This Annual Report, including the Financial Review and the Financial Statements and related Notes, contains forward-looking statements, which may include forecasts of our financial results and condition, expectations for our operations and business, and our assumptions for those forecasts and expectations. Do not unduly rely on forward-looking statements. Actual results may differ materially from our forward-looking statements due to several factors. Factors that could cause our actual results to differ materially from our forward-looking statements are described in this Report, including in the "Forward-Looking Statements" and "Risk Factors" sections, and in the "Regulation and Supervision" section of our Annual Report on Form 10-K for the year ended December 31, 2019 (2019 Form 10-K).

When we refer to "Wells Fargo," "the Company," "we," "our," or "us" in this Report, we mean Wells Fargo & Company and Subsidiaries (consolidated). When we refer to the "Parent," we mean Wells Fargo & Company. See the Glossary of Acronyms for definitions of terms used throughout this Report.

Financial Review

Overview

Wells Fargo & Company is a diversified, community-based financial services company with $1.9 trillion in assets. Founded in 1852 and headquartered in San Francisco, we provide banking, investment and mortgage products and services, as well as consumer and commercial finance, through 7,400 locations, more than 13,000 ATMs, digital (online, mobile and social), and contact centers (phone, email and correspondence), and we have offices in 32 countries and territories to support customers who conduct business in the global economy. With approximately 260,000 active, full-time equivalent team members, we serve one in three households in the United States and ranked No. 29 on *Fortune's* 2019 rankings of America's largest corporations. We ranked fourth in assets and third in the market value of our common stock among all U.S. banks at December 31, 2019.

On February 11, 2020, we announced a new organizational structure with five principal lines of business: Consumer and Small Business Banking; Consumer Lending; Commercial Banking; Corporate and Investment Banking; and Wealth and Investment Management.

Wells Fargo's top priority remains meeting its regulatory requirements in order to build the right foundation for all that lies ahead. To do that, the Company is committing the resources necessary to ensure that we operate with the strongest business practices and controls, maintain the highest level of integrity, and have in place the appropriate culture.

Federal Reserve Board Consent Order Regarding Governance Oversight and Compliance and Operational Risk Management

On February 2, 2018, the Company entered into a consent order with the Board of Governors of the Federal Reserve System (FRB). As required by the consent order, the Company's Board of Directors (Board) submitted to the FRB a plan to further enhance the Board's governance and oversight of the Company, and the Company submitted to the FRB a plan to further improve the Company's compliance and operational risk management program. The Company continues to engage with the FRB as the Company works to address the consent order provisions. The consent order also requires the Company, following the FRB's acceptance and approval of the plans and the Company's adoption and implementation of the plans, to complete an initial third-party review of the enhancements and improvements provided for in the plans. Until this third-party review is complete and the plans are approved and implemented to the satisfaction of the FRB, the Company's total consolidated assets will be limited to the level as of December 31, 2017. Compliance with this asset cap will be measured on a two-quarter daily average basis to allow for management of temporary fluctuations. As of the end of fourth quarter 2019, our total consolidated assets, as calculated pursuant to the requirements of the consent order, were below our level of total assets as of December 31, 2017. Additionally, after removal of the asset cap, a second third-party review must also be conducted to assess the efficacy and sustainability of the enhancements and improvements.

Consent Orders with the Consumer Financial Protection Bureau and Office of the Comptroller of the Currency Regarding Compliance Risk Management Program, Automobile Collateral Protection Insurance Policies, and Mortgage Interest Rate Lock Extensions

On April 20, 2018, the Company entered into consent orders with the Consumer Financial Protection Bureau (CFPB) and the Office of the Comptroller of the Currency (OCC) to pay an aggregate of $1 billion in civil money penalties to resolve matters regarding the Company's compliance risk management program and past practices involving certain automobile collateral protection insurance policies and certain mortgage interest rate lock extensions. As required by the consent orders, the Company submitted to the CFPB and OCC an enterprise-wide compliance risk management plan and a plan to enhance the Company's internal audit program with respect to federal consumer financial law and the terms of the consent orders. In addition, as required by the consent orders, the Company submitted for non-objection plans to remediate customers affected by the automobile collateral protection insurance and mortgage interest rate lock matters, as well as a plan for the management of remediation activities conducted by the Company.

Retail Sales Practices Matters

In September 2016, we announced settlements with the CFPB, the OCC, and the Office of the Los Angeles City Attorney, and entered into related consent orders with the CFPB and the OCC, in connection with allegations that some of our retail customers received products and services they did not request. As a result, it remains a top priority to rebuild trust through a comprehensive action plan that includes making things right for our customers, team members, and other stakeholders, and building a better Company for the future. Our priority of rebuilding trust has included numerous actions focused on identifying potential financial harm to customers resulting from these matters and providing remediation.

For additional information regarding retail sales practices matters, including related legal matters, see the "Risk Factors" section and Note 17 (Legal Actions) to Financial Statements in this Report.

Other Customer Remediation Activities

Our priority of rebuilding trust has also included an effort to identify other areas or instances where customers may have experienced financial harm, provide remediation as appropriate, and implement additional operational and control procedures. We are working with our regulatory agencies in this effort. We have previously disclosed key areas of focus as part of our rebuilding trust efforts and are in the process of providing remediation for those matters. We have accrued for the reasonably estimable remediation costs related to our rebuilding trust efforts, which amounts may change based on additional facts and information, as well as ongoing reviews and communications with our regulators.

As our ongoing reviews continue, it is possible that in the future we may identify additional items or areas of potential concern. To the extent issues are identified, we will continue to assess any customer harm and provide remediation as appropriate. For more information, including related legal and regulatory risk, see the "Risk Factors" section and Note 17 (Legal Actions) to Financial Statements in this Report.

Financial Performance

In 2019, we generated $19.5 billion of net income and diluted earnings per common share (EPS) of $4.05, compared with $22.4 billion of net income and EPS of $4.28 for 2018. Financial performance items for 2019 (compared with 2018) included:

- revenue of $85.1 billion, down from $86.4 billion, with net interest income of $47.2 billion, down $2.8 billion, or 6%, and noninterest income of $37.8 billion, up $1.4 billion, or 4%;
- the net interest margin was 2.73%, down 18 basis points;
- noninterest expense of $58.2 billion, up $2.1 billion, or 4%;
- an efficiency ratio of 68.4%, compared with 65.0%;
- average loans of $951.0 billion, up $5.8 billion;
- average deposits of $1.3 trillion, up $10.4 billion;
- our credit results remained strong with a net charge-off rate of 0.29%, flat compared with a year ago;
- nonaccrual loans of $5.3 billion, down $1.2 billion, or 18%;
- $30.2 billion in capital returned to our shareholders through common stock dividends and net share repurchases, up 17% from $25.8 billion a year ago; and
- return on assets (ROA) of 1.02% and return on equity (ROE) of 10.23%, down from 1.19% and 11.53%, respectively.

Table 1 presents a six-year summary of selected financial data and Table 2 presents selected ratios and per common share data.

Balance Sheet and Liquidity

Our balance sheet remained strong during 2019 with strong credit quality and solid levels of liquidity and capital. Our total assets were $1.9 trillion at December 31, 2019. Cash and other short-term investments decreased $10.1 billion from December 31, 2018, reflecting lower cash balances, partially offset by an increase in federal funds sold and securities purchased under resale agreements. Debt securities increased $12.4 billion from December 31, 2018, predominantly due to increases in trading and held-to-maturity debt securities. Loans increased $9.2 billion from December 31, 2018, driven by increases in commercial and industrial loans, commercial real estate mortgage loans, real estate 1-4 family first mortgage loans, automobile loans, credit card loans, and lease financing, partially offset by decreases in commercial real estate construction loans, real estate 1-4 family junior lien mortgage loans, and other revolving credit and installment loans.

Average deposits in 2019 were $1.3 trillion, up $10.4 billion from 2018, reflecting higher other time deposits, mortgage escrow deposits and commercial deposits. Our average deposit cost in 2019 was 67 basis points, up 23 basis points from a year ago, driven by increased retail banking promotional pricing for new deposits and a continued deposit mix shift to higher cost products.

Credit Quality

Credit quality remained solid in 2019, as losses remained low and we continued to originate high-quality loans, reflecting our long-term risk focus. Net charge-offs were $2.8 billion, or 0.29% of average loans, in 2019, flat compared with 2018.

Our commercial portfolio net charge-offs were $652 million, or 13 basis points of average commercial loans, in 2019, compared with $429 million, or 9 basis points, in 2018, predominantly driven by increased losses in our commercial and industrial loan portfolio. Our consumer portfolio net charge-offs were $2.1 billion, or 48 basis points of average consumer loans, in 2019, compared with $2.3 billion, or 52 basis points, in 2018, predominantly driven by decreased losses in our automobile portfolio, partially offset by increased losses in our credit card portfolio.

The allowance for credit losses of $10.5 billion at December 31, 2019, decreased $251 million from the prior year. The allowance coverage for total loans was 1.09% at December 31, 2019, compared with 1.12% at December 31, 2018. The allowance covered 3.8 times net charge-offs in 2019, compared with 3.9 in 2018. Future amounts of the allowance for credit losses will be based on a variety of factors, including loan growth, portfolio performance and general economic conditions. Our provision for credit losses in 2019 was $2.7 billion, compared with $1.7 billion in 2018. The provision for credit losses in both 2019 and 2018 reflected continuing solid underlying credit performance. The provision for credit losses in 2018 also reflected a higher level of credit quality improvement compared with 2019, as well as an improvement in the outlook associated with 2017 hurricane-related losses.

Nonperforming assets (NPAs) at December 31, 2019, were $5.6 billion, down $1.3 billion from December 31, 2018. Nonaccrual loans decreased $1.2 billion from December 31, 2018, driven by improvement across all consumer loan categories, including a decrease in consumer nonaccruals from sales of residential real estate mortgage loans as well as the reclassification of real estate 1-4 family mortgage nonaccrual loans to mortgage loans held for sale (MLHFS) in 2019. Foreclosed assets were down $148 million from December 31, 2018.

Capital

Our financial performance in 2019 allowed us to maintain a solid capital position with total equity of $188.0 billion at December 31, 2019, compared with $197.1 billion at December 31, 2018. We returned $30.2 billion to shareholders in 2019 ($25.8 billion in 2018) through common stock dividends and net share repurchases, and our net payout ratio (which is the ratio of (i) common stock dividends and share repurchases less issuances and stock compensation-related items, divided by (ii) net income applicable to common stock) was 168%. During 2019, we increased our quarterly common stock dividend from $0.43 to $0.51 per share. We continued to reduce our common share count through the repurchase of 502.4 million common shares during the year. We expect our share count to continue to decline in 2020 as a result of anticipated net share repurchases.

We believe an important measure of our capital strength is our Common Equity Tier 1 (CET1) ratio, which was 11.14% as of December 31, 2019, down from 11.74% a year ago, but still well above our internal target of 10%. Likewise, our other regulatory capital ratios remained strong. As of December 31, 2019, our eligible external total loss absorbing capacity (TLAC) as a percentage of total risk-weighted assets was 23.28%, compared with the required minimum of 22.0%. See the "Capital Management" section in this Report for more information regarding our capital, including the calculation of our regulatory capital amounts.

Table 1: Six-Year Summary of Selected Financial Data

(in millions, except per share amounts)		2019	2018	2017	2016	2015	2014	% Change 2019/ 2018	Five-year compound growth rate
Income statement									
Net interest income	$	47,231	49,995	49,557	47,754	45,301	43,527	(6)%	2
Noninterest income		37,832	36,413	38,832	40,513	40,756	40,820	4	(2)
Revenue		85,063	86,408	88,389	88,267	86,057	84,347	(2)	—
Provision for credit losses		2,687	1,744	2,528	3,770	2,442	1,395	54	14
Noninterest expense		58,178	56,126	58,484	52,377	49,974	49,037	4	3
Net income before noncontrolling interests		20,041	22,876	22,460	22,045	23,276	23,608	(12)	(3)
Less: Net income from noncontrolling interests		492	483	277	107	382	551	2	(2)
Wells Fargo net income		19,549	22,393	22,183	21,938	22,894	23,057	(13)	(3)
Earnings per common share		4.08	4.31	4.14	4.03	4.18	4.17	(5)	—
Diluted earnings per common share		4.05	4.28	4.10	3.99	4.12	4.10	(5)	—
Dividends declared per common share		1.920	1.640	1.540	1.515	1.475	1.350	17	7
Balance sheet (at year end)									
Federal funds sold and securities purchased under resale agreements	$	102,140	80,207	80,025	65,725	49,721	39,210	27 %	21
Debt securities		497,125	484,689	473,366	459,038	394,744	350,661	3	7
Loans		962,265	953,110	956,770	967,604	916,559	862,551	1	2
Allowance for loan losses		9,551	9,775	11,004	11,419	11,545	12,319	(2)	(5)
Goodwill		26,390	26,418	26,587	26,693	25,529	25,705	—	1
Equity securities		68,241	55,148	62,497	49,110	40,266	44,005	24	9
Assets		1,927,555	1,895,883	1,951,757	1,930,115	1,787,632	1,687,155	2	3
Deposits		1,322,626	1,286,170	1,335,991	1,306,079	1,223,312	1,168,310	3	3
Long-term debt		228,191	229,044	225,020	255,077	199,536	183,943	—	4
Wells Fargo stockholders' equity		187,146	196,166	206,936	199,581	192,998	184,394	(5)	—
Noncontrolling interests		838	900	1,143	916	893	868	(7)	(1)
Total equity		187,984	197,066	208,079	200,497	193,891	185,262	(5)	—

Table 2: Ratios and Per Common Share Data

			Year ended December 31,
	2019	2018	2017
Profitability ratios			
Wells Fargo net income to average assets (ROA)	**1.02%**	1.19	1.15
Wells Fargo net income applicable to common stock to average Wells Fargo common stockholders' equity (ROE)	**10.23**	11.53	11.35
Return on average tangible common equity (ROTCE) (1)	**12.20**	13.73	13.55
Efficiency ratio (2)	**68.4**	65.0	66.2
Capital ratios (3)			
At year end:			
Wells Fargo common stockholders' equity to assets	**8.65**	9.20	9.38
Total equity to assets	**9.75**	10.39	10.66
Risk-based capital (4):			
Common Equity Tier 1	**11.14**	11.74	12.28
Tier 1 capital	**12.76**	13.46	14.14
Total capital	**15.31**	16.60	17.46
Tier 1 leverage	**8.31**	9.07	9.35
Average balances:			
Average Wells Fargo common stockholders' equity to average assets	**9.16**	9.50	9.37
Average total equity to average assets	**10.33**	10.77	10.64
Per common share data			
Dividend payout (5)	**47.4**	38.3	37.6
Book value (6)	**$ 40.31**	38.06	37.44

(1) Tangible common equity is a non-GAAP financial measure and represents total equity less preferred equity, noncontrolling interests, goodwill, certain identifiable intangible assets (other than mortgage servicing rights) and goodwill and other intangibles on nonmarketable equity securities, net of applicable deferred taxes. The methodology of determining tangible common equity may differ among companies. Management believes that return on average tangible common equity, which utilizes tangible common equity, is a useful financial measure because it enables investors and others to assess the Company's use of equity. For additional information, including a corresponding reconciliation to generally accepted accounting principles (GAAP) financial measures, see the "Capital Management – Tangible Common Equity" section in this Report.

(2) The efficiency ratio is noninterest expense divided by total revenue (net interest income and noninterest income).

(3) See the "Capital Management" section and Note 29 (Regulatory and Agency Capital Requirements) to Financial Statements in this Report for additional information.

(4) The risk-based capital ratios were calculated under the lower of the Standardized or Advanced Approach determined pursuant to Basel III. Beginning January 1, 2018, the requirements for calculating common equity tier 1 and tier 1 capital, along with risk-weighted assets, became fully phased-in. Accordingly, the information presented reflects fully phased-in common equity tier 1 capital, tier 1 capital and risk-weighted assets for the years ended December 31, 2019 and 2018, but reflects all other ratios still in accordance with Transition Requirements. See the "Capital Management" section and Note 29 (Regulatory and Agency Capital Requirements) to Financial Statements in this Report for additional information.

(5) Dividend payout ratio is dividends declared per common share as a percentage of diluted earnings per common share.

(6) Book value per common share is common stockholders' equity divided by common shares outstanding.

Earnings Performance

Wells Fargo net income for 2019 was $19.5 billion ($4.05 diluted EPS), compared with $22.4 billion ($4.28 diluted EPS) for 2018. Net income decreased in 2019, compared with 2018, due to a $2.8 billion decrease in net interest income, a $943 million increase in provision for credit losses, and a $2.1 billion increase in noninterest expense, partially offset by a $1.4 billion increase in noninterest income, and a $1.5 billion decrease in income tax expense. Net income in 2019 included a net discrete income tax expense of $435 million, compared with a net discrete income tax expense of $627 million in 2018.

Revenue, the sum of net interest income and noninterest income, was $85.1 billion in 2019, compared with $86.4 billion in 2018. Revenue decreased $1.3 billion in 2019, compared with 2018, due to a decrease in net interest income, partially offset by an increase in noninterest income. Our diversified sources of revenue generated by our businesses continued to be balanced between net interest income and noninterest income. In 2019, net interest income of $47.2 billion represented 56% of revenue, compared with $50.0 billion (58%) in 2018. See later in this section for discussions of net interest income, noninterest income and noninterest expense.

Table 3 presents the components of net interest income on a tax-equivalent basis, noninterest income and noninterest expense as a percentage of revenue for year-over-year results. Net interest income is presented on a taxable-equivalent basis to consistently reflect income from taxable and tax-exempt loans and debt and equity securities based on a 21% federal statutory tax rate for the periods ended December 31, 2019 and 2018, and 35% for the period ended December 31, 2017.

For a discussion of our 2018 financial results compared with 2017, see the “Earnings Performance” section of our Annual Report on Form 10-K for the year ended December 31, 2018.

Table 3: Net Interest Income, Noninterest Income and Noninterest Expense as a Percentage of Revenue

								Year ended December 31,
(in millions)		**2019**	**% of revenue**		2018	% of revenue		2017	% of revenue
Interest income (on a taxable-equivalent basis)									
Debt securities	**$**	**15,456**	**18%**	$	14,947	17%	$	14,084	16%
Mortgage loans held for sale (MLHFS)		**813**	**1**		777	1		786	1
Loans held for sale (LHFS)		**79**	**—**		140	—		50	—
Loans		**44,253**	**52**		44,086	51		41,551	47
Equity securities		**966**	**1**		999	1		821	1
Other interest income		**5,129**	**7**		4,359	6		2,941	3
Total interest income (on a taxable-equivalent basis)		**66,696**	**79**		65,308	76		60,233	68
Interest expense (on a taxable-equivalent basis)									
Deposits		**8,635**	**10**		5,622	7		3,013	3
Short-term borrowings		**2,317**	**3**		1,719	2		761	1
Long-term debt		**7,350**	**9**		6,703	8		5,157	6
Other interest expense		**551**	**—**		610	—		424	1
Total interest expense (on a taxable-equivalent basis)		**18,853**	**22**		14,654	17		9,355	11
Net interest income (on a taxable-equivalent basis)		**47,843**	**57**		50,654	59		50,878	57
Taxable-equivalent adjustment		**(612)**	**(1)**		(659)	(1)		(1,321)	(1)
Net interest income (A)		**47,231**	**56**		49,995	58		49,557	56
Noninterest income									
Service charges on deposit accounts		**4,798**	**6**		4,716	5		5,111	6
Trust and investment fees (1)		**14,072**	**17**		14,509	17		14,495	16
Card fees		**4,016**	**5**		3,907	5		3,960	4
Other fees (1)		**3,084**	**4**		3,384	4		3,557	4
Mortgage banking (1)		**2,715**	**3**		3,017	3		4,350	5
Insurance		**378**	**—**		429	—		1,049	1
Net gains from trading activities		**993**	**1**		602	1		542	1
Net gains on debt securities		**140**	**—**		108	—		479	1
Net gains from equity securities		**2,843**	**3**		1,515	2		1,779	2
Lease income		**1,612**	**2**		1,753	2		1,907	2
Other (1)		**3,181**	**3**		2,473	3		1,603	2
Total noninterest income (B)		**37,832**	**44**		36,413	42		38,832	44
Noninterest expense									
Salaries		**18,382**	**22**		17,834	21		17,363	20
Commission and incentive compensation		**10,828**	**13**		10,264	12		10,442	12
Employee benefits		**5,874**	**7**		4,926	6		5,566	6
Technology and equipment		**2,763**	**3**		2,444	3		2,237	3
Net occupancy		**2,945**	**3**		2,888	3		2,849	3
Core deposit and other intangibles		**108**	**—**		1,058	1		1,152	1
FDIC and other deposit assessments		**526**	**1**		1,110	1		1,287	1
Operating losses		**4,321**	**5**		3,124	4		5,492	6
Outside professional services		**3,198**	**4**		3,306	4		3,813	4
Other (2)		**9,233**	**10**		9,172	10		8,283	10
Total noninterest expense		**58,178**	**68**		56,126	65		58,484	66
Revenue (A) + (B)	**$**	**85,063**		$	86,408		$	88,389	

(1) See Table 7 – Noninterest Income in this Report for additional detail.
(2) See Table 8 – Noninterest Expense in this Report for additional detail.

Net Interest Income

Net interest income is the interest earned on debt securities, loans (including yield-related loan fees) and other interest-earning assets minus the interest paid on deposits, short-term borrowings and long-term debt. The net interest margin is the average yield on earning assets minus the average interest rate paid for deposits and our other sources of funding.

Net interest income and the net interest margin in any one period can be significantly affected by a variety of factors including the mix and overall size of our earning assets portfolio and the cost of funding those assets. In addition, variable sources of interest income, such as loan fees, periodic dividends, and collection of interest on nonaccrual loans, can fluctuate from period to period.

Net interest income on a taxable-equivalent basis was $47.8 billion in 2019, compared with $50.7 billion in 2018. Net interest margin on a taxable-equivalent basis was 2.73% in 2019, compared with 2.91% in 2018. The decrease in both net interest income and net interest margin in 2019, compared with 2018, was driven by unfavorable impacts of repricing due to a flattening yield curve and mix of earning assets and funding sources, including sales of high yielding Pick-a-Pay loans, as well as higher costs on promotional retail banking deposits.

Table 4 presents the components of earning assets and funding sources as a percentage of earning assets to provide a more meaningful analysis of year-over-year changes that influenced net interest income.

Deposits are an important low-cost source of funding and affect both net interest income and the net interest margin. Deposits include noninterest-bearing deposits, interest-bearing checking, market rate and other savings, savings certificates, other time deposits, and deposits in non-U.S. offices. Average deposits were $1.3 trillion in 2019, flat compared with 2018, and represented 135% of average loans in both 2019 and 2018. Average deposits were 73% of average earning assets in both 2019 and 2018. Our average deposit cost in 2019 was 67 basis points, up 23 basis points from a year ago, driven by increased retail banking promotional pricing for new deposits and a continued deposit mix shift to higher cost products.

Table 5 presents the individual components of net interest income and the net interest margin. Net interest income and the net interest margin are presented on a taxable-equivalent basis in Table 5 to consistently reflect income from taxable and tax-exempt loans and debt and equity securities based on a 21% federal statutory tax rate for the periods ended December 31, 2019 and 2018, and 35% for the period ended December 31, 2017.

Table 4: Average Earning Assets and Funding Sources as a Percentage of Average Earning Assets

	Year ended December 31,					
	2019		2018			
(in millions)	Average balance	% of earning assets	Average balance	% of earning assets	Change from prior year	% Change from prior year
Earning assets						
Interest-earning deposits with banks	$ 135,741	8%	$ 156,366	9%	$ (20,625)	(13)%
Federal funds sold and securities purchased under resale agreements	99,286	6	78,547	5	20,739	26
Debt securities:						
Trading debt securities	93,655	5	83,526	5	10,129	12
Available-for-sale debt securities:						
Securities of U.S. Treasury and federal agencies	15,293	1	6,618	—	8,675	131
Securities of U.S. states and political subdivisions	44,203	3	47,884	3	(3,681)	(8)
Mortgage-backed securities:						
Federal agencies	154,160	9	156,052	9	(1,892)	(1)
Residential and commercial	5,363	—	7,769	—	(2,406)	(31)
Total mortgage-backed securities	159,523	9	163,821	9	(4,298)	(3)
Other debt securities	43,675	2	46,875	3	(3,200)	(7)
Total available-for-sale debt securities	262,694	15	265,198	15	(2,504)	(1)
Held-to-maturity debt securities:						
Securities of U.S. Treasury and federal agencies	44,850	3	44,735	3	115	—
Securities of U.S. states and political subdivisions	8,644	1	6,253	—	2,391	38
Federal agency and mortgage-backed securities	95,559	5	94,216	5	1,343	1
Other debt securities	52	—	361	—	(309)	(86)
Total held-to-maturity debt securities	149,105	9	145,565	8	3,540	2
Total debt securities	505,454	29	494,289	28	11,165	2
Mortgage loans held for sale (1)	19,808	1	18,394	1	1,414	8
Loans held for sale (1)	1,708	—	2,526	—	(818)	(32)
Loans:						
Commercial loans:						
Commercial and industrial – U.S.	284,888	16	275,656	16	9,232	3
Commercial and industrial – Non-U.S.	64,274	4	60,718	4	3,556	6
Real estate mortgage	121,813	7	122,947	7	(1,134)	(1)
Real estate construction	21,183	1	23,609	1	(2,426)	(10)
Lease financing	19,302	1	19,392	1	(90)	—
Total commercial loans	511,460	29	502,322	29	9,138	2
Consumer loans:						
Real estate 1-4 family first mortgage	288,059	16	284,178	16	3,881	1
Real estate 1-4 family junior lien mortgage	31,989	2	36,687	2	(4,698)	(13)
Credit card	38,865	2	36,780	2	2,085	6
Automobile	45,901	3	48,115	3	(2,214)	(5)
Other revolving credit and installment	34,682	2	37,115	2	(2,433)	(7)
Total consumer loans	439,496	25	442,875	25	(3,379)	(1)
Total loans (1)	950,956	54	945,197	54	5,759	1
Equity securities	35,930	2	38,092	2	(2,162)	(6)
Other	5,579	—	5,071	1	508	10
Total earning assets	$ 1,754,462	100%	$ 1,738,482	100%	$ 15,980	1 %
Funding sources						
Deposits:						
Interest-bearing checking	$ 59,121	4%	$ 63,243	4%	$ (4,122)	(7)%
Market rate and other savings	705,957	40	684,882	39	21,075	3
Savings certificates	30,266	2	20,653	1	9,613	47
Other time deposits	93,368	5	84,822	5	8,546	10
Deposits in non-U.S. offices	53,438	3	63,945	4	(10,507)	(16)
Total interest-bearing deposits	942,150	54	917,545	53	24,605	3
Short-term borrowings	115,337	7	104,267	6	11,070	11
Long-term debt	232,491	13	224,268	13	8,223	4
Other liabilities	25,771	1	27,648	1	(1,877)	(7)
Total interest-bearing liabilities	1,315,749	75	1,273,728	73	42,021	3
Portion of noninterest-bearing funding sources	438,713	25	464,754	27	(26,041)	(6)
Total funding sources	$ 1,754,462	100%	$ 1,738,482	100%	$ 15,980	1 %
Noninterest-earning assets						
Cash and due from banks	$ 19,558		18,777		$ 781	4 %
Goodwill	26,409		26,453		(44)	—
Other	113,015		105,180		7,835	7
Total noninterest-earning assets	$ 158,982		150,410		$ 8,572	6 %
Noninterest-bearing funding sources						
Deposits	$ 344,111		358,312		$ (14,201)	(4)%
Other liabilities	55,963		53,496		2,467	5
Total equity	197,621		203,356		(5,735)	(3)
Noninterest-bearing funding sources used to fund earning assets	(438,713)		(464,754)		26,041	(6)
Net noninterest-bearing funding sources	$ 158,982		150,410		$ 8,572	6 %
Total assets	$ 1,913,444		1,888,892		$ 24,552	1 %

(1) Nonaccrual loans are included in their respective loan categories.

Table 5: Average Balances, Yields and Rates Paid (Taxable-Equivalent Basis) (1)

			2019			2018			2017
(in millions)	Average balance	Yields/ rates	Interest income/ expense	Average balance	Yields/ rates	Interest income/ expense	Average balance	Yields/ rates	Interest income/ expense
Earning assets									
Interest-earning deposits with banks	$ 135,741	2.12%	$ 2,875	156,366	1.82%	$ 2,854	201,864	1.07%	$ 2,162
Federal funds sold and securities purchased under resale agreements	99,286	2.18	2,164	78,547	1.82	1,431	74,697	0.98	735
Debt securities (2):									
Trading debt securities	93,655	3.36	3,149	83,526	3.42	2,856	74,475	3.16	2,356
Available-for-sale debt securities:									
Securities of U.S. Treasury and federal agencies	15,293	2.07	316	6,618	1.70	112	15,966	1.49	239
Securities of U.S. states and political subdivisions	44,203	3.87	1,709	47,884	3.77	1,806	52,658	3.95	2,082
Mortgage-backed securities:									
Federal agencies	154,160	2.85	4,397	156,052	2.79	4,348	145,310	2.60	3,782
Residential and commercial	5,363	4.19	225	7,769	4.62	358	11,839	5.33	631
Total mortgage-backed securities	159,523	2.90	4,622	163,821	2.87	4,706	157,149	2.81	4,413
Other debt securities	43,675	4.23	1,846	46,875	4.22	1,980	48,714	3.68	1,794
Total available-for-sale debt securities	262,694	3.23	8,493	265,198	3.24	8,604	274,487	3.11	8,528
Held-to-maturity debt securities:									
Securities of U.S. Treasury and federal agencies	44,850	2.19	982	44,735	2.19	980	44,705	2.19	979
Securities of U.S. states and political subdivisions	8,644	3.97	343	6,253	4.34	271	6,268	5.32	334
Federal agency and other mortgage-backed securities	95,559	2.60	2,487	94,216	2.36	2,221	78,330	2.34	1,832
Other debt securities	52	3.71	2	361	4.00	15	2,194	2.50	55
Total held-to-maturity debt securities	149,105	2.56	3,814	145,565	2.40	3,487	131,497	2.43	3,200
Total debt securities	505,454	3.06	15,456	494,289	3.02	14,947	480,459	2.93	14,084
Mortgage loans held for sale (3)	19,808	4.10	813	18,394	4.22	777	20,780	3.78	786
Loans held for sale (3)	1,708	4.60	79	2,526	5.56	140	1,487	3.40	50
Loans:									
Commercial loans:									
Commercial and industrial – U.S.	284,888	4.25	12,107	275,656	4.16	11,465	272,034	3.75	10,196
Commercial and industrial – Non-U.S.	64,274	3.71	2,385	60,718	3.53	2,143	57,198	2.86	1,639
Real estate mortgage	121,813	4.40	5,356	122,947	4.29	5,279	129,990	3.74	4,859
Real estate construction	21,183	5.17	1,095	23,609	4.94	1,167	24,813	4.10	1,017
Lease financing	19,302	4.52	873	19,392	4.74	919	19,128	3.74	715
Total commercial loans	511,460	4.27	21,816	502,322	4.18	20,973	503,163	3.66	18,426
Consumer loans:									
Real estate 1-4 family first mortgage	288,059	3.81	10,974	284,178	4.04	11,481	277,751	4.03	11,206
Real estate 1-4 family junior lien mortgage	31,989	5.63	1,800	36,687	5.38	1,975	42,780	4.82	2,062
Credit card	38,865	12.58	4,889	36,780	12.72	4,678	35,600	12.23	4,355
Automobile	45,901	5.15	2,362	48,115	5.18	2,491	57,900	5.34	3,094
Other revolving credit and installment	34,682	6.95	2,412	37,115	6.70	2,488	38,935	6.18	2,408
Total consumer loans	439,496	5.11	22,437	442,875	5.22	23,113	452,966	5.11	23,125
Total loans (3)	950,956	4.65	44,253	945,197	4.66	44,086	956,129	4.35	41,551
Equity securities	35,930	2.69	966	38,092	2.62	999	36,105	2.27	821
Other	5,579	1.62	90	5,071	1.46	74	5,069	0.85	44
Total earning assets	$ 1,754,462	3.80%	$ 66,696	1,738,482	3.76%	$ 65,308	1,776,590	3.40%	$ 60,233
Funding sources									
Deposits:									
Interest-bearing checking	$ 59,121	1.33%	$ 789	63,243	0.96%	$ 606	49,474	0.49%	$ 242
Market rate and other savings	705,957	0.59	4,132	684,882	0.31	2,157	682,053	0.14	983
Savings certificates	30,266	1.59	481	20,653	0.57	118	22,190	0.30	67
Other time deposits	93,368	2.46	2,295	84,822	2.25	1,906	61,625	1.43	880
Deposits in non-U.S. offices	53,438	1.75	938	63,945	1.30	835	123,816	0.68	841
Total interest-bearing deposits	942,150	0.92	8,635	917,545	0.61	5,622	939,158	0.32	3,013
Short-term borrowings	115,337	2.01	2,317	104,267	1.65	1,719	98,922	0.77	761
Long-term debt	232,491	3.16	7,350	224,268	2.99	6,703	246,195	2.09	5,157
Other liabilities	25,771	2.13	551	27,648	2.21	610	21,872	1.94	424
Total interest-bearing liabilities	1,315,749	1.43	18,853	1,273,728	1.15	14,654	1,306,147	0.72	9,355
Portion of noninterest-bearing funding sources	438,713	—	—	464,754	—	—	470,443	—	—
Total funding sources	$ 1,754,462	1.07	18,853	1,738,482	0.85	14,654	1,776,590	0.53	9,355
Net interest margin and net interest income on a taxable-equivalent basis (4)		2.73%	$ 47,843		2.91%	$ 50,654		2.87%	$ 50,878
Noninterest-earning assets									
Cash and due from banks	$ 19,558			18,777			18,622		
Goodwill	26,409			26,453			26,629		
Other	113,015			105,180			111,164		
Total noninterest-earning assets	$ 158,982			150,410			156,415		
Noninterest-bearing funding sources									
Deposits	$ 344,111			358,312			365,464		
Other liabilities	55,963			53,496			55,740		
Total equity	197,621			203,356			205,654		
Noninterest-bearing funding sources used to fund earning assets	(438,713)			(464,754)			(470,443)		
Net noninterest-bearing funding sources	$ 158,982			150,410			156,415		
Total assets	$ 1,913,444			1,888,892			1,933,005		
Average prime rate		5.28%			4.91%			4.10%	
Average three-month London Interbank Offered Rate (LIBOR)		2.33			2.31			1.26	

(1) Yields/rates and amounts include the effects of hedge and risk management activities associated with the respective asset and liability categories.
(2) Yields/rates are based on interest income/expense amounts for the period. The average balance amounts represent amortized cost for the periods presented.
(3) Nonaccrual loans and related income are included in their respective loan categories.
(4) Includes taxable-equivalent adjustments of $612 million, $659 million and $1.3 billion for the years ended December 31, 2019, 2018 and 2017, respectively, predominantly related to tax-exempt income on certain loans and securities.

Table 6 allocates the changes in net interest income on a taxable-equivalent basis to changes in either average balances or average rates for both interest-earning assets and interest-bearing liabilities. Because of the numerous simultaneous volume and rate changes during any period, it is not possible to precisely allocate such changes between volume and rate. For this table, changes that are not solely due to either volume or rate are allocated to these categories on a pro-rata basis based on the absolute value of the change due to average volume and average rate.

