 47,027
Securities loaned or sold under agreements to repurchase	\$312,582	\$(135,725)	\$176,857	\$(146,205)	\$ 30,652
Other <sup>(4)</sup>	22,711	—	22,711	(22,711)	—
Total	\$335,293	\$(135,725)	\$199,568	\$(168,916)	\$ 30,652

(1) Includes activity where uncertainty exists as to the enforceability of certain master netting agreements under bankruptcy laws in some countries or industries.

(2) Includes securities collateral received or pledged under repurchase or securities lending agreements where there is a legally enforceable master netting agreement. These amounts are not offset on the Consolidated Balance Sheet, but are shown as a reduction to derive a net asset or liability. Securities collateral received or pledged where the legal enforceability of the master netting agreements is uncertain is excluded from the table.

(3) Excludes repurchase activity of \$11.1 billion and \$10.2 billion reported in loans and leases on the Consolidated Balance Sheet at September 30, 2018 and December 31, 2017.

(4) Balance is reported in accrued expenses and other liabilities on the Consolidated Balance Sheet and relates to transactions where the Corporation acts as the lender in a securities lending agreement and receives securities that can be pledged as collateral or sold. In these transactions, the Corporation recognizes an asset at fair value, representing the securities received, and a liability, representing the obligation to return those securities.

Repurchase Agreements and Securities Loaned Transactions Accounted for as Secured Borrowings

The following tables present securities sold under agreements to repurchase and securities loaned by remaining contractual term to maturity and class of collateral pledged. Included in "Other" are transactions where the Corporation acts as the lender in a

securities lending agreement and receives securities that can be pledged as collateral or sold. Certain agreements contain a right to substitute collateral and/or terminate the agreement prior to maturity at the option of the Corporation or the counterparty. Such agreements are included in the table below based on the remaining contractual term to maturity.

Remaining Contractual Maturity

(Dollars in millions)	September 30, 2018				Total
	Overnight and Continuous	30 Days or Less	After 30 Days Through 90 Days	Greater than 90 Days <sup>(1)</sup>	
Securities sold under agreements to repurchase	\$128,222	\$68,852	\$22,920	\$58,089	\$278,083
Securities loaned	13,364	738	896	4,082	19,080
Other	24,446	—	—	—	24,446
Total	\$166,032	\$69,590	\$23,816	\$62,171	\$321,609

	December 31, 2017				
Securities sold under agreements to repurchase	\$125,956	\$79,913	\$46,091	\$38,935	\$290,895
Securities loaned	9,853	5,658	2,043	4,133	21,687
Other	22,711	—	—	—	22,711
Total	\$158,520	\$85,571	\$48,134	\$43,068	\$335,293

<sup>(1)</sup> No agreements have maturities greater than three years.

Class of Collateral Pledged

(Dollars in millions)	September 30, 2018			
	Securities Sold Under Agreements to Repurchase	Securities loaned	Other	Total
U.S. government and agency securities	\$158,567	\$10	\$2	\$158,579
Corporate securities, trading loans and other	13,448	2,656	363	16,467
Equity securities	17,268	10,953	24,028	52,249
Non-U.S. sovereign debt	84,435	5,461	53	89,949
Mortgage trading loans and ABS	4,365	—	—	4,365
Total	\$278,083	\$19,080	\$24,446	\$321,609

	December 31, 2017			
U.S. government and agency securities	\$158,299	\$—	\$409	\$158,708
Corporate securities, trading loans and other	12,787	2,669	624	16,080
Equity securities	23,975	13,523	21,628	59,126
Non-U.S. sovereign debt	90,857	5,495	50	96,402

Mortgage trading loans and ABS	4,977	—	—	4,977
Total	\$290,895	\$ 21,687	\$ 22,711	\$335,293

Under repurchase agreements, the Corporation is required to post collateral with a market value equal to or in excess of the principal amount borrowed. For securities loaned transactions, the Corporation receives collateral in the form of cash, letters of credit or other securities. To determine whether the market value of the underlying collateral remains sufficient, collateral is generally valued daily, and the Corporation may be required to deposit additional collateral or may receive or return collateral pledged when appropriate. Repurchase agreements and securities loaned transactions are generally either overnight, continuous (i.e., no stated term) or short-term. The Corporation manages liquidity risks

related to these agreements by sourcing funding from a diverse group of counterparties, providing a range of securities collateral and pursuing longer durations, when appropriate.

Restricted Cash

At September 30, 2018 and December 31, 2017, the Corporation held restricted cash included within cash and cash equivalents on the Consolidated Balance Sheet of \$18.3 billion and \$18.8 billion, predominantly related to cash segregated in compliance with securities regulations and cash held on deposit with the Federal Reserve and non-U.S. central banks to meet reserve requirements.

## NOTE 10 Commitments and Contingencies

In the normal course of business, the Corporation enters into a number of off-balance sheet commitments. These commitments expose the Corporation to varying degrees of credit and market risk and are subject to the same credit and market risk limitation reviews as those instruments recorded on the Consolidated Balance Sheet. For more information on commitments and contingencies, see Note 12 – Commitments and Contingencies to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

## Credit Extension Commitments

The Corporation enters into commitments to extend credit such as loan commitments, SBLCs and commercial letters of credit to meet the financing needs of its customers. The following table includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were \$10.8 billion and \$11.0 billion at September 30, 2018 and December 31, 2017. At September 30, 2018, the carrying value of these commitments, excluding commitments accounted for under the fair value option, was \$808 million,

including deferred revenue of \$16 million and a reserve for unfunded lending commitments of \$792 million. At December 31, 2017, the comparable amounts were \$793 million, \$16 million and \$777 million, respectively. The carrying value of these commitments is classified in accrued expenses and other liabilities on the Consolidated Balance Sheet.

Legally binding commitments to extend credit generally have specified rates and maturities. Certain of these commitments have adverse change clauses that help to protect the Corporation against deterioration in the borrower's ability to pay.

The following table also includes the notional amount of commitments of \$3.2 billion and \$4.8 billion at September 30, 2018 and December 31, 2017 that are accounted for under the fair value option. However, the following table excludes cumulative net fair value of \$70 million and \$120 million at September 30, 2018 and December 31, 2017 on these commitments, which is classified in accrued expenses and other liabilities. For more information regarding the Corporation's loan commitments accounted for under the fair value option, see Note 15 – Fair Value Option.

## Credit Extension Commitments

	Expire in One Year or Less	Expire After One Year Through Three Years	Expire After Three Years Through Five Years	Expire After Five Years	Total
(Dollars in millions)	September 30, 2018				
Notional amount of credit extension commitments					
Loan commitments	\$86,501	\$142,327	\$154,991	\$22,724	\$406,543
Home equity lines of credit	3,203	2,494	3,115	34,411	43,223
Standby letters of credit and financial guarantees <sup>(1)</sup>	20,653	9,838	2,555	1,151	34,197
Letters of credit	1,262	223	74	73	1,632
Legally binding commitments	111,619	154,882	160,735	58,359	485,595
Credit card lines <sup>(2)</sup>	373,295	—	—	—	373,295
Total credit extension commitments	\$484,914	\$154,882	\$160,735	\$58,359	\$858,890
	December 31, 2017				
Notional amount of credit extension commitments					
Loan commitments	\$85,804	\$140,942	\$147,043	\$21,342	\$395,131
Home equity lines of credit	6,172	4,457	2,288	31,250	44,167

Standby letters of credit and financial guarantees <sup>(1)</sup>	19,976	11,261	3,420	1,144	35,801
Letters of credit	1,291	117	129	87	1,624
Legally binding commitments	113,243	156,777	152,880	53,823	476,723
Credit card lines <sup>(2)</sup>	362,030	—	—	—	362,030
Total credit extension commitments	\$475,273	\$156,777	\$152,880	\$53,823	\$838,753

The notional amounts of SBLCs and financial guarantees classified as investment grade and non-investment grade <sup>(1)</sup> based on the credit quality of the underlying reference name within the instrument were \$26.9 billion and \$6.9 billion at September 30, 2018, and \$27.3 billion and \$8.1 billion at December 31, 2017. Amounts in the table include consumer SBLCs of \$402 million and \$421 million at September 30, 2018 and December 31, 2017.

<sup>(2)</sup> Includes business card unused lines of credit.

#### Other Commitments

At September 30, 2018 and December 31, 2017, the Corporation had commitments to purchase loans (e.g., residential mortgage and commercial real estate) of \$341 million and \$344 million, and commitments to purchase commercial loans of \$764 million and \$994 million, which upon settlement will be included in loans or LHFS.

At September 30, 2018 and December 31, 2017, the Corporation had commitments to purchase commodities, primarily liquefied natural gas, of \$1.7 billion and \$1.5 billion, which upon settlement will be included in trading account assets.

At September 30, 2018 and December 31, 2017, the Corporation had commitments to enter into resale and forward-dated resale and securities borrowing agreements of \$80.2 billion and \$56.8 billion, and commitments to enter into forward-dated

repurchase and securities lending agreements of \$40.3 billion and \$34.3 billion. These commitments expire primarily within the next 15 months.

At both September 30, 2018 and December 31, 2017, the Corporation had a commitment to originate or purchase up to \$3.0 billion, on a rolling 12-month basis, of auto loans and leases from a strategic partner. This commitment extends through November 2022 and can be terminated with 12 months prior notice. In addition, at December 31, 2017, the Corporation had a commitment to purchase a maximum of \$345 million of retail automobile loans from certain auto loan originators, which was terminated in the first quarter of 2018.

The Corporation is a party to operating leases for certain of its premises and equipment. Commitments under these leases are approximately \$600 million, \$2.3 billion, \$2.1 billion, \$1.9 billion

and \$1.6 billion for the remainder of 2018 and the years through 2022, respectively, and \$6.3 billion in the aggregate for all years thereafter.

#### Other Guarantees

##### Bank-owned Life Insurance Book Value Protection

The Corporation sells products that offer book value protection to insurance carriers who offer group life insurance policies to corporations, primarily banks. At both September 30, 2018 and December 31, 2017, the notional amount of these guarantees totaled \$10.4 billion, and the Corporation's maximum exposure related to these guarantees totaled \$1.6 billion at both period ends, with estimated maturity dates between 2033 and 2039.

##### Merchant Services

In accordance with credit and debit card association rules, the Corporation sponsors merchant processing servicers that process credit and debit card transactions on behalf of various merchants. If the merchant processor fails to meet its obligation to reimburse the cardholder for disputed transactions, then the Corporation, as the sponsor, could be held liable for the disputed amount. For the three and nine months ended September 30, 2018, the sponsored entities processed and settled \$220.0 billion and \$646.9 billion of transactions and recorded losses of \$6 million and \$23 million. For the same periods in 2017, the sponsored entities processed and settled \$200.4 billion and \$591.8 billion of transactions and recorded losses of \$7 million and \$22 million. A significant portion of this activity was processed by a joint venture in which the Corporation holds a 49 percent ownership. The carrying value of the Corporation's investment in the merchant services joint venture was \$2.8 billion and \$2.9 billion at September 30, 2018 and December 31, 2017, and is recorded in other assets on the Consolidated Balance Sheet and in All Other.