Table 6: Analysis of Changes in Net Interest Income

						Year ended December 31,
			2019 over 2018			2018 over 2017
(in millions)	Volume	Rate	Total	Volume	Rate	Total
Increase (decrease) in interest income:						
Interest-earning deposits with banks	$ **(407)**	**428**	**21**	(569)	1,261	692
Federal funds sold and securities purchased under resale agreements	**419**	**314**	**733**	40	656	696
Debt securities:						
Trading debt securities	**343**	**(50)**	**293**	298	202	500
Available-for-sale debt securities:						
Securities of U.S. Treasury and federal agencies	**175**	**29**	**204**	(157)	30	(127)
Securities of U.S. states and political subdivisions	**(143)**	**46**	**(97)**	(184)	(92)	(276)
Mortgage-backed securities:						
Federal agencies	**(50)**	**99**	**49**	285	281	566
Residential and commercial	**(103)**	**(30)**	**(133)**	(197)	(76)	(273)
Total mortgage-backed securities	**(153)**	**69**	**(84)**	88	205	293
Other debt securities	**(139)**	**5**	**(134)**	(70)	256	186
Total available-for-sale debt securities	**(260)**	**149**	**(111)**	(323)	399	76
Held-to-maturity debt securities:						
Securities of U.S. Treasury and federal agencies	**2**	**—**	**2**	1	—	1
Securities of U.S. states and political subdivisions	**97**	**(25)**	**72**	(1)	(62)	(63)
Federal agency mortgage-backed securities	**33**	**233**	**266**	373	16	389
Other debt securities	**(12)**	**(1)**	**(13)**	(62)	22	(40)
Total held-to-maturity debt securities	**120**	**207**	**327**	311	(24)	287
Mortgage loans held for sale	**59**	**(23)**	**36**	(95)	86	(9)
Loans held for sale	**(40)**	**(21)**	**(61)**	47	43	90
Commercial loans:						
Commercial and industrial – U.S.	**390**	**252**	**642**	138	1,131	1,269
Commercial and industrial – Non-U.S.	**130**	**112**	**242**	105	399	504
Real estate mortgage	**(51)**	**128**	**77**	(272)	692	420
Real estate construction	**(124)**	**52**	**(72)**	(51)	201	150
Lease financing	**(4)**	**(42)**	**(46)**	10	194	204
Total commercial loans	**341**	**502**	**843**	(70)	2,617	2,547
Consumer loans:						
Real estate 1-4 family first mortgage	**155**	**(662)**	**(507)**	248	27	275
Real estate 1-4 family junior lien mortgage	**(263)**	**88**	**(175)**	(312)	225	(87)
Credit card	**262**	**(51)**	**211**	146	177	323
Automobile	**(115)**	**(14)**	**(129)**	(512)	(91)	(603)
Other revolving credit and installment	**(167)**	**91**	**(76)**	(116)	196	80
Total consumer loans	**(128)**	**(548)**	**(676)**	(546)	534	(12)
Total loans	**213**	**(46)**	**167**	(616)	3,151	2,535
Equity securities	**(59)**	**26**	**(33)**	47	131	178
Other	**7**	**9**	**16**	—	30	30
Total increase in interest income	**395**	**993**	**1,388**	(860)	5,935	5,075
Increase (decrease) in interest expense:						
Deposits:						
Interest-bearing checking	**(42)**	**225**	**183**	82	282	364
Market rate and other savings	**65**	**1,910**	**1,975**	4	1,170	1,174
Savings certificates	**75**	**288**	**363**	(5)	56	51
Other time deposits	**202**	**187**	**389**	407	619	1,026
Deposits in non-U.S. offices	**(152)**	**255**	**103**	(534)	528	(6)
Total interest-bearing deposits	**148**	**2,865**	**3,013**	(46)	2,655	2,609
Short-term borrowings	**196**	**402**	**598**	43	915	958
Long-term debt	**254**	**393**	**647**	(495)	2,041	1,546
Other liabilities	**(38)**	**(21)**	**(59)**	122	64	186
Total increase in interest expense	**560**	**3,639**	**4,199**	(376)	5,675	5,299
Increase (decrease) in net interest income on a taxable-equivalent basis	$ **(165)**	**(2,646)**	**(2,811)**	(484)	260	(224)

Noninterest Income

Table 7: Noninterest Income

		Year ended December 31,	
(in millions)	2019	2018	2017
Service charges on deposit accounts	$ 4,798	4,716	5,111
Trust and investment fees:			
Brokerage advisory, commissions and other fees	9,237	9,436	9,358
Trust and investment management	3,038	3,316	3,372
Investment banking	1,797	1,757	1,765
Total trust and investment fees	14,072	14,509	14,495
Card fees	4,016	3,907	3,960
Other fees:			
Lending related charges and fees	1,379	1,526	1,568
Cash network fees	452	481	506
Commercial real estate brokerage commissions	358	468	462
Wire transfer and other remittance fees	474	477	448
All other fees	421	432	573
Total other fees	3,084	3,384	3,557
Mortgage banking:			
Servicing income, net	522	1,373	1,427
Net gains on mortgage loan origination/sales activities	2,193	1,644	2,923
Total mortgage banking	2,715	3,017	4,350
Insurance	378	429	1,049
Net gains from trading activities	993	602	542
Net gains on debt securities	140	108	479
Net gains from equity securities	2,843	1,515	1,779
Lease income	1,612	1,753	1,907
Life insurance investment income	658	651	594
All other	2,523	1,822	1,009
Total	$ 37,832	36,413	38,832

Noninterest income of $37.8 billion represented 44% of revenue for 2019, compared with $36.4 billion, or 42%, for 2018 and $38.8 billion, or 44%, for 2017. The increase in noninterest income in 2019, compared with 2018, was predominantly due to higher net gains from equity securities (including higher deferred compensation plan investment results, which are offset in employee benefits expense), higher all other income, and higher net gains from trading activities. These increases in 2019, compared with 2018, were partially offset by lower trust and investment fees, mortgage banking income, and other fees. The decline in noninterest income in 2018, compared with 2017, was predominantly due to lower net gains on mortgage loan origination/sales activities driven by decreased origination volumes and margins, lower insurance income due to the sale of Wells Fargo Insurance Services in fourth quarter 2017, lower service charges on deposit accounts, lower gains on debt securities, and lower deferred compensation plan investment results (offset in employee benefits expense). These decreases in 2018, compared with 2017, were partially offset by higher gains from equity securities and higher all other income. For more information on our performance obligations and the nature of services performed for certain of our revenues discussed below, see Note 22 (Revenue from Contracts with Customers) to Financial Statements in this Report.

Service charges on deposit accounts increased to $4.8 billion in 2019, compared with $4.7 billion in 2018, predominantly due to higher overdraft fees resulting from increased consumer payment transactions, partially offset by the impact of a higher earnings credit rate applied to commercial accounts due to higher interest rates.

Brokerage advisory, commissions and other fees decreased to $9.2 billion in 2019, compared with $9.4 billion in 2018, due to lower asset-based fees and lower transactional revenue. Retail brokerage client assets totaled $1.6 trillion at December 31, 2019, compared with $1.5 trillion at December 31, 2018. Asset-based fees are calculated on the market value of the assets as of the beginning of each quarter. All retail brokerage services are provided by our WIM operating segment. For additional information on retail brokerage client assets, see the discussion and Tables 9d and 9e in the "Operating Segment Results – Wealth and Investment Management – Retail Brokerage Client Assets" section in this Report.

Trust and investment management fees decreased to $3.0 billion in 2019, compared with $3.3 billion in 2018, largely driven by lower trust fees due to the sale of our Institutional Retirement and Trust (IRT) business in 2019.

Our assets under management (AUM), including IRT client assets still on our platform, totaled $705.9 billion at December 31, 2019, compared with $638.3 billion at December 31, 2018. Substantially all of our AUM is managed by our Wealth and Investment Management (WIM) operating segment. Our assets under administration (AUA), including IRT client assets still on our platform, totaled $1.8 trillion at December 31, 2019, compared with $1.7 trillion at December 31, 2018. We had AUM and AUA associated with the IRT business of $21 billion and $915 billion, respectively, at December 31, 2019. No IRT client assets were transitioned to the buyer's platform as of December 31, 2019.

We closed the sale of our IRT business on July 1, 2019. We will continue to administer client assets at the direction of the buyer for up to 24 months from the closing date pursuant to a transition services agreement. The buyer will receive post-closing revenue from the client assets and will pay us a fee for certain costs that we incur to administer the client assets during the transition period. The transition services fee will be recognized as other noninterest income, and the expenses we incur will be recognized in the same manner as they were prior to the close of the sale. Transition period revenue is expected to approximate transition period expenses and is subject to downward adjustment as client assets transition to the buyer's platform.

Additional information regarding our WIM operating segment AUM is provided in Table 9f and the related discussion in the "Operating Segment Results – Wealth and Investment Management – Trust and Investment Client Assets Under Management" section in this Report.

Other fees decreased to $3.1 billion in 2019 from $3.4 billion in 2018, predominantly driven by the sale of our commercial real estate brokerage business (Eastdil Secured (Eastdil)) on October 1, 2019 and lower lending related charges and fees.

Mortgage banking income, consisting of net servicing income and net gains on loan origination/sales activities, totaled $2.7 billion in 2019, compared with $3.0 billion in 2018. For more information, see Note 11 (Mortgage Banking Activities) to Financial Statements in this Report.

Net servicing income was $522 million in 2019, compared with $1.4 billion in 2018, due to a decrease in net servicing fees and changes in the fair value of mortgage servicing rights (MSRs). Net servicing fees decreased $369 million from 2018, primarily driven by a decrease in contractually specified fees as a result of prepayments and sales of MSRs. In addition to servicing fees, net servicing income includes amortization of commercial MSRs, changes in the fair value of residential MSRs, as well as changes in the fair value of derivatives (economic hedges) used to hedge the residential MSRs. The total fair value of our residential MSRs declined in 2019, compared with 2018, driven by lower mortgage interest rates and higher prepayments. The net MSR valuation loss on our residential MSRs increased in

2019, compared with 2018, due to a decrease in hedge carry income from a flatter yield curve environment in 2019. Table 7a presents the components of the market-related valuation changes to our residential MSRs, net of hedge results.

Table 7a: Market-Related Valuation Changes on Residential MSRs, Net of Hedge Results

	Year ended December 31,		
(in millions)	**2019**	2018	2017
MSR valuation gain (loss)	**$ (2,569)**	960	(126)
Net derivative gains (losses) from economic hedges of residential MSRs	**2,318**	(1,072)	413
Net MSR valuation gain (loss)	**$ (251)**	(112)	287

Our portfolio of loans serviced for others was $1.6 trillion at December 31, 2019, and $1.7 trillion at December 31, 2018. At December 31, 2019, the ratio of combined residential and commercial MSRs to related loans serviced for others was 0.79%, compared with 0.94% at December 31, 2018. See the "Risk Management – Asset/Liability Management – Mortgage Banking Interest Rate and Market Risk" section in this Report for additional information regarding our MSRs risks and hedging approach.

Net gains on mortgage loan origination/sales activities was $2.2 billion in 2019, compared with $1.6 billion in 2018. The increase in 2019, compared with 2018, was primarily due to increases in origination volumes and margins. The production margin on residential held-for-sale mortgage loan originations, which represents net gains on residential mortgage loan origination/sales activities divided by total residential held-for-sale mortgage loan originations, provides a measure of the profitability of our residential mortgage origination activity. Table 7b presents the information used in determining the production margin.

Table 7b: Selected Mortgage Production Data

		Year ended December 31,		
		2019	2018	2017
Net gains on mortgage loan origination/sales activities (in millions):				
Residential	(A)	**$ 1,518**	1,174	2,140
Commercial		**337**	265	358
Residential pipeline and unsold/repurchased loan management (1)		**338**	205	425
Total		**$ 2,193**	1,644	2,923
Residential real estate originations (in billions):				
Held-for-sale	(B)	**$ 135**	132	160
Held-for-investment		**69**	45	52
Total		**$ 204**	177	212
Production margin on residential held-for-sale mortgage originations	(A)/(B)	**1.12%**	0.89	1.34

(1) Primarily includes the results of Government National Mortgage Association (GNMA) loss mitigation activities, interest rate management activities and changes in estimate to the liability for mortgage loan repurchase losses.

The production margin was 1.12% for 2019, compared with 0.89% for 2018. The increase in the production margin in 2019, compared with 2018, was due to higher margins in both retail and correspondent production channels and a shift to more retail origination volume, which has a higher production margin.

Mortgage applications were $311 billion in 2019, compared with $230 billion in 2018. The real estate 1-4 family first mortgage unclosed pipeline was $33 billion at December 31, 2019, compared with $18 billion at December 31, 2018. For additional information about our mortgage banking activities and results, see the "Risk Management – Asset/Liability Management – Mortgage Banking Interest Rate and Market Risk" section and Note 11 (Mortgage Banking Activities) and Note 19 (Fair Values of Assets and Liabilities) to Financial Statements in this Report.

Net gains from trading activities, which reflect unrealized changes in fair value of our trading positions and realized gains and losses, were $993 million in 2019, compared with $602 million in 2018. The increase in 2019, compared with 2018, reflected higher trading volumes for rates and commodities, credit, and residential mortgage-backed securities, partially offset by lower equity and foreign exchange trading income. Net gains from trading activities exclude interest and dividend income and expense on trading securities, which are reported within interest income from debt and equity securities and other interest income. For additional information about trading activities, see the "Risk Management – Asset/Liability Management – Market Risk – Trading Activities" section and Note 4 (Trading Activities) to Financial Statements in this Report.

Net gains on debt and equity securities totaled $3.0 billion for 2019 and $1.6 billion for 2018. The increase in 2019 was predominantly driven by higher deferred compensation gains (offset in employee benefits expense) and higher unrealized gains on equity securities, partially offset by lower net realized gains from nonmarketable equity securities. Table 8a presents results for our deferred compensation plan and related investments. Net gains on debt and equity securities also included other-than-temporary impairment (OTTI) write-downs of $308 million for 2019 and $380 million for 2018. The decrease in OTTI in 2019 reflected a $214 million impairment taken in 2018 related to the sale of our ownership stake in The Rock Creek Group, LP (RockCreek), partially offset by higher write-downs in our investment portfolio in 2019.

Lease income was $1.6 billion in 2019, compared with $1.8 billion in 2018. The decrease in 2019, compared with 2018, was driven by reductions in the size of the equipment leasing portfolio.

All other income was $2.5 billion in 2019, compared with $1.8 billion in 2018. All other income includes losses on low income housing tax credit investments (excluding related tax credits recorded in income tax expense), foreign currency adjustments, income from investments accounted for under the equity method, hedge accounting results related to hedges of foreign currency risk, and the results of certain economic hedges, any of which can cause decreases and net losses in other income. The increase in all other income in 2019, compared with 2018, was predominantly driven by pre-tax gains on the sales of our IRT business, Eastdil, and Business Payroll Services, partially offset by lower gains from the sales of purchased credit-impaired (PCI) loans in 2019, as well as higher losses on low income housing tax credit investments in 2019.

Noninterest Expense

Table 8: Noninterest Expense

	Year ended December 31,		
(in millions)	**2019**	2018	2017
Salaries	$ **18,382**	17,834	17,363
Commission and incentive compensation	**10,828**	10,264	10,442
Employee benefits	**5,874**	4,926	5,566
Technology and equipment	**2,763**	2,444	2,237
Net occupancy (1)	**2,945**	2,888	2,849
Core deposit and other intangibles	**108**	1,058	1,152
FDIC and other deposit assessments	**526**	1,110	1,287
Operating losses	**4,321**	3,124	5,492
Outside professional services	**3,198**	3,306	3,813
Contract services (2)	**2,489**	2,192	1,638
Leases (3)	**1,155**	1,334	1,351
Advertising and promotion	**1,076**	857	614
Outside data processing	**673**	660	891
Travel and entertainment	**580**	618	687
Postage, stationery and supplies	**518**	515	544
Telecommunications	**367**	361	364
Foreclosed assets	**163**	188	251
Insurance	**100**	101	100
All other (2)	**2,112**	2,346	1,843
Total	$ **58,178**	56,126	58,484

(1) Represents expenses for both leased and owned properties.
(2) The amount for 2017 has been revised to conform with the current period presentation whereby temporary help is included in contract services rather than in all other noninterest expense.
(3) Represents expenses for assets we lease to customers.

Noninterest expense was $58.2 billion in 2019, up 4% from $56.1 billion in 2018, which was down 4% from $58.5 billion in 2017. The increase in 2019, compared with 2018, was driven by higher personnel expenses, operating losses, technology and equipment, and advertising and promotion expense, partially offset by lower core deposit and other intangibles expense, Federal Deposit Insurance Corporation (FDIC), leases, and other expense. The decrease in 2018, compared with 2017, was driven by lower operating losses from a decline in litigation accruals, lower personnel expenses, lower outside data processing, and lower FDIC expense, partially offset by higher advertising and promotion, technology and equipment, and other expense.

Personnel expenses, which include salaries, commissions, incentive compensation and employee benefits, were up $2.1 billion, or 6%, in 2019, compared with 2018, due to higher deferred compensation costs (offset in net gains from equity securities), higher salaries driven by the impact of staffing mix changes and annual salary increases, as well as higher incentive compensation and commissions. The increase in incentive compensation and commissions was due to increased revenue from mortgage banking originations, market sensitive businesses (trading, debt and equity securities activities) and investment banking, partially offset by lower brokerage fees. Table 8a presents results for our deferred compensation plan and related investments.

Table 8a: Deferred Compensation Plan and Related Investments

	Year ended December 31,	
(in millions)	**2019**	2018
Net interest income	$ **70**	60
Net gains (losses) from equity securities	**664**	(303)
Total revenue (losses) from deferred compensation plan investments	**734**	(243)
Employee benefits expense (1)	**739**	(242)
Income (loss) before income tax expense	$ **(5)**	(1)

(1) Represents change in deferred compensation plan liability.

Technology and equipment expense was up 13% in 2019, compared with 2018, due to higher impairment expenses on capitalized software and computer software licensing and maintenance costs, reflecting the strategic reassessment of technology projects in WIM.

Core deposit and other intangibles expense was down 90% in 2019, compared with 2018, due to lower amortization expense reflecting the end of the 10-year amortization period on Wachovia intangibles.

FDIC and other deposit assessments were down 53% in 2019, compared with 2018, due to the completion of the FDIC surcharge which ended September 30, 2018.

Operating losses were up $1.2 billion, or 38%, in 2019, compared with 2018, due to higher litigation accruals for a variety of matters, including previously disclosed retail sales practices matters, partially offset by lower remediation expense.

Outside professional and contract services expense was up 3% in 2019, compared with 2018, reflecting an increase in project spending, partially offset by lower legal expense.

Leases expense was down 13% in 2019, compared with 2018, driven by reductions in the size of the operating lease portfolio.

Advertising and promotion expense was up 26% in 2019, compared with 2018, due to increases in marketing and brand campaign volumes.

All other noninterest expense was down 10% in 2019, compared with 2018, due to a sales tax refund in 2019, higher gains on the sale of corporate properties in 2019, compared with 2018, and pension plan settlement expense in 2018 that did not recur in 2019.

Income Tax Expense

Our effective income tax rate in 2019 was 17.5%, compared with 20.2% in 2018. The 2019 and 2018 effective income tax rates reflected the non-tax-deductible treatment of certain litigation accruals. The 2018 effective income tax rate also reflected income tax expense related to the reconsideration of reserves for state income taxes following the U.S. Supreme Court decision in *South Dakota v. Wayfair, Inc.* and the recognition of $164 million of income tax expense associated with the final re-measurement of our initial estimates for the impacts of the Tax Cuts & Jobs Act (Tax Act). See Note 24 (Income Taxes) to Financial Statements in this Report for additional information about our income taxes.

Operating Segment Results

As of December 31, 2019, we were organized for management reporting purposes into three operating segments: Community Banking; Wholesale Banking; and Wealth and Investment Management (WIM). These segments are defined by product type and customer segment and their results are based on our management reporting process. The management reporting process is based on U.S. GAAP with specific adjustments, such as for funds transfer pricing for asset/liability management, for shared revenues and expenses, and tax-equivalent adjustments to consistently reflect income from taxable and tax-exempt sources. On February 11, 2020, we announced a new organizational structure with five principal lines of business: Consumer and Small Business Banking; Consumer Lending; Commercial Banking; Corporate and Investment Banking; and Wealth and Investment Management. This new organizational structure is intended to help drive operating, control, and business performance. The Company is currently in the process of transitioning to this new organizational structure, including identifying leadership for some of these principal business lines and aligning management reporting and allocation methodologies. These changes will not impact the consolidated financial results of the Company, but are expected to result in changes to our operating segments. We will update our operating segment disclosures, including comparative financial results, when the Company completes its transition and is managed in accordance with the new organizational structure. Table 9 and the following discussion present our results by operating segment. For additional description of our operating segments, including additional financial information and the underlying management reporting process, see Note 27 (Operating Segments) to Financial Statements in this Report.

Table 9: Operating Segment Results – Highlights

						Year ended December 31,
(in millions, except average balances which are in billions)		Community Banking	Wholesale Banking	Wealth and Investment Management	Other (1)	Consolidated Company
2019						
Revenue	**$**	**45,316**	**27,677**	**17,341**	**(5,271)**	**85,063**
Provision (reversal of provision) for credit losses		**2,319**	**378**	**5**	**(15)**	**2,687**
Net income (loss)		**7,398**	**10,696**	**2,713**	**(1,258)**	**19,549**
Average loans	**$**	**459.4**	**475.3**	**75.6**	**(59.3)**	**951.0**
Average deposits		**782.0**	**422.5**	**146.0**	**(64.2)**	**1,286.3**
2018						
Revenue	$	46,913	28,706	16,376	(5,587)	86,408
Provision (reversal of provision) for credit losses		1,783	(58)	(5)	24	1,744
Net income (loss)		10,394	11,032	2,580	(1,613)	22,393
Average loans	$	463.7	465.7	74.6	(58.8)	945.2
Average deposits		757.2	423.7	165.0	(70.0)	1,275.9
2017						
Revenue	$	47,018	30,000	17,072	(5,701)	88,389
Provision (reversal of provision) for credit losses		2,555	(19)	(5)	(3)	2,528
Net income (loss)		10,938	9,914	2,770	(1,439)	22,183
Average loans	$	475.7	465.6	71.9	(57.1)	956.1
Average deposits		729.6	464.2	189.0	(78.2)	1,304.6

(1) Includes the elimination of certain items that are included in more than one business segment, substantially all of which represents products and services for WIM customers served through Community Banking distribution channels.

Community Banking offers a complete line of diversified financial products and services for consumers and small businesses with annual sales generally up to $5 million in which the owner generally is the financial decision maker. These financial products and services include checking and savings accounts, credit and debit cards, automobile, student, mortgage, home equity and small business lending, as well as referrals to Wholesale Banking and WIM business partners. The Community Banking segment also includes the results of our Corporate Treasury activities net of allocations (including funds transfer pricing, capital, liquidity and certain corporate expenses) in support of other segments and results of investments in our affiliated venture capital and private equity partnerships. Table 9a provides additional financial information for Community Banking.

Table 9a: Community Banking

				Year ended December 31,	
(in millions, except average balances which are in billions)	2019	2018	% Change	2017	% Change
Net interest income	$ **27,610**	29,219	(6)%	$ 28,658	2%
Noninterest income:					
Service charges on deposit accounts	**2,823**	2,641	7	2,909	(9)
Trust and investment fees:					
Brokerage advisory, commissions and other fees (1)	**1,931**	1,887	2	1,830	3
Trust and investment management (1)	**805**	910	(12)	889	2
Investment banking (2)	**(93)**	(35)	NM	(59)	41
Total trust and investment fees	**2,643**	2,762	(4)	2,660	4
Card fees	**3,655**	3,543	3	3,613	(2)
Other fees	**1,278**	1,359	(6)	1,497	(9)
Mortgage banking	**2,307**	2,659	(13)	3,895	(32)
Insurance	**44**	83	(47)	139	(40)
Net gains (losses) from trading activities	**24**	28	(14)	(251)	111
Net gains (losses) on debt securities	**51**	(3)	NM	709	NM
Net gains from equity securities (3)	**2,155**	1,505	43	1,455	3
Other income of the segment	**2,726**	3,117	(13)	1,734	80
Total noninterest income	**17,706**	17,694	—	18,360	(4)
Total revenue	**45,316**	46,913	(3)	47,018	—
Provision for credit losses	**2,319**	1,783	30	2,555	(30)
Noninterest expense:					
Personnel expense	**22,867**	21,252	8	20,381	4
Technology and equipment	**2,423**	2,356	3	2,157	9
Net occupancy	**2,236**	2,166	3	2,111	3
Core deposit and other intangibles	**3**	404	(99)	446	(9)
FDIC and other deposit assessments	**327**	624	(48)	715	(13)
Outside professional services	**1,942**	1,560	24	1,875	(17)
Operating losses	**3,846**	2,656	45	5,312	(50)
Other expense of the segment	**(948)**	(527)	(80)	(382)	(38)
Total noninterest expense	**32,696**	30,491	7	32,615	(7)
Income before income tax expense and noncontrolling interests	**10,301**	14,639	(30)	11,848	24
Income tax expense	**2,426**	3,784	(36)	634	497
Less: Net income from noncontrolling interests (4)	**477**	461	3	276	67
Net income	$ **7,398**	10,394	(29)	$ 10,938	(5)
Average loans	$ **459.4**	463.7	(1)	$ 475.7	(3)
Average deposits	**782.0**	757.2	3	729.6	4

NM - Not meaningful
(1) Represents income on products and services for WIM customers served through Community Banking distribution channels which is eliminated in consolidation.
(2) Includes underwriting fees paid to Wells Fargo Securities for services related to the issuance of our corporate securities which are offset in our Wholesale Banking segment and eliminated in consolidation.
(3) Largely represents gains resulting from venture capital investments.
(4) Reflects results attributable to noncontrolling interests predominantly associated with the Company's consolidated venture capital investments.

Community Banking reported net income of $7.4 billion in 2019, down $3.0 billion, or 29%, from 2018. Revenue was $45.3 billion in 2019, down $1.6 billion, or 3%, from 2018. The decrease in revenue in 2019 was due to lower net interest income, gains from the sales of purchased credit-impaired (PCI) residential mortgage loans, mortgage banking revenue driven by a decrease in servicing income, and trust and investment fees, partially offset by higher gains on equity securities, service charges on deposit accounts, and card fees.

The provision for credit losses in 2019 increased $536 million from 2018 due to a higher level of credit quality improvement in 2018 compared with 2019, partially offset by lower net charge-offs in the automobile portfolio in 2019.

Noninterest expense of $32.7 billion in 2019 increased $2.2 billion, or 7%, from 2018. The increase in 2019 was predominantly driven by higher personnel expense, operating losses reflecting litigation accruals for a variety of matters, including previously disclosed retail sales practices matters, and outside professional services expense, partially offset by lower other expense, core deposit and other intangibles amortization expense, and FDIC and other deposit assessments expense.

Income tax expense was $2.4 billion in 2019, down $1.4 billion from $3.8 billion in 2018. The decrease in income tax expense in 2019 was driven by lower pre-tax income, and reflected the non-tax-deductible treatment of certain litigation accruals.

Average loans decreased $4.3 billion in 2019, or 1%, from 2018 driven by decreases in real estate 1-4 family junior lien mortgage, automobile, other revolving credit and installment, and commercial loans, partially offset by higher real estate 1-4 family first mortgage and credit card loans. Average deposits increased $24.8 billion in 2019, or 3%, from 2018.

Wholesale Banking provides financial solutions to businesses with annual sales generally in excess of $5 million and to financial institutions globally. Products and businesses include Commercial Banking, Commercial Real Estate, Corporate and Investment Banking, Credit Investment Portfolio, Treasury Management, and Commercial Capital. Table 9b provides additional financial information for Wholesale Banking.

Table 9b: Wholesale Banking

				Year ended December 31,	
(in millions, except average balances which are in billions)	**2019**	2018	% Change	2017	% Change
Net interest income	**$ 17,699**	18,690	(5)%	$ 18,810	(1)%
Noninterest income:					
Service charges on deposit accounts	**1,974**	2,074	(5)	2,201	(6)
Trust and investment fees:					
Brokerage advisory, commissions and other fees	**292**	317	(8)	304	4
Trust and investment management	**486**	445	9	523	(15)
Investment banking	**1,889**	1,783	6	1,827	(2)
Total trust and investment fees	**2,667**	2,545	5	2,654	(4)
Card fees	**359**	362	(1)	345	5
Other fees	**1,801**	2,019	(11)	2,054	(2)
Mortgage banking	**412**	362	14	458	(21)
Insurance	**303**	312	(3)	872	(64)
Net gains from trading activities	**915**	516	77	701	(26)
Net gains (losses) on debt securities	**89**	102	(13)	(232)	144
Net gains from equity securities	**416**	293	42	116	153
Other income of the segment	**1,042**	1,431	(27)	2,021	(29)
Total noninterest income	**9,978**	10,016	—	11,190	(10)
Total revenue	**27,677**	28,706	(4)	30,000	(4)
Provision (reversal of provision) for credit losses	**378**	(58)	752	(19)	NM
Noninterest expense:					
Personnel expense	**5,560**	5,567	—	6,603	(16)
Technology and equipment	**38**	48	(21)	55	(13)
Net occupancy	**388**	403	(4)	425	(5)
Core deposit and other intangibles	**92**	378	(76)	414	(9)
FDIC and other deposit assessments	**172**	419	(59)	481	(13)
Outside professional services	**600**	958	(37)	1,134	(16)
Operating losses	**35**	246	(86)	74	232
Other expense of the segment	**8,467**	8,138	4	7,438	9
Total noninterest expense	**15,352**	16,157	(5)	16,624	(3)
Income before income tax expense and noncontrolling interest	**11,947**	12,607	(5)	13,395	(6)
Income tax expense (1)	**1,246**	1,555	(20)	3,496	(56)
Less: Net income (loss) from noncontrolling interest	**5**	20	(75)	(15)	233
Net income	**$ 10,696**	11,032	(3)	$ 9,914	11
Average loans	**$ 475.3**	465.7	2	$ 465.6	—
Average deposits	**422.5**	423.7	—	464.2	(9)

NM - Not meaningful
(1) Income tax expense for our Wholesale Banking operating segment included income tax credits related to low-income housing and renewable energy investments of $1.8 billion, $1.6 billion and $1.4 billion for the years ended December 31, 2019, 2018 and 2017, respectively.

Wholesale Banking reported net income of $10.7 billion in 2019, down $336 million, or 3%, from 2018. The decrease in 2019 was predominantly due to lower net interest income, partially offset by lower noninterest expense. Revenue of $27.7 billion in 2019 decreased $1.0 billion, or 4%, from 2018.

Net interest income of $17.7 billion in 2019 decreased $1.0 billion, or 5%, from 2018. The decrease in net interest income in 2019 was due to lower credit spreads on loans, trading assets, and debt securities, as well as the impact of migration from noninterest-bearing to interest-bearing deposits.

Noninterest income of $10.0 billion in 2019 was flat compared with 2018.

The provision for credit losses in 2019 increased $436 million from 2018, driven by lower recoveries reflecting a higher level of credit quality improvement in 2018 compared with 2019.

Noninterest expense of $15.4 billion in 2019 decreased $805 million, or 5%, compared with 2018. The decrease in 2019 was predominantly due to lower core deposit and other intangibles amortization expense, FDIC and other deposit assessments expense, operating losses, and lease expense (within other expense), as well as the impact of the sale of Eastdil, partially offset by increased project expense (within other expense).

Average loans of $475.3 billion in 2019 increased $9.6 billion, or 2%, compared with 2018. Loan growth in 2019 from commercial and industrial loans was partially offset by declines in commercial real estate loans. Average deposits of $422.5 billion in 2019 decreased $1.2 billion from 2018. The decline in 2019 was driven by commercial customers allocating more cash to alternative higher-rate liquid investments.

Wealth and Investment Management provides a full range of personalized wealth management, investment and retirement products and services to clients across U.S.-based businesses including Wells Fargo Advisors, The Private Bank, Abbot Downing, and Wells Fargo Asset Management. We deliver financial planning, private banking, credit, investment management and fiduciary services to high-net worth and ultra-high-net worth individuals and families. We also serve clients' brokerage needs and provide investment management capabilities delivered to global institutional clients through separate accounts and the Wells Fargo Funds. The sale of our IRT business closed on July 1, 2019. For additional information on the sale of our IRT business, including its impact on our AUM, AUA and associated revenue and expenses, see the "Noninterest Income" section in this Report. Tables 9c through 9f provide additional financial information for WIM.

Table 9c: Wealth and Investment Management

				Year ended December 31,	
(in millions, except average balances which are in billions)	2019	2018	% Change	2017	% Change
Net interest income	$ **4,037**	4,441	(9)%	$ 4,641	(4)%
Noninterest income:					
Service charges on deposit accounts	**16**	16	—	17	(6)
Trust and investment fees:					
Brokerage advisory, commissions and other fees	**8,946**	9,161	(2)	9,072	1
Trust and investment management	**2,587**	2,893	(11)	2,877	1
Investment banking	**6**	9	(33)	(2)	550
Total trust and investment fees	**11,539**	12,063	(4)	11,947	1
Card fees	**6**	6	—	6	—
Other fees	**17**	17	—	18	(6)
Mortgage banking	**(12)**	(11)	(9)	(10)	(10)
Insurance	**72**	82	(12)	88	(7)
Net gains from trading activities	**53**	57	(7)	92	(38)
Net gains on debt securities	**—**	9	(100)	2	350
Net gains (losses) from equity securities	**272**	(283)	196	208	NM
Other income of the segment	**1,341**	(21)	NM	63	NM
Total noninterest income	**13,304**	11,935	11	12,431	(4)
Total revenue	**17,341**	16,376	6	17,072	(4)
Provision (reversal of provision) for credit losses	**5**	(5)	200	(5)	—
Noninterest expense:					
Personnel expense	**8,477**	8,085	5	8,126	(1)
Technology and equipment	**304**	42	624	28	50
Net occupancy	**448**	440	2	431	2
Core deposit and other intangibles	**13**	276	(95)	292	(5)
FDIC and other deposit assessments	**49**	116	(58)	154	(25)
Outside professional services	**684**	815	(16)	834	(2)
Operating losses	**452**	232	95	115	102
Other expense of the segment	**3,282**	2,932	12	2,643	11
Total noninterest expense	**13,709**	12,938	6	12,623	2
Income before income tax expense and noncontrolling interest	**3,627**	3,443	5	4,454	(23)
Income tax expense	**904**	861	5	1,668	(48)
Less: Net income from noncontrolling interest	**10**	2	400	16	(88)
Net income	$ **2,713**	2,580	5	$ 2,770	(7)
Average loans	$ **75.6**	74.6	1	$ 71.9	4
Average deposits	**146.0**	165.0	(12)	189.0	(13)

NM - Not meaningful

WIM reported net income of $2.7 billion in 2019, up $133 million, or 5%, from 2018. Revenue of $17.3 billion in 2019 increased $965 million, or 6%, from 2018.

Net interest income of $4.0 billion in 2019 decreased $404 million, or 9%, from 2018 predominantly due to the impact of lower deposit balances.

Noninterest income of $13.3 billion in 2019 increased $1.4 billion, or 11%, from 2018, predominantly due to the $1.1 billion gain on the sale of our IRT business and higher net gains from equity securities on increased deferred compensation plan investment results (largely offset by higher employee benefits expense), partially offset by lower asset-based fees.

Noninterest income in 2018 reflected an impairment on the sale of our ownership stake in RockCreek.

The provision for credit losses was $5 million in 2019, compared with a reversal of provision of $5 million in 2018.

Noninterest expense of $13.7 billion in 2019 increased $771 million, or 6%, from 2018 due to higher personnel expense on increased deferred compensation plan expense (offset in net gains from equity securities), technology and equipment expense including $265 million of capitalized software impairment and computer software licensing and maintenance costs, reflecting the strategic reassessment of technology projects, operating losses, and project expense (within other expense), partially offset by lower core deposits and other intangibles amortization expense.

Average loans of $75.6 billion in 2019 increased $1.0 billion from 2018 driven by growth in nonconforming mortgage loans. Average deposits of $146.0 billion in 2019 decreased $19.0 billion, or 12%, from 2018 as customers allocated more cash into higher yielding liquid alternatives.

The following discussions provide additional information for client assets we oversee in our retail brokerage advisory and trust and investment management business lines.

Retail Brokerage Client Assets Brokerage advisory, commissions and other fees are received for providing full-service and discount brokerage services predominantly to retail brokerage clients. Offering advisory account relationships to our brokerage clients is an important component of our broader strategy of meeting their financial needs. Although a majority of our retail brokerage client assets are in accounts that earn brokerage commissions, the fees from those accounts generally represent transactional commissions based on the number and size of transactions executed at the client's direction. Fees from advisory accounts are based on a percentage of the market value of the assets as of the beginning of the quarter, which vary across the account types based on the distinct services provided, and are affected by investment performance as well as asset inflows and outflows. A majority of our brokerage advisory, commissions and other fee income is earned from advisory accounts. Table 9d shows advisory account client assets as a percentage of total retail brokerage client assets at December 31, 2019, 2018 and 2017.

Table 9d: Retail Brokerage Client Assets

(in billions)		Year ended December 31, 2019	2018	2017
Retail brokerage client assets	**$**	**1,646.0**	1,487.6	1,651.3
Advisory account client assets		**589.5**	501.1	542.8
Advisory account client assets as a percentage of total client assets		**36%**	34	33

Retail Brokerage advisory accounts include assets that are financial advisor-directed and separately managed by third-party managers, as well as certain client-directed brokerage assets where we earn a fee for advisory and other services, but do not have investment discretion. For the years ended December 31, 2019, 2018 and 2017, the average fee rate by account type ranged from 80 to 120 basis points. Table 9e presents retail brokerage advisory account client assets activity by account type for the years ended December 31, 2019, 2018 and 2017. The activity in 2019 reflected higher market valuations and net outflows primarily from the correspondent clearing business.

Table 9e: Retail Brokerage Advisory Account Client Assets

(in billions)		Balance, beginning of period	Inflows (1)	Outflows (2)	Market impact (3)	Year ended Balance, end of period
December 31, 2019						
Client directed (4)	**$**	**151.5**	**33.5**	**(41.8)**	**26.2**	**169.4**
Financial advisor directed (5)		**141.9**	**33.9**	**(34.7)**	**35.2**	**176.3**
Separate accounts (6)		**136.4**	**24.2**	**(29.7)**	**29.2**	**160.1**
Mutual fund advisory (7)		**71.3**	**11.8**	**(14.1)**	**14.7**	**83.7**
Total advisory client assets	**$**	**501.1**	**103.4**	**(120.3)**	**105.3**	**589.5**
December 31, 2018						
Client directed (4)	$	170.9	33.6	(41.0)	(12.0)	151.5
Financial advisor directed (5)		147.0	30.0	(32.9)	(2.2)	141.9
Separate accounts (6)		149.1	23.8	(29.1)	(7.4)	136.4
Mutual fund advisory (7)		75.8	12.8	(13.8)	(3.5)	71.3
Total advisory client assets	$	542.8	100.2	(116.8)	(25.1)	501.1
December 31, 2017						
Client directed (4)	$	159.1	37.1	(39.2)	13.9	170.9
Financial advisor directed (5)		115.7	30.6	(24.5)	25.2	147.0
Separate accounts (6)		125.7	26.1	(23.5)	20.8	149.1
Mutual fund advisory (7)		63.3	13.1	(11.1)	10.5	75.8
Total advisory client assets	$	463.8	106.9	(98.3)	70.4	542.8

(1) Inflows include new advisory account assets, contributions, dividends and interest.
(2) Outflows include closed advisory account assets, withdrawals and client management fees.
(3) Market impact reflects gains and losses on portfolio investments.
(4) Investment advice and other services are provided to client, but decisions are made by the client and the fees earned are based on a percentage of the advisory account assets, not the number and size of transactions executed by the client.
(5) Professionally managed portfolios with fees earned based on respective strategies and as a percentage of certain client assets.
(6) Professional advisory portfolios managed by Wells Fargo Asset Management or third-party asset managers. Fees are earned based on a percentage of certain client assets.
(7) Program with portfolios constructed of load-waived, no-load and institutional share class mutual funds. Fees are earned based on a percentage of certain client assets.

Trust and Investment Client Assets Under Management We earn trust and investment management fees from managing and administering assets, including mutual funds, separate accounts, and personal trust assets, through our asset management and wealth businesses. Prior to the sale of our IRT business, which closed on July 1, 2019, we also earned fees from managing employee benefit trusts through the retirement business. Our asset management business is conducted by Wells Fargo Asset Management (WFAM), which offers Wells Fargo proprietary mutual funds and manages institutional separate accounts, and our wealth business manages assets for high net worth clients. Substantially all of our trust and investment management fee income is earned from AUM where we have discretionary management authority over the investments and generate fees as a percentage of the market value of the AUM. For additional information on the sale of our IRT business, including its impact on our AUM, AUA and associated revenue and expenses, see the "Noninterest Income" section in this Report. Table 9f presents AUM activity for the years ended December 31, 2019, 2018 and 2017.

Table 9f: WIM Trust and Investment – Assets Under Management

					Year ended
(in billions)	Balance, beginning of period	Inflows (1)	Outflows (2)	Market impact (3)	Balance, end of period
December 31, 2019					
Assets managed by WFAM (4):					
Money market funds (5)	**$ 112.4**	**18.2**	**—**	**—**	**130.6**
Other assets managed	**353.5**	**75.1**	**(86.1)**	**35.7**	**378.2**
Assets managed by Wealth and IRT (6)	**170.7**	**33.6**	**(40.5)**	**23.6**	**187.4**
Total assets under management	**$ 636.6**	**126.9**	**(126.6)**	**59.3**	**696.2**
December 31, 2018					
Assets managed by WFAM (4):					
Money market funds (5)	$ 108.2	4.2	—	—	112.4
Other assets managed	395.7	85.5	(120.2)	(7.5)	353.5
Assets managed by Wealth and IRT (6)	186.2	36.3	(39.5)	(12.3)	170.7
Total assets under management	$ 690.1	126.0	(159.7)	(19.8)	636.6
December 31, 2017					
Assets managed by WFAM (4):					
Money market funds (5)	$ 102.6	5.6	—	—	108.2
Other assets managed	379.6	116.0	(130.9)	31.0	395.7
Assets managed by Wealth and IRT (6)	168.5	41.1	(39.4)	16.0	186.2
Total assets under management	$ 650.7	162.7	(170.3)	47.0	690.1

(1) Inflows include new managed account assets, contributions, dividends and interest.
(2) Outflows include closed managed account assets, withdrawals and client management fees.
(3) Market impact reflects gains and losses on portfolio investments.
(4) Assets managed by WFAM consist of equity, alternative, balanced, fixed income, money market, and stable value, and include client assets that are managed or sub-advised on behalf of other Wells Fargo lines of business.
(5) Money Market funds activity is presented on a net inflow or net outflow basis, because the gross flows are not meaningful nor used by management as an indicator of performance.
(6) Includes $5.0 billion, $4.9 billion and $5.5 billion as of December 31, 2019, 2018 and 2017, respectively, of client assets invested in proprietary funds managed by WFAM.

Balance Sheet Analysis

At December 31, 2019, our assets totaled $1.9 trillion, up $31.7 billion from December 31, 2018. Asset growth was predominantly due to increases in federal funds sold and securities purchased under resale agreements, debt securities, and equity securities, which increased $21.9 billion, $12.4 billion, and $13.1 billion, respectively, partially offset by a $30.2 billion decline in interest-earning deposits with banks.

The following discussion provides additional information about the major components of our balance sheet. Information regarding our capital and changes in our asset mix is included in the "Earnings Performance – Net Interest Income" and "Capital Management" sections and Note 29 (Regulatory and Agency Capital Requirements) to Financial Statements in this Report.

Available-for-Sale and Held-to-Maturity Debt Securities

Table 10: Available-for-Sale and Held-to-Maturity Debt Securities

		December 31, 2019			December 31, 2018	
(in millions)	Amortized cost	Net unrealized gain (loss)	Fair value	Amortized cost	Net unrealized gain (loss)	Fair value
Available-for-sale	$ 260,060	3,399	263,459	272,471	(2,559)	269,912
Held-to-maturity	153,933	2,927	156,860	144,788	(2,673)	142,115
Total (1)	413,993	6,326	420,319	417,259	(5,232)	412,027

(1) Available-for-sale debt securities are carried on the balance sheet at fair value. Held-to-maturity debt securities are carried on the balance sheet at amortized cost.

Table 10 presents a summary of our available-for-sale and held-to-maturity debt securities, which increased $2.7 billion in balance sheet carrying value from December 31, 2018, due to higher net unrealized gains, partially offset by paydowns, sales and maturities exceeding purchases.

The total net unrealized gains on available-for-sale debt securities were $3.4 billion at December 31, 2019, up from net unrealized losses of $2.6 billion at December 31, 2018, driven by lower interest rates and tighter credit spreads.

The size and composition of our available-for-sale and held-to-maturity debt securities is dependent upon the Company's liquidity and interest rate risk management objectives. Our business generates assets and liabilities, such as loans, deposits and long-term debt, which have different maturities, yields, re-pricing, prepayment characteristics and other provisions that expose us to interest rate and liquidity risk.

The available-for-sale debt securities portfolio primarily consists of liquid, high-quality U.S. Treasury and federal agency debt, and agency mortgage-backed securities (MBS), in addition to securities issued by U.S. states and political subdivisions, corporate debt securities, and highly rated collateralized loan obligations (CLOs). The available-for-sale debt securities portfolio can be used to meet funding needs that arise in the normal course of business or due to market stress. Changes in our interest rate risk profile may occur due to changes in overall economic or market conditions, which could influence loan origination demand, prepayment speeds, or deposit balances and mix. In response, the available-for-sale debt securities portfolio can be rebalanced to meet the Company's interest rate risk management objectives. In addition to meeting liquidity and interest rate risk management objectives, the available-for-sale debt securities portfolio may provide yield enhancement over other short-term assets. See the "Risk Management – Asset/Liability Management" section in this Report for more information on liquidity and interest rate risk.

The held-to-maturity debt securities portfolio predominantly consists of high-quality U.S. Treasury debt, agency MBS and securities issued by U.S. states and political subdivisions where our intent is to hold these securities to maturity and collect the contractual cash flows. The held-to-maturity debt securities portfolio may also provide yield enhancement over short-term assets.

We analyze debt securities for OTTI quarterly or more often if a potential loss-triggering event occurs. In 2019, we recognized $63 million of OTTI write-downs on debt securities. For a discussion of our OTTI accounting policies and underlying considerations and analysis, see Note 1 (Summary of Significant Accounting Policies) and Note 5 (Available-for-Sale and Held-to-Maturity Debt Securities) to Financial Statements in this Report.

At December 31, 2019, debt securities included $53.8 billion of municipal bonds, of which 96.9% were rated "A-" or better based predominantly on external ratings. Additionally, some of the debt securities in our total municipal bond portfolio are guaranteed against loss by bond insurers. These guaranteed bonds are predominantly investment grade and were generally underwritten in accordance with our own investment standards prior to the determination to purchase, without relying on the bond insurer's guarantee in making the investment decision. The credit quality of our municipal bond holdings are monitored as part of our ongoing impairment analysis.

The weighted-average expected maturity of debt securities available-for-sale was 4.7 years at December 31, 2019. The expected remaining maturity is shorter than the remaining contractual maturity for the 63.5% of this portfolio that is MBS because borrowers generally have the right to prepay obligations before the underlying mortgages mature. The estimated effects of a 200 basis point increase or decrease in interest rates on the fair value and the expected remaining maturity of the MBS available-for-sale portfolio are shown in Table 11.

Table 11: Mortgage-Backed Securities Available for Sale

(in billions)	Fair value	Net unrealized gain (loss)	Expected remaining maturity (in years)
At December 31, 2019			
Actual	167.2	2.2	4.6
Assuming a 200 basis point:			
Increase in interest rates	151.3	(13.7)	6.9
Decrease in interest rates	176.9	11.9	3.2

The weighted-average expected remaining maturity of debt securities held-to-maturity (HTM) was 4.9 years at December 31, 2019. HTM debt securities are measured at amortized cost and, therefore, changes in the fair value of our held-to-maturity MBS resulting from changes in interest rates are not recognized in earnings. See Note 5 (Available-for-Sale and Held-to-Maturity Debt Securities) to Financial Statements in this Report for a summary of debt securities by security type.

Loan Portfolios

Table 12 provides a summary of total outstanding loans by portfolio segment. Total loans increased $9.2 billion from December 31, 2018, largely driven by an increase in consumer loans.

Consumer loans were up $6.8 billion from December 31, 2018, predominantly due to growth in the real estate 1-4 family first mortgage portfolio, as mortgage loan originations were partially offset by paydowns and $4.0 billion of sales of PCI loans, predominantly Pick-a-Pay, in 2019. We also purchased $3.3 billion of mortgage loans in 2019 as a result of exercising servicer cleanup calls. In addition, during 2019, we reclassified $1.9 billion of existing mortgage loans to MLHFS in anticipation of future whole loan sales.

Commercial loans also increased from December 31, 2018, predominantly driven by growth in our commercial and industrial loan portfolio, reflecting growth in our Corporate and Investment Banking business and purchases of CLOs in loan form within our Credit Investment Portfolio, partially offset by declines in our Commercial Banking business.

Table 12: Loan Portfolios

(in millions)		December 31, 2019	December 31, 2018
Commercial	$	**515,719**	513,405
Consumer		**446,546**	439,705
Total loans		**962,265**	953,110
Change from prior year	$	**9,155**	(3,660)

Average loan balances and a comparative detail of average loan balances is included in Table 5 under "Earnings Performance – Net Interest Income" earlier in this Report. Additional information on total loans outstanding by portfolio segment and class of financing receivable is included in the "Risk Management – Credit Risk Management" section in this Report. Period-end balances and other loan related information are in Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Table 13 shows contractual maturities for selected classes of commercial loans and the distribution of loans to changes in interest rates.

Table 13: Maturities for Selected Commercial Loan Categories

		December 31, 2019			
(in millions)		Within one year	After one year through five years	After five years	Total
Selected loan maturities:					
Commercial and industrial	$	130,342	196,460	27,323	354,125
Real estate mortgage		27,951	64,506	29,367	121,824
Real estate construction		9,219	10,178	542	19,939
Total selected loans	$	167,512	271,144	57,232	495,888
Distribution of loans to changes in interest rates:					
Loans at fixed interest rates	$	22,660	28,688	18,479	69,827
Loans at floating/variable interest rates		144,852	242,456	38,753	426,061
Total selected loans	$	167,512	271,144	57,232	495,888

Deposits

Deposits were $1.3 trillion at December 31, 2019, up $36.5 billion from December 31, 2018, due to an increase in commercial deposits, consumer and small business banking deposits, and mortgage escrow deposits reflecting an inflow of higher mortgage payoffs to be remitted to investors in accordance with servicing contracts, partially offset by a decrease in other time deposits. The increase in commercial deposits was due to higher balances in corporate and investment banking deposits, and commercial real estate deposits. The increase in consumer and small business banking deposits was due to higher balances in high-yield savings, certificates of deposit (CDs), and noninterest-bearing deposits, partially offset by declines in brokerage sweeps. Table 14 provides additional information regarding deposits. Information regarding the impact of deposits on net interest income and a comparison of average deposit balances is provided in the "Earnings Performance – Net Interest Income" section and Table 5 earlier in this Report.

Table 14: Deposits

($ in millions)		Dec 31, 2019	% of total deposits		Dec 31, 2018	% of total deposits	% Change
Noninterest-bearing	$	**344,496**	**26%**	$	349,534	27%	(1)
Interest-bearing checking		**62,814**	**5**		56,797	4	11
Market rate and other savings		**751,080**	**57**		703,338	55	7
Savings certificates		**31,715**	**2**		22,648	2	40
Other time deposits		**78,609**	**6**		95,602	7	(18)
Deposits in non-U.S. offices (1)		**53,912**	**4**		58,251	5	(7)
Total deposits	$	**1,322,626**	**100%**	$	1,286,170	100%	3

(1) Includes Eurodollar sweep balances of $34.2 billion and $31.8 billion at December 31, 2019 and 2018, respectively.

Equity

Total equity was $188.0 billion at December 31, 2019, compared with $197.1 billion at December 31, 2018. The decrease was driven by a $21.6 billion increase in treasury stock and a $1.7 billion decline in preferred stock, partially offset by an $8.5 billion increase in retained earnings net of dividends paid, and a $5.0 billion increase in cumulative other comprehensive income predominantly due to fair value adjustments to available-for-sale debt securities. The increase in treasury stock was the result of the repurchase of 502.4 million shares of common stock in 2019, an increase of 34% from 2018.

Off-Balance Sheet Arrangements

In the ordinary course of business, we engage in financial transactions that are not recorded on the balance sheet, or may be recorded on the balance sheet in amounts that are different from the full contract or notional amount of the transaction. Our off-balance sheet arrangements include commitments to lend and purchase debt and equity securities, transactions with unconsolidated entities, guarantees, derivatives, and other commitments. These transactions are designed to (1) meet the financial needs of customers, (2) manage our credit, market or liquidity risks, and/or (3) diversify our funding sources.

Commitments to Lend

We enter into commitments to lend to customers, which are usually at a stated interest rate, if funded, and for specific purposes and time periods. When we enter into commitments, we are exposed to credit risk. The maximum credit risk for these commitments will generally be lower than the contractual amount because a significant portion of these commitments are not funded. For more information, see Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Commitments to Purchase Debt and Equity Securities

We enter into commitments to purchase securities under resale agreements. We also may enter into commitments to purchase debt and equity securities to provide capital for customers' funding, liquidity or other future needs. For more information, see Note 16 (Guarantees, Pledged Assets and Collateral, and Other Commitments) to Financial Statements in this Report.

Transactions with Unconsolidated Entities

In the normal course of business, we enter into various types of on- and off-balance sheet transactions with special purpose entities (SPEs), which are corporations, trusts, limited liability companies or partnerships that are established for a limited purpose. Generally, SPEs are formed in connection with securitization transactions and are considered variable interest entities (VIEs). For more information, see Note 10 (Securitizations and Variable Interest Entities) to Financial Statements in this Report.

Guarantees and Other Arrangements

Guarantees are contracts that contingently require us to make payments to a guaranteed party based on an event or a change in an underlying asset, liability, rate or index. Guarantees are generally in the form of standby letters of credit, direct pay letters of credit, written options, recourse obligations, exchange and clearing house guarantees, indemnifications, and other types of similar arrangements. For more information, see Note 16 (Guarantees, Pledged Assets and Collateral, and Other Commitments) to Financial Statements in this Report.

Derivatives

We use derivatives to manage exposure to market risk, including interest rate risk, credit risk and foreign currency risk, and to assist customers with their risk management objectives. Derivatives are recorded on the balance sheet at fair value, and volume can be measured in terms of the notional amount, which is generally not exchanged, but is used only as the basis on which interest and other payments are determined. The notional amount is not recorded on the balance sheet and is not, when viewed in isolation, a meaningful measure of the risk profile of the instruments. For more information, see Note 18 (Derivatives) to Financial Statements in this Report.

Contractual Cash Obligations

In the ordinary course of business, we enter into other contractual obligations that may require future cash payments, including debt issuances for the funding of operations and leases for premises and equipment.

Table 15 summarizes these contractual obligations as of December 31, 2019, excluding accrued expenses and other liabilities, short-term borrowings and obligations for pension and postretirement benefit plans. For more information, see Note 14 (Short-Term Borrowings) and Note 23 (Employee Benefits and Other Expenses) to Financial Statements in this Report.

Table 15: Contractual Cash Obligations

							December 31, 2019
(in millions)	Note(s) to Financial Statements	Less than 1 year	1-3 years	3-5 years	More than 5 years	Indeterminate maturity	Total
Contractual payments by period:							
Deposits (1)	13	$ 88,259	21,484	6,036	3,070	1,203,777	1,322,626
Long-term debt (2)	15	39,646	73,329	29,776	85,440	—	228,191
Interest (3)		6,805	8,748	5,733	19,648	—	40,934
Operating leases	7	1,006	1,942	1,347	1,672	—	5,967
Unrecognized tax obligations	24	5	—	—	—	3,676	3,681
Commitments to purchase debt and equity securities (4)	16	2,706	—	—	18	—	2,724
Purchase and other obligations (5)		855	1,009	438	314	—	2,616
Total contractual obligations		$ 139,282	106,512	43,330	110,162	1,207,453	1,606,739

(1) Includes interest-bearing and noninterest-bearing checking, and market rate and other savings accounts.
(2) Balances are presented net of unamortized debt discounts and premiums and purchase accounting adjustments.
(3) Represents the future interest obligations related to interest-bearing time deposits and long-term debt in the normal course of business including a net reduction of $7.1 billion related to hedges used to manage interest rate risk. These interest obligations assume no early debt redemption. We estimated variable interest rate payments using December 31, 2019, rates, which we held constant until maturity. We have excluded interest related to structured notes where our payment obligation is contingent on the performance of certain benchmarks.
(4) Includes unfunded commitments to purchase debt securities of $18 million and equity securities of $2.7 billion, respectively. Substantially all of our equity commitments are included in the 'Less than one year' category as there are no specified contribution dates in the agreements. These obligations may be requested at any time by the investment manager.
(5) Represents agreements related to unrecognized obligations to purchase goods or services.

We are subject to the income tax laws of the U.S., its states and municipalities, and those of the non-U.S. jurisdictions in which we operate. We have various unrecognized tax obligations related to these operations that may require future cash tax payments to various taxing authorities. Because of their uncertain nature, the expected timing and amounts of these payments generally are not reasonably estimable or determinable. We attempt to estimate the amount payable in the next 12 months based on the status of our tax examinations and settlement discussions. See Note 24 (Income Taxes) to Financial Statements in this Report for more information.

Wells Fargo manages a variety of risks that can significantly affect our financial performance and our ability to meet the expectations of our customers, shareholders, regulators and other stakeholders.

Risk is Part of our Business Model The Company measures and manages risk as part of our business, including in connection with the products and services we offer to our customers. The risks we take include financial, such as credit, interest rate, market, liquidity and funding risks, and non-financial, such as operational including compliance and model risks, strategic and reputation risks.

Risk Profile Our risk profile is a holistic view of all risks we hold at a point in time, including emerging risks. The Company monitors its risk profile, and the Board periodically reviews reports and analysis concerning our risk profile.

Risk Capacity Risk capacity refers to the maximum level of risk that the Company could assume given its current level of resources before triggering regulatory and other constraints on its capital and liquidity needs.

Risk Appetite Management defines and the Board approves the Company's risk appetite, which is the amount of risk the Company is comfortable taking given its current level of resources. Risk appetite defines which risks are acceptable and at what level and guides business and risk leaders. Risk appetite boundaries are set within the Company's risk capacity. The Company's risk appetite is articulated in a statement of risk appetite, which is approved at least annually by the Board. The Company continuously monitors its risk appetite, and the Board reviews periodic risk appetite reports and analysis.

Risk and Strategy The Company's risk profile, risk capacity, risk appetite, and risk management effectiveness (e.g., the holistic measure of the quality and effectiveness of the Company's risk management activities, including the functional or programmatic use of controls and capabilities to manage risks) are considered in the strategic planning process, which is closely linked with the Company's capital planning process. The Company's Independent Risk Management (IRM) organization participates in strategic planning at several points in the process, providing challenge to and independent assessment of the Company's self-assessment of the risks associated with strategic planning initiatives. IRM also independently assesses the impact of the strategic plan on risk capacity, risk appetite, and risk management effectiveness at the business group, enterprise function, and aggregate Company level. Risk decisions related to the strategic plan are approved by the Enterprise Risk & Control Committee (ERCC), a management governance committee that governs the management of all risk types. After a critical review, the strategic plan is presented to the Board each year for review and approval.

Everyone Manages Risk Every team member creates risk in the course of performing business activities and is required to manage that risk. Risk is everyone's responsibility. Every team member is required to comply with applicable laws, regulations, and Company policies.

Risk and Culture The Board holds management accountable for establishing and maintaining the right risk culture and effectively managing risk. Team members are strongly encouraged and expected to speak up when they see something that could cause harm to the Company's customers, communities, team members, shareholders, or reputation. Because risk management is everyone's responsibility, all team members are expected to challenge risk decisions when appropriate and to escalate their concerns when they have not been addressed. Team member performance evaluations are tied to, and take into account, effective risk management. The Company's performance management and incentive compensation programs are designed to establish a balanced framework for risk and reward under core principles that team members are expected to know and practice. The Board, through its Human Resources Committee, plays an important role in overseeing and providing credible challenge to the Company's performance management and incentive compensation programs.

Risk Management Framework The Company's risk management framework sets forth the core principles on how the Company seeks to manage and govern its risk. Many Company policies and documents anchor to the risk management framework's core principles. The Board's Risk Committee annually reviews and approves the risk management framework.

Risk Governance

Role of the Board The Board oversees the Company's business, including its risk management. The Board assesses management's performance, provides credible challenge, and holds management accountable for maintaining an effective risk management program and for adhering to risk management expectations.

Board Committee Structure The Board carries out its risk oversight responsibilities directly and through its committees.

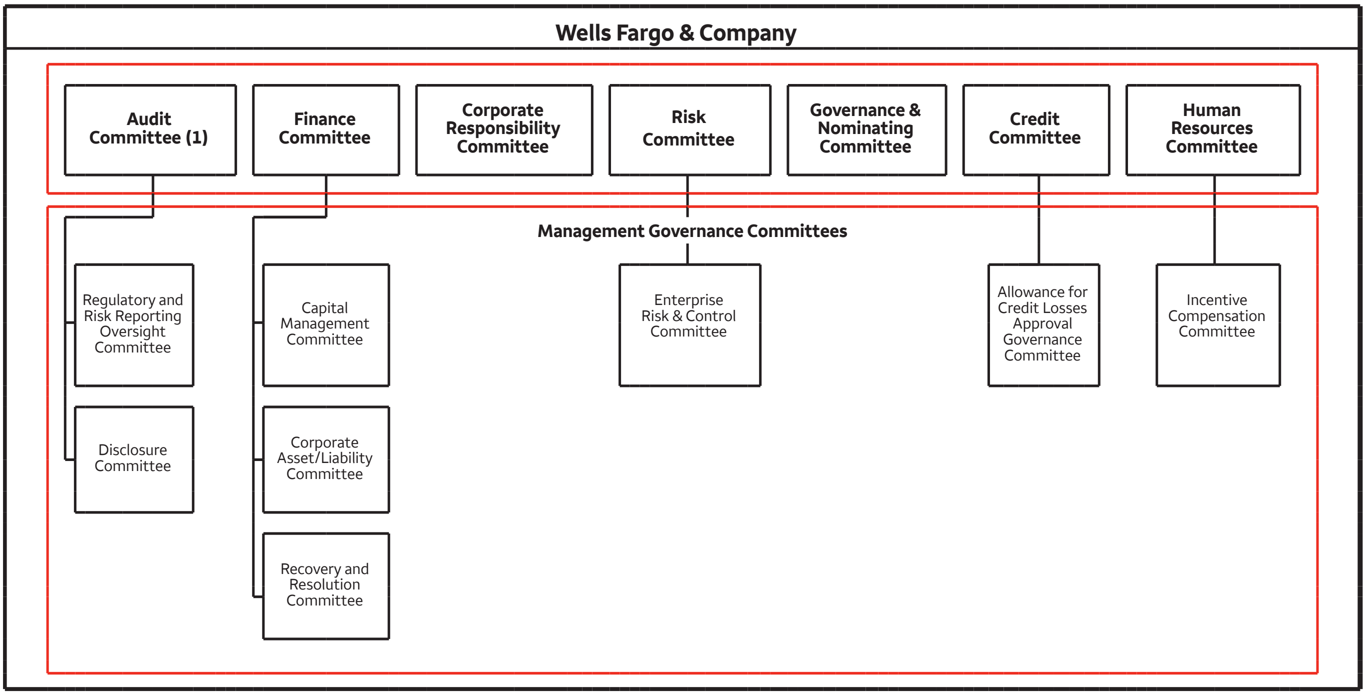
The Risk Committee approves the Company's risk management framework and oversees its implementation, including the processes established by management to identify, assess, measure, monitor, and manage risks. It also monitors the Company's adherence to its risk appetite. In addition, the Risk Committee oversees IRM and the performance of the Chief Risk Officer (CRO) who reports functionally to the Risk Committee and administratively to the CEO.

Management Committee Structure The Company has established management committees, including those focused on risk, that support management in carrying out its governance and risk management responsibilities. One type of management committee is a governance committee, which is a decision making body that operates for a particular purpose.

Each management governance committee is expected to discuss, document, and make decisions regarding significant risk issues, emerging risks, and risk acceptances; review and monitor progress related to critical and high-risk issues and remediation efforts within its scope, including lessons learned; and report key challenges, decisions, escalations, other actions, and open issues as appropriate.

Table 16 below presents the structure of the Company's Board committees and management governance committees, including relevant reporting and escalation paths.

Table 16: Board and Management-level Governance Committee Structure



(1) The Audit Committee additionally oversees the internal audit function; external auditor independence, activities, and performance; and the disclosure framework for financial, regulatory and risk reports prepared for the Board, management, and bank regulatory agencies; and assists the Board in its oversight of the Company's compliance with legal and regulatory requirements.

Management Governance Committees Reporting to the Risk Committee of the Board The ERCC governs the management of all risk types, including financial risks and non-financial risks. The ERCC receives information about risk and control events, addresses escalated risks and issues, actively oversees risk control, and provides regular updates to the Risk Committee regarding current and emerging risks and management's assessment of the effectiveness of the Company's risk management program.

The ERCC is chaired by the CRO, with membership made up of the CEO and the heads of business groups and certain enterprise functions. The Chief Auditor attends all meetings of the ERCC. The ERCC has a direct escalation path to the Risk Committee. The ERCC also escalates credit risks and issues to the Credit Committee and certain human capital risks and issues to the Human Resources Committee. In addition, the CRO has the authority to escalate anything directly to the Board. Risks and issues are escalated to the ERCC in accordance with applicable policies and procedures governing escalations.

Each business group and enterprise function has a risk and control committee, which are management governance committees with mandates that align with the ERCC but with their scope limited to the relevant business groups or enterprise functions. The focus of these committees is on the risks that each business group or enterprise function generates and is responsible for managing, and the controls each business group or enterprise function is expected to have in place.

In addition to each risk and control committee, management governance committees dedicated to specific risk types and risk topics also report to the ERCC to help provide more comprehensive governance of risks.

Risk Operating Model - Roles and Responsibilities

The Company has three lines of defense: the front line, Independent Risk Management, and Internal Audit. Our risk operating model creates necessary interaction, interdependencies, and ongoing engagement among the lines of defense:

- **Front Line** The front line, which is composed of business groups and certain activities of enterprise functions, is the first line of defense. In the course of its business activities, the front line identifies, measures and assesses, manages, controls, monitors, and reports on risk associated with its business activities and balances risk and reward in decision making while remaining within the Company's risk appetite.
- **Independent Risk Management** IRM is the second line of defense. It establishes and maintains the Company's risk management program and provides oversight, including challenge to and independent assessment of the front line's execution of its risk management responsibilities.
- **Internal Audit** Internal Audit is the third line of defense. It is responsible for acting as an independent assurance function and validates that the risk management program is adequately designed and functioning effectively.

Risk Type Classifications

The Company uses common classifications, hierarchies, and ratings to enable consistency across risk management programs and aggregation of information. Risk type classifications permit the Company to identify and prioritize its risk exposures, including emerging risk exposures.

Operational Risk Management

Operational risk, which in addition to those discussed in this section, includes compliance risk and model risk, is the risk resulting from inadequate or failed internal processes, people and systems, or from external events.

The Board's Risk Committee has primary oversight responsibility for all aspects of operational risk, including significant supporting programs and/or policies regarding the Company's business resiliency and disaster recovery, data management, information security, technology, and third-party risk management. As part of its oversight responsibilities, the Board's Risk Committee approves the operational risk statement of risk appetite including inner and outer boundary thresholds, reviews and approves significant operational risk policies, and oversees the Company's operational risk management program.

At the management level, the Operational Risk Group organization, which is part of IRM, has primary oversight responsibility for operational risk. The Operational Risk Group reports to the CRO and also provides periodic reports related to operational risk to the Board's Risk Committee. Technology, Third Party and Information Risk Oversight, which is part of the Operational Risk Group, has oversight responsibility for technology risk, third-party risk, information risk management, and information security risk. Enterprise Data Governance, which is part of the Operational Risk Group, has oversight responsibility for data management risk. Oversight of human capital risk, an operational risk, is performed by the Human Resources function with reporting paths to relevant management governance committees including to the ERCC.

Information security is a significant operational risk for financial institutions such as Wells Fargo, and includes the risk arising from unauthorized access, use, disclosure, disruption, modification, or destruction of information or information systems. The Board is actively engaged in the oversight of the Company's information security risk management and cyber defense programs. The Board's Risk Committee has primary oversight responsibility for information security risk and approves the Company's information security program, which includes the information security policy and the cyber defense program. A Technology Subcommittee of the Risk Committee assists the Risk Committee in providing oversight of technology, information security, and cybersecurity risks as well as data management risk. The Technology Subcommittee reviews and recommends to the Risk Committee for approval any significant supporting information security risk (including cybersecurity risk), technology risk, and data management risk programs and/or policies, including the Company's data management strategy. The Technology Subcommittee reports to the Risk Committee and both provide updates to the full Board.

Wells Fargo and other financial institutions continue to be the target of various evolving and adaptive cyber attacks, including malware and denial-of-service, as part of an effort to disrupt the operations of financial institutions, potentially test their cybersecurity capabilities, commit fraud, or obtain confidential, proprietary or other information. Cyber attacks have also focused on targeting online applications and services, such as online banking, as well as cloud-based services provided by third parties, and have targeted the infrastructure of the internet causing the widespread unavailability of websites and degrading website performance. Wells Fargo has not experienced any material losses relating to these or other types of cyber attacks. Cybersecurity risk is a priority for Wells Fargo, and we continue to develop and enhance our controls, processes and systems in order to protect our networks, computers, software and data from attack, damage or unauthorized access. Wells Fargo is also proactively involved in industry cybersecurity efforts and working with other parties, including our third-party service providers and governmental agencies, to continue to enhance defenses and improve resiliency to cybersecurity threats. See the "Risk Factors" section in this Report for additional information regarding the risks associated with a failure or breach of our operational or security systems or infrastructure, including as a result of cyber attacks.

Compliance Risk Management

Compliance risk (a type of operational risk) is the risk resulting from the failure to comply with laws (legislation, regulations and rules) and regulatory guidance, and the failure to appropriately address associated impacts, including to customers. Compliance risk encompasses violations of applicable internal policies, program requirements, procedures, and standards related to ethical principles applicable to the banking industry.

The Board's Risk Committee has primary oversight responsibility for all aspects of compliance risk, including financial crimes risk. As part of its oversight responsibilities, the Board's Risk Committee approves the compliance risk and financial crimes risk statement of risk appetites including inner and outer boundary thresholds, reviews and approves significant supporting compliance risk and financial crimes risk policies and programs, and oversees the Company's compliance risk management and financial crimes risk management programs. A Compliance Subcommittee of the Risk Committee assists the Risk Committee in providing oversight of the Company's compliance program and compliance risk management. The Compliance Subcommittee reports to the Risk Committee and both provide updates to the full Board.

Conduct risk, a sub-category of compliance risk, is the risk of inappropriate, unethical, or unlawful behavior on the part of team members or individuals acting on behalf of the Company, caused by deliberate or unintentional actions or business practices. The Board has enhanced its oversight of conduct risk to oversee the alignment of team member conduct to the Company's risk appetite (which the Board approves annually). The Board's Risk Committee has primary oversight responsibility for enterprise-wide conduct risk and risk management components of the Company's culture, while the responsibilities of the Board's Human Resources Committee include oversight of the Company's enterprise-wide culture, Code of Ethics and Business Conduct, conflicts of interest program, human capital management (including talent management and succession planning), performance management program, and incentive compensation risk management program.

At the management level, Wells Fargo Compliance, which is part of IRM, monitors the implementation of the Company's compliance and conduct risk programs. Financial Crimes Risk Management, which is part of Wells Fargo Compliance, oversees and monitors financial crimes risk. Wells Fargo Compliance reports to the CRO and also provides periodic reports related to compliance risk to the Board's Risk Committee and Compliance Subcommittee. We continue to enhance our oversight of operational and compliance risk management, including as required by the FRB's February 2, 2018, and the CFPB/OCC's April 20, 2018, consent orders.

Model Risk Management

Model risk (a type of operational risk) is the risk arising from the potential for adverse consequences from decisions made based on model outputs that may be incorrect or used inappropriately.

The Board's Risk Committee has primary oversight responsibility for model risk. As part of its oversight responsibilities, the Board's Risk Committee oversees the Company's model risk management policy, model validation activities, model performance, model issue remediation status, and adherence to model risk appetite metrics.

At the management level, the Model Risk function, which is part of IRM, has primary oversight responsibility for model risk and is responsible for governance, validation and monitoring of model risk across the Company. The Model Risk function reports to the CRO and also provides periodic reports related to model risk to the Board's Risk Committee.

Strategic Risk Management

Strategic risk is the risk to earnings, capital, or liquidity arising from adverse business decisions, improper implementation of strategic initiatives, or inadequate responses to changes in the external operating environment.

The Board has primary oversight responsibility for strategic planning and oversees management's development and implementation of and approves the Company's strategic plan, and considers whether it is aligned with the Company's risk appetite and risk management effectiveness. Management develops, executes and recommends strategic corporate transactions and the Board evaluates management's proposals, including their impact on the Company's risk profile and financial position. The Board's Risk Committee has primary oversight responsibility for the Company's strategic risk and the adequacy of the Company's strategic risk management program, including associated risk management practices, processes and controls. The Board's Risk Committee also receives updates from management regarding new business initiatives activity and risks related to new or changing products, as appropriate.

At the management level, the Strategic Risk Oversight function, which is part of IRM, has primary oversight responsibility for strategic risk. The Strategic Risk Oversight function reports into the CRO and also provides periodic reports related to strategic risk to the Board's Risk Committee.

Reputation Risk Management

Reputation risk is the risk arising from the potential that negative stakeholder opinion or negative publicity regarding the Company's business practices, whether true or not, will adversely impact current or projected financial conditions and resilience, cause a decline in the customer base, or result in costly litigation. Stakeholders include team members, customers, communities, shareholders, regulators, elected officials, advocacy groups, and media organizations.

The Board's Risk Committee has primary oversight responsibility for company-wide reputation risk, while each Board committee has reputation risk oversight responsibilities related to their primary oversight responsibilities. As part of its oversight responsibilities, the Board's Risk Committee receives reports from management that help it monitor how effectively the Company is managing reputation risk. As part of its oversight responsibilities for social and public responsibility matters, the Board's Corporate Responsibility Committee also receives reports from management relating to the Company's brand and stakeholder perception of the Company.

At the management level, the Reputation Risk Oversight function, which is part of IRM, has primary oversight responsibility for reputation risk. The Reputation Risk Oversight function reports into the CRO and also provides periodic reports related to reputation risk to the Board's Risk Committee.

Credit Risk Management

We define credit risk as the risk of loss associated with a borrower or counterparty default (failure to meet obligations in accordance with agreed upon terms). Credit risk exists with many of our assets and exposures such as debt security holdings, certain derivatives, and loans.

The Board's Credit Committee has primary oversight responsibility for credit risk. At the management level, Credit Risk, which is part of IRM, has primary oversight responsibility for credit risk. Credit Risk reports to the CRO and also provides periodic reports related to credit risk to the Board's Credit Committee.

The following discussion focuses on our loan portfolios, which represent the largest component of assets on our balance sheet for which we have credit risk. Table 17 presents our total loans outstanding by portfolio segment and class of financing receivable.

Table 17: Total Loans Outstanding by Portfolio Segment and Class of Financing Receivable

(in millions)		**Dec 31, 2019**	Dec 31, 2018
Commercial:			
Commercial and industrial	$	**354,125**	350,199
Real estate mortgage		**121,824**	121,014
Real estate construction		**19,939**	22,496
Lease financing		**19,831**	19,696
Total commercial		**515,719**	513,405
Consumer:			
Real estate 1-4 family first mortgage		**293,847**	285,065
Real estate 1-4 family junior lien mortgage		**29,509**	34,398
Credit card		**41,013**	39,025
Automobile		**47,873**	45,069
Other revolving credit and installment		**34,304**	36,148
Total consumer		**446,546**	439,705
Total loans	$	**962,265**	953,110

We manage our credit risk by establishing what we believe are sound credit policies for underwriting new business, while monitoring and reviewing the performance of our existing loan portfolios. We employ various credit risk management and monitoring activities to mitigate risks associated with multiple risk factors affecting loans we hold, could acquire or originate including:

- Loan concentrations and related credit quality
- Counterparty credit risk
- Economic and market conditions
- Legislative or regulatory mandates
- Changes in interest rates
- Merger and acquisition activities
- Reputation risk

Our credit risk management oversight process is governed centrally, but provides for decentralized management and accountability by our lines of business. Our overall credit process includes comprehensive credit policies, disciplined credit underwriting, frequent and detailed risk measurement and modeling, extensive credit training programs, and a continual loan review and audit process.