At September 30, 2018 and December 31, 2017, the maximum potential exposure for sponsored transactions totaled \$363.0 billion and \$346.4 billion. However, the Corporation believes that the maximum potential exposure is not representative of the actual potential loss exposure and does not expect to make material payments in connection with these guarantees.

##### Representations and Warranties Obligations and Corporate Guarantees

For information on representations and warranties obligations and corporate guarantees and the related reserve and estimated range of possible loss, see Note 7 – Representations and Warranties Obligations and Corporate Guarantees to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

The reserve for representations and warranties and corporate guarantees was \$2.0 billion and \$1.9 billion at September 30, 2018 and December 31, 2017 and is included in accrued expenses and other liabilities on the Consolidated Balance Sheet and the related provision is included in other income in the Consolidated Statement of Income. The representations and warranties reserve represents the Corporation's best estimate of probable incurred losses. It is reasonably possible that future representations and warranties losses may occur in excess of the amounts recorded for these exposures.

#### Other Guarantees

The Corporation has entered into additional guarantee agreements and commitments, including sold risk participation swaps, liquidity facilities, lease-end obligation agreements, partial credit guarantees on certain leases, real estate joint venture guarantees,

divested business commitments and sold put options that require gross settlement. The maximum potential future payment under these agreements was approximately \$6.0 billion and \$5.9 billion at September 30, 2018 and December 31, 2017. The estimated maturity dates of these obligations extend up to 2040. The Corporation has made no material payments under these guarantees.

In the normal course of business, the Corporation periodically guarantees the obligations of its affiliates in a variety of transactions including ISDA-related transactions and non-ISDA related transactions such as commodities trading, repurchase agreements, prime brokerage agreements and other transactions.

##### Payment Protection Insurance Claims Matter

On June 1, 2017, the Corporation sold its non-U.S. consumer credit card business. Included in the calculation of the gain on sale, the Corporation recorded an obligation to indemnify the purchaser for substantially all payment protection insurance exposure above reserves assumed by the purchaser.

##### Guarantees of Certain Long-term Debt



The Corporation, as the parent company, fully and unconditionally guarantees the securities issued by BofA Finance LLC, a 100 percent owned finance subsidiary of the Corporation, and effectively provides for the full and unconditional guarantee of trust securities issued by certain statutory trust companies that are 100 percent owned finance subsidiaries of the Corporation.

#### Litigation and Regulatory Matters

The following supplements the disclosure in Note 12 – Commitments and Contingencies to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K and in Note 10 – Commitments and Contingencies to the Consolidated Financial Statements of the Corporation’s Quarterly Reports on Form 10-Q for the quarters ended June 30, 2018 and March 31, 2018 (the prior commitments and contingencies disclosure).

In the ordinary course of business, the Corporation and its subsidiaries are routinely defendants in or parties to many pending and threatened legal, regulatory and governmental actions and proceedings. In view of the inherent difficulty of predicting the outcome of such matters, particularly where the claimants seek very large or indeterminate damages or where the matters present novel legal theories or involve a large number of parties, the Corporation generally cannot predict what the eventual outcome of pending or threatened matters will be, what the timing of the ultimate resolution of these matters will be, or what the eventual loss, fines or penalties related to each matter may be.

In accordance with applicable accounting guidance, the Corporation establishes an accrued liability when those matters present loss contingencies that are both probable and estimable. In such cases, there may be an exposure to loss in excess of any amounts accrued. Excluding expenses of internal and external legal service providers, litigation-related expense of \$90 million and \$292 million was recognized for the three and nine months ended September 30, 2018 compared to \$140 million and \$606 million for the same periods in 2017.

For a limited number of the matters disclosed in this Note, and in the prior commitments and contingencies disclosure, for which a loss, whether in excess of a related accrued liability or where there is no accrued liability, is reasonably possible in future periods, the Corporation is able to estimate a range of possible loss. In cases in which the Corporation possesses sufficient appropriate information to estimate a range of possible loss, that estimate is aggregated and disclosed below. There may be other

disclosed matters for which a loss is probable or reasonably possible but such an estimate of the range of possible loss may not be possible. For those matters where an estimate of the range of possible loss is reasonably possible, management currently estimates the aggregate range of possible loss is \$0 to \$1.2 billion in excess of the accrued liability, if any, related to those matters. This estimated range of possible loss is based upon currently available information and is subject to significant judgment and a variety of assumptions, and known and unknown uncertainties. The matters underlying the estimated range will change from time to time, and actual results may vary significantly from the current estimate. Therefore, this estimated range of possible loss represents what the Corporation believes to be an estimate of possible loss only for certain matters meeting these criteria. It does not represent the Corporation's maximum loss exposure.

Based on current knowledge, management does not believe that loss contingencies arising from pending matters, including the matters described herein and in the prior commitments and contingencies disclosure, will have a material adverse effect on the consolidated financial position or liquidity of the Corporation. However, in light of the inherent uncertainties involved in these matters, some of which are beyond the Corporation's control, and the very large or indeterminate damages sought in some of these matters, an adverse outcome in one or more of these matters could be material to the Corporation's results of operations or liquidity for any particular reporting period.

#### LIBOR, Other Reference Rates, Foreign Exchange (FX) and Bond Trading Matters

In the LIBOR matters, in July 2018, the U.S. Court of Appeals for the Second Circuit denied plaintiffs' petition for an interlocutory appeal of the district court's denial of certification of a class of lending institution plaintiffs, and, in September 2018, denied defendants' petition for an interlocutory appeal of the district court's certification of antitrust claims brought by the over-the-counter class of plaintiffs.

#### NOTE 11 Shareholders' Equity

##### Common Stock

#### Declared Quarterly Cash Dividends on Common Stock <sup>(1)</sup>

Declaration Date	Record Date	Payment Date	Dividend Per Share
October 24, 2018	December 7, 2018	December 28, 2018	\$ 0.15
July 26, 2018	September 7, 2018	September 28, 2018	0.15
April 25, 2018	June 1, 2018	June 29, 2018	0.12
January 31, 2018	March 2, 2018	March 30, 2018	0.12

<sup>(1)</sup> In 2018, and through October 29, 2018.

During the three and nine months ended September 30, 2018, the Corporation repurchased and retired 164 million and 482

million shares of common stock, which reduced shareholders' equity by \$5.0 billion and \$14.9 billion.

At September 30, 2018, the Corporation had unexercised warrants outstanding to purchase 122 million shares of its common stock expiring on October 29, 2018, and warrants outstanding and exercisable to purchase 130 million shares of common stock expiring on January 16, 2019. These warrants were originally issued in connection with preferred stock issuances to the U.S. Department of the Treasury in 2009 and 2008, and are listed on the New York Stock Exchange. The exercise price of the warrants expiring on January 16, 2019 is subject to continued adjustment each time the quarterly cash dividend is in excess of \$0.01 per common share to compensate the holders of the warrants for dilution resulting from an increased dividend. As a result of the Corporation's third-quarter 2018 dividend of \$0.15 per common share, the exercise price of the warrants expiring on January 16, 2019 was adjusted to \$12.609 per share. The unexercised warrants expiring on October 29, 2018 have an exercise price of \$30.79 per share.

During the nine months ended September 30, 2018, in connection with employee stock plans, the Corporation issued 74 million shares of its common stock and, to satisfy tax withholding obligations, repurchased 29 million shares of its common stock. At September 30, 2018, the Corporation had reserved 787 million unissued shares of common stock for future issuances under employee stock plans, common stock warrants, convertible notes and preferred stock.

### Preferred Stock

During the three months ended March 31, 2018, June 30, 2018 and September 30, 2018, the Corporation declared \$428 million, \$318 million and \$466 million of cash dividends on preferred stock, or a total of \$1.2 billion for the nine months ended September 30, 2018.

On July 24, 2018, the Corporation issued 34,160 shares of 5.875% Non-Cumulative Preferred Stock, Series HH for \$844 million, net of deferred fees. Dividends are paid quarterly commencing on October 24, 2018. The Series HH preferred stock has a liquidation preference of \$25,000 per share and is subject to certain restrictions in the event the Corporation fails to declare and pay full dividends.

During the three months ended September 30, 2018, the Corporation fully redeemed Series D, Series I, Series K and Series 3 preferred stock for a total of \$1.7 billion. For additional information on the Corporation's preferred stock, including liquidation preference, dividend requirements and redemption period, see Note 13 – Shareholders' Equity to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

## NOTE 12 Accumulated Other Comprehensive Income (Loss)

The table below presents the changes in accumulated OCI after-tax for the nine months ended September 30, 2018 and 2017.

(Dollars in millions)	Debt and Equity Securities	Debit Valuation Adjustments	Derivatives	Employee Benefit Plans	Foreign Currency	Total
Balance, December 31, 2016	\$ (1,267 )	\$ (767 )	\$ (895 )	\$ (3,480 )	\$ (879 )	\$ (7,288 )
Net change	931	(149 )	156	80	102	1,120
Balance, September 30, 2017	\$ (336 )	\$ (916 )	\$ (739 )	\$ (3,400 )	\$ (777 )	\$ (6,168 )
Balance, December 31, 2017	\$ (1,206 )	\$ (1,060 )	\$ (831 )	\$ (3,192 )	\$ (793 )	\$ (7,082 )
Accounting change related to certain tax effects (1)	(393 )	(220 )	(189 )	(707 )	239	(1,270 )
Cumulative adjustment for hedge accounting change (2)	—	—	57	—	—	57
Net change	(6,166 )	183	(346 )	91	(303 )	(6,541 )
Balance, September 30, 2018	\$ (7,765 )	\$ (1,097 )	\$ (1,309 )	\$ (3,808 )	\$ (857 )	\$ (14,836 )

The table below presents the net change in fair value recorded in accumulated OCI, net realized gains and losses reclassified into earnings and other changes for each component of OCI pre- and after-tax for the nine months ended September 30, 2018 and 2017.

## Changes in OCI Components Pre- and After-tax

(Dollars in millions)	Pretax Nine Months Ended 2018	Tax effect	After- tax	Pretax September 30 2017	Tax effect	After- tax
Debt and equity securities:						
Net increase (decrease) in fair value	\$ (8,198)	\$ 2,075	\$ (6,123)	\$ 1,802	\$ (674)	\$ 1,128
Net realized (gains) reclassified into earnings (3)	(55 )	12	(43 )	(312 )	115	(197 )
Net change	(8,253 )	2,087	(6,166 )	1,490	(559 )	931
Debit valuation adjustments:						
Net increase (decrease) in fair value	220	(52 )	168	(255 )	96	(159 )
Net realized losses reclassified into earnings (3)	20	(5 )	15	30	(20 )	10
Net change	240	(57 )	183	(225 )	76	(149 )
Derivatives:						
Net increase (decrease) in fair value	(601 )	174	(427 )	79	(30 )	49
Reclassifications into earnings:						
Net interest income	134	(33 )	101	274	(103 )	171
Personnel expense	(27 )	7	(20 )	(103 )	39	(64 )
Net realized losses reclassified into earnings	107	(26 )	81	171	(64 )	107
Net change	(494 )	148	(346 )	250	(94 )	156
Employee benefit plans:						
Reclassifications into earnings:						
Net actuarial losses and other	119	(28 )	91	128	(48 )	80
Net realized losses reclassified into earnings (4)	119	(28 )	91	128	(48 )	80
Net change	119	(28 )	91	128	(48 )	80
Foreign currency:						
Net increase (decrease) in fair value	(87 )	(165 )	(252 )	(454 )	462	8

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Net realized (gains) losses reclassified into earnings <sup>(3)</sup>	(143 )	92	(51 )	(608 )	702	94
Net change	(230 )	(73 )	(303 )	(1,062 )	1,164	102
Total other comprehensive income (loss)	\$(8,618)	\$2,077	\$(6,541)	\$581	\$539	\$1,120

Effective January 1, 2018, the Corporation adopted the accounting standard on tax effects in accumulated OCI <sup>(1)</sup> related to the Tax Act. Accordingly, certain tax effects were reclassified from accumulated OCI to retained earnings. For additional information, see Note 1 – Summary of Significant Accounting Principles.