A key to our credit risk management is adherence to a well-controlled underwriting process, which we believe is appropriate for the needs of our customers as well as investors who purchase the loans or securities collateralized by the loans.

Credit Quality Overview Solid credit quality continued in 2019, as our net charge-off rate remained low at 0.29% of average total loans. Our loss rate reflected improvements in the credit performance of our automobile portfolio, partially offset by a lower volume of recoveries in other loan portfolios. In particular:

- Nonaccrual loans were $5.3 billion at December 31, 2019, down from $6.5 billion at December 31, 2018. Commercial nonaccrual loans increased to $2.3 billion at December 31, 2019, compared with $2.2 billion at December 31, 2018, and consumer nonaccrual loans declined to $3.1 billion at December 31, 2019, compared with $4.3 billion at December 31, 2018. A decline in real estate 1-4 family mortgage nonaccrual loans reflecting an improved housing market, sales of nonaccrual mortgage loans, and the reclassification of nonaccrual mortgage loans to MLHFS was partially offset by an increase in commercial and industrial nonaccrual loans driven by the oil and gas portfolio. Nonaccrual loans represented 0.56% of total loans at December 31, 2019, compared with 0.68% at December 31, 2018.
- Net charge-offs as a percentage of our average commercial and consumer portfolios were 0.13% and 0.48%, respectively, in 2019, compared with 0.09% and 0.52% in 2018.
- Loans that are not government insured/guaranteed and 90 days or more past due and still accruing were $78 million and $855 million in our commercial and consumer portfolios, respectively, at December 31, 2019, compared with $94 million and $885 million at December 31, 2018.
- Our provision for credit losses was $2.7 billion in 2019, compared with $1.7 billion in 2018. The provision for credit losses in both 2019 and 2018 reflected continuing solid underlying credit performance. The provision for credit losses in 2018 also reflected a higher level of credit quality improvement compared with 2019, as well as an improvement in the outlook associated with 2017 hurricane-related losses.
- The allowance for credit losses declined to $10.5 billion, or 1.09% of total loans, at December 31, 2019, compared with $10.7 billion, or 1.12%, at December 31, 2018.

Additional information on our loan portfolios and our credit quality trends follows.

PURCHASED CREDIT-IMPAIRED (PCI) LOANS Loans acquired with evidence of credit deterioration since their origination and where it is probable that we will not collect all contractually required principal and interest payments are PCI loans. A nonaccretable difference is established for PCI loans to absorb losses expected on the contractual amounts of those loans. Amounts absorbed by the nonaccretable difference do not affect the income statement or the allowance for credit losses. The carrying value of PCI loans at December 31, 2019, totaled $568 million, compared with $5.0 billion at December 31, 2018. The decline in carrying value was due to the sale of $4.0 billion of PCI loans, predominantly Pick-a-Pay, during 2019 and paydowns.

For additional information on PCI loans, see the "Risk Management – Credit Risk Management – Real Estate 1-4 Family Mortgage Loans – Pick-a-Pay Portfolio" section in this Report, Note 1 (Summary of Significant Accounting Policies) and Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Significant Loan Portfolio Reviews Measuring and monitoring our credit risk is an ongoing process that tracks delinquencies, collateral values, Fair Isaac Corporation (FICO) scores, economic trends by geographic areas, loan-level risk grading for certain portfolios (typically commercial) and other indications of credit risk. Our credit risk monitoring process is designed to enable early identification of developing risk and to support our determination of an appropriate allowance for credit losses. The following discussion provides additional characteristics and analysis of our significant portfolios. See Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report for more analysis and credit metric information for each of the following portfolios.

COMMERCIAL AND INDUSTRIAL LOANS AND LEASE FINANCING For purposes of portfolio risk management, we aggregate commercial and industrial loans and lease financing according to market segmentation and standard industry codes. We generally subject commercial and industrial loans and lease financing to individual risk assessment using our internal borrower and collateral quality ratings. Our ratings are aligned to regulatory definitions of pass and criticized categories with criticized segmented among special mention, substandard, doubtful and loss categories.

The commercial and industrial loans and lease financing portfolio totaled $374.0 billion, or 39% of total loans, at December 31, 2019. The net charge-off rate for this portfolio was 0.18% in 2019, compared with 0.13% in 2018. At December 31, 2019, 0.44% of this portfolio was nonaccruing, compared with 0.43% at December 31, 2018. Nonaccrual loans in this portfolio increased $64 million in 2019, due to a customer in the utilities industry, as well as increases in the oil, gas and pipeline portfolio, partially offset by improvement across various industry categories. Also, $16.6 billion of the commercial and industrial loan and lease financing portfolio was internally classified as criticized in accordance with regulatory guidance at December 31, 2019, compared with $15.8 billion at December 31, 2018.

Most of our commercial and industrial loans and lease financing portfolio is secured by short-term assets, such as accounts receivable, inventory and debt securities, as well as long-lived assets, such as equipment and other business assets. Generally, the collateral securing this portfolio represents a secondary source of repayment.

Table 18 provides our commercial and industrial loans and lease financing by industry, and includes non-U.S. loans of $71.7 billion and $63.7 billion at December 31, 2019 and 2018, respectively. Significant industry concentrations of non-U.S. loans include $31.2 billion and $25.6 billion in the financials except banks category and $19.9 billion and $18.1 billion in the banks category at December 31, 2019 and 2018, respectively. The industry categories were updated in 2019 to align with industry groupings that our regulators use to monitor industry concentration risks.

Loans to financials except banks, our largest industry concentration, were $117.3 billion, or 12% of total outstanding loans, at December 31, 2019, compared with $105.9 billion, or 11% of total outstanding loans, at December 31, 2018. This industry category includes loans to investment firms, financial vehicles, and non-bank creditors, including those that invest in financial assets backed predominantly by commercial or residential real estate or consumer loan assets. We limit our loan amounts to a percentage of the value of the underlying assets considering underlying credit risk, asset duration, and ongoing performance.

Oil, gas and pipeline loans totaled $13.6 billion, or 1% of total outstanding loans, at December 31, 2019, compared with $12.8 billion, or 1% of total outstanding loans, at December 31, 2018.

Table 18: Commercial and Industrial Loans and Lease Financing by Industry (1)

	December 31, 2019			December 31, 2018		
(in millions)	**Nonaccrual loans**	**Total portfolio**	**% of total loans**	Nonaccrual loans	Total portfolio	% of total loans
Financials except banks	**$ 112**	**117,312**	**12%**	$ 305	105,925	11%
Equipment, machinery and parts manufacturing	**36**	**23,457**	**2**	47	20,850	2
Technology, telecom and media	**28**	**22,447**	**2**	26	25,681	3
Real estate and construction	**47**	**22,011**	**2**	31	23,380	2
Banks	**—**	**20,070**	**2**	—	18,407	2
Retail	**105**	**19,923**	**2**	87	19,541	2
Materials and commodities	**33**	**16,375**	**2**	136	18,688	2
Automobile related	**24**	**15,996**	**2**	16	16,801	2
Food and beverage manufacturing	**9**	**14,991**	**2**	48	15,448	2
Health care and pharmaceuticals	**28**	**14,920**	**2**	124	15,529	2
Oil, gas and pipelines	**615**	**13,562**	**1**	417	12,840	1
Entertainment and recreation	**44**	**13,462**	**1**	33	14,045	1
Transportation services	**224**	**10,957**	**1**	176	12,029	1
Commercial services	**50**	**10,455**	**1**	48	10,591	1
Agribusiness	**35**	**7,539**	**1**	46	7,996	1
Utilities	**224**	**5,995**	**1**	6	5,756	1
Insurance and fiduciaries	**1**	**5,525**	**1**	1	5,510	1
Government and education	**6**	**5,363**	**1**	3	6,160	1
Other (2)	**19**	**13,596**	**1**	26	14,718	1
Total	**$ 1,640**	**373,956**	**39%**	$ 1,576	369,895	39%

(1) Industry categories are based on the North American Industry Classification System and the amounts reported include non-U.S. loans. The industry categories were updated in 2019 to align with industry groupings that our regulators use to monitor industry concentration risks. The amounts for December 31, 2018, have been reclassified to conform with the current period presentation. See Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report for a breakout of non-U.S. commercial loans.
(2) No other single industry had total loans in excess of $4.7 billion and $4.5 billion at December 31, 2019 and 2018, respectively.

Risk mitigation actions, including the restructuring of repayment terms, securing collateral or guarantees, and entering into extensions, are based on a re-underwriting of the loan and our assessment of the borrower's ability to perform under the agreed-upon terms. Extension terms generally range from six to thirty-six months and may require that the borrower provide additional economic support in the form of partial repayment, or additional collateral or guarantees. In cases where the value of collateral or financial condition of the borrower is insufficient to repay our loan, we may rely upon the support of an outside repayment guarantee in providing the extension.

Our ability to seek performance under a guarantee is directly related to the guarantor's creditworthiness, capacity and willingness to perform, which is evaluated on an annual basis, or more frequently as warranted. Our evaluation is based on the most current financial information available and is focused on various key financial metrics, including net worth, leverage, and current and future liquidity. We consider the guarantor's reputation, creditworthiness, and willingness to work with us based on our analysis, as well as other lenders' experience with the guarantor. Our assessment of the guarantor's credit strength is reflected in our loan risk ratings for such loans. The loan risk rating and accruing status are important factors in our allowance for credit losses methodology.

In considering the accrual status of the loan, we evaluate the collateral and future cash flows, as well as the anticipated support of any repayment guarantor. In many cases, the strength of the guarantor provides sufficient assurance that full repayment of the loan is expected. When full and timely collection of the loan becomes uncertain, including the performance of the guarantor, we place the loan on nonaccrual status. As appropriate, we also charge the loan down in accordance with our charge-off policies, generally to the net realizable value of the collateral securing the loan, if any.

COMMERCIAL REAL ESTATE (CRE) We generally subject CRE loans to individual risk assessment using our internal borrower and collateral quality ratings. Our ratings are aligned to regulatory definitions of pass and criticized categories with criticized segmented among special mention, substandard, doubtful and loss categories. The CRE portfolio, which included $8.4 billion of non-U.S. CRE loans, totaled $141.8 billion, or 15% of total loans, at December 31, 2019, and consisted of $121.8 billion of mortgage loans and $19.9 billion of construction loans.

Table 19 summarizes CRE loans by state and property type with the related nonaccrual totals. The portfolio is diversified both geographically and by property type. The largest geographic concentrations of CRE loans are in California, New York, Florida and Texas, which combined represented 49% of the total CRE portfolio. By property type, the largest concentrations are office buildings at 26% and apartments at 17% of the portfolio. CRE nonaccrual loans totaled 0.43% of the CRE outstanding balance at both December 31, 2019, and December 31, 2018. At December 31, 2019, we had $3.8 billion of criticized CRE mortgage loans, compared with $4.5 billion at December 31, 2018, and $187 million of criticized CRE construction loans, compared with $289 million at December 31, 2018.

Table 19: CRE Loans by State and Property Type

									December 31, 2019
		Real estate mortgage		Real estate construction		Total			
(in millions)		Nonaccrual loans	Total portfolio	Nonaccrual loans	Total portfolio	Nonaccrual loans	Total portfolio		% of total loans
By state:									
California	$	149	32,079	12	4,415	161	36,494		4%
New York		21	12,076	2	1,863	23	13,939		1
Florida		23	8,081	4	1,450	27	9,531		1
Texas		42	7,877	5	1,389	47	9,266		1
Arizona		70	4,212	—	303	70	4,515		1
Washington		9	3,757	—	709	9	4,466		1
North Carolina		17	3,823	4	540	21	4,363		1
Georgia		15	3,819	—	401	15	4,220		*
Virginia		6	2,808	—	680	6	3,488		*
New Jersey		16	2,846	—	628	16	3,474		*
Other		205	40,446	14	7,561	219	48,007	(1)	5
Total	$	573	121,824	41	19,939	614	141,763		15%
By property:									
Office buildings	$	105	34,188	6	2,919	111	37,107		4%
Apartments		9	18,243	—	6,415	9	24,658		3
Industrial/warehouse		81	15,813	2	1,492	83	17,305		2
Retail (excluding shopping center)		128	14,510	5	210	133	14,720		2
Shopping center		2	10,816	—	1,313	2	12,129		1
Hotel/motel		16	10,319	—	1,459	16	11,778		1
Mixed use properties (2)		92	6,377	1	487	93	6,864		1
Institutional		39	3,617	10	1,924	49	5,541		*
Collateral pool		—	2,328	—	198	—	2,526		*
Agriculture		91	2,116	—	10	91	2,126		*
Other		10	3,497	17	3,512	27	7,009		1
Total	$	573	121,824	41	19,939	614	141,763		15%

* Less than 1%.
(1) Includes 40 states; no state had loans in excess of $3.5 billion.
(2) Mixed use properties combines residential, commercial, cultural, and other usage within the same building. This also includes data centers, flexible spaces leased to multiple tenants, light manufacturing, and other specialized uses.

NON-U.S. LOANS Our classification of non-U.S. loans is based on whether the borrower's primary address is outside of the United States. At December 31, 2019, non-U.S. loans totaled $80.5 billion, representing approximately 8% of our total consolidated loans outstanding, compared with $71.9 billion, or approximately 8% of total consolidated loans outstanding, at December 31, 2018. Non-U.S. loans were approximately 4% of our consolidated total assets at both December 31, 2019, and December 31, 2018.

COUNTRY RISK EXPOSURE Our country risk monitoring process incorporates centralized monitoring of economic, political, social, legal, and transfer risks in countries where we do or plan to do business, along with frequent dialogue with our customers, counterparties and regulatory agencies. We establish exposure limits for each country through a centralized oversight process based on customer needs, and through consideration of the relevant and distinct risk of each country. We monitor exposures closely and adjust our country limits in response to changing conditions.

We evaluate our individual country risk exposure based on our assessment of the borrower's ability to repay, which gives consideration for allowable transfers of risk, such as guarantees and collateral, and may be different from the reporting based on the borrower's primary address. Our largest single country exposure outside the U.S. based on our assessment of risk at

December 31, 2019, was the United Kingdom, which totaled $31.6 billion, and included $8.0 billion of sovereign claims. Our United Kingdom sovereign claims arise predominantly from deposits we have placed with the Bank of England pursuant to regulatory requirements in support of our London branch.

The United Kingdom withdrew from the European Union (Brexit) on January 31, 2020, and is currently subject to a transition period during which the terms and conditions of its exit are being negotiated. As the United Kingdom exits from the European Union, our primary goal is to continue to serve our existing clients in the United Kingdom and the European Union, as well as to continue to meet the needs of our domestic clients as they do business in those locations. We have an existing authorized bank in Ireland and an asset management entity in Luxembourg. Additionally, we established a broker dealer in France. We are in the process of leveraging these entities to continue to serve clients in the European Union and continue to take actions to update our business operations in the United Kingdom and European Union, including implementing new supplier contracts and staffing arrangements. For additional information on risks associated with Brexit, see the "Risk Factors" section in this Report.

Table 20 provides information regarding our top 20 exposures by country (excluding the U.S.) and our Eurozone exposure, based on our assessment of risk, which gives consideration to the country of any guarantors and/or underlying collateral. With respect to Table 20:

- Lending exposure includes outstanding loans, unfunded credit commitments, and deposits with non-U.S. banks. These balances are presented prior to the deduction of allowance for credit losses or collateral received under the terms of the credit agreements, if any.
- Securities exposure represents debt and equity securities of non-U.S. issuers. Long and short positions are netted, and net short positions are reflected as negative exposure.
- Derivatives and other exposure represents foreign exchange contracts, derivative contracts, securities resale agreements, and securities lending agreements.

Table 20: Select Country Exposures

									December 31, 2019
	Lending		Securities		Derivatives and other		Total exposure		
(in millions)	Sovereign	Non-sovereign	Sovereign	Non-sovereign	Sovereign	Non-sovereign	Sovereign	Non-sovereign (1)	Total
Top 20 country exposures:									
United Kingdom	$ 7,989	21,617	—	881	2	1,067	7,991	23,565	31,556
Canada	36	17,661	(68)	194	—	272	(32)	18,127	18,095
Cayman Islands	—	7,442	—	31	—	126	—	7,599	7,599
Ireland	225	4,971	—	102	—	137	225	5,210	5,435
China	—	4,022	5	408	59	20	64	4,450	4,514
Luxembourg	—	3,636	—	654	—	83	—	4,373	4,373
Bermuda	—	3,824	—	103	—	54	—	3,981	3,981
Guernsey	—	3,554	—	1	—	65	—	3,620	3,620
Germany	—	2,773	—	128	3	42	3	2,943	2,946
Netherlands	—	2,019	—	364	20	126	20	2,509	2,529
South Korea	—	2,023	—	268	—	6	—	2,297	2,297
Brazil	—	2,075	—	1	1	1	1	2,077	2,078
France	—	1,882	—	137	29	9	29	2,028	2,057
Australia	—	1,720	—	145	—	8	—	1,873	1,873
India	—	1,734	—	130	—	—	—	1,864	1,864
Chile	—	1,698	—	(1)	—	—	—	1,697	1,697
Switzerland	—	1,482	—	(51)	—	57	—	1,488	1,488
Taiwan	—	1,369	—	(6)	1	2	1	1,365	1,366
United Arab Emirates	—	1,323	—	—	—	3	—	1,326	1,326
Hong Kong	—	1,333	—	(14)	1	2	1	1,321	1,322
Total top 20 country exposures	$ 8,250	88,158	(63)	3,475	116	2,080	8,303	93,713	102,016
Eurozone exposure:									
Eurozone countries included in Top 20 above (2)	$ 225	15,281	—	1,385	52	397	277	17,063	17,340
Spain	—	401	—	466	—	30	—	897	897
Belgium	—	766	—	(72)	—	1	—	695	695
Austria	—	305	—	—	—	—	—	305	305
Other Eurozone countries	—	230	—	55	—	1	—	286	286
Total Eurozone exposure	$ 225	16,983	—	1,834	52	429	277	19,246	19,523

(1) For countries presented in the table, total non-sovereign exposure comprises $53.1 billion exposure to financial institutions and $42.8 billion to non-financial corporations at December 31, 2019.
(2) Consists of exposure to Ireland, Luxembourg, Germany, Netherlands and France, which are included in the Top 20 country exposures.

REAL ESTATE 1-4 FAMILY MORTGAGE LOANS Our real estate 1-4 family mortgage loan portfolio is composed of both first and junior lien mortgage loans, which are presented in Table 21.

Table 21: Real Estate 1-4 Family Mortgage Loans

	December 31, 2019		December 31, 2018	
(in millions)	Balance	% of portfolio	Balance	% of portfolio
Real estate 1-4 family first mortgage	$ 293,847	91%	$ 285,065	89%
Real estate 1-4 family junior lien mortgage	29,509	9	34,398	11
Total real estate 1-4 family mortgage loans	$ 323,356	100%	$ 319,463	100%

The real estate 1-4 family mortgage loan portfolio includes some loans with adjustable-rate features and some with an interest-only feature as part of the loan terms. Interest-only loans were approximately 3% and 4% of total loans at December 31, 2019 and 2018, respectively. We believe we have manageable adjustable-rate mortgage (ARM) reset risk across our mortgage loan portfolios. We do not offer option ARM products, nor do we offer variable-rate mortgage products with fixed payment amounts, commonly referred to within the financial services industry as negative amortizing mortgage loans. The option ARMs we do have are included in the Pick-a-Pay portfolio which was acquired from Wachovia. For more information, see the "Pick-a-Pay Portfolio" section in this Report.

We continue to modify real estate 1-4 family mortgage loans to assist homeowners and other borrowers experiencing financial difficulties. Loans are generally underwritten at the time of the modification in accordance with underwriting guidelines established for our loan modification programs. Under these programs, we may provide concessions such as interest rate reductions, forbearance of principal, and in some cases, principal forgiveness. These programs generally include trial payment periods of three to four months, and after successful completion and compliance with terms during this period, the loan is permanently modified. Loans included under these programs are accounted for as troubled debt restructurings (TDRs) at the start of a trial period or at the time of permanent modification, if no trial period is used. See the "Critical Accounting Policies – Allowance for Credit Losses" section in this Report for discussion on how we determine the allowance for credit losses attributable to our modified residential real estate portfolios.

Part of our credit monitoring includes tracking delinquency, current FICO scores and loan/combined loan to collateral values (LTV/CLTV) on the entire real estate 1-4 family mortgage loan portfolio. These credit risk indicators on the non-PCI mortgage portfolio exclude government insured/guaranteed loans. Loans 30 days or more delinquent at December 31, 2019, totaled $3.0 billion, or 1% of total non-PCI mortgages, compared with $4.0 billion, or 1%, at December 31, 2018. Loans with FICO scores lower than 640 totaled $7.6 billion, or 2% of total non-PCI mortgages at December 31, 2019, compared with $9.7 billion, or 3%, at December 31, 2018. Mortgages with a LTV/CLTV greater than 100% totaled $2.5 billion at December 31, 2019, or 1% of total non-PCI mortgages, compared with $3.9 billion, or 1%, at December 31, 2018. Information regarding credit quality indicators, including PCI credit quality indicators, can be found in Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Real estate 1-4 family mortgage loans by state are presented in Table 22. Our real estate 1-4 family non-PCI mortgage loans to borrowers in California represented 13% of total loans at December 31, 2019, located predominantly within the larger metropolitan areas, with no single California metropolitan area consisting of more than 5% of total loans. We monitor changes in real estate values and underlying economic or market conditions for all geographic areas of our real estate 1-4 family mortgage portfolios as part of our credit risk management process. Our underwriting and periodic review of loans and lines secured by residential real estate collateral includes original appraisals adjusted for the change in Home Price Index (HPI) or estimates from automated valuation models (AVMs) to support property values. AVMs are computer-based tools used to estimate the market value of homes. AVMs are a lower-cost alternative to appraisals and support valuations of large numbers of properties in a short period of time using market comparables and price trends for local market areas. The primary risk associated with the use of AVMs is that the value of an individual property may vary significantly from the average for the market area. We have processes to periodically validate AVMs and specific risk management guidelines addressing the circumstances when AVMs may be used. AVMs are not allowed in real estate 1-4 family mortgage origination underwriting. Broker evaluations and enhanced desktop appraisal reports are allowed in junior lien originations and some first lien line of credit originations up to $250,000. An appraisal is required for all real estate 1-4 family mortgage commitments greater than $250,000. Additional information about appraisals, AVMs, and our policy for their use can be found in Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Table 22: Real Estate 1-4 Family Mortgage Loans by State

			December 31, 2019	
(in millions)	Real estate 1-4 family first mortgage	Real estate 1-4 family junior lien mortgage	Total real estate 1-4 family mortgage	% of total loans
Real estate 1-4 family mortgage loans (excluding PCI):				
California	$ 118,256	8,054	126,310	13%
New York	31,336	1,508	32,844	3
New Jersey	14,113	2,744	16,857	2
Florida	11,804	2,600	14,404	2
Washington	10,863	655	11,518	1
Virginia	8,857	1,712	10,569	1
Texas	8,963	596	9,559	1
North Carolina	5,839	1,388	7,227	1
Colorado	6,382	664	7,046	1
Other (1)	65,709	9,575	75,284	8
Government insured/guaranteed loans (2)	11,170	—	11,170	1
Real estate 1-4 family loans (excluding PCI)	293,292	29,496	322,788	34
Real estate 1-4 family PCI loans	555	13	568	—
Total	$ 293,847	29,509	323,356	34%

(1) Consists of 41 states; no state had loans in excess of $7.0 billion.
(2) Represents loans whose repayments are predominantly insured by the Federal Housing Administration (FHA) or guaranteed by the Department of Veterans Affairs (VA).

First Mortgage Portfolio Our total real estate 1-4 family first lien mortgage portfolio (first mortgage) increased $8.8 billion in 2019. Mortgage loan originations of $67.4 billion in 2019 were partially offset by paydowns and $4.0 billion of sales of PCI loans, predominantly Pick-a-Pay. Also, we purchased $3.3 billion of mortgage loans in 2019 as a result of exercising servicer cleanup calls. In addition, during 2019, we reclassified $1.9 billion of existing mortgage loans to MLHFS in anticipation of future whole loan sales. We also originated $3.4 billion of nonconforming mortgage loan originations as MLHFS in 2019, in anticipation of the issuance of residential mortgage-backed securities.

The credit performance associated with our real estate 1-4 family first mortgage portfolio remained strong in 2019, as measured through nonaccrual loans and net charge-offs. Nonaccrual loans decreased to $2.2 billion at December 31, 2019, compared with $3.2 billion at December 31, 2018, driven by nonaccrual loan sales, the reclassification of nonaccrual loans to MLHFS in anticipation of future sales, and overall continued credit improvement. Net charge-offs as a percentage of average real estate 1-4 family first mortgage loans was a net recovery of 0.02% in 2019, compared with a net recovery of 0.03% in 2018.

Table 23 shows certain delinquency and loss information for the first mortgage portfolio and lists the top five states by outstanding balance.

Table 23: First Mortgage Portfolio Performance

	Outstanding balance		% of loans 30 days or more past due		Loss (recovery) rate	
	December 31,		December 31,		Year ended December 31,	
(in millions)	**2019**	2018	**2019**	2018	**2019**	2018
California	**$ 118,256**	109,092	**0.48%**	0.68	**(0.02)**	(0.06)
New York	**31,336**	28,954	**0.83**	1.12	**0.02**	0.04
New Jersey	**14,113**	13,811	**1.40**	1.91	**0.02**	0.03
Florida	**11,804**	12,350	**1.81**	2.58	**(0.06)**	(0.17)
Washington	**10,863**	9,677	**0.29**	0.57	**(0.02)**	(0.06)
Other	**95,750**	93,261	**1.20**	1.70	**(0.02)**	(0.02)
Total	**282,122**	267,145	**0.86**	1.23	**(0.02)**	(0.03)
Government insured/guaranteed loans	**11,170**	12,932				
PCI	**555**	4,988				
Total first mortgage portfolio	**$ 293,847**	285,065				

Pick-a-Pay Portfolio The Pick-a-Pay portfolio was one of the consumer residential mortgage portfolios we acquired from Wachovia. The Pick-a-Pay portfolio is included in consumer real estate 1-4 family first mortgage loans throughout this Report. Pick-a-Pay option payment loans may have fixed or adjustable rates with payment options that may include a minimum payment, an interest-only payment or fully amortizing payment (both 15- and 30-year options). Table 24 provides balances by types of loans as of December 31, 2019.

Table 24: Pick-a-Pay Portfolio

						December 31,
		2019				2018
(in millions)		**Adjusted unpaid principal balance (1)**	**% of total**		Adjusted unpaid principal balance (1)	% of total
Option payment loans	**$**	**4,571**	**50%**	$	8,813	50%
Non-option payment adjustable-rate and fixed-rate loans		**2,161**	**24**		2,848	16
Full-term loan modifications		**2,320**	**26**		6,080	34
Total adjusted unpaid principal balance	**$**	**9,052**	**100%**	$	17,741	100%
Total carrying value	**$**	**8,936**		$	16,115	

(1) Adjusted unpaid principal balance includes write-downs taken on loans where severe delinquency (normally 180 days) or other indications of severe borrower financial stress exist that indicate there will be a loss of contractually due amounts upon final resolution of the loan.

Our Pick-a-Pay portfolio included PCI loans with a carrying value of $519 million at December 31, 2019, compared with $4.9 billion at December 31, 2018. During 2019, we sold $4.0 billion of Pick-a-Pay PCI loans that resulted in a gain of $1.6 billion. The accretable yield balance of our Pick-a-Pay PCI loan portfolio was $134 million ($229 million for all PCI loans) at December 31, 2019, compared with $2.8 billion ($3.0 billion for all PCI loans) at December 31, 2018. The decrease was predominantly due to Pick-a-Pay PCI loan sales. The estimated weighted-average life was approximately 5.1 years and 5.5 years at December 31, 2019 and 2018, respectively. The accretable yield percentage for Pick-a-Pay PCI loans for fourth quarter 2019 was 11.69%.

For additional information on PCI loans, see Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

Junior Lien Mortgage Portfolio The junior lien mortgage portfolio consists of residential mortgage lines and loans that are subordinate in rights to an existing lien on the same property. It is not unusual for these lines and loans to have draw periods, interest-only payments, balloon payments, adjustable rates and similar features. Junior lien loan products are mostly amortizing payment loans with fixed interest rates and repayment periods between five to 30 years.

We continuously monitor the credit performance of our junior lien mortgage portfolio for trends and factors that influence the frequency and severity of loss, such as junior lien mortgage performance when the first mortgage loan is delinquent. Table 25 shows certain delinquency and loss information for the junior lien mortgage portfolio and lists the top five states by outstanding balance. The decrease in outstanding balances since December 31, 2018, predominantly reflected loan paydowns. As of December 31, 2019, 4% of the outstanding balance of the junior lien mortgage portfolio was associated with loans that had a combined loan to value (CLTV) ratio in excess of 100%. Of those junior lien mortgages with a CLTV ratio in excess of 100%, 3% were 30 days or more past due. CLTV means the ratio of the total loan balance of first mortgages and junior lien mortgages (including unused line amounts for credit line products) to property collateral value. The unsecured portion (the outstanding amount that was in excess of the most recent property collateral value) of the outstanding balances of these loans totaled 1% of the junior lien mortgage portfolio at December 31, 2019. For additional information on consumer loans by LTV/CLTV, see Table 6.12 in Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Table 25: Junior Lien Mortgage Portfolio Performance

	Outstanding balance		% of loans 30 days or more past due		Loss (recovery) rate	
	December 31,		December 31,		Year ended December 31,	
(in millions)	**2019**	2018	**2019**	2018	**2019**	2018
California	$ **8,054**	9,338	**1.62%**	1.67	**(0.44)**	(0.46)
New Jersey	**2,744**	3,152	**2.74**	2.57	**0.07**	0.25
Florida	**2,600**	3,140	**2.93**	2.73	**(0.09)**	—
Virginia	**1,712**	2,020	**1.97**	1.91	**(0.02)**	0.19
Pennsylvania	**1,674**	1,929	**2.16**	2.10	**(0.10)**	0.15
Other	**12,712**	14,802	**2.05**	2.12	**(0.18)**	(0.07)
Total	**29,496**	34,381	**2.07**	2.08	**(0.21)**	(0.11)
PCI	**13**	17				
Total junior lien mortgage portfolio	$ **29,509**	34,398				

Our junior lien, as well as first lien, lines of credit portfolios generally have draw periods of 10, 15 or 20 years with variable interest rate and payment options available during the draw period of (1) interest-only or (2) 1.5% of outstanding principal balance plus accrued interest. As of December 31, 2019, lines of credit in a draw period primarily used the interest-only option. During the draw period, the borrower has the option of converting all or a portion of the line from a variable interest rate to a fixed rate with terms including interest-only payments for a fixed period between three to seven years or a fully amortizing payment with a fixed period between five to 30 years. At the end of the draw period, a line of credit generally converts to an amortizing payment schedule with repayment terms of up to 30 years based on the balance at time of conversion. Certain lines and loans have been structured with a balloon payment, which requires full repayment of the outstanding balance at the end of the term period. The conversion of lines or loans to fully amortizing or balloon payoff may result in a significant payment increase, which can affect some borrowers' ability to repay the outstanding balance.

On a monthly basis, we monitor the payment characteristics of borrowers in our first and junior lien lines of credit portfolios. In December 2019, approximately 46% of these borrowers paid only the minimum amount due and approximately 51% paid more than the minimum amount due. The rest were either delinquent or paid less than the minimum amount due. For the borrowers with an interest-only payment feature, approximately 30% paid only the minimum amount due and approximately 65% paid more than the minimum amount due.

The lines that enter their amortization period may experience higher delinquencies and higher loss rates than the ones in their draw or term period. We have considered this increased inherent risk in our allowance for credit loss estimate.

In anticipation of our borrowers reaching the end of their contractual commitment, we have created a program to inform, educate and help these borrowers transition from interest-only to fully-amortizing payments or full repayment. We monitor the performance of the borrowers moving through the program in an effort to refine our ongoing program strategy.

Table 26 reflects the outstanding balance of our portfolio of junior lien mortgages, including lines and loans, and first lien lines segregated into scheduled end of draw or end of term periods and products that are currently amortizing, or in balloon repayment status. At December 31, 2019, $488 million, or 2%, of lines in their draw period were 30 days or more past due, compared with $399 million, or 4%, of amortizing lines of credit. Included in the amortizing amounts in Table 26 is $46 million of end-of-term balloon payments which were past due. The unfunded credit commitments for junior and first lien lines totaled $58.9 billion at December 31, 2019.

Table 26: Junior Lien Mortgage Line and Loan and First Lien Mortgage Line Portfolios Payment Schedule

			Scheduled end of draw/term						
(in millions)		**Outstanding balance December 31, 2019**	2020	2021	2022	2023	2024	2025 and thereafter (1)	Amortizing
Junior lien lines and loans	$	**29,496**	334	863	3,308	2,276	1,850	11,754	9,111
First lien lines		**10,384**	139	414	1,618	1,214	956	4,328	1,715
Total	$	**39,880**	473	1,277	4,926	3,490	2,806	16,082	10,826
% of portfolios		**100%**	**1**	**3**	**12**	**9**	**7**	**40**	**28**

(1) Substantially all lines and loans are scheduled to convert to amortizing loans by the end of 2029, with annual scheduled amounts through 2029 ranging from $1.9 billion to $4.8 billion and averaging $3.2 billion per year.

CREDIT CARDS Our credit card portfolio totaled $41.0 billion at December 31, 2019, which represented 4% of our total outstanding loans. The net charge-off rate for our credit card portfolio was 3.53% for 2019, compared with 3.51% for 2018.

AUTOMOBILE Our automobile portfolio totaled $47.9 billion at December 31, 2019. The net charge-off rate for our automobile portfolio was 0.67% for 2019, compared with 1.21% for 2018. The decrease in the net charge-off rate for 2019, compared with 2018, was driven by lower early losses on higher quality originations.

OTHER REVOLVING CREDIT AND INSTALLMENT Other revolving credit and installment loans totaled $34.3 billion at December 31, 2019, and largely included student and securities-based loans. Our private student loan portfolio totaled $10.6 billion at December 31, 2019. The net charge-off rate for other revolving credit and installment loans was 1.59% for 2019, compared with 1.53% for 2018.

NONPERFORMING ASSETS (NONACCRUAL LOANS AND FORECLOSED ASSETS) Table 27 summarizes nonperforming assets (NPAs) for each of the last five years. We generally place loans on nonaccrual status when:

- the full and timely collection of interest or principal becomes uncertain (generally based on an assessment of the borrower's financial condition and the adequacy of collateral, if any), such as in bankruptcy or other circumstances;
- they are 90 days (120 days with respect to real estate 1-4 family mortgages) past due for interest or principal, unless both well-secured and in the process of collection;
- part of the principal balance has been charged off; or
- for junior lien mortgages, we have evidence that the related first lien mortgage may be 120 days past due or in the process of foreclosure regardless of the junior lien delinquency status.

Credit card loans are not placed on nonaccrual status, but are generally fully charged off when the loan reaches 180 days past due.

Note 1 (Summary of Significant Accounting Policies – Loans) to Financial Statements in this Report describes our accounting policy for nonaccrual and impaired loans and foreclosed assets. For additional information on impaired loans, see Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Nonaccrual loans were $5.3 billion at December 31, 2019, down $1.2 billion from a year ago. Consumer nonaccrual loans were down $1.2 billion from a year ago predominantly due to a decrease in real estate 1-4 family mortgage nonaccrual loans, reflecting broad-based credit improvement, sales of nonaccrual mortgage loans, and the reclassification of nonaccrual mortgage loans to MLHFS. Commercial nonaccrual loans increased $66 million from a year ago, predominantly due to an increase in commercial and industrial nonaccrual loans, driven by a customer in the utilities industry, as well as increases in the oil, gas and pipeline portfolio, partially offset by credit improvement across various industry categories. Additionally, foreclosed assets decreased $148 million from December 31, 2018, driven by sales of commercial assets.

Table 27: Nonperforming Assets (Nonaccrual Loans and Foreclosed Assets)

					December 31,
(in millions)	2019	2018	2017	2016	2015
Nonaccrual loans:					
Commercial:					
Commercial and industrial	$ 1,545	1,486	1,899	3,199	1,363
Real estate mortgage	573	580	628	685	969
Real estate construction	41	32	37	43	66
Lease financing	95	90	76	115	26
Total commercial	2,254	2,188	2,640	4,042	2,424
Consumer:					
Real estate 1-4 family first mortgage (1)	2,150	3,183	3,732	4,516	6,829
Real estate 1-4 family junior lien mortgage (1)	796	945	1,086	1,206	1,495
Automobile	106	130	130	106	121
Other revolving credit and installment	40	50	58	51	49
Total consumer	3,092	4,308	5,006	5,879	8,494
Total nonaccrual loans (2)(3)	$ 5,346	6,496	7,646	9,921	10,918
As a percentage of total loans	0.56%	0.68	0.80	1.03	1.19
Foreclosed assets:					
Government insured/guaranteed (4)	$ 50	88	120	197	446
Non-government insured/guaranteed	253	363	522	781	979
Total foreclosed assets	303	451	642	978	1,425
Total nonperforming assets	$ 5,649	6,947	8,288	10,899	12,343
As a percentage of total loans	0.59%	0.73	0.87	1.13	1.35

(1) Real estate 1-4 family mortgage loans predominantly insured by the FHA or guaranteed by the VA are not placed on nonaccrual status because they are insured or guaranteed.
(2) Financial information for periods prior to December 31, 2018, has been revised to exclude mortgage loans held for sale (MLHFS), loans held for sale (LHFS) and loans held at fair value of $390 million, $463 million, and $464 million at December 31, 2017, 2016, and 2015, respectively.
(3) Excludes PCI loans because they continue to earn interest income from accretable yield, independent of performance in accordance with their contractual terms.
(4) Consistent with regulatory reporting requirements, foreclosed real estate resulting from government insured/guaranteed loans are classified as nonperforming. Both principal and interest related to these foreclosed real estate assets are collectible because the loans were predominantly insured by the FHA or guaranteed by the VA. Receivables related to the foreclosure of certain government guaranteed real estate mortgage loans are excluded from this table and included in Accounts Receivable in Other Assets. For more information on the classification of certain government-guaranteed mortgage loans upon foreclosure, see Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

Table 28 provides a summary of nonperforming assets during 2019.

Table 28: Nonperforming Assets by Quarter During 2019

	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019	
(in millions)	Balance	% of total loans	Balance	% of total loans	Balance	% of total loans	Balance	% of total loans
Nonaccrual loans:								
Commercial:								
Commercial and industrial	$ 1,545	0.44%	$ 1,539	0.44%	$ 1,634	0.47%	$ 1,986	0.57%
Real estate mortgage	573	0.47	669	0.55	737	0.60	699	0.57
Real estate construction	41	0.21	32	0.16	36	0.17	36	0.16
Lease financing	95	0.48	72	0.37	63	0.33	76	0.40
Total commercial	2,254	0.44	2,312	0.45	2,470	0.48	2,797	0.55
Consumer:								
Real estate 1-4 family first mortgage (1)	2,150	0.73	2,261	0.78	2,425	0.85	3,026	1.06
Real estate 1-4 family junior lien mortgage (1)	796	2.70	819	2.66	868	2.71	916	2.77
Automobile	106	0.22	110	0.24	115	0.25	116	0.26
Other revolving credit and installment	40	0.12	43	0.12	44	0.13	50	0.14
Total consumer	3,092	0.69	3,233	0.73	3,452	0.79	4,108	0.94
Total nonaccrual loans (2)	5,346	0.56	5,545	0.58	5,922	0.62	6,905	0.73
Foreclosed assets:								
Government insured/guaranteed (3)	50		59		68		75	
Non-government insured/guaranteed	253		378		309		361	
Total foreclosed assets	303		437		377		436	
Total nonperforming assets	$ 5,649	0.59%	$ 5,982	0.63%	$ 6,299	0.66%	$ 7,341	0.77%
Change in NPAs from prior quarter	$ (333)		(317)		(1,042)		394	

(1) Real estate 1-4 family mortgage loans predominantly insured by the FHA or guaranteed by the VA are not placed on nonaccrual status because they are insured or guaranteed.
(2) Excludes PCI loans because they continue to earn interest income from accretable yield, independent of performance in accordance with their contractual terms.
(3) Consistent with regulatory reporting requirements, foreclosed real estate resulting from government insured/guaranteed loans are classified as nonperforming. Both principal and interest related to these foreclosed real estate assets are collectible because the loans were predominantly insured by the FHA or guaranteed by the VA. Receivables related to the foreclosure of certain government guaranteed real estate mortgage loans are excluded from this table and included in Accounts Receivable in Other Assets. For more information on the classification of certain government-guaranteed residential mortgage loans upon foreclosure, see Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

Table 29 provides an analysis of the changes in nonaccrual loans.

Table 29: Analysis of Changes in Nonaccrual Loans

	Quarter ended				Year ended Dec 31,	
	Dec 31,	Sep 30,	Jun 30,	Mar 31,		
(in millions)	**2019**	2019	2019	2019	**2019**	2018
Commercial nonaccrual loans						
Balance, beginning of period	$ **2,312**	2,470	2,797	2,188	**2,188**	2,640
Inflows	**652**	710	621	1,238	**3,221**	2,767
Outflows:						
Returned to accruing	**(124)**	(52)	(46)	(43)	**(265)**	(323)
Foreclosures	**—**	(78)	(2)	(15)	**(95)**	(12)
Charge-offs	**(201)**	(194)	(187)	(158)	**(740)**	(636)
Payments, sales and other	**(385)**	(544)	(713)	(413)	**(2,055)**	(2,248)
Total outflows	**(710)**	(868)	(948)	(629)	**(3,155)**	(3,219)
Balance, end of period	**2,254**	2,312	2,470	2,797	**2,254**	2,188
Consumer nonaccrual loans						
Balance, beginning of period	**3,233**	3,452	4,108	4,308	**4,308**	5,006
Inflows	**473**	448	437	552	**1,910**	2,433
Outflows:						
Returned to accruing	**(227)**	(274)	(250)	(248)	**(999)**	(1,304)
Foreclosures	**(29)**	(32)	(34)	(42)	**(137)**	(166)
Charge-offs	**(45)**	(44)	(34)	(49)	**(172)**	(292)
Payments, sales and other	**(313)**	(317)	(775)	(413)	**(1,818)**	(1,369)
Total outflows	**(614)**	(667)	(1,093)	(752)	**(3,126)**	(3,131)
Balance, end of period	**3,092**	3,233	3,452	4,108	**3,092**	4,308
Total nonaccrual loans	$ **5,346**	5,545	5,922	6,905	**5,346**	6,496

Typically, changes to nonaccrual loans period-over-period represent inflows for loans that are placed on nonaccrual status in accordance with our policy, offset by reductions for loans that are paid down, charged off, sold, foreclosed, or are no longer classified as nonaccrual as a result of continued performance and an improvement in the borrower's financial condition and loan repayment capabilities.

While nonaccrual loans are not free of loss content, we believe exposure to loss is significantly mitigated by the following factors at December 31, 2019:

- 86% of total commercial nonaccrual loans and 99% of total consumer nonaccrual loans are secured. Of the consumer nonaccrual loans, 95% are secured by real estate and 88% have a combined LTV (CLTV) ratio of 80% or less.
- losses of $360 million and $941 million have already been recognized on 19% of commercial nonaccrual loans and 35% of consumer nonaccrual loans, respectively, in accordance with our charge-off policies. Once we write down loans to the net realizable value (fair value of collateral less estimated costs to sell), we re-evaluate each loan regularly and record additional write-downs if needed.
- 71% of commercial nonaccrual loans were current on interest and 66% of commercial nonaccrual loans were current on both principal and interest. These commercial loans were on nonaccrual status because the full or timely collection of interest or principal had become uncertain.
- of the $1.3 billion of consumer loans in bankruptcy or discharged in bankruptcy, and classified as nonaccrual, $916 million were current.
- the remaining risk of loss of all nonaccrual loans has been considered and we believe is adequately covered by the allowance for loan losses.

We continue to work with our customers experiencing financial difficulty to determine if they can qualify for a loan modification so that they can stay in their homes. Under our proprietary modification programs, customers may be required to provide updated documentation, and some programs require completion of payment during trial periods to demonstrate sustained performance before the loan can be removed from nonaccrual status.

If interest due on all nonaccrual loans (including loans that were, but are no longer on nonaccrual status at year end) had been accrued under the original terms, approximately $361 million of interest would have been recorded as income on these loans, compared with $316 million actually recorded as interest income in 2019, versus $446 million and $426 million, respectively, in 2018.

Table 30 provides a summary of foreclosed assets and an analysis of changes in foreclosed assets.

Table 30: Foreclosed Assets

	Quarter ended				Year ended Dec 31,	
	Dec 31,	Sep 30,	Jun 30,	Mar 31,		
(in millions)	**2019**	2019	2019	2019	**2019**	2018
Summary by loan segment						
Government insured/guaranteed	**$ 50**	59	68	75	**50**	88
Commercial	**62**	180	101	124	62	127
Consumer	**191**	198	208	237	**191**	236
Total foreclosed assets	**303**	437	377	436	**303**	451
Analysis of changes in foreclosed assets						
Balance, beginning of period	**$ 437**	377	436	451	**451**	642
Net change in government insured/guaranteed (1)	**(9)**	(9)	(7)	(13)	**(38)**	(32)
Additions to foreclosed assets (2)	**126**	235	144	193	**698**	778
Reductions:						
Sales	**(250)**	(155)	(199)	(205)	**(809)**	(957)
Write-downs and gains (losses) on sales	**(1)**	(11)	3	10	**1**	20
Total reductions	**(251)**	(166)	(196)	(195)	**(808)**	(937)
Balance, end of period	**$ 303**	437	377	436	**303**	451

(1) Foreclosed government insured/guaranteed loans are temporarily transferred to and held by us as servicer, until reimbursement is received from FHA or VA.
(2) Includes loans moved into foreclosed assets from nonaccrual status, PCI loans transitioned directly to foreclosed assets and repossessed automobiles.

Foreclosed assets at December 31, 2019, included $222 million of foreclosed residential real estate, of which 23% is predominantly FHA insured or VA guaranteed and expected to have minimal or no loss content. The remaining amount of foreclosed assets has been written down to estimated net realizable value. Of the $303 million in foreclosed assets at December 31, 2019, 69% have been in the foreclosed assets portfolio one year or less.

TROUBLED DEBT RESTRUCTURINGS (TDRs)

Table 31: Troubled Debt Restructurings (TDRs)

(in millions)		2019	2018	2017	2016	December 31, 2015
Commercial:						
Commercial and industrial	$	**1,183**	1,623	2,096	2,584	1,123
Real estate mortgage		**669**	704	901	1,119	1,456
Real estate construction		**36**	39	44	91	125
Lease financing		**13**	56	35	6	1
Total commercial TDRs		**1,901**	2,422	3,076	3,800	2,705
Consumer:						
Real estate 1-4 family first mortgage		**7,589**	10,629	12,080	14,134	16,812
Real estate 1-4 family junior lien mortgage		**1,407**	1,639	1,849	2,074	2,306
Credit card		**520**	449	356	300	299
Automobile		**81**	89	87	85	105
Other revolving credit and installment		**170**	154	126	101	73
Trial modifications		**115**	149	194	299	402
Total consumer TDRs		**9,882**	13,109	14,692	16,993	19,997
Total TDRs	$	**11,783**	15,531	17,768	20,793	22,702
TDRs on nonaccrual status	$	**2,833**	4,058	4,801	6,193	6,506
TDRs on accrual status:						
Government insured/guaranteed		**1,190**	1,299	1,359	1,526	1,771
Non-government insured/guaranteed		**7,760**	10,174	11,608	13,074	14,425
Total TDRs	$	**11,783**	15,531	17,768	20,793	22,702

Table 32: TDRs Balance by Quarter During 2019

(in millions)		Dec 31, 2019	Sep 30, 2019	Jun 30, 2019	Mar 31, 2019
Commercial:					
Commercial and industrial	$	**1,183**	1,162	1,294	1,740
Real estate mortgage		**669**	598	620	681
Real estate construction		**36**	40	43	45
Lease financing		**13**	16	31	46
Total commercial TDRs		**1,901**	1,816	1,988	2,512
Consumer:					
Real estate 1-4 family first mortgage		**7,589**	7,905	8,218	10,343
Real estate 1-4 family junior lien mortgage		**1,407**	1,457	1,550	1,604
Credit card		**520**	504	486	473
Automobile		**81**	82	85	85
Other revolving credit and installment		**170**	167	159	156
Trial modifications		**115**	123	127	136
Total consumer TDRs		**9,882**	10,238	10,625	12,797
Total TDRs	$	**11,783**	12,054	12,613	15,309
TDRs on nonaccrual status	$	**2,833**	2,775	3,058	4,037
TDRs on accrual status:					
Government insured/guaranteed		**1,190**	1,199	1,209	1,275
Non-government insured/guaranteed		**7,760**	8,080	8,346	9,997
Total TDRs	$	**11,783**	12,054	12,613	15,309

Table 31 and Table 32 provide information regarding the recorded investment of loans modified in TDRs. The allowance for loan losses for TDRs was $1.0 billion and $1.2 billion at December 31, 2019 and 2018, respectively. See Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report for additional information regarding TDRs. In those situations where principal is forgiven, the entire amount of such forgiveness is immediately charged off. When we delay the timing on the repayment of a portion of principal (principal forbearance), we charge off the amount of forbearance if that amount is not considered fully collectible.

Our nonaccrual policies are generally the same for all loan types when a restructuring is involved. We typically re-underwrite loans at the time of restructuring to determine whether there is sufficient evidence of sustained repayment capacity based on the borrower's documented income, debt to income ratios, and other factors. Loans lacking sufficient evidence of sustained repayment capacity at the time of modification are charged down to the fair value of the collateral, if applicable. For an accruing loan that has been modified, if the borrower has demonstrated performance under the previous terms and the underwriting process shows the capacity to continue to perform under the restructured terms, the loan will generally remain in accruing status. Otherwise, the loan will be placed in nonaccrual status and may be returned to accruing status when the borrower demonstrates a sustained period of performance, generally six consecutive months of payments, or equivalent, inclusive of consecutive payments made prior to modification. Loans will also be placed on nonaccrual status, and a corresponding charge-off is recorded to the loan balance, when we believe that principal and interest contractually due under the modified agreement will not be collectible.

Table 33 provides an analysis of the changes in TDRs. Loans modified more than once are reported as TDR inflows only in the period they are first modified. Other than resolutions such as foreclosures, sales and transfers to held for sale, we may remove loans held for investment from TDR classification, but only if they have been refinanced or restructured at market terms and qualify as a new loan.

TDRs of $11.8 billion at December 31, 2019, decreased $3.7 billion from December 31, 2018, due to paydowns, as well as a reclassification of $1.7 billion in real estate 1-4 family first mortgage TDR loans to MLHFS.

Table 33: Analysis of Changes in TDRs

		Quarter ended				Year ended Dec 31,	
(in millions)		**Dec 31, 2019**	Sep 30, 2019	Jun 30, 2019	Mar 31, 2019	**2019**	2018
Commercial TDRs							
Balance, beginning of period	$	**1,816**	1,988	2,512	2,422	**2,422**	3,076
Inflows (1)		**476**	293	232	539	**1,540**	1,764
Outflows							
Charge-offs		**(48)**	(66)	(37)	(44)	**(195)**	(284)
Foreclosure		**(1)**	—	—	—	**(1)**	(15)
Payments, sales and other (2)		**(342)**	(399)	(719)	(405)	**(1,865)**	(2,119)
Balance, end of period		**1,901**	1,816	1,988	2,512	**1,901**	2,422
Consumer TDRs							
Balance, beginning of period		**10,238**	10,625	12,797	13,109	**13,109**	14,692
Inflows (1)		**350**	360	336	439	**1,485**	1,747
Outflows							
Charge-offs		**(57)**	(56)	(61)	(60)	**(234)**	(223)
Foreclosure		**(61)**	(70)	(74)	(86)	**(290)**	(470)
Payments, sales and other (2)		**(580)**	(617)	(2,364)	(593)	**(4,154)**	(2,591)
Net change in trial modifications (3)		**(8)**	(4)	(9)	(12)	**(34)**	(46)
Balance, end of period		**9,882**	10,238	10,625	12,797	**9,882**	13,109
Total TDRs	$	**11,783**	12,054	12,613	15,309	**11,783**	15,531

(1) Inflows include loans that modify, even if they resolve within the period, as well as gross advances on term loans that modified in a prior period and net advances on revolving TDRs that modified in a prior period.
(2) Other outflows include normal amortization/accretion of loan basis adjustments and loans transferred to held for sale. Occasionally, loans that have been refinanced or restructured at market terms qualify as new loans, which are also included as other outflows.
(3) Net change in trial modifications includes: inflows of new TDRs entering the trial payment period, net of outflows for modifications that either (i) successfully perform and enter into a permanent modification, or (ii) did not successfully perform according to the terms of the trial period plan and are subsequently charged-off, foreclosed upon or otherwise resolved.

LOANS 90 DAYS OR MORE PAST DUE AND STILL ACCRUING Loans 90 days or more past due are still accruing if they are (1) well-secured and in the process of collection or (2) real estate 1-4 family mortgage loans or consumer loans exempt under regulatory rules from being classified as nonaccrual until later delinquency, usually 120 days past due. PCI loans are not included in past due and still accruing loans even when they are 90 days or more contractually past due. These PCI loans are considered to be accruing because they continue to earn interest from accretable yield, independent of performance in accordance with their contractual terms.

Excluding insured/guaranteed loans, loans 90 days or more past due and still accruing at December 31, 2019, were down $46 million, or 5%, from December 31, 2018, due to payments, other loss mitigation activities, and credit stabilization.

Loans 90 days or more past due and still accruing whose repayments are predominantly insured by the FHA or guaranteed by the VA for mortgages were $6.4 billion at December 31, 2019, down from $7.7 billion at December 31, 2018, due to an improvement in delinquencies, as well as a reduction in the portfolio.

Table 34 reflects non-PCI loans 90 days or more past due and still accruing by class for loans not government insured/guaranteed. For additional information on delinquencies by loan class, see Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Table 34: Loans 90 Days or More Past Due and Still Accruing (1)

						December 31,
(in millions)		**2019**	2018	2017	2016	2015
Total (excluding PCI (2)):	$	**7,285**	8,704	11,532	11,437	13,866
Less: FHA insured/VA guaranteed (3)		**6,352**	7,725	10,475	10,467	12,863
Less: Student loans guaranteed under the FFELP (4)		**—**	—	—	3	26
Total, not government insured/guaranteed	$	**933**	979	1,057	967	977
By segment and class, not government insured/guaranteed:						
Commercial:						
Commercial and industrial	$	**47**	43	26	28	97
Real estate mortgage		**31**	51	23	36	13
Real estate construction		**—**	—	—	—	4
Total commercial		**78**	94	49	64	114
Consumer:						
Real estate 1-4 family first mortgage		**112**	124	213	170	220
Real estate 1-4 family junior lien mortgage		**32**	32	60	56	65
Credit card		**546**	513	492	452	397
Automobile		**78**	114	143	112	79
Other revolving credit and installment		**87**	102	100	113	102
Total consumer		**855**	885	1,008	903	863
Total, not government insured/guaranteed	$	**933**	979	1,057	967	977

(1) Financial information for periods prior to December 31, 2018, has been revised to exclude MLHFS, LHFS and loans held at fair value, which reduced "Total, not government insured/guaranteed" by $6 million, $5 million and $4 million at December 31, 2017, 2016 and 2015, respectively.
(2) PCI loans totaled $102 million, $370 million, $1.4 billion, $2.0 billion and $2.9 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.
(3) Represents loans whose repayments are predominantly insured by the FHA or guaranteed by the VA.
(4) Represents loans whose repayments are largely guaranteed by agencies on behalf of the U.S. Department of Education under the Federal Family Education Loan Program (FFELP). All remaining student loans guaranteed under the FFELP were sold as of March 31, 2017.

NET CHARGE-OFFS

Table 35: Net Charge-offs

	Year ended		Quarter ended							
	December 31,		December 31,		September 30,		June 30,		March 31,	
($ in millions)	Net loan charge-offs	% of avg. loans	Net loan charge-offs	% of avg. loans (1)	Net loan charge-offs	% of avg. loans (1)	Net loan charge-offs	% of avg. loans (1)	Net loan charge-offs	% of avg. loans (1)
2019										
Commercial:										
Commercial and industrial	**$ 607**	**0.17 %**	**$ 168**	**0.19 %**	**$ 147**	**0.17 %**	**$ 159**	**0.18 %**	**$ 133**	**0.15 %**
Real estate mortgage	**6**	**—**	**4**	**0.01**	**(8)**	**(0.02)**	**4**	**0.01**	**6**	**0.02**
Real estate construction	**(12)**	**(0.06)**	**—**	**—**	**(8)**	**(0.14)**	**(2)**	**(0.04)**	**(2)**	**(0.04)**
Lease financing	**51**	**0.26**	**31**	**0.63**	**8**	**0.17**	**4**	**0.09**	**8**	**0.17**
Total commercial	**652**	**0.13**	**203**	**0.16**	**139**	**0.11**	**165**	**0.13**	**145**	**0.11**
Consumer:										
Real estate 1-4 family first mortgage	**(50)**	**(0.02)**	**(3)**	**—**	**(5)**	**(0.01)**	**(30)**	**(0.04)**	**(12)**	**(0.02)**
Real estate 1-4 family junior lien mortgage	**(66)**	**(0.21)**	**(16)**	**(0.20)**	**(22)**	**(0.28)**	**(19)**	**(0.24)**	**(9)**	**(0.10)**
Credit card	**1,370**	**3.53**	**350**	**3.48**	**319**	**3.22**	**349**	**3.68**	**352**	**3.73**
Automobile	**306**	**0.67**	**87**	**0.73**	**76**	**0.65**	**52**	**0.46**	**91**	**0.82**
Other revolving credit and installment	**550**	**1.59**	**148**	**1.71**	**138**	**1.60**	**136**	**1.56**	**128**	**1.47**
Total consumer	**2,110**	**0.48**	**566**	**0.51**	**506**	**0.46**	**488**	**0.45**	**550**	**0.51**
Total	**$ 2,762**	**0.29 %**	**$ 769**	**0.32 %**	**$ 645**	**0.27 %**	**$ 653**	**0.28 %**	**$ 695**	**0.30 %**
2018										
Commercial:										
Commercial and industrial	$ 423	0.13 %	$ 132	0.15 %	$ 148	0.18 %	$ 58	0.07 %	$ 85	0.10 %
Real estate mortgage	(28)	(0.02)	(12)	(0.04)	(1)	—	—	—	(15)	(0.05)
Real estate construction	(13)	(0.05)	(1)	(0.01)	(2)	(0.04)	(6)	(0.09)	(4)	(0.07)
Lease financing	47	0.24	13	0.26	7	0.14	15	0.32	12	0.25
Total commercial	429	0.09	132	0.10	152	0.12	67	0.05	78	0.06
Consumer:										
Real estate 1-4 family first mortgage	(88)	(0.03)	(22)	(0.03)	(25)	(0.04)	(23)	(0.03)	(18)	(0.03)
Real estate 1-4 family junior lien mortgage	(40)	(0.11)	(10)	(0.11)	(9)	(0.10)	(13)	(0.13)	(8)	(0.09)
Credit card	1,292	3.51	338	3.54	299	3.22	323	3.61	332	3.69
Automobile	584	1.21	133	1.16	130	1.10	113	0.93	208	1.64
Other revolving credit and installment	567	1.53	150	1.64	133	1.44	135	1.44	149	1.60
Total consumer	2,315	0.52	589	0.53	528	0.47	535	0.49	663	0.60
Total	$ 2,744	0.29 %	$ 721	0.30 %	$ 680	0.29 %	$ 602	0.26 %	$ 741	0.32 %

(1) Quarterly net charge-offs (recoveries) as a percentage of average respective loans are annualized.

Table 35 presents net charge-offs for the four quarters and full year of 2019 and 2018. Net charge-offs in 2019 were $2.8 billion (0.29% of average total loans outstanding), compared with $2.7 billion (0.29%) in 2018.

The increase in commercial and industrial net charge-offs in 2019 was driven by lower recoveries, and higher losses in our oil and gas portfolio. The decrease in consumer net charge-offs in 2019 was driven by lower losses, predominantly in the automobile portfolio, partially offset by a slight increase in losses in the credit card portfolio.

ALLOWANCE FOR CREDIT LOSSES The allowance for credit losses, which consists of the allowance for loan losses and the allowance for unfunded credit commitments, is management's estimate of credit losses inherent in the loan portfolio and unfunded credit commitments at the balance sheet date, excluding loans carried at fair value. The detail of the changes in the allowance for credit losses by portfolio segment (including charge-offs and recoveries by loan class) is in Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

We apply a disciplined process and methodology to establish our allowance for credit losses each quarter. This process takes into consideration many factors, including historical and forecasted loss trends, loan-level credit quality ratings and loan grade-specific characteristics. The process involves subjective and complex judgments. In addition, we review a variety of credit metrics and trends. These credit metrics and trends, however, do not solely determine the amount of the allowance for credit losses as we use several analytical tools. Our estimation approach for the commercial portfolio reflects the estimated probability of default in accordance with the borrower's financial strength, and the severity of loss in the event of default, considering the quality of any underlying collateral. Probability of default and severity at the time of default are statistically derived through historical observations of defaults and losses after default within each credit risk rating. Our estimation approach for the consumer portfolio uses forecasted losses that represent our best estimate of inherent loss based on historical experience, quantitative and other mathematical techniques. For additional information on our allowance for credit losses, see the "Critical Accounting Policies – Allowance for Credit Losses" section and Note 1 (Summary of Significant Accounting Policies) and Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

Table 36 presents the allocation of the allowance for credit losses by loan segment and class for the last five years.

Table 36: Allocation of the Allowance for Credit Losses (ACL)

	Dec 31, 2019		Dec 31, 2018		Dec 31, 2017		Dec 31, 2016		Dec 31, 2015	
(in millions)	ACL	Loans as % of total loans	ACL	Loans as % of total loans	ACL	Loans as % of total loans	ACL	Loans as % of total loans	ACL	Loans as % of total loans
Commercial:										
Commercial and industrial	$ 3,600	37%	$ 3,628	37%	$ 3,752	35%	$ 4,560	34%	$ 4,231	33%
Real estate mortgage	1,236	13	1,282	13	1,374	13	1,320	14	1,264	13
Real estate construction	1,079	2	1,200	2	1,238	3	1,294	2	1,210	3
Lease financing	330	2	307	2	268	2	220	2	167	1
Total commercial	6,245	54	6,417	54	6,632	53	7,394	52	6,872	50
Consumer:										
Real estate 1-4 family first mortgage	692	30	750	30	1,085	30	1,270	29	1,895	30
Real estate 1-4 family junior lien mortgage	247	3	431	3	608	4	815	5	1,223	6
Credit card	2,252	4	2,064	4	1,944	4	1,605	4	1,412	4
Automobile	459	5	475	5	1,039	5	817	6	529	6
Other revolving credit and installment	561	4	570	4	652	4	639	4	581	4
Total consumer	4,211	46	4,290	46	5,328	47	5,146	48	5,640	50
Total	$ 10,456	100%	$ 10,707	100%	$ 11,960	100%	$ 12,540	100%	$ 12,512	100%

	Dec 31, 2019	Dec 31, 2018	Dec 31, 2017	Dec 31, 2016	Dec 31, 2015
Components:					
Allowance for loan losses	$ 9,551	9,775	11,004	11,419	11,545
Allowance for unfunded credit commitments	905	932	956	1,121	967
Allowance for credit losses	$ 10,456	10,707	11,960	12,540	12,512
Allowance for loan losses as a percentage of total loans	0.99%	1.03	1.15	1.18	1.26
Allowance for loan losses as a percentage of total net charge-offs	346	356	376	324	399
Allowance for credit losses as a percentage of total loans	1.09	1.12	1.25	1.30	1.37
Allowance for credit losses as a percentage of total nonaccrual loans	196	165	156	126	115

In addition to the allowance for credit losses, there was $387 million at December 31, 2019, and $480 million at December 31, 2018, of nonaccretable difference to absorb losses on PCI loans of $568 million at December 31, 2019, and $5.0 billion at December 31, 2018. The allowance for credit losses is lower than otherwise would have been required without PCI loan accounting. As a result of PCI loans, certain ratios of the Company may not be directly comparable with credit-related metrics for other financial institutions. For additional information on PCI loans, see the "Risk Management – Credit Risk Management – Purchased Credit-Impaired Loans" section, Note 1 (Summary of Significant Accounting Policies) and Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

The ratio of the allowance for credit losses to total nonaccrual loans may fluctuate significantly from period to period due to such factors as the mix of loan types in the portfolio, borrower credit strength and the value and marketability of collateral.

The allowance for credit losses decreased $251 million, or 2%, in 2019, due to improvement in the credit quality of our commercial and residential real estate portfolios, partially offset by an increase in the allowance for the credit card portfolio reflecting increased volume and a shift in portfolio mix. Total provision for credit losses was $2.7 billion in 2019 and $1.7 billion in 2018. The provision for credit losses was $75 million less than net charge-offs in 2019, reflecting the same changes mentioned above for the allowance for credit losses, compared with $1.0 billion less than net charge-offs in 2018. For a discussion of our 2018 provision for credit losses compared with 2017, see the "Risk Management – Credit Risk Management – Allowance for Credit Losses" section of our Annual Report on Form 10-K for the year ended December 31, 2018.

We believe the allowance for credit losses of $10.5 billion at December 31, 2019, was appropriate to cover credit losses inherent in the loan portfolio, including unfunded credit commitments, at that date. The entire allowance for credit losses is available to absorb credit losses inherent in the total loan portfolio. The allowance for credit losses is subject to change and reflects existing factors as of the date of determination, including economic or market conditions and ongoing internal and external examination processes. Due to the sensitivity of the allowance for credit losses to changes in the economic and business environment, it is possible that we will incur incremental credit losses not anticipated as of the balance sheet date. Future amounts of the allowance for credit losses will be based on a variety of factors, including loan growth, portfolio performance and general economic conditions. Our process for determining the allowance for credit losses is discussed in the "Critical Accounting Policies – Allowance for Credit Losses" section and Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

LIABILITY FOR MORTGAGE LOAN REPURCHASE LOSSES We sell residential mortgage loans to various parties, including (1) government-sponsored entities (GSEs) Federal Home Loan Mortgage Corporation (FHLMC) and Federal National Mortgage Association (FNMA) who include the mortgage loans in GSE-guaranteed mortgage securitizations, (2) SPEs that issue private label MBS, and (3) other financial institutions that purchase mortgage loans for investment or private label securitization. In addition, we pool FHA-insured and VA-guaranteed mortgage loans that are then used to back securities guaranteed by the Government National Mortgage Association (GNMA). We may be required to repurchase these mortgage loans, indemnify the securitization trust, investor or insurer, or reimburse the securitization trust, investor or insurer for credit losses incurred on loans (collectively, repurchase) in the event of a breach of contractual representations or warranties that is not remedied within a period (usually 90 days or less) after we receive notice of the breach.

In connection with our sales and securitization of residential mortgage loans to various parties, we have established a mortgage repurchase liability, initially at fair value, related to various representations and warranties that reflect management's estimate of losses for loans for which we could have a repurchase obligation, whether or not we currently service those loans, based on a combination of factors. Our mortgage repurchase liability estimation process also incorporates a forecast of repurchase demands associated with mortgage insurance rescission activity.

Customary with industry practice, we have the right of recourse against correspondent lenders from whom we have purchased loans with respect to representations and warranties. Historical recovery rates as well as projected lender performance are incorporated in the establishment of our mortgage repurchase liability.

We do not typically receive repurchase requests from GNMA, FHA and the Department of Housing and Urban Development (HUD) or VA. As an originator of an FHA-insured or VA-guaranteed loan, we are responsible for obtaining the insurance with the FHA or the guarantee with the VA. To the extent we are not able to obtain the insurance or the guarantee we must request permission to repurchase the loan from the GNMA pool. Such repurchases from GNMA pools typically represent a self-initiated process upon discovery of the uninsurable loan (usually within 180 days from funding of the loan). Alternatively, in lieu of repurchasing loans from GNMA pools, we may be asked by FHA/HUD or the VA to indemnify them (as applicable) for defects found in the Post Endorsement Technical Review process or audits performed by FHA/HUD or the VA. The Post Endorsement Technical Review is a process whereby HUD performs underwriting audits of closed/insured FHA loans for potential deficiencies. Our liability for mortgage loan repurchase losses incorporates probable losses associated with such indemnification.

RISKS RELATING TO SERVICING ACTIVITIES In addition to servicing loans in our portfolio, we act as servicer and/or master servicer of residential mortgage loans included in GSE-guaranteed mortgage securitizations, GNMA-guaranteed mortgage securitizations of FHA-insured/VA-guaranteed mortgages and private label mortgage securitizations, as well as for unsecuritized loans owned by institutional investors. The following discussion summarizes the primary duties and requirements of servicing and related industry developments.

The loans we service were originated by us or by other mortgage loan originators. As servicer, our primary duties are typically to (1) collect payments due from borrowers, (2) advance certain delinquent payments of principal and interest on the mortgage loans, (3) maintain and administer any hazard, title or primary mortgage insurance policies relating to the mortgage loans, (4) maintain any required escrow accounts for payment of taxes and insurance and administer escrow payments, (5) foreclose on defaulted mortgage loans or, to the extent consistent with the related servicing agreement, consider alternatives to foreclosure, such as loan modifications or short sales, and (6) for loans sold into private label securitizations, manage the foreclosed property through liquidation. As master servicer, our primary duties are typically to (1) supervise, monitor and oversee the servicing of the mortgage loans by the servicer, (2) consult with each servicer and use reasonable efforts to cause the servicer to observe its servicing obligations, (3) prepare monthly distribution statements to security holders and, if required by the securitization documents, certain periodic reports required to be filed with the Securities and Exchange Commission (SEC), (4) if required by the securitization documents, calculate distributions and loss allocations on the mortgage-backed securities, (5) prepare tax and information returns of the securitization trust, and (6) advance amounts required by non-affiliated servicers who fail to perform their advancing obligations.

Each agreement under which we act as servicer or master servicer generally specifies a standard of responsibility for actions we take in such capacity and provides protection against expenses and liabilities we incur when acting in compliance with the specified standard. For example, private label securitization agreements under which we act as servicer or master servicer typically provide that the servicer and the master servicer are entitled to indemnification by the securitization trust for taking action or refraining from taking action in good faith or for errors in judgment. However, we are not indemnified, but rather are required to indemnify the securitization trustee, against any failure by us, as servicer or master servicer, to perform our servicing obligations or against any of our acts or omissions that involve willful misfeasance, bad faith or gross negligence in the performance of, or reckless disregard of, our duties. In addition, if we commit a material breach of our obligations as servicer or master servicer, we may be subject to termination if the breach is not cured within a specified period following notice, which can generally be given by the securitization trustee or a specified percentage of security holders. Whole loan sale contracts under which we act as servicer generally include similar provisions with respect to our actions as servicer. The standards governing servicing in GSE-guaranteed securitizations, and the possible remedies for violations of such standards, vary, and those standards and remedies are determined by servicing guides maintained by the GSEs, contracts between the GSEs and individual servicers and topical guides published by the GSEs from time to time. Such remedies could include indemnification or repurchase of an affected mortgage loan. In addition, in connection with our servicing activities, we could become subject to consent orders and settlement agreements with federal and state regulators for alleged servicing issues and practices. In general, these can require us to provide customers with loan modification relief, refinancing relief, and foreclosure prevention and assistance, as well as can impose certain monetary penalties on us.

Asset/Liability Management

Asset/liability management involves evaluating, monitoring and managing interest rate risk, market risk, liquidity and funding. Primary oversight of interest rate risk and market risk resides with the Finance Committee of our Board, which oversees the administration and effectiveness of financial risk management policies and processes used to assess and manage these risks. Primary oversight of liquidity and funding resides with the Risk Committee of the Board. At the management level, we utilize a Corporate Asset/Liability Committee (Corporate ALCO), which consists of management from finance, risk and business groups, to oversee these risks and provide periodic reports to the Board's Finance Committee and Risk Committee as appropriate. As discussed in more detail for market risk activities below, we employ separate management level oversight specific to market risk.

INTEREST RATE RISK Interest rate risk, which potentially can have a significant earnings impact, is an integral part of being a financial intermediary. We are subject to interest rate risk because:

- assets and liabilities may mature or reprice at different times (for example, if assets reprice faster than liabilities and interest rates are generally rising, earnings will initially increase);
- assets and liabilities may reprice at the same time but by different amounts (for example, when the general level of interest rates is rising, we may increase rates paid on checking and savings deposit accounts by an amount that is less than the general rise in market interest rates);
- short-term and long-term market interest rates may change by different amounts (for example, the shape of the yield curve may affect new loan yields and funding costs differently);
- the remaining maturity of various assets or liabilities may shorten or lengthen as interest rates change (for example, if long-term mortgage interest rates increase sharply, MBS held in the debt securities portfolio may pay down slower than anticipated, which could impact portfolio income); or
- interest rates may also have a direct or indirect effect on loan demand, collateral values, credit losses, mortgage origination volume, the fair value of MSRs and other financial instruments, the value of the pension liability and other items affecting earnings.

We assess interest rate risk by comparing outcomes under various net interest income simulations using many interest rate scenarios that differ in the direction of interest rate changes, the degree of change over time, the speed of change and the projected shape of the yield curve. These simulations require assumptions regarding drivers of earnings and balance sheet composition such as loan originations, prepayment speeds on loans and debt securities, deposit flows and mix, as well as pricing strategies.

Currently, our profile is such that we project net interest income will benefit modestly from higher interest rates as our assets would reprice faster and to a greater degree than our liabilities, while in the case of lower interest rates, our assets would reprice downward and to a greater degree than our liabilities.