<sup>(2)</sup> Reflects the Corporation’s adoption of the hedge accounting standard. For additional information, see Note 1 – Summary of Significant Accounting Principles.

<sup>(3)</sup> Reclassifications of pretax debt and equity securities, DVA and foreign currency (gains) losses are recorded in other income in the Consolidated Statement of Income.

<sup>(4)</sup> Reclassifications of pretax employee benefit plan costs are recorded in other general operating expense in the Consolidated Statement of Income.

## NOTE 13 Earnings Per Common Share

The calculation of earnings per common share (EPS) and diluted EPS for the three and nine months ended September 30, 2018 and 2017 is presented below. For more information on the calculation of EPS, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

	Three Months		Nine Months	
	Ended September 30		Ended September 30	
(In millions, except per share information)	2018	2017	2018	2017
Earnings per common share				
Net income	\$7,167	\$5,424	\$20,869	\$15,867
Preferred stock dividends	(466 )	(465 )	(1,212 )	(1,328 )
Net income applicable to common shareholders	\$6,701	\$4,959	\$19,657	\$14,539
Average common shares issued and outstanding	10,031.6	10,197.9	10,177.5	10,103.4
Earnings per common share	\$0.67	\$0.49	\$1.93	\$1.44
Diluted earnings per common share				
Net income applicable to common shareholders	\$6,701	\$4,959	\$19,657	\$14,539
Add preferred stock dividends due to assumed conversions <sup>(1)</sup>	—	37	—	187
Net income allocated to common shareholders	\$6,701	\$4,996	\$19,657	\$14,726
Average common shares issued and outstanding	10,031.6	10,197.9	10,177.5	10,103.4
Dilutive potential common shares <sup>(2)</sup>	139.2	548.8	140.4	728.7
Total diluted average common shares issued and outstanding	10,170.8	10,746.7	10,317.9	10,832.1
Diluted earnings per common share	\$0.66	\$0.46	\$1.91	\$1.36

<sup>(1)</sup> Represents the Series T dividends under the “if-converted” method prior to conversion.

<sup>(2)</sup> Includes incremental dilutive shares from restricted stock units, restricted stock and warrants.

The Corporation previously issued warrants to purchase 700 million shares of the Corporation’s common stock to the holders of the Series T 6% Non-cumulative preferred stock (Series T). In the third quarter of 2017, the Series T holders exercised the warrants and acquired the 700 million shares of the Corporation’s common stock. For the three and nine months ended September 30, 2017, the average dilutive impact of the 700 million potential common shares was included in the diluted share count under the “if-converted” method.

For both the three and nine months ended September 30, 2018 and 2017, 62 million average dilutive potential common shares associated with the Series L preferred stock were not included in the diluted share count because the result would have been antidilutive under the “if-converted” method. For the three and nine months ended September 30, 2018, average options to purchase two million and five million shares of common stock were outstanding but not included in the computation of EPS because the result would have been antidilutive under the treasury stock method compared to 18 million and 22 million for the same periods in 2017. For the three and nine months ended September 30, 2018, average warrants to purchase 135 million and 139 million shares of common stock were included in the diluted EPS calculation under the treasury stock method compared to 150 million shares of common stock for both periods in 2017. For both the three and nine months ended September 30, 2018 and 2017, average warrants to purchase 122 million shares of common stock were outstanding but not included in the computation of EPS because the result would have been antidilutive under the treasury stock method.

## NOTE 14 Fair Value Measurements

Under applicable accounting standards, fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Corporation determines the fair values of its financial instruments under applicable accounting standards and conducts a review of its fair value hierarchy classifications on a quarterly basis. Transfers into or out of fair value hierarchy classifications are considered to be

effective as of the beginning of the quarter in which they occur. During the nine months ended September 30, 2018, there were no changes to valuation approaches or techniques that had, or are expected to have, a material impact on the Corporation's consolidated financial position or results of operations.

For more information regarding the fair value hierarchy and how the Corporation measures fair value and valuation processes and techniques, see Note 1 – Summary of Significant Accounting Principles and Note 20 – Fair Value Measurements to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K. The Corporation accounts for certain financial instruments under the fair value option. For additional information, see Note 15 – Fair Value Option.

## Recurring Fair Value

Assets and liabilities carried at fair value on a recurring basis at September 30, 2018 and December 31, 2017, including financial instruments which the Corporation accounts for under the fair value option, are summarized in the following tables.

(Dollars in millions)	September 30, 2018 Fair Value Measurements			Netting Adjustments (1)	Assets/Liabilities at Fair Value
	Level 1	Level 2	Level 3		
<b>Assets</b>					
Time deposits placed and other short-term investments	\$1,528	\$—	\$—	\$—	\$ 1,528
Federal funds sold and securities borrowed or purchased under agreements to resell	—	52,524	—	—	52,524
Trading account assets:					
U.S. Treasury and agency securities <sup>(2)</sup>	39,677	1,251	—	—	40,928
Corporate securities, trading loans and other	—	27,281	1,534	—	28,815
Equity securities	66,850	28,049	290	—	95,189
Non-U.S. sovereign debt	5,667	19,524	469	—	25,660
Mortgage trading loans, MBS and ABS:					
U.S. government-sponsored agency guaranteed	—	18,697	—	—	18,697
Mortgage trading loans, ABS and other MBS	—	8,350	1,479	—	9,829
Total trading account assets <sup>(3)</sup>	112,194	103,152	3,772	—	219,118
Derivative assets	9,961	322,940	4,380	(291,664 )	45,617
AFS debt securities:					
U.S. Treasury and agency securities	50,900	1,406	—	—	52,306
Mortgage-backed securities:					
Agency	—	136,112	—	—	136,112
Agency-collateralized mortgage obligations	—	5,678	—	—	5,678
Non-agency residential	—	1,593	544	—	2,137
Commercial	—	13,510	—	—	13,510
Non-U.S. securities	759	6,317	3	—	7,079
Other taxable securities	—	3,869	7	—	3,876
Tax-exempt securities	—	18,349	1	—	18,350
Total AFS debt securities	51,659	186,834	555	—	239,048
Other debt securities carried at fair value:					
Mortgage-backed securities:					
Non-agency residential	—	1,400	296	—	1,696
Non-U.S. securities	9,943	945	—	—	10,888
Other taxable securities	—	3	—	—	3
Total other debt securities carried at fair value	9,943	2,348	296	—	12,587
Loans and leases	—	5,321	410	—	5,731
Loans held-for-sale	—	2,590	526	—	3,116
Other assets <sup>(4)</sup>	18,858	1,740	3,140	—	23,738
Total assets	\$204,143	\$677,449	\$13,079	\$(291,664 )	\$ 603,007
<b>Liabilities</b>					
Interest-bearing deposits in U.S. offices	\$—	\$529	\$—	\$—	\$ 529
Federal funds purchased and securities loaned or sold under agreements to repurchase	—	34,242	—	—	34,242
Trading account liabilities:					



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U.S. Treasury and agency securities	15,403	362	—	—	15,765
Equity securities	38,743	4,673	—	—	43,416
Non-U.S. sovereign debt	12,496	9,863	—	—	22,359
Corporate securities and other	—	8,407	17	—	8,424
Total trading account liabilities	66,642	23,305	17	—	89,964
Derivative liabilities	9,142	309,966	4,950	(287,869 )	36,189
Short-term borrowings	—	1,789	—	—	1,789
Accrued expenses and other liabilities	22,667	1,849	—	—	24,516
Long-term debt	—	27,754	923	—	28,677
Total liabilities	\$98,451	\$399,434	\$5,890	\$(287,869 )	\$ 215,906

(1) Amounts represent the impact of legally enforceable master netting agreements and also cash collateral held or placed with the same counterparties.

(2) Includes \$19.9 billion of GSE obligations.

(3) Includes securities with a fair value of \$14.2 billion that were segregated in compliance with securities regulations or deposited with clearing organizations. This amount is included in the parenthetical disclosure on the Consolidated Balance Sheet.

(4) Includes MSRs of \$2.2 billion which are classified as Level 3 assets.

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(Dollars in millions)	December 31, 2017 Fair Value Measurements			Netting Adjustments (1)	Assets/Liabilities at Fair Value
	Level 1	Level 2	Level 3		
<b>Assets</b>					
Time deposits placed and other short-term investments	\$2,234	\$—	\$—	\$—	\$ 2,234
Federal funds sold and securities borrowed or purchased under agreements to resell	—	52,906	—	—	52,906
<b>Trading account assets:</b>					
U.S. Treasury and agency securities <sup>(2)</sup>	38,720	1,922	—	—	40,642
Corporate securities, trading loans and other	—	28,714	1,864	—	30,578
Equity securities	60,747	23,958	235	—	84,940
Non-U.S. sovereign debt	6,545	15,839	556	—	22,940
<b>Mortgage trading loans, MBS and ABS:</b>					
U.S. government-sponsored agency guaranteed	—	20,586	—	—	20,586
Mortgage trading loans, ABS and other MBS	—	8,174	1,498	—	9,672
Total trading account assets <sup>(3)</sup>	106,012	99,193	4,153	—	209,358
Derivative assets	6,305	341,178	4,067	(313,788 )	37,762
<b>AFS debt securities:</b>					
U.S. Treasury and agency securities	51,915	1,608	—	—	53,523
<b>Mortgage-backed securities:</b>					
Agency	—	192,929	—	—	192,929
Agency-collateralized mortgage obligations	—	6,804	—	—	6,804
Non-agency residential	—	2,669	—	—	2,669
Commercial	—	13,684	—	—	13,684
Non-U.S. securities	772	5,880	25	—	6,677
Other taxable securities	—	5,261	509	—	5,770
Tax-exempt securities	—	20,106	469	—	20,575
Total AFS debt securities	52,687	248,941	1,003	—	302,631
<b>Other debt securities carried at fair value:</b>					
<b>Mortgage-backed securities:</b>					
Non-agency residential	—	2,769	—	—	2,769
Non-U.S. securities	8,191	1,297	—	—	9,488
Other taxable securities	—	229	—	—	229
Total other debt securities carried at fair value	8,191	4,295	—	—	12,486
Loans and leases	—	5,139	571	—	5,710
Loans held-for-sale	—	1,466	690	—	2,156
Other assets <sup>(4)</sup>	19,367	789	2,425	—	22,581
Total assets	\$194,796	\$753,907	\$12,909	\$(313,788 )	\$ 647,824
<b>Liabilities</b>					
Interest-bearing deposits in U.S. offices	\$—	\$449	\$—	\$—	\$ 449
Federal funds purchased and securities loaned or sold under agreements to repurchase	—	36,182	—	—	36,182
<b>Trading account liabilities:</b>					
U.S. Treasury and agency securities	17,266	734	—	—	18,000
Equity securities	33,019	3,885	—	—	36,904
Non-U.S. sovereign debt	11,976	7,382	—	—	19,358
Corporate securities and other	—	6,901	24	—	6,925

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Total trading account liabilities	62,261	18,902	24	—	81,187
Derivative liabilities	6,029	334,261	5,781	(311,771 )	34,300
Short-term borrowings	—	1,494	—	—	1,494
Accrued expenses and other liabilities	21,887	945	8	—	22,840
Long-term debt	—	29,923	1,863	—	31,786
Total liabilities	\$90,177	\$422,156	\$7,676	\$(311,771 )	\$ 208,238

(1) Amounts represent the impact of legally enforceable master netting agreements and also cash collateral held or placed with the same counterparties.