Our most recent simulations estimate net interest income sensitivity over the next two years under a range of both lower and higher interest rates. Measured impacts from standardized ramps (gradual changes) and shocks (instantaneous changes) are summarized in Table 37, indicating net interest income sensitivity relative to the Company's base net interest income plan. Ramp scenarios assume interest rates move gradually in parallel across the yield curve relative to the base scenario in year one, and the full amount of the ramp is held as a constant differential to the base scenario in year two. The following describes the simulation assumptions for the scenarios presented in Table 37:

- Simulations are dynamic and reflect anticipated growth across assets and liabilities.
- Other macroeconomic variables that could be correlated with the changes in interest rates are held constant.
- Mortgage prepayment and origination assumptions vary across scenarios and reflect only the impact of the higher or lower interest rates.
- Our base scenario deposit forecast incorporates mix changes consistent with the base interest rate trajectory. Deposit mix is modeled to be the same as in the base scenario across the alternative scenarios. In higher interest rate scenarios, customer activity that shifts balances into higher-yielding products could reduce expected net interest income.
- We hold the size of the projected debt and equity securities portfolios constant across scenarios.

Table 37: Net Interest Income Sensitivity Over Next Two-Year Horizon Relative to Base Expectation

			Lower Rates	Higher Rates	
($ in billions)	Base		100 bps Ramp Parallel Decrease	100 bps Instantaneous Parallel Increase	200 bps Ramp Parallel Increase
First Year of Forecasting Horizon					
Net Interest Income Sensitivity to Base Scenario		$	(1.8) - (1.3)	1.5 - 2.0	1.1 - 1.6
Key Rates at Horizon End					
Fed Funds Target	1.87	%	0.87	2.87	3.87
10-year CMT (1)	1.97		0.97	2.97	3.97
Second Year of Forecasting Horizon					
Net Interest Income Sensitivity to Base Scenario		$	(4.4) - (3.9)	2.0 - 2.5	2.7 - 3.2
Key Rates at Horizon End					
Fed Funds Target	2.25	%	1.25	3.25	4.25
10-year CMT (1)	2.36		1.36	3.36	4.36

(1) U.S. Constant Maturity Treasury Rate

The sensitivity results above do not capture interest rate sensitive noninterest income and expense impacts. Our interest rate sensitive noninterest income and expense is predominantly driven by mortgage banking activities, and may move in the opposite direction of our net interest income. Mortgage originations generally decline in response to higher interest rates and generally increase, particularly refinancing activity, in response to lower interest rates. Mortgage results are also impacted by the valuation of MSRs and related hedge positions. See the "Risk Management – Asset/Liability Management – Mortgage Banking Interest Rate and Market Risk" section in this Report for more information.

Interest rate sensitive noninterest income also results from changes in earnings credit for noninterest-bearing deposits that reduce treasury management deposit service fees. Additionally, for the trading portfolio, our trading assets are (before the effects of certain economic hedges) generally less sensitive to changes in interest rates than the related funding liabilities. As a result, net interest income from the trading portfolio contracts and expands as interest rates rise and fall, respectively. The impact to net interest income does not include the fair value changes of trading securities and loans, which, along with the effects of related economic hedges, are recorded in noninterest income.

We use the debt securities portfolio and exchange-traded and over-the-counter (OTC) interest rate derivatives to hedge our interest rate exposures. See the "Balance Sheet Analysis – Available-for-Sale and Held-to-Maturity Debt Securities" section in this Report for more information on the use of the available-for-sale and held-to-maturity securities portfolios. The notional or contractual amount, credit risk amount and fair value of the derivatives used to hedge our interest rate risk exposures as of December 31, 2019, and December 31, 2018, are presented in Note 18 (Derivatives) to Financial Statements in this Report. We use derivatives for asset/liability management in two main ways:

- to convert the cash flows from selected asset and/or liability instruments/portfolios including investments, commercial loans and long-term debt, from fixed-rate payments to floating-rate payments, or vice versa; and
- to economically hedge our mortgage origination pipeline, funded mortgage loans and MSRs using interest rate swaps, swaptions, futures, forwards and options.

MORTGAGE BANKING INTEREST RATE AND MARKET RISK We originate, fund and service mortgage loans, which subjects us to various risks, including credit, liquidity and interest rate risks. Based on market conditions and other factors, we reduce credit and liquidity risks by selling or securitizing a majority of the long-term fixed-rate mortgage and ARM loans we originate. On the other hand, we may hold originated ARMs and fixed-rate mortgage loans in our loan portfolio as an investment for our deposits. We determine whether the loans will be held for investment or held for sale at the time of commitment. We may subsequently change our intent to hold loans for investment and sell some or all of our ARMs or fixed-rate mortgages as part of our corporate asset/liability management. We may also acquire and add to our securities available for sale a portion of the securities issued at the time we securitize MLHFS.

Interest rate and market risk can be substantial in the mortgage business. Changes in interest rates may potentially reduce total origination and servicing fees, the value of our residential MSRs measured at fair value, the value of MLHFS and the associated income and loss reflected in mortgage banking noninterest income, the income and expense associated with instruments (economic hedges) used to hedge changes in the fair value of MSRs and MLHFS, and the value of derivative loan commitments (interest rate "locks") extended to mortgage applicants.

Interest rates affect the amount and timing of origination and servicing fees because consumer demand for new mortgages and the level of refinancing activity are sensitive to changes in mortgage interest rates. Typically, a decline in mortgage interest rates will lead to an increase in mortgage originations and fees and may also lead to an increase in servicing fee income, depending on the level of new loans added to the servicing portfolio and prepayments. Given the time it takes for consumer behavior to fully react to interest rate changes, as well as the time required for processing a new application, providing the commitment, and securitizing and selling the loan, interest rate changes will affect origination and servicing fees with a lag. The amount and timing of the impact on origination and servicing fees will depend on the magnitude, speed and duration of the change in interest rates.

We measure originations of MLHFS at fair value where an active secondary market and readily available market prices exist to reliably support fair value pricing models used for these loans. Loan origination fees on these loans are recorded when earned, and related direct loan origination costs are recognized when incurred. We also measure at fair value certain of our other interests held related to residential loan sales and securitizations. We believe fair value measurement for MLHFS and other interests held, which we hedge with free-standing derivatives (economic hedges) along with our MSRs measured at fair value, reduces certain timing differences and better matches changes in the value of these assets with changes in the value of derivatives used as economic hedges for these assets. During 2017, 2018, and 2019, in response to continued secondary market illiquidity, as well as our desire to retain high-quality loans on our balance sheet, we continued to originate certain prime non-agency loans to be substantially held for investment. We did however designate a small portion of our non-agency originations in 2018 and 2019 to MLHFS in support of future issuances of private label residential mortgage backed securities (RMBS). We issued $2.4 billion and $441 million of RMBS in 2019 and 2018, respectively.

We initially measure all of our MSRs at fair value and carry substantially all of them at fair value depending on our strategy for managing interest rate risk. Under this method, the MSRs are recorded at fair value at the time we sell or securitize the related mortgage loans. The carrying value of MSRs carried at fair value reflects changes in fair value at the end of each quarter and changes are included in net servicing income, a component of mortgage banking noninterest income. If the fair value of the MSRs increases, income is recognized; if the fair value of the MSRs decreases, a loss is recognized. We use a dynamic and sophisticated model to estimate the fair value of our MSRs and periodically benchmark our estimates to independent appraisals. The valuation of MSRs can be highly subjective and involve complex judgments by management about matters that are inherently unpredictable. See "Critical Accounting Policies – Valuation of Residential Mortgage Servicing Rights" section in this Report for additional information. Changes in interest rates influence a variety of significant assumptions included in the periodic valuation of MSRs, including prepayment speeds, expected returns and potential risks on the servicing asset portfolio, costs to service, the value of escrow balances and other servicing valuation elements. For key economic assumptions and the sensitivity of the fair value of MSRs, see Table 10.6 in Note 10 (Securitizations and Variable Interest Entities) to Financial Statements in this Report.

An increase in interest rates generally reduces the propensity for refinancing, extends the expected duration of the servicing portfolio and, therefore, increases the estimated fair value of the MSRs. However, an increase in interest rates can also reduce mortgage loan demand and, therefore, reduce origination income. A decline in interest rates generally increases the propensity for refinancing, reduces the expected duration of the servicing portfolio and therefore reduces the estimated fair value of MSRs. This reduction in fair value causes a charge to income for MSRs carried at fair value, net of any gains on free-standing derivatives (economic hedges) used to hedge MSRs. We may choose not to fully hedge the entire potential decline in the value of our MSRs resulting from a decline in interest rates because the potential increase in origination/servicing fees in that scenario provides a partial "natural business hedge."

The price risk associated with our MSRs is economically hedged with a combination of highly liquid interest rate forward instruments including mortgage forward contracts, interest rate swaps and interest rate options. All of the instruments included in the hedge are marked to fair value daily. Because the hedging instruments are traded in predominantly highly liquid markets, their prices are readily observable and are fully reflected in each quarter's mark to market. Quarterly MSR hedging results include a combination of directional gain or loss due to market changes as well as any carry income generated. If the economic hedge is effective, its overall directional hedge gain or loss will offset the change in the valuation of the underlying MSR asset. Gains or losses associated with these economic hedges are included in mortgage banking noninterest income. Consistent with our longstanding approach to hedging interest rate risk in the mortgage business, the size of the hedge and the particular combination of forward hedging instruments at any point in time is designed to reduce the volatility of the mortgage business's earnings over various time frames within a range of mortgage interest rates. Because market factors, the composition of the mortgage servicing portfolio and the relationship between the origination and servicing sides of our mortgage business change continually, the types of instruments used in our hedging are reviewed daily and rebalanced based on our evaluation of current market factors and the interest rate risk inherent in our MSRs portfolio. Throughout 2019, our economic hedging strategy primarily used forward mortgage purchase contracts that were effective at offsetting the impact of interest rates on the value of the MSR asset.

Mortgage forward contracts are designed to pass the full economics of the underlying reference mortgage securities to the holder of the contract, including both the directional gain and loss from the forward delivery of the reference securities and the corresponding carry income. Carry income represents the contract's price accretion from the forward delivery price to the spot price including both the yield earned on the reference securities and the market implied cost of financing during the period. The actual amount of carry income earned on the hedge each quarter will depend on the amount of the underlying asset that is hedged and the particular instruments included in the hedge. The level of carry income is driven by the slope of the yield curve and other market driven supply and demand factors affecting the specific reference securities. A steep yield curve generally produces higher carry income while a flat or inverted yield curve can result in lower or potentially negative carry income. The level of carry income is also affected by the type of instrument used. In general, mortgage forward contracts tend to produce higher carry income than interest rate swap contracts. Carry income is recognized over the life of the mortgage forward as a component of the contract's mark to market gain or loss.

Hedging the various sources of interest rate risk in mortgage banking is a complex process that requires sophisticated modeling and constant monitoring. While we attempt to balance these various aspects of the mortgage business, there are several potential risks to earnings:

- Valuation changes for MSRs associated with interest rate changes are recorded in earnings immediately within the accounting period in which those interest rate changes occur, whereas the impact of those same changes in interest rates on origination and servicing fees occur with a lag and over time. Thus, the mortgage business could be protected from adverse changes in interest rates over a period of time on a cumulative basis but still display large variations in income from one accounting period to the next.
- The degree to which our net gains on loan originations offsets valuation changes for MSRs is imperfect, varies at different points in the interest rate cycle, and depends not just on the direction of interest rates but on the pattern of quarterly interest rate changes.
- Origination volumes, the valuation of MSRs and hedging results and associated costs are also affected by many factors. Such factors include the mix of new business between ARMs and fixed-rate mortgages, the relationship between short-term and long-term interest rates, the degree of volatility in interest rates, the relationship between mortgage interest rates and other interest rate markets, and other interest rate factors. Additional factors that can impact the valuation of the MSRs include changes in servicing and foreclosure costs due to changes in investor or regulatory guidelines, as well as individual state foreclosure legislation, and changes in discount rates due to market participants requiring a higher return due to updated market expectations on costs and risks associated with investing in MSRs. Many of these factors are hard to predict and we may not be able to directly or perfectly hedge their effect.
- While our hedging activities are designed to balance our mortgage banking interest rate risks, the financial instruments we use may not perfectly correlate with the values and income being hedged. For example, the change in the value of ARM production held for sale from changes in mortgage interest rates may or may not be fully offset by index-based financial instruments used as economic hedges for such ARMs. Hedge results may also be impacted as the overall level of hedges changes as interest rates change, or as there are other changes in the market for mortgage forwards that may affect the implied carry on the MSRs. For example, the hedge-carry income on our economic hedges for the MSRs did not continue at levels consistent with 2018 as the flat to inverted yield curve resulted in negative hedge carry in 2019.

The total carrying value of our residential and commercial MSRs was $12.9 billion and $16.1 billion at December 31, 2019 and 2018, respectively. The weighted-average note rate on our portfolio of loans serviced for others was 4.25% and 4.32% at December 31, 2019 and 2018, respectively. The carrying value of our total MSRs represented 0.79% and 0.94% of mortgage loans serviced for others at December 31, 2019 and 2018, respectively.

As part of our mortgage banking activities, we enter into commitments to fund residential mortgage loans at specified times in the future. A mortgage loan commitment can be either a floating rate commitment, where the interest rate is not yet determined, or it can be an interest rate lock that binds us to lend funds to a potential borrower at a specified interest rate and within a specified period of time, generally up to 60 days after inception of the rate lock. These loan commitments are derivative loan commitments if the loans that will result from the exercise of the commitments will be held for sale. These derivative loan commitments are recognized at fair value on the balance sheet with changes in their fair values recorded as part of mortgage banking noninterest income. The fair value of these commitments include, at inception and during the life of the loan commitment, the expected net future cash flows related to the associated servicing of the loan as part of the fair value measurement of derivative loan commitments. Changes subsequent to inception are based on changes in fair value of the underlying loan resulting from the exercise of the commitment and changes in the probability that the loan will not fund within the terms of the commitment, referred to as a fall-out factor. The value of the underlying loan commitment is affected by changes in interest rates and the passage of time.

Outstanding derivative loan commitments (interest rate "locks") expose us to the risk that the price of the mortgage loans underlying the commitments might decline due to increases in mortgage interest rates from inception of the rate lock to the funding of the loan. To minimize this risk, we employ mortgage forwards and options and Eurodollar futures and options contracts as economic hedges against the potential decreases in the values of the loans. We expect that these derivative financial instruments will experience changes in fair value that will either fully or partially offset the changes in fair value of the derivative loan commitments. However, changes in investor demand, such as concerns about credit risk, can also cause changes in the spread relationships between underlying loan value and the derivative financial instruments that cannot be hedged.

MARKET RISK Market risk is the risk of possible economic loss from adverse changes in market risk factors such as interest rates, credit spreads, foreign exchange rates, equity and commodity prices, and the risk of possible loss due to counterparty exposure. This applies to implied volatility risk, basis risk, and market liquidity risk. It also includes price risk in the trading book, mortgage servicing rights and the hedge effectiveness risk associated with the mortgage book, and impairment on private equity investments.

The Board's Finance Committee has primary oversight responsibility for market risk and oversees the Company's market risk exposure and market risk management strategies. In addition, the Board's Risk Committee has certain oversight responsibilities with respect to market risk, including adjusting the Company's market risk appetite with input from the Finance Committee. The Finance Committee also reports key market risk matters to the Risk Committee.

At the management level, the Market and Counterparty Risk Management function, which is part of IRM, has primary oversight responsibility for market risk. The Market and Counterparty Risk Management function reports into the CRO and also provides periodic reports related to market risk to the Board's Finance Committee.

MARKET RISK – TRADING ACTIVITIES We engage in trading activities to accommodate the investment and risk management activities of our customers and to execute economic hedging to manage certain balance sheet risks. These trading activities predominantly occur within our Wholesale Banking businesses and to a lesser extent other divisions of the Company. Debt securities held for trading, equity securities held for trading, trading loans and trading derivatives are financial instruments used in our trading activities, and all are carried at fair value. Income earned on the financial instruments used in our trading activities include net interest income, changes in fair value and realized gains and losses. Net interest income earned from our trading activities is reflected in the interest income and interest expense components of our income statement. Changes in fair value of the financial instruments used in our trading activities are reflected in net gains on trading activities, a component of noninterest income in our income statement. For more information on the financial instruments used in our trading activities and the income from these trading activities, see Note 4 (Trading Activities) to Financial Statements in this Report.

Value-at-risk (VaR) is a statistical risk measure used to estimate the potential loss from adverse moves in the financial markets. The Company uses VaR metrics complemented with sensitivity analysis and stress testing in measuring and monitoring market risk. These market risk measures are monitored at both the business unit level and at aggregated levels on a daily basis. Our corporate market risk management function aggregates and monitors all exposures to ensure risk measures are within our established risk appetite. Changes to the market risk profile are analyzed and reported on a daily basis. The Company monitors various market risk exposure measures from a variety of perspectives, including line of business, product, risk type, and legal entity.

Trading VaR is the measure used to provide insight into the market risk exhibited by the Company's trading positions. The Company calculates Trading VaR for risk management purposes to establish line of business and Company-wide risk limits. Trading VaR is calculated based on all trading positions on our balance sheet.

Table 38 shows the Company's Trading General VaR by risk category. Our Trading General VaR uses a historical simulation model which assumes that historical changes in market values are representative of the potential future outcomes and measures the expected earnings loss of the Company over a 1-day time interval at a 99% confidence level. Our historical simulation model is based on equally weighted data from a 12-month historical look-back period. We believe using a 12-month look-back period helps ensure the Company's VaR is responsive to current market conditions. The 99% confidence level equates to an expectation that the Company would incur single-day trading losses in excess of the VaR estimate on average once every 100 trading days.

Average Company Trading General VaR was $22 million for the year ended December 31, 2019, compared with $15 million for the year ended December 31, 2018. The increase in average Company Trading General VaR for the year ended December 31, 2019, was mainly driven by changes in portfolio composition.

Table 38: Trading 1-Day 99% General VaR by Risk Category

								Year ended
	December 31, 2019				December 31, 2018			
(in millions)	**Period end**	**Average**	**Low**	**High**	Period end	Average	Low	High
Company Trading General VaR Risk Categories								
Credit	**$ 15**	**17**	**11**	**30**	18	16	10	55
Interest rate	**14**	**27**	**9**	**49**	28	17	6	52
Equity	**5**	**5**	**4**	**11**	5	8	2	16
Commodity	**2**	**2**	**1**	**6**	2	1	1	4
Foreign exchange	**1**	**1**	**1**	**1**	1	1	0	3
Diversification benefit (1)	**(13)**	**(30)**			(33)	(28)		
Company Trading General VaR	**$ 24**	**22**			21	15		

(1) The period-end VaR was less than the sum of the VaR components described above, which is due to portfolio diversification. The diversification effect arises because the risks are not perfectly correlated causing a portfolio of positions to usually be less risky than the sum of the risks of the positions alone. The diversification benefit is not meaningful for low and high metrics since they may occur on different days.

Sensitivity Analysis Given the inherent limitations of the VaR models, the Company uses other measures, including sensitivity analysis, to measure and monitor risk. Sensitivity analysis is the measure of exposure to a single risk factor, such as a 0.01% increase in interest rates or a 1% increase in equity prices. We conduct and monitor sensitivity on interest rates, credit spreads, volatility, equity, commodity, and foreign exchange exposure. Sensitivity analysis complements VaR as it provides an indication of risk relative to each factor irrespective of historical market moves.

Stress Testing While VaR captures the risk of loss due to adverse changes in markets using recent historical market data, stress testing is designed to capture the Company's exposure to extreme but low probability market movements. Stress scenarios estimate the risk of losses based on management's assumptions of abnormal but severe market movements such as severe credit spread widening or a large decline in equity prices. These scenarios assume that the market moves happen instantaneously and no repositioning or hedging activity takes place to mitigate losses as events unfold (a conservative approach since experience demonstrates otherwise).

An inventory of scenarios is maintained representing both historical and hypothetical stress events that affect a broad range of market risk factors with varying degrees of correlation and differing time horizons. Hypothetical scenarios assess the impact of large movements in financial variables on portfolio values. Typical examples include a 1% (100 basis point) increase across the yield curve or a 10% decline in equity market indexes. Historical scenarios utilize an event-driven approach: the stress scenarios are based on plausible but rare events, and the analysis addresses how these events might affect the risk factors relevant to a portfolio.

The Company's stress testing framework is also used in calculating results in support of the Federal Reserve Board's Comprehensive Capital Analysis and Review (CCAR) and internal stress tests. Stress scenarios are regularly reviewed and updated to address potential market events or concerns. For more detail on the CCAR process, see the "Capital Management" section in this Report.

MARKET RISK – EQUITY SECURITIES We are directly and indirectly affected by changes in the equity markets. We make and manage direct investments in start-up businesses, emerging growth companies, management buy-outs, acquisitions and corporate recapitalizations. We also invest in non-affiliated funds that make similar private equity investments. These private equity investments are made within capital allocations approved by management and the Board. The Board's policy is to review business developments, key risks and historical returns for the private equity investment portfolio at least annually. Management reviews these investments at least quarterly and assesses them for possible OTTI and observable price changes. For nonmarketable equity securities, the analysis is based on facts and circumstances of each individual investment and the expectations for that investment's cash flows, capital needs, the viability of its business model, our exit strategy, and observable price changes that are similar to the investments held. Investments in nonmarketable equity securities include private equity investments accounted for under the equity method, fair value through net income, and the measurement alternative.

In conjunction with the March 2008 initial public offering (IPO) of Visa, Inc. (Visa), we received approximately 20.7 million shares of Visa Class B common stock, the class which was apportioned to member banks of Visa at the time of the IPO. To manage our exposure to Visa and realize the value of the appreciated Visa shares, we incrementally sold these shares through a series of sales, thereby eliminating this position as of September 30, 2015. As part of these sales, we agreed to compensate the buyer for any additional contributions to a litigation settlement fund for the litigation matters associated with the Class B shares we sold. Our exposure to this retained litigation risk has been updated quarterly and is reflected on our balance sheet. For additional information about the associated litigation matters, see the "Interchange Litigation" section in Note 17 (Legal Actions) to Financial Statements in this Report.

As part of our business to support our customers, we trade public equities, listed/OTC equity derivatives and convertible bonds. We have parameters that govern these activities. We also have marketable equity securities that include investments relating to our venture capital activities. We manage these marketable equity securities within capital risk limits approved by management and the Board and monitored by Corporate ALCO and the Market Risk Committee. The fair value changes in these marketable equity securities are recognized in net income. For more information, see Note 8 (Equity Securities) to Financial Statements in this Report.

Changes in equity market prices may also indirectly affect our net income by (1) the value of third-party assets under management and, hence, fee income, (2) borrowers whose ability to repay principal and/or interest may be affected by the stock market, or (3) brokerage activity, related commission income and other business activities. Each business line monitors and manages these indirect risks.

LIQUIDITY AND FUNDING The objective of effective liquidity management is to ensure that we can meet customer loan requests, customer deposit maturities/withdrawals and other cash commitments efficiently under both normal operating conditions and under periods of Wells Fargo-specific and/or market stress. To achieve this objective, the Board establishes liquidity guidelines that require sufficient asset-based liquidity to cover potential funding requirements and to avoid over-dependence on volatile, less reliable funding markets. These guidelines are monitored on a monthly basis by the Corporate ALCO and on a quarterly basis by the Board. These guidelines are established and monitored for both the consolidated company and for the Parent on a stand-alone basis to ensure that the Parent is a source of strength for its regulated, deposit-taking banking subsidiaries.

Liquidity Standards We are subject to a rule, issued by the FRB, OCC and FDIC, that includes a quantitative liquidity requirement consistent with the liquidity coverage ratio (LCR) established by the Basel Committee on Banking Supervision (BCBS). The rule requires banking institutions, such as Wells Fargo, to hold high-quality liquid assets (HQLA), such as central bank reserves and government and corporate debt that can be converted easily and quickly into cash, in an amount equal to or greater than its projected net cash outflows during a 30-day stress period. The rule is applicable to the Company on a consolidated basis and to our insured depository institutions (IDIs) with total assets greater than $10 billion. In addition, rules issued by the FRB impose enhanced liquidity management standards on large bank holding companies (BHC) such as Wells Fargo.

The FRB, OCC and FDIC have proposed a rule that would implement a stable funding requirement, the net stable funding ratio (NSFR), which would require large banking organizations, such as Wells Fargo, to maintain a sufficient amount of stable funding in relation to their assets, derivative exposures and commitments over a one-year horizon period.

Liquidity Coverage Ratio As of December 31, 2019, the consolidated Company and Wells Fargo Bank, N.A., were above the minimum LCR requirement of 100%, which is calculated as HQLA divided by projected net cash outflows, as each is defined under the LCR rule. Table 39 presents the Company's quarterly average values for the daily-calculated LCR and its components calculated pursuant to the LCR rule requirements.

Table 39: Liquidity Coverage Ratio

(in millions, except ratio)	Average for Quarter ended December 31, 2019
HQLA (1)(2)	$ 373,362
Projected net cash outflows	312,019
LCR	120%

(1) Excludes excess HQLA at Wells Fargo Bank, N.A.
(2) Net of applicable haircuts required under the LCR rule.

Liquidity Sources We maintain liquidity in the form of cash, cash equivalents and unencumbered high-quality, liquid debt securities. These assets make up our primary sources of liquidity which are presented in Table 40. Our primary sources of liquidity are substantially the same in composition as HQLA under the LCR rule; however, our primary sources of liquidity will generally exceed HQLA calculated under the LCR rule due to the applicable haircuts to HQLA and the exclusion of excess HQLA at our subsidiary IDIs required under the LCR rule.

Our cash is predominantly on deposit with the Federal Reserve. Debt securities included as part of our primary sources of liquidity are comprised of U.S. Treasury and federal agency debt, and mortgage-backed securities issued by federal agencies within our debt securities portfolio. We believe these debt securities provide quick sources of liquidity through sales or by pledging to obtain financing, regardless of market conditions. Some of these debt securities are within the held-to-maturity portion of our debt securities portfolio and as such are not intended for sale but may be pledged to obtain financing. Some of the legal entities within our consolidated group of companies are subject to various regulatory, tax, legal and other restrictions that can limit the transferability of their funds. We believe we maintain adequate liquidity for these entities in consideration of such funds transfer restrictions.

Table 40: Primary Sources of Liquidity

			December 31, 2019			December 31, 2018
(in millions)	**Total**	**Encumbered**	**Unencumbered**	Total	Encumbered	Unencumbered
Interest-earning deposits with banks	**$ 119,493**	**—**	**119,493**	149,736	—	149,736
Debt securities of U.S. Treasury and federal agencies	**61,099**	**3,107**	**57,992**	57,688	1,504	56,184
Mortgage-backed securities of federal agencies (1)	**258,589**	**41,135**	**217,454**	244,211	35,656	208,555
Total	**$ 439,181**	**44,242**	**394,939**	451,635	37,160	414,475

(1) Included in encumbered securities at December 31, 2019, were securities with a fair value of $263 million which were purchased in December 2019, but settled in January 2020.

In addition to our primary sources of liquidity shown in Table 40, liquidity is also available through the sale or financing of other debt securities including trading and/or available-for-sale debt securities, as well as through the sale, securitization or financing of loans, to the extent such debt securities and loans are not encumbered. In addition, other debt securities in our held-to-maturity portfolio, to the extent not encumbered, may be pledged to obtain financing.

Deposits have historically provided a sizable source of relatively low-cost funds. Deposits were 137% of total loans at December 31, 2019, and 135% at December 31, 2018.

Additional funding is provided by long-term debt and short-term borrowings. Table 41 shows selected information for short-term borrowings, which generally mature in less than 30 days. For additional information, see Note 14 (Short-Term Borrowings) to Financial Statements in this Report.

Table 41: Short-Term Borrowings

	Quarter ended				
(in millions)	**Dec 31, 2019**	Sep 30, 2019	Jun 30, 2019	Mar 31, 2019	Dec 31, 2018
Balance, period end					
Federal funds purchased and securities sold under agreements to repurchase	$ **92,403**	110,399	102,560	93,896	92,430
Other short-term borrowings	**12,109**	13,509	12,784	12,701	13,357
Total	$ **104,512**	123,908	115,344	106,597	105,787
Average daily balance for period					
Federal funds purchased and securities sold under agreements to repurchase	$ **103,614**	109,499	102,557	95,721	93,483
Other short-term borrowings	**12,335**	12,343	12,197	12,930	12,479
Total	$ **115,949**	121,842	114,754	108,651	105,962
Maximum month-end balance for period					
Federal funds purchased and securities sold under agreements to repurchase (1)	$ **111,727**	110,399	105,098	97,650	93,918
Other short-term borrowings (2)	**12,708**	13,509	12,784	14,129	13,357

(1) Highest month-end balance in each of the last five quarters was in October, September, May and January 2019, and November 2018.
(2) Highest month-end balance in each of the last five quarters was in October, September, June, and February 2019, and December 2018.

Long-Term Debt We access domestic and international capital markets for long-term funding (generally greater than one year) through issuances of registered debt securities, private placements and asset-backed secured funding. We issue long-term debt in a variety of maturities and currencies to achieve cost-efficient funding and to maintain an appropriate maturity profile. Proceeds from securities issued were used for general corporate purposes, and, unless otherwise specified in the applicable prospectus or prospectus supplement, we expect the proceeds from securities issued in the future will be used for the same purposes. Depending on market conditions, we may purchase our outstanding debt securities from time to time in privately negotiated or open market transactions, by tender offer, or otherwise. We issued $53.4 billion of long-term debt in 2019 and $9.7 billion in January and February of 2020. For additional information, see Note 15 (Long-Term Debt) to Financial Statements in this Report.

Credit Ratings Investors in the long-term capital markets, as well as other market participants, generally will consider, among other factors, a company's debt rating in making investment decisions. Rating agencies base their ratings on many quantitative and qualitative factors, including capital adequacy, liquidity, asset quality, business mix, the level and quality of earnings, and rating agency assumptions regarding the probability and extent of federal financial assistance or support for certain large financial institutions. Adverse changes in these factors could result in a reduction of our credit rating; however, our debt securities do not contain credit rating covenants.

On October 21, 2019, DBRS Morningstar confirmed the Company's ratings and maintained the stable trend for all ratings. On December 16, 2019, Fitch Ratings, Inc., affirmed the Company's ratings and maintained the stable outlook for all ratings. Both the Parent and Wells Fargo Bank, N.A., remain among the highest-rated financial firms in the United States.

See the "Risk Factors" section in this Report for additional information regarding our credit ratings and the potential impact a credit rating downgrade would have on our liquidity and operations, as well as Note 18 (Derivatives) to Financial Statements in this Report for information regarding additional collateral and funding obligations required for certain derivative instruments in the event our credit ratings were to fall below investment grade.

The credit ratings of the Parent and Wells Fargo Bank, N.A., as of December 31, 2019, are presented in Table 42.

Table 42: Credit Ratings as of December 31, 2019

	Wells Fargo & Company		Wells Fargo Bank, N.A.	
	Senior debt	Short-term borrowings	Long-term deposits	Short-term borrowings
Moody's	A2	P-1	Aa1	P-1
S&P Global Ratings	A-	A-2	A+	A-1
Fitch Ratings, Inc.	A+	F1	AA	F1+
DBRS Morningstar	AA (low)	R-1 (middle)	AA	R-1 (high)

FEDERAL HOME LOAN BANK MEMBERSHIP The Federal Home Loan Banks (the FHLBs) are a group of cooperatives that lending institutions use to finance housing and economic development in local communities. We are a member of the FHLBs based in Dallas, Des Moines and San Francisco. Each member of the FHLBs is required to maintain a minimum investment in capital stock of the applicable FHLB. The board of directors of each FHLB can increase the minimum investment requirements in the event it has concluded that additional capital is required to allow it to meet its own regulatory capital requirements. Any increase in the minimum investment requirements outside of specified ranges requires the approval of the Federal Housing Finance Agency. Because the extent of any obligation to increase our investment in any of the FHLBs depends entirely upon the occurrence of a future event, potential future payments to the FHLBs are not determinable.

LIBOR TRANSITION Due to uncertainty surrounding the suitability and sustainability of the London Interbank Offered Rate (LIBOR), central banks and global regulators have called for financial market participants to prepare for the discontinuation of LIBOR by the end of 2021. LIBOR is a widely-referenced benchmark rate, which is published in five currencies and a range of tenors, and seeks to estimate the cost at which banks can borrow on an unsecured basis from other banks. We have a significant number of assets and liabilities referenced to LIBOR and other interbank offered rates (IBORs) such as commercial loans, adjustable-rate mortgage loans, derivatives, debt securities, and long-term debt. As of December 31, 2019, we had over $500 billion of assets, consisting mostly of commercial loans, over $80 billion of liabilities, and over $400 billion of off-balance sheet commitments linked to IBORs. These amounts exclude derivative assets and liabilities on our consolidated balance sheet. As of December 31, 2019, the notional amount of our IBOR-linked interest rate derivative contracts was over $10 trillion, of which over $8 trillion related to contracts with central counterparty clearinghouses. Each of the IBOR-linked amounts referenced above will vary in future periods as current contracts expire with potential replacement contracts using either IBOR or an alternative reference rate. As of December 31, 2019, U.S. dollar LIBOR represented substantially all of the IBOR-linked amounts referenced above; however, we had exposure to all primary IBORs.

Accordingly, we established a LIBOR Transition Office (LTO) in February 2018, with senior management and Board oversight. The LTO is responsible for developing a coordinated strategy to transition the IBOR-linked contracts and processes across Wells Fargo to alternative reference rates and serves as primary conduit between Wells Fargo and relevant industry groups, such as the Alternative Reference Rates Committee (ARRC). Among other activities, the program structure created by the LTO is designed to (i) identify the types of exposures (e.g., products, systems, models) and risks associated with the transition, (ii) assess the provisions in our contracts that could apply in connection with the transition, (iii) incorporate more robust IBOR fallback language (contractual provisions that provide for transition to alternative reference rates upon defined trigger events) into new IBOR-linked product contracts, (iv) coordinate alternative reference rate product design, (v) appraise operational and infrastructure enhancements necessary to use alternative reference rates, (vi) facilitate systems and application revisions, including model development and validation, (vii) assess the funding issues, basis risk, and other finance, accounting, and tax impacts of transitioning away from IBORs, (viii) develop plans to minimize negative financial outcomes, (ix) coordinate an enterprise-wide process for managing outreach and communications with our customers, and (x) implement a process to escalate key risks. When assessing risks associated with the transition away from IBORs, the LTO is reviewing both orderly and disorderly transition scenarios.

In an effort to mitigate the risks associated with a transition away from IBORs, the LTO is in the process of implementing the following initiatives: (i) compiling an enterprise contract inventory of IBOR-related terms, (ii) implementing more robust fallback language and disclosures related to LIBOR transition, (iii) developing a plan to amend legacy contracts to reference alternative reference rates, (iv) enhancing systems to support new fallback language and new products linked to alternative reference rates, (v) preparing internal and external communications regarding an IBOR transition, (vi) developing internal guidance focused on issues related to IBORs and alternative reference rate products, and (vii) evaluating policies and procedures in light of the transition away from LIBOR and other IBORs and the introduction of new products linked to alternative reference rates.

In addition, the Company is actively working with regulators, industry working groups (such as the ARRC) and trade associations that are developing guidance to facilitate an orderly transition away from the use of LIBOR. We continue to assess the risks and related impacts associated with a transition away from IBORs. See the "Risk Factors" section in this Report for additional information regarding the potential impact of a benchmark rate, such as LIBOR, or other referenced financial metric being significantly changed, replaced, or discontinued.

Although the Company did not issue any long-term debt with an interest rate indexed to the Secured Overnight Financing Rate (SOFR) in 2019, we did issue $1.0 billion of long-term debt indexed to SOFR in 2018. SOFR is published by the Federal Reserve Bank of New York as an alternative to U.S. dollar LIBOR and is a broad measure of the cost of borrowing cash overnight collateralized by U.S. Treasury securities.

Capital Management

We have an active program for managing capital through a comprehensive process for assessing the Company's overall capital adequacy. Our objective is to maintain capital at an amount commensurate with our risk profile and risk tolerance objectives, and to meet both regulatory and market expectations. We primarily fund our working capital needs through the retention of earnings net of both dividends and share repurchases, as well as through the issuance of preferred stock and long and short-term debt. Retained earnings increased $8.5 billion from December 31, 2018, predominantly from Wells Fargo net income of $19.5 billion, less common and preferred stock dividends of $9.9 billion. During 2019, we issued 48.8 million shares of common stock, excluding conversions of preferred shares. During 2019, we repurchased 502.4 million shares of common stock at a cost of $24.5 billion. The amount of our repurchases are subject to various factors as discussed in the "Securities Repurchases" section below. For additional information about share repurchases, see Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

In third quarter 2019, we redeemed $1.6 billion of our Preferred Stock, Series K. In January 2020, we issued $2.0 billion of our Preferred Stock, Series Z. In February 2020, we announced a redemption of the remaining outstanding shares of our Preferred Stock, Series K, and a partial redemption of our Preferred Stock, Series T. For more information, see Note 20 (Preferred Stock) to Financial Statements in this Report.

Regulatory Capital Guidelines

The Company and each of our IDIs are subject to various regulatory capital adequacy requirements administered by the FRB and the OCC. Risk-based capital (RBC) guidelines establish a risk-adjusted ratio relating capital to different categories of assets and off-balance sheet exposures as discussed below.

RISK-BASED CAPITAL AND RISK-WEIGHTED ASSETS The Company is subject to rules issued by federal banking regulators to implement Basel III capital requirements for U.S. banking organizations. The federal banking regulators' capital rules, among other things, require on a fully phased-in basis:

- a minimum Common Equity Tier 1 (CET1) ratio of 9.00%, comprised of a 4.50% minimum requirement plus a capital conservation buffer of 2.50% and for us, as a global systemically important bank (G-SIB), a capital surcharge of 2.00%;
- a minimum tier 1 capital ratio of 10.50%, comprised of a 6.00% minimum requirement plus the capital conservation buffer of 2.50% and the G-SIB capital surcharge of 2.00%;
- a minimum total capital ratio of 12.50%, comprised of a 8.00% minimum requirement plus the capital conservation buffer of 2.50% and the G-SIB capital surcharge of 2.00%;
- a potential countercyclical buffer of up to 2.50% to be added to the minimum capital ratios, which could be imposed by regulators at their discretion if it is determined that a period of excessive credit growth is contributing to an increase in systemic risk; and
- a minimum tier 1 leverage ratio of 4.00%.

The Basel III capital requirements for calculating CET1 and tier 1 capital, along with risk-weighted assets (RWAs), are fully phased-in. However, the requirements for determining tier 2 and total capital are still in accordance with Transition Requirements and are scheduled to be fully phased-in by the end of 2021. The Basel III capital rules contain two frameworks for calculating capital requirements, a Standardized Approach and an Advanced Approach applicable to certain institutions, including Wells Fargo. Accordingly, in the assessment of our capital adequacy, we must report the lower of our CET1, tier 1 and total capital ratios calculated under the Standardized Approach and under the Advanced Approach.

On April 10, 2018, the FRB issued a proposed rule that would add a stress capital buffer and a stress leverage buffer to the minimum capital and tier 1 leverage ratio requirements. The buffers would be calculated based on the decrease in a financial institution's risk-based capital and tier 1 leverage ratios under the supervisory severely adverse scenario in CCAR, plus four quarters of planned common stock dividends. The stress capital buffer would replace the 2.50% capital conservation buffer under the Standardized Approach, whereas the stress leverage buffer would be added to the current 4.00% minimum tier 1 leverage ratio.

As a G-SIB, we are also subject to the FRB's rule implementing the additional capital surcharge of between 1.00-4.50% on the minimum capital requirements of G-SIBs. Under the rule, we must annually calculate our surcharge under two methods and use the higher of the two surcharges. The first method (method one) considers our size, interconnectedness, cross-jurisdictional activity, substitutability, and complexity, consistent with the methodology developed by the BCBS and the Financial Stability Board (FSB). The second (method two) uses similar inputs, but replaces substitutability with use of short-term wholesale funding and will generally result in higher surcharges than the BCBS methodology. Because the G-SIB capital surcharge is calculated annually based on data that can differ over time, the amount of the surcharge is subject to change in future years.

The tables that follow provide information about our risk-based capital and related ratios as calculated under Basel III capital guidelines. Although we continue to report certain capital amounts and ratios in accordance with Transition Requirements for banking industry regulatory reporting purposes, we are managing our capital on a fully phased-in basis. For information about our capital requirements calculated in accordance with Transition Requirements, see Note 29 (Regulatory and Agency Capital Requirements) to Financial Statements in this Report.

Table 43 summarizes our CET1, tier 1 capital, total capital, RWAs and capital ratios on a fully phased-in basis at December 31, 2019 and 2018.

Table 43: Capital Components and Ratios (Fully Phased-In) (1)

			December 31, 2019		December 31, 2018	
(in millions, except ratios)		Required Minimum Capital Ratios	Advanced Approach	Standardized Approach	Advanced Approach	Standardized Approach
Common Equity Tier 1	(A)		$ 138,760	138,760	146,363	146,363
Tier 1 Capital	(B)		158,949	158,949	167,866	167,866
Total Capital (2)	(C)		187,813	195,703	198,103	206,346
Risk-Weighted Assets	(D)		1,230,066	1,245,853	1,177,350	1,247,210
Common Equity Tier 1 Capital Ratio	(A)/(D)	9.00%	11.28	11.14 *	12.43	11.74 *
Tier 1 Capital Ratio	(B)/(D)	10.50	12.92	12.76 *	14.26	13.46 *
Total Capital Ratio (2)	(C)/(D)	12.50	15.27 *	15.71	16.83	16.54 *

* Denotes the lowest capital ratio as determined under the Advanced and Standardized Approaches.
(1) See Table 44 for information regarding the calculation and components of CET1, tier 1 capital, total capital and RWAs.
(2) The fully phased-in total capital amounts and ratios are considered non-GAAP financial measures that are used by management, bank regulatory agencies, investors and analysts to assess and monitor the Company's capital position. See Table 44 for information regarding the calculation and components of our fully phased-in total capital amounts, including a corresponding reconciliation to GAAP financial measures.

Table 44 provides information regarding the calculation and composition of our risk-based capital under the Advanced and Standardized Approaches at December 31, 2019 and December 31, 2018.

Table 44: Risk-Based Capital Calculation and Components

(in millions)			December 31, 2019 Advanced Approach	December 31, 2019 Standardized Approach	December 31, 2018 Advanced Approach	December 31, 2018 Standardized Approach
Total equity		$	**187,984**	**187,984**	197,066	197,066
Adjustments:						
Preferred stock			**(21,549)**	**(21,549)**	(23,214)	(23,214)
Additional paid-in capital on ESOP preferred stock			**(71)**	**(71)**	(95)	(95)
Unearned ESOP shares			**1,143**	**1,143**	1,502	1,502
Noncontrolling interests			**(838)**	**(838)**	(900)	(900)
Total common stockholders' equity			**166,669**	**166,669**	174,359	174,359
Adjustments:						
Goodwill			**(26,390)**	**(26,390)**	(26,418)	(26,418)
Certain identifiable intangible assets (other than MSRs)			**(437)**	**(437)**	(559)	(559)
Goodwill and other intangibles on nonmarketable equity securities (included in other assets)			**(2,146)**	**(2,146)**	(2,187)	(2,187)
Applicable deferred taxes related to goodwill and other intangible assets (1)			**810**	**810**	785	785
Other			**254**	**254**	383	383
Common Equity Tier 1			**138,760**	**138,760**	146,363	146,363
Common Equity Tier 1		$	**138,760**	**138,760**	146,363	146,363
Preferred stock			**21,549**	**21,549**	23,214	23,214
Additional paid-in capital on ESOP preferred stock			**71**	**71**	95	95
Unearned ESOP shares			**(1,143)**	**(1,143)**	(1,502)	(1,502)
Other			**(288)**	**(288)**	(304)	(304)
Total Tier 1 capital	(A)		**158,949**	**158,949**	167,866	167,866
Long-term debt and other instruments qualifying as Tier 2			**26,515**	**26,515**	27,946	27,946
Qualifying allowance for credit losses (2)			**2,566**	**10,456**	2,463	10,706
Other			**(217)**	**(217)**	(172)	(172)
Total Tier 2 capital (Fully Phased-In)	(B)		**28,864**	**36,754**	30,237	38,480
Effect of Transition Requirements			**520**	**520**	695	695
Total Tier 2 capital (Transition Requirements)		$	**29,384**	**37,274**	30,932	39,175
Total qualifying capital (Fully Phased-In)	(A)+(B)	$	**187,813**	**195,703**	198,103	206,346
Total Effect of Transition Requirements			**520**	**520**	695	695
Total qualifying capital (Transition Requirements)		$	**188,333**	**196,223**	198,798	207,041
Risk-Weighted Assets (RWAs) (3)(4):						
Credit risk		$	**790,784**	**1,210,209**	803,273	1,201,246
Market risk			**35,644**	**35,644**	45,964	45,964
Operational risk			**403,638**	**—**	328,113	—
Total RWAs		$	**1,230,066**	**1,245,853**	1,177,350	1,247,210

(1) Determined by applying the combined federal statutory rate and composite state income tax rates to the difference between book and tax basis of the respective goodwill and intangible assets at period end.
(2) Under the Advanced Approach, the allowance for credit losses that exceeds expected credit losses is eligible for inclusion in Tier 2 Capital, to the extent the excess allowance does not exceed 0.60% of Advanced credit RWAs, and under the Standardized Approach, the allowance for credit losses is includable in Tier 2 Capital up to 1.25% of Standardized credit RWAs, with any excess allowance for credit losses being deducted from total RWAs.
(3) RWAs calculated under the Advanced Approach utilize a risk-sensitive methodology, which relies upon the use of internal credit models based upon our experience with internal rating grades. Advanced Approach also includes an operational risk component, which reflects the risk of operating loss resulting from inadequate or failed internal processes or systems.
(4) Under the regulatory guidelines for risk-based capital, on-balance sheet assets and credit equivalent amounts of derivatives and off-balance sheet items are assigned to one of several broad risk categories according to the obligor, or, if relevant, the guarantor or the nature of any collateral. The aggregate dollar amount in each risk category is then multiplied by the risk weight associated with that category. The resulting weighted values from each of the risk categories are aggregated for determining total RWAs.

Table 45 presents the changes in Common Equity Tier 1 under the Advanced Approach for the year ended December 31, 2019.

Table 45: Analysis of Changes in Common Equity Tier 1 (Advanced Approach)

(in millions)		
Common Equity Tier 1 at December 31, 2018	$	146,363
Net income applicable to common stock		17,938
Common stock dividends		(8,444)
Common stock issued, repurchased, and stock compensation-related items		(21,719)
Changes in cumulative other comprehensive income		4,544
Cumulative effect from change in accounting policies (1)		(11)
Goodwill		27
Certain identifiable intangible assets (other than MSRs)		122
Goodwill and other intangibles on nonmarketable equity securities (included in other assets)		41
Applicable deferred taxes related to goodwill and other intangible assets (2)		26
Other		(127)
Change in Common Equity Tier 1		(7,603)
Common Equity Tier 1 at December 31, 2019	$	138,760

(1) Effective January 1, 2019, we adopted Accounting Standards Update (ASU) 2016-02 – Leases (Topic 842) and subsequent related Updates, ASU 2017-08 – Receivables – Nonrefundable Fees and Other Costs (Subtopic 310-20): *Premium Amortization on Purchased Callable Debt Securities*. See Note 1 (Summary of Significant Accounting Policies) for more information.
(2) Determined by applying the combined federal statutory rate and composite state income tax rates to the difference between book and tax basis of the respective goodwill and intangible assets at period end.

Table 46 presents net changes in the components of RWAs under the Advanced and Standardized Approaches for the year ended December 31, 2019.

Table 46: Analysis of Changes in RWAs

(in millions)		Advanced Approach	Standardized Approach
RWAs at December 31, 2018	$	1,177,350	1,247,210
Net change in credit risk RWAs		(12,489)	8,963
Net change in market risk RWAs		(10,320)	(10,320)
Net change in operational risk RWAs		75,525	—
Total change in RWAs		52,716	(1,357)
RWAs at December 31, 2019	$	1,230,066	1,245,853

TANGIBLE COMMON EQUITY We also evaluate our business based on certain ratios that utilize tangible common equity. Tangible common equity is a non-GAAP financial measure and represents total equity less preferred equity, noncontrolling interests, goodwill, certain identifiable intangible assets (other than MSRs) and goodwill and other intangibles on nonmarketable equity securities, net of applicable deferred taxes. These tangible common equity ratios are as follows:

- Tangible book value per common share, which represents tangible common equity divided by common shares outstanding; and
- Return on average tangible common equity (ROTCE), which represents our annualized earnings contribution as a percentage of tangible common equity.

The methodology of determining tangible common equity may differ among companies. Management believes that tangible book value per common share and return on average tangible common equity, which utilize tangible common equity, are useful financial measures because they enable investors and others to assess the Company's use of equity.

Table 47 provides a reconciliation of these non-GAAP financial measures to GAAP financial measures.

Table 47: Tangible Common Equity

		Balance at period end			Average balance for the year ended		
(in millions, except ratios)		**Dec 31, 2019**	Dec 31, 2018	Dec 31, 2017	**Dec 31, 2019**	Dec 31, 2018	Dec 31, 2017
Total equity		**$ 187,984**	197,066	208,079	**197,621**	203,356	205,654
Adjustments:							
Preferred stock		**(21,549)**	(23,214)	(25,358)	**(22,522)**	(24,956)	(25,592)
Additional paid-in capital on ESOP preferred stock		**(71)**	(95)	(122)	**(81)**	(125)	(139)
Unearned ESOP shares		**1,143**	1,502	1,678	**1,306**	2,159	2,143
Noncontrolling interests		**(838)**	(900)	(1,143)	**(962)**	(929)	(948)
Total common stockholders' equity	(A)	**166,669**	174,359	183,134	**175,362**	179,505	181,118
Adjustments:							
Goodwill		**(26,390)**	(26,418)	(26,587)	**(26,409)**	(26,453)	(26,629)
Certain identifiable intangible assets (other than MSRs)		**(437)**	(559)	(1,624)	**(493)**	(1,088)	(2,176)
Goodwill and other intangibles on nonmarketable equity securities (included in other assets)		**(2,146)**	(2,187)	(2,155)	**(2,174)**	(2,197)	(2,184)
Applicable deferred taxes related to goodwill and other intangible assets (1)		**810**	785	962	**792**	866	1,570
Tangible common equity	(B)	**$ 138,506**	145,980	153,730	**147,078**	150,633	151,699
Common shares outstanding	(C)	**4,134.4**	4,581.3	4,891.6	**N/A**	N/A	N/A
Net income applicable to common stock	(D)	**N/A**	N/A	N/A	**$ 17,938**	20,689	20,554
Book value per common share	(A)/(C)	**$ 40.31**	38.06	37.44	**N/A**	N/A	N/A
Tangible book value per common share	(B)/(C)	**33.50**	31.86	31.43	**N/A**	N/A	N/A
Return on average common stockholders' equity (ROE)	(D)/(A)	**N/A**	N/A	N/A	**10.23%**	11.53	11.35
Return on average tangible common equity (ROTCE)	(D)/(B)	**N/A**	N/A	N/A	**12.20**	13.73	13.55

(1) Determined by applying the combined federal statutory rate and composite state income tax rates to the difference between book and tax basis of the respective goodwill and intangible assets at period end.

SUPPLEMENTARY LEVERAGE RATIO As a BHC, we are required to maintain a supplementary leverage ratio (SLR) of at least 5.00% (comprised of a 3.00% minimum requirement plus a supplementary leverage buffer of 2.00%) to avoid restrictions on capital distributions and discretionary bonus payments. Our IDIs are required to maintain a SLR of at least 6.00% to be considered well-capitalized under applicable regulatory capital adequacy guidelines. In April 2018, the FRB and OCC proposed rules (the “Proposed SLR Rules”) that would replace the 2.00% supplementary leverage buffer with a buffer equal to one-half of our G-SIB capital surcharge. The Proposed SLR Rules would similarly tailor the current 6.00% SLR requirement for our IDIs. At December 31, 2019, our SLR for the Company was 7.07%, and we also exceeded the applicable SLR requirements for each of our IDIs. See Table 48 for information regarding the calculation and components of the SLR.

Table 48: Supplementary Leverage Ratio

(in millions, except ratio)			Quarter ended December 31, 2019
Tier 1 capital	(A)	$	158,949
Total average assets			1,941,843
Less: Goodwill and other permitted Tier 1 capital deductions (net of deferred tax liabilities)			28,546
Total adjusted average assets			1,913,297
Plus adjustments for off-balance sheet exposures:			
Derivatives (1)			67,645
Repo-style transactions (2)			5,162
Other (3)			261,625
Total off-balance sheet exposures			334,432
Total leverage exposure	(B)	$	2,247,729
Supplementary leverage ratio	(A)/(B)		7.07%

(1) Adjustment represents derivatives and collateral netting exposures as defined for supplementary leverage ratio determination purposes.
(2) Adjustment represents counterparty credit risk for repo-style transactions where Wells Fargo & Company is the principal (i.e., principal counterparty facing the client).
(3) Adjustment represents credit equivalent amounts of other off-balance sheet exposures not already included as derivatives and repo-style transactions exposures.

OTHER REGULATORY CAPITAL MATTERS As a G-SIB, we are required to have a minimum amount of equity and unsecured long-term debt for purposes of resolvability and resiliency, often referred to as Total Loss Absorbing Capacity (TLAC). U.S. G-SIBs are required to have a minimum TLAC amount (consisting of CET1 capital and additional tier 1 capital issued directly by the top-tier or covered BHC plus eligible external long-term debt) equal to the greater of (i) 18.00% of RWAs and (ii) 7.50% of total leverage exposure (the denominator of the SLR calculation). Additionally, U.S. G-SIBs are required to maintain (i) a TLAC buffer equal to 2.50% of RWAs plus our applicable G-SIB capital surcharge calculated under method one plus any applicable countercyclical buffer to be added to the 18.00% minimum and (ii) an external TLAC leverage buffer equal to 2.00% of total leverage exposure to be added to the 7.50% minimum, in order to avoid restrictions on capital distributions and discretionary bonus payments. U.S. G-SIBs are also required to have a minimum amount of eligible unsecured long-term debt equal to the greater of (i) 6.00% of RWAs plus our applicable G-SIB capital surcharge calculated under method two and (ii) 4.50% of the total leverage exposure. Under the Proposed SLR Rules, the 2.00% external TLAC leverage buffer would be replaced with a buffer equal to one-half of our applicable G-SIB capital surcharge, and the leverage component for calculating the minimum amount of eligible unsecured long-term debt would be modified from 4.50% of total leverage exposure to 2.50% of total leverage exposure plus one-half of our applicable G-SIB capital surcharge. As of December 31, 2019, our eligible external TLAC as a percentage of total risk-weighted assets was 23.28% compared with a required minimum of 22.00%. Similar to the risk-based capital requirements, we determine minimum required TLAC based on the greater of RWAs determined under the Standardized and Advanced approaches.

In addition, as discussed in the “Risk Management – Asset/Liability Management – Liquidity and Funding – Liquidity Standards” section in this Report, federal banking regulators have issued a final rule regarding the U.S. implementation of the Basel III LCR and a proposed rule regarding the NSFR.

Capital Planning and Stress Testing

Our planned long-term capital structure is designed to meet regulatory and market expectations. We believe that our long-term targeted capital structure enables us to invest in and grow our business, satisfy our customers’ financial needs in varying environments, access markets, and maintain flexibility to return capital to our shareholders. Our long-term targeted capital structure also considers capital levels sufficient to exceed capital requirements including the G-SIB capital surcharge. Accordingly, based on the final Basel III capital rules under the lower of the Standardized or Advanced Approaches CET1 capital ratios, we currently target a long-term CET1 capital ratio at or in excess of 10.00%, which includes a 2.00% G-SIB capital surcharge. Our capital targets are subject to change based on various factors, including changes to the regulatory capital framework and expectations for large banks promulgated by bank regulatory agencies, planned capital actions, changes in our risk profile and other factors. As discussed above in the “Capital Management – Regulatory Capital Guidelines – Risk-Based Capital and Risk-Weighted Assets” section of this Report, the FRB has proposed including a stress capital buffer to replace the current 2.50% capital conservation buffer. Under the proposal, it is expected that the adoption of current expected credit loss (CECL) accounting would be included in the calculation of the stress capital buffer. We expect that implementation of the stress capital buffer may increase the level and volatility of minimum capital ratio requirements, which may cause our current long-term CET1 capital ratio target of 10.00% to increase.

Under the FRB’s capital plan rule, large BHCs are required to submit capital plans annually for review to determine if the FRB has any objections before making any capital distributions. The rule requires updates to capital plans in the event of material changes in a BHC’s risk profile, including as a result of any significant acquisitions. The FRB assesses, among other things, the overall financial condition, risk profile, and capital adequacy of BHCs when evaluating capital plans.

Our 2019 capital plan, which was submitted on April 4, 2019, as part of CCAR, included a comprehensive capital outlook supported by an assessment of expected sources and uses of capital over a given planning horizon under a range of expected and stress scenarios. As part of the 2019 CCAR, the FRB also generated a supervisory stress test, which assumed a sharp decline in the economy and significant decline in asset pricing using the information provided by the Company to estimate performance. The FRB reviewed the supervisory stress results both as required under the Dodd-Frank Act using a common set of capital actions for all large BHCs and by taking into account the Company’s proposed capital actions. The FRB published its supervisory stress test results as required under the Dodd-Frank Act on June 21, 2019. On June 27, 2019, the FRB notified us that it did not object to our capital plan included in the 2019 CCAR.

Federal banking regulators require stress tests to evaluate whether an institution has sufficient capital to continue to operate during periods of adverse economic and financial conditions. These stress testing requirements set forth the timing and type of stress test activities large BHCs and banks must undertake as well as rules governing stress testing controls, oversight and disclosure requirements. The rules also limit a large BHC's ability to make capital distributions to the extent its actual capital issuances were less than amounts indicated in its capital plan. Under the FRB's stress testing rule, we were required to submit a mid-cycle stress test based on second quarter data and scenarios developed by the Company. We submitted the results of the mid-cycle stress test to the FRB and disclosed a summary of the results in October 2019. In October 2019, the FRB finalized rules that eliminate the mid-cycle stress test requirement for banks beginning in 2020.

Securities Repurchases
From time to time the Board authorizes the Company to repurchase shares of our common stock. Although we announce when the Board authorizes share repurchases, we typically do not give any public notice before we repurchase our shares. Future stock repurchases may be private or open-market repurchases, including block transactions, accelerated or delayed block transactions, forward repurchase transactions, and similar transactions. Additionally, we may enter into plans to purchase stock that satisfy the conditions of Rule 10b5-1 of the Securities Exchange Act of 1934. Various factors determine the amount of our share repurchases, including our capital requirements, the number of shares we expect to issue for employee benefit plans and acquisitions, market conditions (including the trading price of our stock), and regulatory and legal considerations, including the FRB's response to our capital plan and to changes in our risk profile. Due to the various factors impacting the amount of our share repurchases and the fact that we tend to be in the market regularly to satisfy repurchase considerations under our capital plan, our share repurchases occur at various price levels. We may suspend share repurchase activity at any time.

In October 2018, the Board authorized the repurchase of 350 million shares of our common stock. In July 2019, the Board authorized the repurchase of an additional 350 million shares of our common stock. At December 31, 2019, we had remaining authority to repurchase approximately 243 million shares, subject to regulatory and legal conditions. For more information about share repurchases during fourth quarter 2019, see Part II, Item 5 in our 2019 Form 10-K.

Historically, our policy has been to repurchase shares under the "safe harbor" conditions of Rule 10b-18 of the Securities Exchange Act of 1934 including a limitation on the daily volume of repurchases. Rule 10b-18 imposes an additional daily volume limitation on share repurchases during a pending merger or acquisition in which shares of our stock will constitute some or all of the consideration. Our management may determine that during a pending stock merger or acquisition when the safe harbor would otherwise be available, it is in our best interest to repurchase shares in excess of this additional daily volume limitation. In such cases, we intend to repurchase shares in compliance with the other conditions of the safe harbor, including the standing daily volume limitation that applies whether or not there is a pending stock merger or acquisition.

Regulatory Matters

Since the enactment of the Dodd-Frank Act in 2010, the U.S. financial services industry has been subject to a significant increase in regulation and regulatory oversight initiatives. This increased regulation and oversight has substantially changed how most U.S. financial services companies conduct business and has increased their regulatory compliance costs. The following highlights the more significant regulations and regulatory oversight initiatives that have affected or may affect our business. For additional information about the regulatory matters discussed below and other regulations and regulatory oversight matters, see Part I, Item 1 "Regulation and Supervision" of our 2019 Form 10-K, and the "Capital Management," "Forward-Looking Statements" and "Risk Factors" sections and Note 29 (Regulatory and Agency Capital Requirements) to Financial Statements in this Report.

Dodd-Frank Act
The Dodd-Frank Act is the most significant financial reform legislation since the 1930s and is driving much of the current U.S. regulatory reform efforts. The following provides additional information on the Dodd-Frank Act, including certain of its rulemaking initiatives.

- *Enhanced supervision and regulation of systemically important firms.* The Dodd-Frank Act grants broad authority to federal banking regulators to establish enhanced supervisory and regulatory requirements for systemically important firms. The FRB has finalized a number of regulations implementing enhanced prudential requirements for large bank holding companies (BHCs) like Wells Fargo regarding risk-based capital and leverage, risk and liquidity management, and imposing debt-to-equity limits on any BHC that regulators determine poses a grave threat to the financial stability of the United States. The FRB and OCC have also finalized rules implementing stress testing requirements for large BHCs and national banks. The FRB has also finalized enhanced prudential standards that implement single counterparty credit limits, and has proposed a rule to establish remediation requirements for large BHCs experiencing financial distress. Similarly, the FRB has proposed additional requirements regarding effective risk management practices at large BHCs, including its expectations for boards of directors and senior management. In addition to the authorization of enhanced supervisory and regulatory requirements for systemically important firms, the Dodd-Frank Act also established the Financial Stability Oversight Council and the Office of Financial Research, which may recommend new systemic risk management requirements and require new reporting of systemic risks. The OCC, under separate authority, has also finalized guidelines establishing heightened governance and risk management standards for large national banks such as Wells Fargo Bank, N.A. The OCC guidelines require covered banks to establish and adhere to a written risk governance framework in order to manage and control their risk-taking activities. The guidelines also formalize roles and responsibilities for risk management practices within covered banks and create certain risk oversight responsibilities for their boards of directors.
- *Regulation of consumer financial products.* The Dodd-Frank Act established the Consumer Financial Protection Bureau (CFPB) to ensure consumers receive clear and accurate

disclosures regarding financial products and to protect them from hidden fees and unfair, deceptive or abusive practices. With respect to residential mortgage lending, the CFPB issued a number of final rules implementing new origination, notification, disclosure and other requirements, as well as additional limitations on the fees and charges that may be increased from the estimates provided by lenders. The CFPB finalized amendments to the rule implementing the Home Mortgage Disclosure Act, resulting in a significant expansion of the data points lenders are required to collect and report to the CFPB. The CFPB also expanded the transactions covered by the rule and increased the reporting frequency from annual to quarterly for large volume lenders, such as Wells Fargo, beginning January 1, 2020. With respect to other financial products, the CFPB finalized rules, most of which became effective on April 1, 2019, to make prepaid cards subject to similar consumer protections as those provided by more traditional debit and credit cards such as fraud protection and expanded access to account information. In addition to these rulemaking activities, the CFPB is continuing its on-going supervisory examination activities of the financial services industry with respect to a number of consumer businesses and products, including mortgage lending and servicing, fair lending requirements, student lending activities, and automobile finance.
- *Volcker Rule.* The Volcker Rule, with certain exceptions, prohibits banking entities from engaging in proprietary trading or owning any interest in or sponsoring or having certain relationships with a hedge fund, a private equity fund or certain structured transactions that are deemed covered funds. Federal banking regulators, the SEC, and the Commodity Futures Trading Commission (CFTC) jointly released a final rule to implement the Volcker Rule's restrictions, and have adopted amendments to the rule to streamline and tailor the requirements for compliance.
- *Regulation of swaps and other derivatives activities.* The Dodd-Frank Act established a comprehensive framework for regulating over-the-counter derivatives and authorized the CFTC and the SEC to regulate swaps and security-based swaps, respectively. The CFTC has adopted rules applicable to our provisionally registered swap dealer, Wells Fargo Bank, N.A., that require, among other things, extensive regulatory and public reporting of swaps, central clearing and trading of swaps on exchanges or other multilateral platforms, and compliance with comprehensive internal and external business conduct standards. The SEC has implemented parallel rules applicable to security-based swaps, and is expected to implement additional related rules. In addition, federal regulators have adopted final rules establishing initial and variation margin requirements for swaps and security-based swaps not centrally cleared, rules placing restrictions on a party's right to exercise default rights under derivatives and other qualified financial contracts against applicable banking organizations, and record-keeping requirements for qualified financial contracts. All of these new rules, as well as others being considered by regulators in other jurisdictions, may negatively impact customer demand for over-the-counter derivatives, impact our ability to offer customers new derivatives or amendments to existing derivatives, and may increase our costs for engaging in swaps, security-based swaps, and other derivatives activities.
- *Regulation of interchange transaction fees (the Durbin Amendment).* The FRB has enacted a rule to implement the Durbin Amendment to the Dodd-Frank Act, which limits debit card interchange transaction fees to those reasonable and proportional to the cost of the transaction. The rule generally established that the maximum allowable interchange fee that an issuer may receive or charge for an electronic debit transaction is the sum of 21 cents per transaction and 5 basis points multiplied by the value of the transaction.

Regulatory Capital Guidelines and Capital Plans

The Company and each of our insured depository institutions are subject to various regulatory capital adequacy requirements administered by the FRB and the OCC. For example, the Company is subject to rules issued by federal banking regulators to implement Basel III capital requirements for U.S. banking organizations. The Company and its insured depository institutions are also required to maintain specified supplementary leverage ratios. Federal banking regulators have also issued a final rule regarding the U.S. implementation of the Basel III liquidity coverage ratio. For more information on the final capital, leverage and liquidity rules, and additional capital requirements applicable to us, see the "Capital Management" and "Risk Management – Asset/Liability Management – Liquidity and Funding – Liquidity Standards" sections in this Report.

"Living Will" Requirements and Related Matters

Rules adopted by the FRB and the FDIC under the Dodd-Frank Act require large financial institutions, including Wells Fargo, to prepare and periodically submit resolution plans, also known as "living wills," that would facilitate their rapid and orderly resolution in the event of material financial distress or failure. Under the rules, rapid and orderly resolution means a reorganization or liquidation of the covered company under the U.S. Bankruptcy Code that can be accomplished in a reasonable period of time and in a manner that substantially mitigates the risk that failure would have serious adverse effects on the financial stability of the United States. In addition to the Company's resolution plan, our national bank subsidiary, Wells Fargo Bank, N.A. (the "Bank"), is also required to prepare and periodically submit a resolution plan. If the FRB and/or FDIC determine that our resolution plan has deficiencies, they may impose more stringent capital, leverage or liquidity requirements on us or restrict our growth, activities or operations until we adequately remedy the deficiencies. If the FRB and/or FDIC ultimately determine that we have been unable to remedy any deficiencies, they could require us to divest certain assets or operations. On June 27, 2019, we submitted our resolution plan to the FRB and FDIC. On December 17, 2019, the FRB and FDIC announced that the Company's 2019 resolution plan did not have any deficiencies, but they identified a specific shortcoming that would need to be addressed.

If Wells Fargo were to fail, it may be resolved in a bankruptcy proceeding or, if certain conditions are met, under the resolution regime created by the Dodd-Frank Act known as the "orderly liquidation authority." The orderly liquidation authority allows for the appointment of the FDIC as receiver for a systemically important financial institution that is in default or in danger of default if, among other things, the resolution of the institution under the U.S. Bankruptcy Code would have serious adverse effects on financial stability in the United States. If the FDIC is appointed as receiver for Wells Fargo & Company (the "Parent"), then the orderly liquidation authority, rather than the U.S. Bankruptcy Code, would determine the powers of the receiver and the rights and obligations of our security holders. The FDIC's orderly liquidation authority requires that security holders of a company in receivership bear all losses before U.S. taxpayers are exposed to any losses, and allows the FDIC to disregard the strict priority of creditor claims under the U.S. Bankruptcy Code in certain circumstances.

The strategy described in our most recent resolution plan is a single point of entry strategy, in which the Parent would likely be the only material legal entity to enter resolution proceedings. However, we are not obligated to maintain a single point of entry strategy, and the strategy described in our resolution plan is not binding in the event of an actual resolution of Wells Fargo, whether conducted under the U.S. Bankruptcy Code or by the FDIC under the orderly liquidation authority. The FDIC has announced that a single point of entry strategy may be a desirable strategy under its implementation of the orderly liquidation authority, but not all aspects of how the FDIC might exercise this authority are known and additional rulemaking is possible.

To facilitate the orderly resolution of systemically important financial institutions in case of material distress or failure, federal banking regulations require that institutions, such as Wells Fargo, maintain a minimum amount of equity and unsecured debt to absorb losses and recapitalize operating subsidiaries. Federal banking regulators have also required measures to facilitate the continued operation of operating subsidiaries notwithstanding the failure of their parent companies, such as limitations on parent guarantees, and have issued guidance encouraging institutions to take legally binding measures to provide capital and liquidity resources to certain subsidiaries in order to facilitate an orderly resolution. In response to the regulators' guidance and to facilitate the orderly resolution of the Company, on June 28, 2017, the Parent entered into a support agreement, as amended and restated on June 26, 2019 (the "Support Agreement"), with WFC Holdings, LLC, an intermediate holding company and subsidiary of the Parent (the "IHC"), the Bank, Wells Fargo Securities, LLC ("WFS"), Wells Fargo Clearing Services, LLC ("WFCS"), and certain other direct and indirect subsidiaries of the Parent designated as material entities for resolution planning purposes (the "Covered Entities") or identified as related support entities in our resolution plan (the "Related Support Entities"). Pursuant to the Support Agreement, the Parent transferred a significant amount of its assets, including the majority of its cash, deposits, liquid securities and intercompany loans (but excluding its equity interests in its subsidiaries and certain other assets), to the IHC and will continue to transfer those types of assets to the IHC from time to time. In the event of our material financial distress or failure, the IHC will be obligated to use the transferred assets to provide capital and/or liquidity to the Bank, WFS, WFCS, and the Covered Entities pursuant to the Support Agreement. Under the Support Agreement, the IHC will also provide funding and liquidity to the Parent through subordinated notes and a committed line of credit, which, together with the issuance of dividends, is expected to provide the Parent, during business as usual operating conditions, with the same access to cash necessary to service its debts, pay dividends, repurchase its shares, and perform its other obligations as it would have had if it had not entered into these arrangements and transferred any assets. If certain liquidity and/or capital metrics fall below defined triggers, or if the Parent's board of directors authorizes it to file a case under the U.S. Bankruptcy Code, the subordinated notes would be forgiven, the committed line of credit would terminate, and the IHC's ability to pay dividends to the Parent would be restricted, any of which could materially and adversely impact the Parent's liquidity and its ability to satisfy its debts and other obligations, and could result in the commencement of bankruptcy proceedings by the Parent at an earlier time than might have otherwise occurred if the Support Agreement were not implemented. The respective obligations under the Support Agreement of the Parent, the IHC, the Bank, and the Related Support Entities are secured pursuant to a related security agreement.

In addition to our resolution plans, we must also prepare and submit to the FRB a recovery plan that identifies a range of options that we may consider during times of idiosyncratic or systemic economic stress to remedy any financial weaknesses and restore market confidence without extraordinary government support. Recovery options include the possible sale, transfer or disposal of assets, securities, loan portfolios or businesses. The Bank must also prepare and submit to the OCC a recovery plan that sets forth the Bank's plan to remain a going concern when the Bank is experiencing considerable financial or operational stress, but has not yet deteriorated to the point where liquidation or resolution is imminent. If either the FRB or the OCC determines that our recovery plan is deficient, they may impose fines, restrictions on our business or ultimately require us to divest assets.

Other Regulatory Related Matters

- *Broker-dealer standards of conduct*. In June 2019, the SEC finalized a rule that requires broker-dealers to act in the best interest of a retail customer when making a recommendation of any securities transaction or investment strategy involving securities. This rule impacts the manner in which business is conducted with customers seeking investment advice and may affect certain investment product offerings.
- *Community Reinvestment Act (CRA) rating*. In March 2017, we announced that the OCC had downgraded our most recent CRA rating, which covers the years 2009 – 2012, to "Needs to Improve" due to previously issued regulatory consent orders. A "Needs to Improve" rating imposes regulatory restrictions and limitations on certain of the Company's nonbank activities, including its ability to engage in certain nonbank mergers and acquisitions or undertake new financial in nature activities, and CRA performance is taken into account by regulators in reviewing applications to establish bank branches and for approving proposed bank mergers and acquisitions. The rating also results in the loss of expedited processing of applications to undertake certain activities, and requires the Company to receive prior regulatory approval for certain activities, including to issue or prepay certain subordinated debt obligations, open or relocate bank branches, or make certain public welfare investments. In addition, a "Needs to Improve" rating could have an impact on the Company's relationships with certain states, counties, municipalities or other public agencies to the extent applicable law, regulation or policy limits, restricts or influences whether such entity may do business with a company that has a below "Satisfactory" rating.
- *FRB consent order regarding governance oversight and compliance and operational risk management.* On February 2, 2018, the Company entered into a consent order with the FRB. As required by the consent order, the Board submitted to the FRB a plan to further enhance the Board's governance and oversight of the Company, and the Company submitted to the FRB a plan to further improve the Company's compliance and operational risk management program. The Company continues to engage with the FRB as the Company works to address the consent order provisions. The consent order also requires the Company, following the FRB's acceptance and approval of the plans and the Company's

adoption and implementation of the plans, to complete an initial third-party review of the enhancements and improvements provided for in the plans. Until this third-party review is complete and the plans are approved and implemented to the satisfaction of the FRB, the Company's total consolidated assets will be limited to the level as of December 31, 2017. Compliance with this asset cap will be measured on a two-quarter daily average basis to allow for management of temporary fluctuations. Additionally, after removal of the asset cap, a second third-party review must also be conducted to assess the efficacy and sustainability of the enhancements and improvements.

- *Consent orders with the CFPB and OCC regarding compliance risk management program, automobile collateral protection insurance policies, and mortgage interest rate lock extensions*. On April 20, 2018, the Company entered into consent orders with the CFPB and OCC to pay an aggregate of $1 billion in civil money penalties to resolve matters regarding the Company's compliance risk management program and past practices involving certain automobile collateral protection insurance policies and certain mortgage interest rate lock extensions. As required by the consent orders, the Company submitted to the CFPB and OCC an enterprise-wide compliance risk management plan and a plan to enhance the Company's internal audit program with respect to federal consumer financial law and the terms of the consent orders. In addition, as required by the consent orders, the Company submitted for non-objection plans to remediate customers affected by the automobile collateral protection insurance and mortgage interest rate lock matters, as well as a plan for the management of remediation activities conducted by the Company.
- *OCC approval of director and senior executive officer appointments and certain post-termination payments.* Under the April 2018 consent order with the OCC, Wells Fargo Bank, N.A., remains subject to requirements that were originally imposed in November 2016 to provide prior written notice to, and obtain non-objection from, the OCC with respect to changes in directors and senior executive officers, and remains subject to certain regulatory limitations on post-termination payments to certain individuals and employees.