(2) Includes \$21.3 billion of GSE obligations.

(3) Includes securities with a fair value of \$16.8 billion that were segregated in compliance with securities regulations or deposited with clearing organizations. This amount is included in the parenthetical disclosure on the Consolidated Balance Sheet.

(4) Includes MSRs of \$2.3 billion which are classified as Level 3 assets.

The following tables present a reconciliation of all assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during the three and nine months ended September 30, 2018 and 2017, including net realized and unrealized gains (losses) included in earnings and accumulated OCI.

Level 3 – Fair Value Measurements for the Three Months Ended September 30, 2018<sup>(1)</sup>

(Dollars in millions)	Balance July 1 2018	Total Realized/Unrealized Gains (Losses) <sup>(2)</sup>	Gross					Gross Transfers into Level 3	Gross Transfers out of Level 3	Balance September 30 2018	Change in Unrealized Gains (Losses) Related to Financial Instruments Still Held <sup>(2)</sup>
			Gains (Losses) in OCI	Purchases	Sales	Issuances	Settlements				
Trading account assets:											
Corporate securities, trading loans and other	\$1,638	\$ 14	\$ —	-\$54	\$(87)	\$ —	\$(175 )	\$ 269	\$(179 )	\$1,534	\$ (14 )
Equity securities	228	8	—	21	—	—	—	43	(10 )	290	8
Non-U.S. sovereign debt	368	10	(13)	—	—	—	—	109	(5 )	469	11
Mortgage trading loans, ABS and other MBS	1,523	16	(1 )	75	(184)	—	(29 )	191	(112 )	1,479	8
Total trading account assets	3,757	48	(14)	150	(271)	—	(204 )	612	(306 )	3,772	13
Net derivative assets <sup>(4)</sup>	(1,588 )	(53 )	—	23	(66 )	—	111	20	983	(570 )	(51 )
AFS debt securities:											
Non-agency residential MBS	453	31	(28)	—	(72 )	—	—	235	(75 )	544	—
Non-U.S. securities	3	—	—	—	—	—	—	—	—	3	—
Other taxable securities	99	(1 )	(3 )	—	(22 )	—	—	—	(66 )	7	—
Tax-exempt securities	1	—	—	—	—	—	—	—	—	1	—
Total AFS debt securities	556	30	(31)	—	(94 )	—	—	235	(141 )	555	—
Other debt securities carried at fair value – Non-agency residential MBS											
Loans and leases <sup>(5, 6)</sup>	493	—	—	—	(62 )	—	(21 )	—	—	410	(1 )
Loans held-for-sale <sup>(5)</sup>	577	12	(4 )	39	—	—	(82 )	12	(28 )	526	9
Other assets <sup>(6, 7)</sup>	3,184	121	—	—	(22 )	31	(174 )	—	—	3,140	55
Trading account liabilities –											
Corporate securities and other	(35 )	9	—	9	—	—	—	—	—	(17 )	(6 )
Long-term debt <sup>(5)</sup>	(1,225 )	11	(1 )	—	—	(11)	106	(106 )	303	(923 )	13

<sup>(1)</sup> Assets (liabilities). For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3.

Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - predominantly trading account profits; Net derivative assets - primarily trading account profits and other income; Other debt securities carried at fair value - other income; Loans and leases - other income; Loans

<sup>(2)</sup> held-for-sale - other income; Other assets - primarily other income related to MSRs; Long-term debt - trading account profits. For MSRs, the amounts reflect the changes in modeled MSR fair value due to observed changes in interest rates, volatility, spreads and the shape of the forward swap curve, and periodic adjustments to the valuation model to reflect changes in the modeled relationships between inputs and projected cash flows, as well as changes in cash flow assumptions including cost to service.

- Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option. For additional information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.
- (3) Net derivative assets include derivative assets of \$4.4 billion and derivative liabilities of \$5.0 billion.
  - (4) Amounts represent instruments that are accounted for under the fair value option.
  - (5) Issuances represent loan originations and MSRs recognized following securitizations or whole-loan sales.
  - (6) Settlements primarily represent the net change in fair value of the MSR asset due to the recognition of modeled cash flows and the passage of time.

Transfers into Level 3, primarily due to decreased price observability, during the three months ended September 30, 2018 included \$612 million of trading account assets, \$235 million of AFS debt securities, \$60 million of other debt securities carried at fair value and \$106 million of long-term debt. Transfers occur on a regular basis for long-term debt instruments due to changes in the impact of unobservable inputs on the value of the embedded derivative in relation to the instrument as a whole.

Transfers out of Level 3, primarily due to increased price observability, during the three months ended September 30, 2018 included \$306 million of trading account assets, \$983 million of net derivative assets, \$141 million of AFS debt securities and \$303 million of long-term debt.

Level 3 – Fair Value Measurements for the Three Months Ended September 30, 2017<sup>(1)</sup>

(Dollars in millions)	Balance July 1 2017	Total Realized/ Gains (Losses) <sup>(2)</sup>	Gross					Gross Transfers into Level 3	Gross Transfers out of Level 3	Balance September 2017	Change in Unrealized Gains (Losses) Related to Financial Instruments Still Held <sup>(2)</sup>
			Gains (Losses) in OCI (3)	Purchases	Sales	Issuances	Settlements				
Trading account assets:											
Corporate securities, trading loans and other	\$1,777	\$ 77	\$ —	\$35	(\$79)	\$ 5	(\$208)	\$ 288	(\$153)	\$1,742	\$ 35
Equity securities	229	8	—	3	(3)	—	—	17	(10)	244	10
Non-U.S. sovereign debt	506	33	18	—	—	—	(5)	—	—	552	33
Mortgage trading loans, ABS and other MBS	1,232	10	(1)	150	(157)	—	(46)	83	(19)	1,252	(2)
Total trading account assets	3,744	128	17	188	(239)	5	(259)	388	(182)	3,790	76
Net derivative assets <sup>(4)</sup>	(1,803)	(252)	—	150	(367)	—	278	7	(36)	(2,023)	(283)
AFS debt securities:											
Non-U.S. securities	139	1	4	7	—	—	(115)	—	—	36	—
Other taxable securities	483	—	1	—	—	—	(1)	—	—	483	—
Tax-exempt securities	518	—	1	—	—	—	(7)	—	(45)	467	—
Total AFS debt securities	1,140	1	6	7	—	—	(123)	—	(45)	986	—
Other debt securities carried at fair value – Non-agency residential MBS											
Loans and leases <sup>(5, 6)</sup>	667	2	—	2	(24)	—	(29)	—	—	618	2
Loans held-for-sale <sup>(5)</sup>	766	38	10	—	(4)	—	(93)	58	—	775	27
Other assets <sup>(6, 7)</sup>	2,795	124	(43)	—	(80)	69	(191)	—	—	2,674	8
Federal funds purchased and securities loaned or sold under agreements to repurchase <sup>(5)</sup>	(135)	—	—	—	—	—	135	—	—	—	—
Trading account liabilities – Corporate securities and other	(22)	1	—	—	(3)	(1)	—	—	—	(25)	—
Accrued expenses and other liabilities <sup>(5)</sup>	(9)	—	—	—	—	—	—	—	—	(9)	—
Long-term debt <sup>(5)</sup>	(1,646)	(87)	(7)	63	—	(129)	115	(244)	45	(1,890)	(87)

<sup>(1)</sup> Assets (liabilities). For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3.

<sup>(2)</sup> Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - predominantly trading account profits; Net derivative assets - primarily trading account profits and other income; Loans and leases - other income; Loans held-for-sale - other income; Other assets - primarily other income related to MSRs; Long-term debt - trading account profits. For MSRs, the amounts reflect the changes in modeled MSR fair value due to observed changes in interest rates, volatility, spreads and the shape of the forward swap curve, and periodic adjustments to the valuation model to reflect changes in the modeled relationships between inputs and projected cash flows, as well as changes in cash flow assumptions including cost

to service.

- Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option. For additional information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.
- (3) Net derivative assets include derivative assets of \$3.9 billion and derivative liabilities of \$5.9 billion.
  - (4) Amounts represent instruments that are accounted for under the fair value option.
  - (5) Issuances represent loan originations and MSRs recognized following securitizations or whole-loan sales.
  - (6) Settlements primarily represent the net change in fair value of the MSR asset due to the recognition of modeled cash flows and the passage of time.

Transfers into Level 3, primarily due to decreased price observability, during the three months ended September 30, 2017 included \$388 million of trading account assets and \$244 million of long-term debt. Transfers occur on a regular basis for long-term debt instruments due to changes in the impact of unobservable inputs on the value of the embedded derivative in relation to the instrument as a whole.

Transfers out of Level 3, primarily due to increased price observability, during the three months ended September 30, 2017 included \$182 million of trading account assets.

Level 3 – Fair Value Measurements for the Nine Months Ended September 30, 2018<sup>(1)</sup>

(Dollars in millions)	Gross								Balance September 30 2018	Change in Unrealized Gains (Losses) Related to Financial Instruments Still Held <sup>(2)</sup>	
	Balance January 1 2018	Total Realized/ Gains (Losses) <sup>(2)</sup>	Unrealized Gains (Losses) in OCI <sup>(3)</sup>	Purchases	Sales	Issuances	Settlements	Gross Transfers into Level 3			Gross Transfers out of Level 3
Trading account assets:											
Corporate securities, trading loans and other	\$1,864	\$ (14 )	\$ (1 )	\$328	\$(298)	\$ —	\$(388 )	\$ 517	\$(474 )	\$1,534	\$ (88 )
Equity securities	235	17	—	29	(11 )	—	(4 )	73	(49 )	290	17
Non-U.S. sovereign debt	556	39	(55 )	7	(50 )	—	(8 )	117	(137 )	469	40
Mortgage trading loans, ABS and other MBS	1,498	157	2	392	(760 )	—	(136 )	541	(215 )	1,479	92
Total trading account assets	4,153	199	(54 )	756	(1,119)	—	(536 )	1,248	(875 )	3,772	61
Net derivative assets <sup>(4)</sup>	(1,714 )	203	—	371	(919 )	—	488	87	914	(570 )	(138 )
AFS debt securities:											
Non-agency residential MBS	—	39	(42 )	—	(72 )	—	—	694	(75 )	544	—
Non-U.S. securities	25	—	(1 )	—	(10 )	—	(14 )	3	—	3	—
Other taxable securities	509	1	(5 )	—	(22 )	—	(10 )	60	(526 )	7	—
Tax-exempt securities	469	—	—	—	—	—	—	1	(469 )	1	—
Total AFS debt securities <sup>(5)</sup>	1,003	40	(48 )	—	(104 )	—	(24 )	758	(1,070 )	555	—
Other debt securities carried at fair value – Non-agency residential MBS	—	(27 )	—	—	(7 )	—	—	358	(28 )	296	(5 )
Loans and leases <sup>(6, 7)</sup>	571	(20 )	—	—	(71 )	—	(70 )	—	—	410	(17 )
Loans held-for-sale <sup>(6)</sup>	690	24	(31 )	51	—	—	(160 )	12	(60 )	526	18
Other assets <sup>(5, 7, 8)</sup>	2,425	389	—	2	(68 )	83	(585 )	929	(35 )	3,140	188
Trading account liabilities –											
Corporate securities and other	(24 )	11	—	9	(11 )	(2 )	—	—	—	(17 )	(7 )
Accrued expenses and other liabilities <sup>(6)</sup>	(8 )	—	—	—	—	—	8	—	—	—	—
Long-term debt <sup>(6)</sup>	(1,863 )	97	2	9	—	(13)	429	(253 )	787	(923 )	87

<sup>(1)</sup> Assets (liabilities). For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3.

Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - predominantly trading account profits; Net derivative assets - primarily trading account profits and other income; Other debt securities carried at fair value - other income; Loans and leases - other income; Loans

<sup>(2)</sup> held-for-sale - other income; Other assets - primarily other income related to MSR; Long-term debt - trading account profits. For MSR, the amounts reflect the changes in modeled MSR fair value due to observed changes in interest rates, volatility, spreads and the shape of the forward swap curve, and periodic adjustments to the valuation model to reflect changes in the modeled relationships between inputs and projected cash flows, as well as changes in cash flow assumptions including cost to service.



- Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option. For additional information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.
- (3) Net derivative assets include derivative assets of \$4.4 billion and derivative liabilities of \$5.0 billion.
  - (4) Transfer primarily relates to the reclassification of certain securities.
  - (5) Amounts represent instruments that are accounted for under the fair value option.
  - (6) Issuances represent loan originations and MSRs recognized following securitizations or whole-loan sales.
  - (7) Settlements primarily represent the net change in fair value of the MSR asset due to the recognition of modeled cash flows and the passage of time.

Transfers into Level 3, primarily due to decreased price observability, during the nine months ended September 30, 2018 included \$1.2 billion of trading account assets, \$758 million of AFS debt securities, \$358 million of other debt securities carried at fair value and \$253 million of long-term debt. Transfers occur on a regular basis for long-term debt instruments due to changes

in the impact of unobservable inputs on the value of the embedded derivative in relation to the instrument as a whole. Transfers out of Level 3, primarily due to increased price observability, during the nine months ended September 30, 2018 included \$875 million of trading account assets, \$914 million of net derivatives assets and \$787 million of long-term debt.

Level 3 – Fair Value Measurements for the Nine Months Ended September 30, 2017<sup>(1)</sup>

(Dollars in millions)	Gross							Gross Transfers into Level 3	Gross Transfers out of Level 3	Balance September 30, 2017	Change in Unrealized Gains (Losses) Related to Financial Instruments Still Held <sup>(2)</sup>
	Balance January 1, 2017	Total Realized Gains (Losses) <sup>(2)</sup>	Unrealized Gains (Losses) in OCI <sup>(3)</sup>	Purchases	Sales	Issuances	Settlements				
Trading account assets:											
Corporate securities, trading loans and other	\$2,777	\$ 225	\$ —	\$353	\$(679)	\$ 5	\$(443)	\$ 506	\$(1,002)	\$1,742	\$ 72
Equity securities	281	23	—	45	(67)	—	(10)	119	(147)	244	11
Non-U.S. sovereign debt	510	64	12	26	(59)	—	(73)	72	—	552	60
Mortgage trading loans, ABS and other MBS	1,211	195	(2)	747	(846)	—	(169)	187	(71)	1,252	107
Total trading account assets	4,779	507	10	1,171	(1,651)	5	(695)	884	(1,220)	3,790	250
Net derivative assets <sup>(4)</sup>	(1,313)	(1,098)	—	558	(843)	—	722	36	(85)	(2,023)	(561)
AFS debt securities:											
Non-U.S. securities	229	2	16	49	—	—	(260)	—	—	36	—
Other taxable securities	594	3	6	5	—	—	(31)	—	(94)	483	—
Tax-exempt securities	542	—	1	—	(56)	—	(10)	35	(45)	467	—
Total AFS debt securities	1,365	5	23	54	(56)	—	(301)	35	(139)	986	—
Other debt securities carried at fair value – Non-agency residential MBS											
Loans and leases <sup>(5, 6)</sup>	720	20	—	2	(24)	—	(93)	—	(7)	618	18
Loans held-for-sale <sup>(5)</sup>	656	109	7	2	(159)	—	(281)	473	(32)	775	60
Other assets <sup>(6, 7)</sup>	2,986	93	(31)	2	(74)	207	(573)	64	—	2,674	(181)
Federal funds purchased and securities loaned or sold under agreements to repurchase <sup>(5)</sup>											
Trading account liabilities – Corporate securities and other	(27)	13	—	4	(13)	(2)	—	—	—	(25)	(1)
Accrued expenses and other liabilities <sup>(5)</sup>	(9)	—	—	—	—	—	—	—	—	(9)	—
Long-term debt <sup>(5)</sup>	(1,514)	(160)	(18)	81	—	(279)	398	(530)	132	(1,890)	(158)

<sup>(1)</sup> Assets (liabilities). For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3.

<sup>(2)</sup> Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - predominantly trading account profits; Net derivative assets - primarily trading account profits and other income; Other debt securities carried at fair value - other income; Loans and leases - other income; Loans held-for-sale - other income; Other assets - primarily other income related to MSRs; Long-term debt - trading account profits. For MSRs, the amounts reflect the changes in modeled MSR fair value due to observed changes in

interest rates, volatility, spreads and the shape of the forward swap curve, and periodic adjustments to the valuation model to reflect changes in the modeled relationships between inputs and projected cash flows, as well as changes in cash flow assumptions including cost to service.

(3) Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option. For additional information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

(4) Net derivative assets include derivative assets of \$3.9 billion and derivative liabilities of \$5.9 billion.

(5) Amounts represent instruments that are accounted for under the fair value option.

(6) Issuances represent loan originations and MSRs recognized following securitizations or whole-loan sales.

(7) Settlements primarily represent the net change in fair value of the MSR asset due to the recognition of modeled cash flows and the passage of time.

Transfers into Level 3, primarily due to decreased price observability, during the nine months ended September 30, 2017 included \$884 million of trading account assets, \$473 million of LHFS and \$530 million of long-term debt.

Transfers occur on a regular basis for long-term debt instruments due to changes in the impact of unobservable inputs on the value of the embedded derivative in relation to the instrument as a whole.

Transfers out of Level 3, primarily due to increased price observability, during the nine months ended September 30, 2017 included \$1.2 billion of trading account assets, \$139 million of AFS debt securities, \$263 million of federal funds purchased and securities loaned or sold under agreements to repurchase and \$132 million of long-term debt.

The following tables present information about significant unobservable inputs related to the Corporation's material categories of Level 3 financial assets and liabilities at September 30, 2018 and December 31, 2017.

Quantitative Information about Level 3 Fair Value Measurements at September 30, 2018

(Dollars in millions)					
Financial Instrument	Fair Value	Valuation Technique	Inputs Significant Unobservable Inputs	Ranges of Inputs	Weighted Average
Loans and Securities <sup>(1)</sup> Instruments backed by residential real estate assets	\$1,615		Yield	0% to 25%	7%
Trading account assets – Mortgage trading loans, ABS and other MBS	353		Prepayment speed	0% to 19% CPR	11%
Loans and leases	410	Discounted cash flow, Market comparables	Default rate	0% to 3% CDR	1%
Loans held-for-sale	1		Loss severity	0% to 51%	17%
AFS debt securities, primarily non-agency residential	555		Price	\$0 to \$141	\$75
Other debt securities carried at fair value - Non-agency residential	296				
Instruments backed by commercial real estate assets	\$361		Yield	0% to 25%	7%
Trading account assets – Corporate securities, trading loans and other	272	Discounted cash flow	Price	\$0 to \$102	\$78
Trading account assets – Mortgage trading loans, ABS and other MBS	89				
Commercial loans, debt securities and other	\$3,293		Yield	1% to 46%	14%
Trading account assets – Corporate securities, trading loans and other	1,262		Prepayment speed	10% to 20%	14%
Trading account assets – Non-U.S. sovereign debt	469	Discounted cash flow, Market comparables	Default rate	3% to 4%	4%
Trading account assets – Mortgage trading loans, ABS and other MBS	1,037		Loss severity	35% to 40%	38%
Loans held-for-sale	525		Price	\$0 to \$141	\$65
Other assets, primarily auction rate securities	\$950	Discounted cash flow, Market comparables	Price	\$10 to \$100	\$96
MSRs	\$2,190		Weighted-average life, fixed rate <sup>(4)</sup>		0 to 14 years

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			Weighted-average life, variable rate <sup>(4)</sup>	0 to 10 years	3 years
			Option-adjusted spread, fixed rate	9% to 14%	10%
			Option-adjusted spread, variable rate	9% to 15%	12%
Structured liabilities					
Long-term debt	\$(923 )		Equity correlation	9% to 100%	61%
		Discounted cash flow, Market comparables, Industry standard derivative pricing <sup>(2)</sup>	Long-dated equity volatilities	4% to 79%	27%
			Yield	7% to 46%	18%
			Price	\$0 to \$100	\$70
Net derivative assets					
Credit derivatives	\$(304 )		Yield	2% to 12%	4%
			Upfront points	0 points to 100 points	69 points
		Discounted cash flow, Stochastic recovery correlation model	Credit correlation	70%	n/a
			Prepayment speed	15% to 20% CPR	15%
			Default rate	1% to 4% CDR	2%
			Loss severity	35%	n/a
			Price	\$0 to \$101	\$77
Equity derivatives	\$(857 )		Equity correlation	9% to 100%	61%
		Industry standard derivative pricing <sup>(2)</sup>	Long-dated equity volatilities	4% to 79%	27%
Commodity derivatives	\$11	Discounted cash flow, Industry standard derivative pricing <sup>(2)</sup>	Natural gas forward price	\$1/MMBtu to \$11/MMBtu	\$3/MMBtu
			Correlation	53% to 89%	78%
			Volatilities	13% to 495%	55%
Interest rate derivatives	\$580		Correlation (IR/IR)	15% to 80%	53%
			Correlation (FX/IR)	0% to 46%	1%
		Industry standard derivative pricing <sup>(3)</sup>	Long-dated inflation rates	-20% to 38%	2%
			Long-dated inflation volatilities	0% to 1%	1%

Total net derivative assets \$(570 )

The categories are aggregated based upon product type which differs from financial statement classification. The following is a reconciliation to the line items in the table on page 99: Trading account assets – Corporate securities, trading loans and other of \$1.5 billion, Trading account assets – Non-U.S. sovereign debt of \$469 million, Trading account assets – Mortgage trading loans, ABS and other MBS of \$1.5 billion, AFS debt securities of \$555 million, Other debt securities carried at fair value - Non-agency residential of \$296 million, Other assets, including MSRs, of \$3.1 billion, Loans and leases of \$410 million and LHFS of \$526 million.

<sup>(2)</sup> Includes models such as Monte Carlo simulation and Black-Scholes.

<sup>(3)</sup> Includes models such as Monte Carlo simulation, Black-Scholes and other methods that model the joint dynamics of interest, inflation and foreign exchange rates.

<sup>(4)</sup> The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions.

CPR = Constant Prepayment Rate

CDR = Constant Default Rate

MMBtu = Million British thermal units

IR = Interest Rate

FX = Foreign Exchange  
n/a = not applicable

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## Quantitative Information about Level 3 Fair Value Measurements at December 31, 2017

(Dollars in millions)

Financial Instrument	Fair Value	Valuation Technique	Inputs Significant Unobservable Inputs	Ranges of Inputs	Weighted Average
Loans and Securities <sup>(1)</sup> Instruments backed by residential real estate assets	\$871		Yield	0% to 25%	6%
Trading account assets – Mortgage trading loans, ABS and other MBS	298	Discounted cash flow	Prepayment speed	0% to 22% CPR	12%
Loans and leases	570		Default rate	0% to 3% CDR	1%
Loans held-for-sale Instruments backed by commercial real estate assets	3		Loss severity	0% to 53%	17%
Trading account assets – Corporate securities, trading loans and other	\$286		Yield	0% to 25%	9%
Trading account assets – Mortgage trading loans, ABS and other MBS	244	Discounted cash flow	Price	\$0 to \$100	\$67
Commercial loans, debt securities and other	42				
Trading account assets – Corporate securities, trading loans and other	\$4,023		Yield	0% to 12%	5%
Trading account assets – Non-U.S. sovereign debt	1,613		Prepayment speed	10% to 20%	16%
Trading account assets – Mortgage trading loans, ABS and other MBS	556	Discounted cash flow, Market comparables	Default rate	3% to 4%	4%
AFS debt securities – Other taxable securities	1,158		Loss severity	35% to 40%	37%
Loans and leases	8		Price	\$0 to \$145	\$63
Loans held-for-sale	1				
Auction rate securities	687		Price	\$10 to \$100	\$94
Trading account assets – Corporate securities, trading loans and other	\$977				
AFS debt securities – Other taxable securities	7	Discounted cash flow, Market comparables			
AFS debt securities – Tax-exempt securities	501				
MSRs	469		Weighted-average life, fixed rate <sup>(4)</sup>	0 to 14 years	5 years
	\$2,302				

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		Weighted-average life, variable rate <sup>(4)</sup>	0 to 10 years	3 years
		Option-adjusted spread, fixed rate	9% to 14%	10%
		Option-adjusted spread, variable rate	9% to 15%	12%
Structured liabilities				
Long-term debt	\$(1,863)	Equity correlation	15% to 100%	63%
		Discounted cash flow, Market comparables, Industry standard derivative pricing <sup>(2)</sup>	Long-dated equity volatilities	4% to 84%
			Yield	7.5%
			Price	\$0 to \$100
Net derivative assets				
Credit derivatives	\$(282 )	Yield	1% to 5%	3%
		Upfront points	0 points to 100 points	71 points
		Discounted cash flow, Stochastic recovery correlation model	Credit correlation	35% to 83%
			Prepayment speed	15% to 20%
			CPR	16%
			Default rate	1% to 4%
			CDR	2%
			Loss severity	35%
			Price	\$0 to \$102
Equity derivatives	\$(2,059)	Equity correlation	15% to 100%	63%
		Industry standard derivative pricing <sup>(2)</sup>	Long-dated equity volatilities	4% to 84%
			Natural gas forward price	\$1/MMBtu to \$3/MMBtu
Commodity derivatives	\$(3 )	Discounted cash flow, Industry standard derivative pricing <sup>(2)</sup>	Correlation	71% to 87%
			Volatilities	26% to 132%
			Correlation (IR/IR)	15% to 92%
			Correlation (FX/IR)	0% to 46%
Interest rate derivatives	\$630	Industry standard derivative pricing <sup>(3)</sup>	Long-dated inflation rates	-14% to 38%
			Long-dated inflation volatilities	0% to 1%

Total net derivative assets \$(1,714)

The categories are aggregated based upon product type which differs from financial statement classification. The following is a reconciliation to the line items in the table on page 100: Trading account assets – Corporate securities, trading loans and other of \$1.9 billion, Trading account assets – Non-U.S. sovereign debt of \$556 million, Trading account assets – Mortgage trading loans, ABS and other MBS of \$1.5 billion, AFS debt securities – Other taxable securities of \$509 million, AFS debt securities – Tax-exempt securities of \$469 million, Loans and leases of \$571 million and LHFS of \$690 million.

<sup>(2)</sup> Includes models such as Monte Carlo simulation and Black-Scholes.

<sup>(3)</sup> Includes models such as Monte Carlo simulation, Black-Scholes and other methods that model the joint dynamics of interest, inflation and foreign exchange rates.

<sup>(4)</sup> The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions.

CPR = Constant Prepayment Rate

CDR = Constant Default Rate

MMBtu = Million British thermal units



IR = Interest Rate

FX = Foreign Exchange

n/a = not applicable

Sensitivity of Fair Value Measurements to Changes in Unobservable Inputs

For more information on the types of instruments, valuation approaches and the impact of changes in unobservable inputs used in Level 3 measurements, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

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### Mortgage Servicing Rights

The weighted-average lives and fair value of MSR are sensitive to changes in modeled assumptions. The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions. The weighted-average life represents the average period of time that the MSR's cash flows are expected to be received. Absent other changes, an increase (decrease) to the weighted-average life would generally result in an increase (decrease) in the fair value of the MSR. For example, a 10 percent or 20 percent decrease in prepayment rates, which impacts the weighted-average life, could result in an increase in fair value of \$60 million or \$125 million, while a 10 percent or 20 percent increase in prepayment rates could result in a decrease in fair value of \$56 million or \$109 million. A 100 bp or 200 bp decrease in option-adjusted spread (OAS) levels could result in an increase in fair value of \$67 million or \$139 million, while a 100

bp or 200 bp increase in OAS levels could result in a decrease in fair value of \$63 million or \$121 million. These sensitivities are hypothetical and actual amounts may vary materially. For more information on variations in assumptions and sensitivities on MSR, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

### Nonrecurring Fair Value

The Corporation holds certain assets that are measured at fair value, but only in certain situations (e.g., impairment) and these measurements are referred to herein as nonrecurring. The amounts below represent assets still held as of the reporting date for which a nonrecurring fair value adjustment was recorded during the three and nine months ended September 30, 2018 and 2017.

### Assets Measured at Fair Value on a Nonrecurring Basis

(Dollars in millions)	September 2018		Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
	Level 2	Level 3	Gains	(Losses)
<b>Assets</b>				
Loans held-for-sale	\$45	\$12	\$(2)	\$(2)
Loans and leases <sup>(1)</sup>	—	492	(63)	(194)
Foreclosed properties <sup>(2,3)</sup>	—	87	(8)	(22)
Other assets	294	3	(22)	(58)

Assets	September 2017		Three Months Ended September 30, 2017	Nine Months Ended September 30, 2017
	Level 2	Level 3	Gains	(Losses)
Loans held-for-sale	\$70	\$16	\$—	\$(4)
Loans and leases <sup>(1)</sup>	—	813	(152)	(307)
Foreclosed properties <sup>(2,3)</sup>	—	79	(21)	(35)
Other assets	353	—	(1)	(121)

<sup>(1)</sup> Includes \$24 million and \$76 million of losses on loans that were written down to a collateral value of zero during the three and nine months ended September 30, 2018, compared to losses of \$71 million and \$132 million for the

same periods in 2017.

(2) Amounts are included in other assets on the Consolidated Balance Sheet and represent the carrying value of foreclosed properties that were written down subsequent to their initial classification as foreclosed properties. Losses on foreclosed properties include losses recorded during the first 90 days after transfer of a loan to foreclosed properties.

(3) Excludes \$500 million and \$879 million of properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans) at September 30, 2018 and 2017.

The table below presents information about significant unobservable inputs related to the Corporation's nonrecurring Level 3 financial assets and liabilities at September 30, 2018 and December 31, 2017. Loans and leases backed by residential real estate assets represent residential mortgages where the loan has been written down to the fair value of the underlying collateral.

#### Quantitative Information about Nonrecurring Level 3 Fair Value Measurements

Financial Instrument	Fair Value	Valuation Technique	Inputs Significant Unobservable Inputs	Ranges of Inputs	Weighted Average
(Dollars in millions)		September 30, 2018			
Loans and leases backed by residential real estate assets	\$492	Market comparables	OREO discount	13% to 59%	24 %
			Costs to sell	8% to 26%	9 %
		December 31, 2017			
Loans and leases backed by residential real estate assets	\$894	Market comparables	OREO discount	15% to 58%	23 %
			Costs to sell	5% to 49%	7 %

#### NOTE 15 Fair Value Option

The Corporation elects to account for certain financial instruments under the fair value option. For more information on the primary financial instruments for which the fair value option elections have been made, see Note 21 – Fair Value Option to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

The following tables provide information about the fair value carrying amount and the contractual principal outstanding of assets and liabilities accounted for under the fair value option at September 30, 2018 and December 31, 2017, and information about where changes in the fair value of assets and liabilities accounted for under the fair value option are included in the Consolidated Statement of Income for the three and nine months ended September 30, 2018 and 2017.

## Fair Value Option Elections

(Dollars in millions)	September 30, 2018			December 31, 2017		
	Fair Value Carrying Amount	Contractual Principal Outstanding	Fair Value Carrying Amount Less Unpaid Principal	Fair Value Carrying Amount	Contractual Principal Outstanding	Fair Value Carrying Amount Less Unpaid Principal
Federal funds sold and securities borrowed or purchased under agreements to resell	\$52,524	\$ 52,498	\$ 26	\$52,906	\$ 52,907	\$ ( 1 )
Loans reported as trading account assets <sup>(1)</sup>	5,538	12,414	(6,876 )	5,735	11,804	(6,069)
Trading inventory – other	15,676	n/a	n/a	12,027	n/a	n/a
Consumer and commercial loans	5,731	5,776	(45 )	5,710	5,744	(34 )
Loans held-for-sale <sup>(1)</sup>	3,116	4,375	(1,259 )	2,156	3,717	(1,561)
Other assets	3	n/a	n/a	3	n/a	n/a
Long-term deposits	529	496	33	449	421	28
Federal funds purchased and securities loaned or sold under agreements to repurchase	34,242	34,252	(10 )	36,182	36,187	(5 )
Short-term borrowings	1,789	1,789	—	1,494	1,494	—
Unfunded loan commitments	70	n/a	n/a	120	n/a	n/a
Long-term debt <sup>(2)</sup>	28,677	29,265	(588 )	31,786	31,512	274

A significant portion of the loans reported as trading account assets and loans held-for-sale are distressed loans that <sup>(1)</sup> were purchased at a deep discount to par, and the remainder are loans with a fair value near contractual principal outstanding.

<sup>(2)</sup> Includes structured liabilities with a fair value of \$28.3 billion and \$31.4 billion, and contractual principal outstanding of \$28.9 billion and \$31.1 billion at September 30, 2018 and December 31, 2017.

n/a = not applicable

## Gains (Losses) Relating to Assets and Liabilities Accounted for Under the Fair Value Option

(Dollars in millions)	Trading Account Profits			Other Income			Total
	Trading Account Profits	Other Income	Total	Trading Account Profits	Other Income	Total	
	Three Months Ended September 30						
	2018			2017			
Loans reported as trading account assets	\$74	\$ —	\$74	\$75	\$ —	\$75	
Trading inventory – other <sup>(1)</sup>	1,693	—	1,693	1,217	—	1,217	
Consumer and commercial loans	176	8	184	10	(4 )	6	
Loans held-for-sale <sup>(2)</sup>	—	8	8	—	92	92	
Long-term debt <sup>(3, 4)</sup>	143	(19 )	124	(416 )	(38 )	(454 )	
Other <sup>(5)</sup>	2	52	54	(7 )	22	15	
Total	\$2,088	\$ 49	\$2,137	\$879	\$ 72	\$951	
	Nine Months Ended September 30						
	2018			2017			
Loans reported as trading account assets	\$145	\$ —	\$145	\$272	\$ —	\$272	
Trading inventory – other <sup>(1)</sup>	3,649	—	3,649	2,890	—	2,890	

Consumer and commercial loans	301	(24 )	277	19	35	54
Loans held-for-sale <sup>(2)</sup>	1	12	13	—	275	275
Long-term debt <sup>(3, 4)</sup>	1,497	(75 )	1,422	(471 )	(109 )	(580 )
Other <sup>(5)</sup>	15	75	90	(60 )	64	4
Total	\$5,608	\$ (12 )	\$5,596	\$2,650	\$ 265	\$2,915

(1) The gains in trading account profits are primarily offset by losses on trading liabilities that hedge these assets.

(2) Includes the value of IRLCs on funded loans, including those sold during the period.

(3) The majority of the net gains (losses) in trading account profits relate to the embedded derivatives in structured liabilities and are offset by gains (losses) on derivatives and securities that hedge these liabilities.

(4) For the cumulative impact of changes in the Corporation's own credit spreads and the amount recognized in accumulated OCI, see Note 12 – Accumulated Other Comprehensive Income (Loss). For additional information on how the Corporation's own credit spread is determined, see Note 20 – Fair Value Measurements to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K.

(5) Includes gains (losses) on federal funds sold and securities borrowed or purchased under agreements to resell, long-term deposits, federal funds purchased and securities loaned or sold under agreements to repurchase, short-term borrowings and unfunded loan commitments.

#### Gains (Losses) Related to Borrower-specific Credit Risk for Assets Accounted for Under the Fair Value Option

	Three Months Ended September 30		Nine Months Ended September 30	
(Dollars in millions)	2018	2017	2018	2017
Loans reported as trading account assets	\$ 36	\$ 5	\$47	\$25
Consumer and commercial loans	8	(10 )	(19 )	31
Loans held-for-sale	5	(2 )	6	(3 )

#### NOTE 16 Fair Value of Financial Instruments

The following disclosures include financial instruments that are not carried at fair value or only a portion of the ending balance at September 30, 2018 and December 31, 2017 is carried at fair value on the Consolidated Balance Sheet. Certain loans, deposits,

long-term debt and loan commitments are accounted for under the fair value option. For additional information, see Note 21 – Fair Value Option to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K.

#### Fair Value of Financial Instruments

The carrying values and fair values by fair value hierarchy of certain financial instruments where only a portion of the ending balance was carried at fair value at September 30, 2018 and December 31, 2017 are presented in the following table.

#### Fair Value of Financial Instruments

	Fair Value			
	Carrying Value	Level 2	Level 3	Total
(Dollars in millions)	September 30, 2018			
Financial assets				
Loans	\$895,452	\$59,840	\$839,262	\$899,102
Loans held-for-sale	5,576	4,287	1,331	5,618
Financial liabilities				
Deposits <sup>(1)</sup>	1,345,649	1,345,360	—	1,345,360
Long-term debt	234,100	238,908	923	239,831
Commercial unfunded lending commitments <sup>(2)</sup>	862	70	4,345	4,415
	December 31, 2017			
Financial assets				
Loans	\$904,399	\$68,586	\$849,576	\$918,162
Loans held-for-sale	11,430	10,521	909	11,430
Financial liabilities				
Deposits <sup>(1)</sup>	1,309,545	1,309,398	—	1,309,398
Long-term debt	227,402	235,126	1,863	236,989
Commercial unfunded lending commitments <sup>(2)</sup>	897	120	3,908	4,028

<sup>(1)</sup> Includes demand deposits of \$534.4 billion and \$519.6 billion with no stated maturities at September 30, 2018 and December 31, 2017.

<sup>(2)</sup> The carrying value is included in accrued expenses and other liabilities on the Consolidated Balance Sheet. For more information on commitments, see Note 10 – Commitments and Contingencies.

#### NOTE 17 Business Segment Information

The Corporation reports its results of operations through the following four business segments: Consumer Banking, GWIM, Global Banking and Global Markets, with the remaining operations recorded in All Other. For additional information, see Note 23 – Business Segment Information to the Consolidated Financial Statements of the Corporation’s 2017 Annual Report on Form 10-K. The following tables present net income (loss) and the

components thereto (with net interest income on an FTE basis) for the three and nine months ended September 30, 2018 and 2017 and total assets at September 30, 2018 and 2017 for each business segment, as well as All Other, including a reconciliation of the four business segments’ total revenue, net of interest expense, on an FTE basis, and net income to the Consolidated Statement of Income, and total assets to the Consolidated Balance Sheet.

#### Results of Business Segments and All Other

At and for the three months ended September 30	Total Corporation <sup>(1)</sup>	Consumer Banking	Global Wealth & Investment Management

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(Dollars in millions)	2018	2017	2018	2017	2018	2017
Net interest income (FTE basis)	\$12,021	\$11,401	\$6,863	\$6,212	\$1,536	\$1,496
Noninterest income	10,907	10,678	2,540	2,562	3,247	3,124
Total revenue, net of interest expense (FTE basis)	22,928	22,079	9,403	8,774	4,783	4,620
Provision for credit losses	716	834	870	967	13	16
Noninterest expense	13,067	13,394	4,355	4,461	3,414	3,369
Income before income taxes (FTE basis)	9,145	7,851	4,178	3,346	1,356	1,235
Income tax expense (FTE basis)	1,978	2,427	1,065	1,260	346	465
Net income	\$7,167	\$5,424	\$3,113	\$2,086	\$1,010	\$770
Period-end total assets	\$2,338,833	\$2,284,174	\$765,497	\$742,513	\$276,146	\$276,187

	Global Banking		Global Markets		All Other	
	2018	2017	2018	2017	2018	2017
Net interest income (FTE basis)	\$2,706	\$2,642	\$754	\$899	\$162	\$152
Noninterest income (loss)	2,032	2,345	3,089	3,002	(1 )	(355 )
Total revenue, net of interest expense (FTE basis)	4,738	4,987	3,843	3,901	161	(203 )
Provision for credit losses	(70 )	48	(2 )	(6 )	(95 )	(191 )
Noninterest expense	2,120	2,119	2,612	2,711	566	734
Income (loss) before income taxes (FTE basis)	2,688	2,820	1,233	1,196	(310 )	(746 )
Income tax expense (benefit) (FTE basis)	699	1,062	321	440	(453 )	(800 )
Net income	\$1,989	\$1,758	\$912	\$756	\$143	\$54
Period-end total assets	\$430,846	\$423,185	\$646,359	\$629,222	\$219,985	\$213,067

(1) There were no material intersegment revenues.

## Results of Business Segments and All Other

At and for the nine months ended September 30	Total Corporation <sup>(1)</sup>		Consumer Banking		Global Wealth & Investment Management	
	2018	2017	2018	2017	2018	2017
(Dollars in millions)						
Net interest income (FTE basis)	\$35,583	\$33,879	\$19,993	\$17,953	\$4,673	\$4,653
Noninterest income	33,383	33,711	7,653	7,614	9,675	9,254
Total revenue, net of interest expense (FTE basis)	68,966	67,590	27,646	25,567	14,348	13,907
Provision for credit losses	2,377	2,395	2,749	2,639	63	50
Noninterest expense	40,248	41,469	13,231	13,286	10,235	10,085
Income before income taxes (FTE basis)	26,341	23,726	11,666	9,642	4,050	3,772
Income tax expense (FTE basis)	5,472	7,859	2,975	3,636	1,033	1,422
Net income	\$20,869	\$15,867	\$8,691	\$6,006	\$3,017	\$2,350
Period-end total assets	\$2,338,833	\$2,284,174	\$765,497	\$742,513	\$276,146	\$276,187
	Global Banking		Global Markets		All Other	
	2018	2017	2018	2017	2018	2017
Net interest income (FTE basis)	\$8,057	\$7,786	\$2,425	\$2,812	\$435	\$675
Noninterest income (loss)	6,537	7,194	10,425	9,743	(907 )	(94 )
Total revenue, net of interest expense (FTE basis)	14,594	14,980	12,850	12,555	(472 )	581
Provision for credit losses	(77 )	80	(6 )	2	(352 )	(376 )
Noninterest expense	6,471	6,435	8,145	8,117	2,166	3,546
Income (loss) before income taxes (FTE basis)	8,200	8,465	4,711	4,436	(2,286 )	(2,589 )
Income tax expense (benefit) (FTE basis)	2,132	3,192	1,225	1,553	(1,893 )	(1,944 )
Net income (loss)	\$6,068	\$5,273	\$3,486	\$2,883	\$(393 )	\$(645 )
Period-end total assets	\$430,846	\$423,185	\$646,359	\$629,222	\$219,985	\$213,067

<sup>(1)</sup> There were no material intersegment revenues.

## Business Segment Reconciliations

(Dollars in millions)	Three Months Ended September 30		Nine Months Ended September 30	
	2018	2017	2018	2017
Segments' total revenue, net of interest expense (FTE basis)	\$22,767	\$22,282	\$69,438	\$67,009
Adjustments <sup>(1)</sup> :				
ALM activities	273	273	118	332
Liquidating businesses, eliminations and other	(112 )	(476 )	(590 )	249
FTE basis adjustment	(151 )	(240 )	(455 )	(674 )
Consolidated revenue, net of interest expense	\$22,777	\$21,839	\$68,511	\$66,916
Segments' total net income	7,024	5,370	21,262	16,512
Adjustments, net-of-taxes <sup>(1)</sup> :				
ALM activities	88	57	(294 )	(208 )
Liquidating businesses, eliminations and other	55	(3 )	(99 )	(437 )
Consolidated net income	\$7,167	\$5,424	\$20,869	\$15,867



	September 30	
	2018	2017
Segments' total assets	\$2,118,848	\$2,071,107
Adjustments <sup>(1)</sup> :		
ALM activities, including securities portfolio	675,886	635,353
Elimination of segment asset allocations to match liabilities	(531,297 )	(515,007 )
Other	75,396	92,721
Consolidated total assets	\$2,338,833	\$2,284,174

<sup>(1)</sup> Adjustments include consolidated income, expense and asset amounts not specifically allocated to individual business segments.



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Financial advisory services	237	321	24	53	—	—
Total investment banking income	643	806	523	624	(50 )	(53 )
Trading account profits	59	(5 )	1,727	1,714	81	98
Other income	416	626	342	61	(31 )	(401 )
Total noninterest income	\$2,032	\$2,345	\$3,089	\$3,002	\$(1 )	\$(355 )

(1) All Other includes eliminations of intercompany transactions.

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Other income	1,462	1,645	386	370	(783 )	(260 )
Total noninterest income	\$6,537	\$7,194	\$10,425	\$9,743	\$(907 )	\$(94 )

<sup>(1)</sup> All Other includes eliminations of intercompany transactions.

## Glossary

**Alt-A Mortgage** – A type of U.S. mortgage that is considered riskier than A-paper, or “prime,” and less risky than “subprime,” the riskiest category. Typically, Alt-A mortgages are characterized by borrowers with less than full documentation, lower credit scores and higher LTVs.

**Assets Under Management (AUM)** – The total market value of assets under the investment advisory and/or discretion of GWIM which generate asset management fees based on a percentage of the assets’ market values. AUM reflects assets that are generally managed for institutional, high net worth and retail clients, and are distributed through various investment products including mutual funds, other commingled vehicles and separate accounts.

**Banking Book** – All on- and off-balance sheet financial instruments of the Corporation except for those positions that are held for trading purposes.

**Brokerage and Other Assets** – Non-discretionary client assets which are held in brokerage accounts or held for safekeeping.

**Committed Credit Exposure** – Any funded portion of a facility plus the unfunded portion of a facility on which the lender is legally bound to advance funds during a specified period under prescribed conditions.

**Credit Derivatives** – Contractual agreements that provide protection against a specified credit event on one or more referenced obligations.

**Credit Valuation Adjustment (CVA)** – A portfolio adjustment required to properly reflect the counterparty credit risk exposure as part of the fair value of derivative instruments.

**Debit Valuation Adjustment (DVA)** – A portfolio adjustment required to properly reflect the Corporation’s own credit risk exposure as part of the fair value of derivative instruments and/or structured liabilities.

**Funding Valuation Adjustment (FVA)** – A portfolio adjustment required to include funding costs on uncollateralized derivatives and derivatives where the Corporation is not permitted to use the collateral it receives.

**Interest Rate Lock Commitment (IRLC)** – Commitment with a loan applicant in which the loan terms are guaranteed for a designated period of time subject to credit approval.

**Letter of Credit** – A document issued on behalf of a customer to a third party promising to pay the third party upon presentation of specified documents. A letter of credit effectively substitutes the issuer’s credit for that of the customer.

**Loan-to-value (LTV)** – A commonly used credit quality metric. LTV is calculated as the outstanding carrying value of the loan divided by the estimated value of the property securing the loan.

**Margin Receivable** – An extension of credit secured by eligible securities in certain brokerage accounts.

**Matched Book** – Repurchase and resale agreements or securities borrowed and loaned transactions where the overall asset and liability position is similar in size and/or maturity. Generally, these are entered into to accommodate customers where the Corporation earns the interest rate spread.

**Mortgage Servicing Rights (MSR)** – The right to service a mortgage loan when the underlying loan is sold or securitized. Servicing includes collections for principal, interest and escrow payments from borrowers and accounting for and remitting principal and interest payments to investors.

**Net Interest Yield** – Net interest income divided by average total interest-earning assets.

**Nonperforming Loans and Leases** – Includes loans and leases that have been placed on nonaccrual status, including nonaccruing loans whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties.

**Operating Margin** – Income before income taxes divided by total revenue, net of interest expense.

**Prompt Corrective Action (PCA)** – A framework established by the U.S. banking regulators requiring banks to maintain certain levels of regulatory capital ratios, comprised of five categories of capitalization: “well capitalized,” “adequately capitalized,” “undercapitalized,” “significantly undercapitalized” and “critically undercapitalized.” Insured depository institutions that fail to meet certain of these capital levels are subject to increasingly strict limits on their activities, including their ability to make capital distributions, pay management compensation, grow assets and take other actions.

**Subprime Loans** – Although a standard industry definition for subprime loans (including subprime mortgage loans) does not exist, the Corporation defines subprime loans as specific product offerings for higher risk borrowers.

Troubled Debt Restructurings (TDRs) – Loans whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties. Certain consumer loans for which a binding offer to restructure has been extended are also classified as TDRs.

Value-at-Risk (VaR) – VaR is a model that simulates the value of a portfolio under a range of hypothetical scenarios in order to generate a distribution of potential gains and losses. VaR represents the loss the portfolio is expected to experience with a given confidence level based on historical data. A VaR model is an effective tool in estimating ranges of potential gains and losses on our trading portfolios.

Acronyms

ABS	Asset-backed securities
AFS	Available-for-sale
ALM	Asset and liability management
AUM	Assets under management
BANA	Bank of America, National Association
BHC	Bank holding company
bps	basis points
CCAR	Comprehensive Capital Analysis and Review
CDO	Collateralized debt obligation
CET1	Common equity tier 1
CLTV	Combined loan-to-value
CVA	Credit valuation adjustment
DVA	Debit valuation adjustment
EPS	Earnings per common share
FASB	Financial Accounting Standards Board
FHA	Federal Housing Administration
FHLB	Federal Home Loan Bank
FHLMC	Freddie Mac
FICC	Fixed-income, currencies and commodities
FICO	Fair Isaac Corporation (credit score)
FNMA	Fannie Mae
FTE	Fully taxable-equivalent
FVA	Funding valuation adjustment
GAAP	Accounting principles generally accepted in the United States of America
GLS	Global Liquidity Sources
GNMA	Government National Mortgage Association
GSE	Government-sponsored enterprise
G-SIB	Global systemically important bank
GWIM	Global Wealth & Investment Management
HELOC	Home equity line of credit
HQLA	High Quality Liquid Assets
HTM	Held-to-maturity
IRLC	Interest rate lock commitment
ISDA	International Swaps and Derivatives Association, Inc.
LCR	Liquidity Coverage Ratio
LHFS	Loans held-for-sale
LIBOR	London InterBank Offered Rate
LTV	Loan-to-value
MBS	Mortgage-backed securities
MD&A	Management's Discussion and Analysis of Financial Condition and Results of Operations
MLGWM	Merrill Lynch Global Wealth Management
MLI	Merrill Lynch International
MLPCC	Merrill Lynch Professional Clearing Corp
MLPF&S	Merrill Lynch, Pierce, Fenner & Smith Incorporated
MSA	Metropolitan Statistical Area
MSR	Mortgage servicing right
OAS	Option-adjusted spread
OCI	Other comprehensive income



OREO	Other real estate owned
OTC	Over-the-counter
OTTI	Other-than-temporary impairment
PCA	Prompt Corrective Action
PCI	Purchased credit-impaired
RMBS	Residential mortgage-backed securities
SBLC	Standby letter of credit
SCCL	Single-counterparty credit limits
SEC	Securities and Exchange Commission
SLR	Supplementary leverage ratio
TDR	Troubled debt restructurings
TLAC	Total loss-absorbing capacity
VaR	Value-at-Risk
VIE	Variable interest entity

## Part II. Other Information

## Bank of America Corporation and Subsidiaries

## Item 1. Legal Proceedings

See Litigation and Regulatory Matters in Note 10 – Commitments and Contingencies to the Consolidated Financial Statements, which is incorporated by reference in this Item 1, for litigation and regulatory disclosure that supplements the disclosure in Note 12 – Commitments and Contingencies to the Consolidated Financial Statements of the Corporation's 2017 Annual Report on Form 10-K and Note 10 – Commitments and Contingencies to the Consolidated Financial Statements of the Corporation's Quarterly Reports on Form 10-Q for the quarters ended June 30, 2018 and March 31, 2018.

## Item 1A. Risk Factors

There are no material changes from the risk factors set forth under Part 1, Item 1A. Risk Factors of the Corporation's 2017 Annual Report on Form 10-K.

## Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The table below presents share repurchase activity for the three months ended September 30, 2018. The primary source of funds for cash distributions by the Corporation to its shareholders is dividends received from its banking subsidiaries. Each of the banking subsidiaries is subject to various regulatory policies and requirements relating to the payment of dividends, including requirements to maintain capital above regulatory minimums. All of the Corporation's preferred stock outstanding has preference over the Corporation's common stock with respect to payment of dividends.

(Dollars in millions, except per share information; shares in thousands)	Total Common Shares Repurchased (1)	Weighted-Average Per Share Price	Total Shares Purchased as Part of Publicly Announced Programs	Remaining Buyback Authority Amounts (2)
July 1 - 31, 2018	32,160	\$ 30.32	32,160	\$ 19,625
August 1 - 31, 2018	76,287	31.07	72,831	17,360
September 1 - 30, 2018	58,578	30.74	58,558	15,560
Three months ended September 30, 2018	167,025	30.81	163,549	

(1) Includes shares of the Corporation's common stock acquired by the Corporation in connection with satisfaction of tax withholding obligations on vested restricted stock or restricted stock units and certain forfeitures and terminations of employment-related awards and for potential re-issuance to certain employees under equity incentive plans.

(2) On June 28, 2018, following the Federal Reserve's non-objection to our 2018 Comprehensive Capital Analysis and Review (CCAR) capital plan, the Board authorized the repurchase of approximately \$20.6 billion in common stock from July 1, 2018 through June 30, 2019, including approximately \$600 million to offset the effect of equity-based compensation plans during the same period. During the three months ended September 30, 2018, pursuant to the Board's authorization, the Corporation repurchased \$5.0 billion of common stock, which included common stock to offset equity-based compensation awards. For additional information, see Capital Management -- CCAR and Capital Planning on page 22 and Note 11 – Shareholders' Equity to the Consolidated Financial Statements.

The Corporation did not have any unregistered sales of equity securities during the three months ended September 30, 2018.



## Item 6. Exhibits

Exhibit No.	Description	Incorporated by Reference			
		Notes Form	Exhibit	Filing Date	File No.
3(a)	<u>Amended and Restated Certificate of Incorporation as in effect on the date hereof</u>	10-Q	3(a)	7/30/18	1-6523
3(b)	<u>Amended and Restated Bylaws of the Corporation as in effect on the date hereof</u>	8-K	3.1	3/20/15	1-6523
11	<u>Earnings Per Share Computation – included in Note 13 – Earnings Per Common Share to the Consolidated Financial Statements</u>				1
12	<u>Ratio of Earnings to Fixed Charges</u> <u>Ratio of Earnings to Fixed Charges and Preferred Dividends</u>				1
31(a)	<u>Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>				1
31(b)	<u>Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>				1
32(a)	<u>Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>				1
32(b)	<u>Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>				1
101.INS	XBRL Instance Document				1
101.SCH	XBRL Taxonomy Extension Schema Document				1
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				1
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				1
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				1
101.DEF	XBRL Taxonomy Extension Definitions Linkbase Document				1

<sup>(1)</sup> Filed herewith.

## Signature

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Bank of America  
Corporation

Registrant

Date: October 29, 2018

/s/ Rudolf  
A. Bless  
Rudolf A.  
Bless  
Chief  
Accounting  
Officer

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