Critical Accounting Policies

Our significant accounting policies (see Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report) are fundamental to understanding our results of operations and financial condition because they require that we use estimates and assumptions that may affect the value of our assets or liabilities and financial results. Five of these policies are critical because they require management to make difficult, subjective and complex judgments about matters that are inherently uncertain and because it is likely that materially different amounts would be reported under different conditions or using different assumptions. These policies govern:

- the allowance for credit losses;
- the valuation of residential MSRs;
- the fair value of financial instruments;
- income taxes; and
- liability for contingent litigation losses.

Management and the Board's Audit Committee have reviewed and approved these critical accounting policies.

Allowance for Credit Losses

We maintain an allowance for credit losses, which consists of the allowance for loan losses and the allowance for unfunded credit commitments, which is management's estimate of credit losses inherent in the loan portfolio, including unfunded credit commitments, at the balance sheet date, excluding loans carried at fair value. For a description of our related accounting policies, see Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

Changes in the allowance for credit losses and, therefore, in the related provision for credit losses, can materially affect net income. In applying the judgment and review required to determine the allowance for credit losses, management considers changes in economic conditions, customer behavior, and collateral value, among other influences. From time to time, economic factors or business decisions, such as the addition or liquidation of a loan product or business unit, may affect the loan portfolio, causing management to increase or decrease the allowance for credit losses. While our methodology attributes portions of the allowance for credit losses to specific portfolio segments (commercial and consumer), the entire allowance for credit losses is available to absorb credit losses inherent in the total loan portfolio and unfunded credit commitments.

Judgment is specifically applied in:

- *Credit risk ratings applied to individual commercial loans and unfunded credit commitments.* We estimate the probability of default in accordance with the borrower's financial strength using a borrower quality rating and the severity of loss in the event of default using a collateral quality rating. Collectively, these ratings are referred to as credit risk ratings and are assigned to our commercial loans. Probability of default and severity at the time of default are statistically derived through historical observations of defaults and losses after default within each credit risk rating. Commercial loan risk ratings are evaluated based on each situation by experienced senior credit officers and are subject to periodic review by an internal team of credit specialists.
- *Economic assumptions applied to pools of consumer loans (statistically modeled).* Losses are estimated using economic variables to represent our best estimate of inherent loss. Our forecasted losses are modeled using a range of economic scenarios.
- *Selection of a credit loss estimation model that fits the credit risk characteristics of its portfolio*. We use both internally developed and vendor supplied models in this process. We often use expected loss, transition rate, flow rate, competing hazard, vintage maturation, and time series or statistical trend models, including those with economic correlations. Management must use judgment in establishing additional input metrics for the modeling processes, considering further stratification into reference data time series, sub-product, origination channel, vintage, loss type, geographic location and other predictive characteristics. The models used to determine the allowance for credit losses are validated in accordance with Company policies by an internal model validation group.
- *Assessment of limitations to credit loss estimation models.* We apply our judgment to adjust our modeled estimates to

reflect other risks that may be identified from current conditions and developments in selected portfolios.

- *Identification and measurement of impaired loans, including loans modified in a TDR.* Our experienced senior credit officers may consider a loan impaired based on their evaluation of current information and events, including loans modified in a TDR. The measurement of impairment is typically based on an analysis of the present value of expected future cash flows. The development of these expectations requires significant management judgment and review.
- *An amount for imprecision or uncertainty which reflects management's overall estimate of the effect of quantitative and qualitative factors on inherent credit losses.* This amount represents management's judgment of risks inherent in the processes and assumptions used in establishing the allowance for credit losses. This imprecision considers economic environmental factors, modeling assumptions and performance, process risk, and other subjective factors, including industry trends and emerging risk assessments.

SENSITIVITY TO CHANGES Table 49 demonstrates the impact of the sensitivity of our estimates on our allowance for credit losses.

Table 49: Allowance for Credit Losses Sensitivity Summary

		December 31, 2019
(in billions)		Estimated increase/(decrease) in allowance
Assumption:		
Favorable (1)	$	(3.1)
Adverse (2)		7.1

(1) Represents a one risk rating upgrade throughout our commercial portfolio segment and a more optimistic economic outlook for modeled losses on our consumer portfolio segment.
(2) Represents a one risk rating downgrade throughout our commercial portfolio segment, a more pessimistic economic outlook for modeled losses on our consumer portfolio segment, and incremental deterioration for PCI loans.

The sensitivity analyses provided in the previous table are hypothetical scenarios and are not considered probable. They do not represent management's view of inherent losses in the portfolio as of the balance sheet date. Because significant judgment is used, it is possible that others performing similar analyses could reach different conclusions. See the "Risk Management – Credit Risk Management – Allowance for Credit Losses" section and Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report for further discussion of our allowance for credit losses.

Valuation of Residential Mortgage Servicing Rights (MSRs)

MSRs are assets that represent the rights to service mortgage loans for others. We recognize MSRs when we purchase servicing rights from third parties, or retain servicing rights in connection with the sale or securitization of loans we originate (asset transfers). We also have acquired MSRs in the past under co-issuer agreements that provide for us to service loans that were originated and securitized by third-party correspondents.

We carry our MSRs related to residential mortgage loans at fair value. Periodic changes in our residential MSRs and the economic hedges used to hedge our residential MSRs are reflected in earnings.

We use a model to estimate the fair value of our residential MSRs. The model is validated by an internal model validation group operating in accordance with Company policies. The model calculates the present value of estimated future net servicing income and incorporates inputs and assumptions that market participants use in estimating fair value. Certain significant inputs and assumptions generally are not observable in the market and require judgment to determine. If observable market indications do become available, these are factored into the estimates as appropriate:

- *The mortgage loan prepayment speed used to estimate future net servicing income.* The prepayment speed is the annual rate at which borrowers are forecasted to repay their mortgage loan principal; this rate also includes estimated borrower defaults. We use models to estimate prepayment speeds and borrower defaults which are influenced by changes in mortgage interest rates and borrower behavior.
- *The discount rate used to present value estimated future net servicing income.* The discount rate is the required rate of return investors in the market would expect for an asset with similar risk. To determine the discount rate, we consider the risk premium for uncertainties in the cash flow estimates such as from servicing operations (e.g., possible changes in future servicing costs, ancillary income and earnings on escrow accounts).
- *The expected cost to service loans used to estimate future net servicing income.* The cost to service loans includes estimates for unreimbursed expenses, such as delinquency and foreclosure costs, which considers the number of defaulted loans as well as changes in servicing processes associated with default and foreclosure management.

Both prepayment speed and discount rate assumptions can, and generally will, change quarterly as market conditions and mortgage interest rates change. For example, an increase in either the prepayment speed or discount rate assumption results in a decrease in the fair value of the MSRs, while a decrease in either assumption would result in an increase in the fair value of the MSRs. In recent years, there have been significant market-driven fluctuations in loan prepayment speeds and the discount rate. These fluctuations can be rapid and may be significant in the future. Additionally, while our current valuation reflects our best estimate of servicing costs, future regulatory or investor changes in servicing standards, as well as changes in individual state foreclosure legislation or additional market participant information regarding servicing cost assumptions, may have an impact on our servicing cost assumption and our MSR valuation in future periods.

For a description of our valuation and sensitivity of MSRs, see Note 1 (Summary of Significant Accounting Policies), Note 10 (Securitizations and Variable Interest Entities), Note 11 (Mortgage Banking Activities) and Note 19 (Fair Values of Assets and Liabilities) to Financial Statements in this Report.

Fair Value of Financial Instruments

Fair value represents the price that would be received to sell the financial asset or paid to transfer the financial liability in an orderly transaction between market participants at the measurement date.

We use fair value measurements to record fair value adjustments to certain financial instruments and to determine fair value disclosures. For example, assets and liabilities held for trading purposes, marketable equity securities not held for trading purposes, debt securities available for sale, derivatives and most of our residential MLHFS are carried at fair value each period. Other financial instruments, such as certain MLHFS, most nonmarketable equity securities and substantially all of our loans held for investment, are not carried at fair value each period but may require nonrecurring fair value adjustments due to application of lower-of-cost-or-market accounting, measurement alternative accounting or write-downs of individual assets. We also disclose our estimate of fair value for financial instruments not recorded at fair value, such as loans held for investment or issuances of long-term debt.

The accounting requirements for fair value measurements include a three-level hierarchy for disclosure of assets and liabilities recorded at fair value. The classification of assets and liabilities within the hierarchy is based on whether the inputs to the valuation methodology used for measurement are observable or unobservable. Observable inputs reflect market-derived or market-based information obtained from independent sources, while unobservable inputs reflect our estimates about market data. For additional information on fair value levels, see Note 19 (Fair Values of Assets and Liabilities) to Financial Statements in this Report.

When developing fair value measurements, we maximize the use of observable inputs and minimize the use of unobservable inputs. When available, we use quoted prices in active markets to measure fair value. If quoted prices in active markets are not available, fair value measurement is based upon models that generally use market-based or independently sourced market parameters, including interest rate yield curves, prepayment speeds, option volatilities and currency rates. However, when observable market data is limited or not available, fair value estimates are typically determined using internally-developed models based on unobservable inputs. Internal models used to determine fair value are validated in accordance with Company policies by an internal model validation group. Additionally, we use third-party pricing services to obtain fair values, which are used to either record the price of an instrument or to corroborate internally-developed prices. Third-party price validation procedures are performed over the reasonableness of the fair value measurements. For additional information on our use of pricing services, see Note 19 (Fair Value of Assets and Liabilities) to Financial Statements in this Report.

When using internally-developed models based on unobservable inputs, management judgment is necessary as we are required to make judgments about significant assumptions market participants would use to estimate fair value. Determination of these assumptions includes consideration of market conditions and liquidity levels. Changes in the market conditions, such as reduced liquidity in the capital markets or changes in secondary market activities, may reduce the availability and reliability of quoted prices or observable data used to determine fair value. In such cases, it may be appropriate to adjust available quoted prices or observable market data. For example, we adjust the vendor or broker price using internal models based on discounted cash flows when the impact of illiquid markets has not already been incorporated in the fair value measurement. Additionally, for certain residential MLHFS and certain debt and equity securities where the significant inputs have become unobservable due to illiquid markets and vendor or broker pricing is not used, our discounted cash flow model uses a discount rate that reflects what we believe a market participant would require in light of the illiquid market.

We continually assess the level and volume of market activity in our debt and equity security classes in determining adjustments, if any, to price quotes. Given market conditions can change over time, our determination of which securities markets are considered active or inactive can change. If we determine a market to be inactive, the degree to which price quotes require adjustment, can also change.

Significant judgment is also required to determine whether certain assets measured at fair value are classified as Level 2 or Level 3 of the fair value hierarchy as described in Note 1 (Summary of Significant Accounting Policies) to Financial Statements in this Report.

When making this judgment, we consider available information, including observable market data, indications of market liquidity and orderliness, and our understanding of the valuation techniques and significant inputs used to estimate fair value. The classification of Level 2 or Level 3 is based upon the specific facts and circumstances of each instrument or instrument category and judgments are made regarding the significance of the Level 3 inputs to each instrument's fair value measurement in its entirety. If Level 3 inputs are considered significant, the instrument is classified as Level 3.

Table 50 presents our (1) assets and liabilities recorded at fair value on a recurring basis and (2) Level 3 assets and liabilities recorded at fair value on a recurring basis, both presented as a percentage of our total assets and total liabilities.

Table 50: Fair Value Level 3 Summary

	December 31, 2019		December 31, 2018	
($ in billions)	**Total balance**	**Level 3 (1)**	Total balance	Level 3 (1)
Assets carried at fair value	**$ 428.6**	**24.3**	408.4	25.3
As a percentage of total assets	**22%**	**1**	22	1
Liabilities carried at fair value	**$ 26.5**	**1.8**	28.2	1.6
As a percentage of total liabilities	**2%**	*****	2	*

* Less than 1%.
(1) Before derivative netting adjustments.

See Note 19 (Fair Values of Assets and Liabilities) to Financial Statements in this Report for a complete discussion on our fair value of financial instruments, our related measurement techniques and the impact to our financial statements.

Income Taxes

We file consolidated and separate company U.S. federal income tax returns, non-U.S. tax returns and various combined and separate company state tax returns.

We evaluate two components of income tax expense: current and deferred income tax expense. Current income tax expense represents our estimated taxes to be paid or refunded for the current period and includes income tax expense related to our uncertain tax positions. Uncertain tax positions that meet the more likely than not recognition threshold are measured to determine the amount of benefit to recognize. An uncertain tax position is measured at the largest amount of benefit that management believes has a greater than 50% likelihood of realization upon settlement. Tax benefits not meeting our realization criteria represent unrecognized tax benefits.

Deferred income tax expense results from changes in deferred tax assets and liabilities between periods. We determine deferred income taxes using the balance sheet method. Under this method, the net deferred tax asset or liability is based on the tax effects of the differences between the book and tax basis of assets and liabilities, and recognizes enacted changes in tax rates and laws in the period in which they occur. Deferred tax assets are recognized subject to management's judgment that realization is more likely than not.

We do not intend to distribute earnings of certain non-U.S. subsidiaries in a taxable manner, and therefore intend to limit distributions of non-U.S. earnings previously taxed in the U.S., that would qualify for the 100% dividends received deduction, and that would not result in any significant state or non-U.S. taxes. All other undistributed non-U.S. earnings will continue to be permanently reinvested outside the U.S. and the related tax liability on these earnings is insignificant.

The income tax laws of the jurisdictions in which we operate are complex and subject to different interpretations by the taxpayer and the relevant government taxing authorities. In establishing a provision for income tax expense, we must make judgments and interpretations about the application of these inherently complex tax laws. We must also make estimates about when in the future certain items will affect taxable income in the various tax jurisdictions, both domestic and international. Our interpretations may be subjected to review during examination by taxing authorities and disputes may arise over the respective tax positions. We attempt to resolve these disputes during the tax examination and audit process and ultimately through the court systems when applicable.

We monitor relevant tax authorities and revise our estimate of accrued income taxes due to changes in income tax laws and their interpretation by the courts and regulatory authorities on a quarterly basis. Revisions of our estimate of accrued income taxes also may result from our own income tax planning and from the resolution of income tax controversies. Such revisions in our estimates may be material to our operating results for any given quarter.

See Note 24 (Income Taxes) to Financial Statements in this Report for a further description of our provision for income taxes and related income tax assets and liabilities.

Liability for Contingent Litigation Losses

The Company is involved in a number of judicial, regulatory, governmental, arbitration and other proceedings or investigations concerning matters arising from the conduct of its business activities, and many of those proceedings and investigations expose the Company to potential financial loss. We establish accruals for legal actions when potential losses associated with the actions become probable and the costs can be reasonably estimated. For such accruals, we record the amount we consider to be the best estimate within a range of potential losses that are both probable and estimable; however, if we cannot determine a best estimate, then we record the low end of the range of those potential losses. The actual costs of resolving legal actions may be substantially higher or lower than the amounts accrued for those actions.

We apply judgment when establishing an accrual for potential losses associated with legal actions and in establishing the range of reasonably possible losses in excess of the accrual. Our judgment in establishing accruals and the range of reasonably possible losses in excess of the Company's accrual for probable and estimable losses is influenced by our understanding of information currently available related to the legal evaluation and potential outcome of actions, including input and advice on these matters from our internal counsel, external counsel and senior management. These matters may be in various stages of investigation, discovery or proceedings. They may also involve a wide variety of claims across our businesses, legal entities and jurisdictions. The eventual outcome may be a scenario that was not considered or was considered remote in anticipated occurrence. Accordingly, our estimate of potential losses will change over time and the actual losses may vary significantly.

The outcomes of legal actions are unpredictable and subject to significant uncertainties, and it is inherently difficult to determine whether any loss is probable or even possible. It is also inherently difficult to estimate the amount of any loss and there may be matters for which a loss is probable or reasonably possible but not currently estimable. Accordingly, actual losses may be in excess of the established accrual or the range of reasonably possible loss.

See Note 17 (Legal Actions) to Financial Statements in this Report for further information.

Current Accounting Developments

Table 51 provides the significant accounting updates applicable to us that have been issued by the Financial Accounting Standards Board (FASB) but are not yet effective.

Table 51: Current Accounting Developments – Issued Standards

Description	Effective date and financial statement impact
ASU 2018-12 – Financial Services – Insurance (Topic 944): *Targeted Improvements to the Accounting for Long-Duration Contracts* and subsequent related updates	
The Update requires all features in long-duration insurance contracts that meet the definition of a market risk benefit to be measured at fair value through earnings with changes in fair value attributable to our own credit risk recognized in other comprehensive income. Currently, two measurement models exist for these features, fair value and insurance accrual. The Update requires the use of a standardized discount rate and routine updates for insurance assumptions used in valuing the liability for future policy benefits for traditional long-duration contracts. The Update also simplifies the amortization of deferred acquisition costs.	The guidance becomes effective on January 1, 2022. Certain of our variable annuity reinsurance products meet the definition of market risk benefits and will require the associated insurance related reserves for these products to be measured at fair value as of the earliest period presented, with the cumulative effect on fair value for changes attributable to our own credit risk recognized in the beginning balance of accumulated other comprehensive income. The cumulative effect of the difference between fair value and carrying value, excluding the effect of our own credit, will be recognized in the opening balance of retained earnings. As of December 31, 2019, we held $1.1 billion in insurance-related reserves of which $489 million was in scope of the Update. A total of $429 million was associated with products that meet the definition of market risk benefits, and of this amount, $17 million was measured at fair value under current accounting standards. The market risk benefits are largely indexed to U.S. equity and fixed income markets. Upon adoption, we may incur periodic earnings volatility from changes in the fair value of market risk benefits generally due to the long duration of these contracts. We plan to economically hedge this volatility, where feasible. The ultimate impact of these changes will depend on the composition of our market risk benefits portfolio at the date of adoption. Changes in the accounting for the liability of future policy benefits for traditional long-duration contracts and deferred acquisition costs will be applied to all outstanding long-duration contracts on the basis of their existing carrying amounts at the beginning of the earliest period presented, and are not expected to be material.
ASU 2016-13 – Financial Instruments – Credit Losses (Topic 326): *Measurement of Credit Losses on Financial Instruments* and subsequent related updates	
The Update changes the accounting for the measurement of credit losses on loans and debt securities. For loans and held-to-maturity debt securities, the Update requires a current expected credit loss (CECL) measurement to estimate the allowance for credit losses (ACL) for the remaining contractual term, adjusted for prepayments, of the financial asset (including off-balance sheet credit exposures) using historical experience, current conditions, and reasonable and supportable forecasts. The Update eliminates the existing guidance for PCI loans, but requires an allowance for purchased financial assets with more than an insignificant deterioration of credit since origination. In addition, the Update modifies the other-than-temporary impairment model for available-for-sale debt securities to require an allowance for credit impairment instead of a direct write-down, which allows for reversal of credit impairments in future periods based on improvements in credit.	We adopted the guidance on January 1, 2020. Our implementation process included development of loss forecasting models, evaluation of technical accounting topics, updates to our allowance documentation, reporting processes, and related internal controls. Upon adoption, we recognized an overall decrease in our ACL of approximately $1.3 billion, as a cumulative effect adjustment from change in accounting policies. This adjustment, net of income tax adjustments, increased our retained earnings and regulatory capital amounts and ratios. For more information on the impact of CECL by type of financial asset, see Table 51b (ASU 2016-03 Adoption Impact to Allowance for Credit Losses (ACL)) in this Report. Our approach for estimating expected life-time credit losses for loans and debt securities includes the following key components: • An initial loss forecast period of one year for all portfolio segments and classes of financing receivables and off-balance-sheet credit exposures. This period reflects management's expectation of losses based on forward-looking economic scenarios over that time. • A historical loss forecast period covering the remaining contractual term, adjusted for prepayments, by portfolio segment and class of financing receivables based on the change in key historical economic variables during representative historical expansionary and recessionary periods. • A reversion period of up to two years connecting the initial loss forecast to the historical loss forecast based on economic conditions at the measurement date. • Utilization of discounted cash flow (DCF) methods to measure credit impairment for loans modified in a troubled debt restructuring, unless they are collateral dependent and measured at the fair value of collateral. The DCF methods obtain estimated life-time credit losses using the conceptual components described above. • For available-for-sale debt securities and certain beneficial interests classified as held-to-maturity, we utilize the DCF methods to measure the ACL, which incorporate expected credit losses using the conceptual components described above. The ACL on available-for-sale debt securities is subject to a limitation based on the fair value of the debt securities. We expect future changes in our ACL to be more volatile under CECL. Future amounts of the ACL will be based on a variety of factors, including changes in loan volumes, portfolio credit quality, and general economic conditions. General economic conditions will be forecasted using economic variables, which will create volatility as those variables change over time. See Table 51a for key economic variables used for our loan portfolios.

Table 51a: Key Economic Variables

Loan Portfolio	Key economic variables
Total commercial	• Gross domestic product • Commercial real estate asset prices, where applicable
Real estate 1-4 family mortgage	• Home price index • Unemployment rate
Other consumer (including credit card, automobile, and other revolving credit and installment)	• Unemployment rate

Table 51b: ASU 2016-13 Adoption Impact to Allowance for Credit Losses (ACL) (1)

	Dec 31, 2019				Jan 1, 2020	
(in billions)	Balance Outstanding	ACL Balance	Coverage	ASU 2016-13 Adoption Impact	ACL Balance	Coverage
Total commercial (2)	$ 515.7	6.2	1.2%	$ (2.9)	3.4	0.7%
Real estate 1-4 family mortgage (3)	323.4	0.9	0.3	—	0.9	0.3
Credit card (4)	41.0	2.3	5.5	0.7	2.9	7.1
Automobile (4)	47.9	0.5	1.0	0.3	0.7	1.5
Other revolving credit and installment (4)	34.3	0.6	1.6	0.6	1.2	3.5
Total consumer	446.5	4.2	0.9	1.5	5.7	1.3
Total loans	962.3	10.5	1.1	(1.3)	9.1	0.9
Available-for-sale and held-to-maturity debt securities and other assets (5)	420.0	0.1	NM	—	0.1	NM
Total	$ 1,382.3	10.6	NM	$ (1.3)	9.3	NM

NM – Not meaningful
(1) Amounts presented in this table may not equal the sum of its components due to rounding.
(2) Decrease reflecting shorter contractual maturities given limitation to contractual term.
(3) Impact reflects an increase due to longer contractual term, offset by expectation of recoveries in collateral value on mortgage loans previously written down significantly below current recovery value.
(4) Increase due to longer contractual term or indeterminate maturities.
(5) Excludes other financial assets in the scope of CECL that do not have an allowance for credit losses based on the nature of the asset.

Other Accounting Developments

The following Updates are applicable to us but are not expected to have a material impact on our consolidated financial statements:

- ASU 2020-01 – Investments - Equity Securities (Topic 321), Investments – Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815): *Clarifying the Interactions between Topic 321, Topic 323, and Topic 815 (a consensus of the FASB Emerging Issues Task Force)*
- ASU 2019-12 – Income Taxes (Topic 740): *Simplifying the Accounting for Income Taxes*
- ASU 2019-04 – Codification Improvements to Topic 326, *Financial Instruments – Credit Losses*, Topic 815, *Derivatives and Hedging*, and Topic 825, *Financial Instruments*. This Update includes guidance on recoveries of financial assets, which has been included in the discussion for ASU 2016-13 above.
- ASU 2018-17 – Consolidation (Topic 810): *Targeted Improvements to Related Party Guidance for Variable Interest Entities*
- ASU 2018-15 – Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (a consensus of the FASB Emerging Issues Task Force)*
- ASU 2018-13 – Fair Value Measurement (Topic 820): *Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.* We fully adopted this guidance in first quarter 2020.
- ASU 2017-04 – Intangibles – Goodwill and Other (Topic 350): *Simplifying the Test for Goodwill Impairment*

Forward-Looking Statements

This document contains forward-looking statements. In addition, we may make forward-looking statements in our other documents filed or furnished with the SEC, and our management may make forward-looking statements orally to analysts, investors, representatives of the media and others. Forward-looking statements can be identified by words such as "anticipates," "intends," "plans," "seeks," "believes," "estimates," "expects," "target," "projects," "outlook," "forecast," "will," "may," "could," "should," "can" and similar references to future periods. In particular, forward-looking statements include, but are not limited to, statements we make about: (i) the future operating or financial performance of the Company, including our outlook for future growth; (ii) our noninterest expense and efficiency ratio; (iii) future credit quality and performance, including our expectations regarding future loan losses and our allowance for credit losses; (iv) the appropriateness of the allowance for credit losses; (v) our expectations regarding net interest income and net interest margin; (vi) loan growth or the reduction or mitigation of risk in our loan portfolios; (vii) future capital or liquidity levels or targets, our estimated Common Equity Tier 1 ratio, and our estimated total loss absorbing capacity ratio; (viii) the performance of our mortgage business and any related exposures; (ix) the expected outcome and impact of legal, regulatory and legislative developments, as well as our expectations regarding compliance therewith; (x) future common stock dividends, common share repurchases and other uses of capital; (xi) our targeted range for return on assets, return on equity, and return on tangible common equity; (xii) expectations regarding our effective income tax rate; (xiii) the outcome of contingencies, such as legal proceedings; and (xiv) the Company's plans, objectives and strategies.

Forward-looking statements are not based on historical facts but instead represent our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Our actual results may differ materially from those contemplated by the forward-looking statements. We caution you, therefore, against relying on any of these forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. While there is no assurance that any list of risks and uncertainties or risk factors is complete, important factors that could cause actual results to differ materially from those in the forward-looking statements include the following, without limitation:

- current and future economic and market conditions, including the effects of declines in housing prices, high unemployment rates, U.S. fiscal debt, budget and tax matters, geopolitical matters, and any slowdown in global economic growth;
- our capital and liquidity requirements (including under regulatory capital standards, such as the Basel III capital standards) and our ability to generate capital internally or raise capital on favorable terms;
- financial services reform and other current, pending or future legislation or regulation that could have a negative effect on our revenue and businesses, including the Dodd-Frank Act and other legislation and regulation relating to bank products and services;
- developments in our mortgage banking business, including the extent of the success of our mortgage loan modification efforts, the amount of mortgage loan repurchase demands that we receive, any negative effects relating to our mortgage servicing, loan modification or foreclosure practices, and the effects of regulatory or judicial requirements or guidance impacting our mortgage banking business and any changes in industry standards;
- our ability to realize any efficiency ratio or expense target as part of our expense management initiatives, including as a result of business and economic cyclicality, seasonality, changes in our business composition and operating environment, growth in our businesses and/or acquisitions, and unexpected expenses relating to, among other things, litigation and regulatory matters;
- the effect of the current interest rate environment or changes in interest rates or in the level or composition of our assets or liabilities on our net interest income, net interest margin and our mortgage originations, mortgage servicing rights and mortgage loans held for sale;
- significant turbulence or a disruption in the capital or financial markets, which could result in, among other things, reduced investor demand for mortgage loans, a reduction in the availability of funding or increased funding costs, and declines in asset values and/or recognition of other-than-temporary impairment on securities held in our debt securities and equity securities portfolios;
- the effect of a fall in stock market prices on our investment banking business and our fee income from our brokerage, asset and wealth management businesses;
- negative effects from the retail banking sales practices matter and from other instances where customers may have experienced financial harm, including on our legal, operational and compliance costs, our ability to engage in certain business activities or offer certain products or services, our ability to keep and attract customers, our ability to attract and retain qualified team members, and our reputation;
- resolution of regulatory matters, litigation, or other legal actions, which may result in, among other things, additional costs, fines, penalties, restrictions on our business activities, reputational harm, or other adverse consequences;
- a failure in or breach of our operational or security systems or infrastructure, or those of our third-party vendors or other service providers, including as a result of cyber attacks;
- the effect of changes in the level of checking or savings account deposits on our funding costs and net interest margin;
- fiscal and monetary policies of the Federal Reserve Board;
- changes to U.S. tax guidance and regulations, as well as the effect of discrete items on our effective income tax rate;
- our ability to develop and execute effective business plans and strategies; and
- the other risk factors and uncertainties described under "Risk Factors" in this Report.

In addition to the above factors, we also caution that the amount and timing of any future common stock dividends or repurchases will depend on the earnings, cash requirements and financial condition of the Company, market conditions, capital requirements (including under Basel capital standards), common stock issuance requirements, applicable law and regulations (including federal securities laws and federal banking regulations), and other factors deemed relevant by the

Company's Board of Directors, and may be subject to regulatory approval or conditions.

For more information about factors that could cause actual results to differ materially from our expectations, refer to our reports filed with the Securities and Exchange Commission, including the discussion under "Risk Factors" in this Report, as filed with the Securities and Exchange Commission and available on its website at www.sec.gov.

Any forward-looking statement made by us speaks only as of the date on which it is made. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by law.

Forward-looking Non-GAAP Financial Measures. From time to time management may discuss forward-looking non-GAAP financial measures, such as forward-looking estimates or targets for return on average tangible common equity. We are unable to provide a reconciliation of forward-looking non-GAAP financial measures to their most directly comparable GAAP financial measures because we are unable to provide, without unreasonable effort, a meaningful or accurate calculation or estimation of amounts that would be necessary for the reconciliation due to the complexity and inherent difficulty in forecasting and quantifying future amounts or when they may occur. Such unavailable information could be significant to future results.

Risk Factors

An investment in the Company involves risk, including the possibility that the value of the investment could fall substantially and that dividends or other distributions on the investment could be reduced or eliminated. We discuss below risk factors that could adversely affect our financial results and condition, and the value of, and return on, an investment in the Company.

RISKS RELATED TO THE ECONOMY, FINANCIAL MARKETS, INTEREST RATES AND LIQUIDITY

As one of the largest lenders in the U.S. and a provider of financial products and services to consumers and businesses across the U.S. and internationally, our financial results have been, and will continue to be, materially affected by general economic conditions, and a deterioration in economic conditions or in the financial markets may materially adversely affect our lending and other businesses and our financial results and condition. We generate revenue from the interest and fees we charge on the loans and other products and services we sell, and a substantial amount of our revenue and earnings comes from the net interest income and fee income that we earn from our consumer and commercial lending and banking businesses, including our mortgage banking business. These businesses have been, and will continue to be, materially affected by the state of the U.S. economy, particularly unemployment levels and home prices. Although the U.S. economy has continued to gradually improve from the depressed levels of 2008 and early 2009, economic growth has at times been slow and uneven. In addition, the negative effects and continued uncertainty stemming from U.S. fiscal and political matters, including concerns about deficit levels, taxes and U.S. debt ratings, have impacted and may continue to impact the global economic recovery. Moreover, geopolitical matters, including international political unrest or disturbances, Britain's vote to withdraw from the European Union, as well as continued concerns over commodity prices, restrictions on international trade and corresponding retaliatory measures, and global economic difficulties, may impact the stability of financial markets and the global economy. In particular, Britain's withdrawal from the European Union and the final terms of its exit following the existing transition period could increase economic barriers between Britain and the European Union, limit our ability to conduct business in the European Union, impose additional costs on us, subject us to different laws, regulations and/or regulatory authorities, or adversely impact our business, financial results and operating model. For example, certain operations of our broker-dealer in London may be impacted by the terms and conditions of Britain's exit. Although we are transitioning certain of these operations to other European countries, there is no guarantee that we will be able to operate or conduct business in the European Union in the same manner or with the same effectiveness following the end of the transition period for Britain's withdrawal. A prolonged period of slow growth in the global economy, particularly in the U.S., or any deterioration in general economic conditions and/or the financial markets resulting from the above matters or any other events or factors that may disrupt or dampen the global economic recovery, could materially adversely affect our financial results and condition.

A weakening in business or economic conditions, including higher unemployment levels or declines in home prices, can also adversely affect our borrowers' ability to repay their loans, which can negatively impact our credit performance. If unemployment levels worsen or if home prices fall we would expect to incur elevated charge-offs and provision expense from increases in our allowance for credit losses. These conditions may adversely affect not only consumer loan performance but also commercial and CRE loans, especially for those business borrowers that rely on the health of industries that may experience deteriorating economic conditions. The ability of these and other borrowers to repay their loans may deteriorate, causing us, as one of the largest commercial and CRE lenders in the U.S., to incur significantly higher credit losses. In addition, weak or deteriorating economic conditions make it more challenging for us to increase our consumer and commercial loan portfolios by making loans to creditworthy borrowers at attractive yields. Furthermore, weak economic conditions, as well as competition and/or increases in interest rates, could soften demand for our loans resulting in our retaining a much higher amount of lower yielding liquid assets on our balance sheet. If economic conditions do not continue to improve or if the economy worsens and unemployment rises, which also would likely result in a decrease in consumer and business confidence and spending, the demand for our credit products, including our mortgages, may fall, reducing our interest and noninterest income and our earnings.

A deterioration in business and economic conditions, which may erode consumer and investor confidence levels, and/or increased volatility of financial markets, also could adversely affect financial results for our fee-based businesses, including our investment advisory, mutual fund, securities brokerage, wealth management, and investment banking businesses. In 2019, approximately 25% of our revenue was fee income, which included trust and investment fees, card fees and other fees. We earn fee income from managing assets for others and providing brokerage and other investment advisory and wealth management services. Because investment management fees are often based on the value of assets under management, a fall in the market prices of those assets could reduce our fee income. Changes in stock market prices could affect the trading activity of investors, reducing commissions and other fees we earn from our brokerage business. In addition, adverse market conditions may negatively affect the performance of products we have provided to customers, which may expose us to legal actions or additional costs. The U.S. stock market experienced all-time highs in 2019, but also experienced significant volatility and there is no guarantee that high price levels will continue or that price levels will stabilize. Poor economic conditions and volatile or unstable financial markets also can negatively affect our debt and equity underwriting and advisory businesses, as well as our trading activities and venture capital businesses. Any deterioration in global financial markets and economies, including as a result of any international political unrest or disturbances, may adversely affect the revenues and earnings of our international operations, particularly our global financial institution and correspondent banking services.

For more information, refer to the "Risk Management – Asset/Liability Management" and "– Credit Risk Management" sections in this Report.

Changes in interest rates and financial market values could reduce our net interest income and earnings, as well as our other comprehensive income, including as a result of recognizing losses on the debt and equity securities that we hold in our portfolio or trade for our customers. Our net interest income is the interest we earn on loans, debt securities and other assets we hold less the interest we pay on our deposits, long-term and short-term debt, and other liabilities. Net interest income is a measure of both our net interest margin – the difference between the yield we earn on our assets and the interest rate we pay for deposits and our other sources of funding – and the amount of earning assets we hold. Changes in either our net interest margin or the amount or mix of earning assets we hold could affect our net interest income and our earnings. Changes in interest rates can affect our net interest margin. Although the yield we earn on our assets and our funding costs tend to move in the same direction in response to changes in interest rates, one can rise or fall faster than the other, causing our net interest margin to expand or contract. If our funding costs rise faster than the yield we earn on our assets or if the yield we earn on our assets falls faster than our funding costs, our net interest margin could contract.

The amount and type of earning assets we hold can affect our yield and net interest margin. We hold earning assets in the form of loans and debt and equity securities, among other assets. As noted above, if the economy worsens we may see lower demand for loans by creditworthy customers, reducing our net interest income and yield. In addition, our net interest income and net interest margin can be negatively affected by a prolonged low interest rate environment as it may result in us holding lower yielding loans and securities on our balance sheet, particularly if we are unable to replace the maturing higher yielding assets with similar higher yielding assets. Increases in interest rates, however, may negatively affect loan demand and could result in higher credit losses as borrowers may have more difficulty making higher interest payments. As described below, changes in interest rates also affect our mortgage business, including the value of our MSRs.

Changes in the slope of the "yield curve" – or the spread between short-term and long-term interest rates – could also reduce our net interest margin. Normally, the yield curve is upward sloping, meaning short-term rates are lower than long-term rates. When the yield curve flattens, or even inverts, our net interest margin could decrease if the cost of our short-term funding increases relative to the yield we can earn on our long-term assets. Moreover, a negative interest rate environment, in which interest rates drop below zero, could reduce our net interest margin and net interest income due to a likely decline in the interest we could earn on loans and other earning assets, while also likely requiring us to pay to maintain our deposits with the FRB.

The interest we earn on our loans may be tied to U.S.-denominated interest rates such as the federal funds rate while the interest we pay on our debt may be based on international rates such as LIBOR. If the federal funds rate were to fall without a corresponding decrease in LIBOR, we might earn less on our loans without any offsetting decrease in our funding costs. This could lower our net interest margin and our net interest income.

We assess our interest rate risk by estimating the effect on our earnings under various scenarios that differ based on assumptions about the direction, magnitude and speed of interest rate changes and the slope of the yield curve. We hedge some of that interest rate risk with interest rate derivatives. We also rely on the "natural hedge" that our mortgage loan originations and servicing rights can provide.

We generally do not hedge all of our interest rate risk. There is always the risk that changes in interest rates, credit spreads or option volatility could reduce our net interest income and earnings, as well as our other comprehensive income, in material amounts, especially if actual conditions turn out to be materially different than what we assumed. For example, if interest rates rise or fall faster than we assumed or the slope of the yield curve changes, we may incur significant losses on debt securities we hold as investments. To reduce our interest rate risk, we may rebalance our portfolios of debt securities, equity securities and loans, refinance our debt and take other strategic actions. We may incur losses when we take such actions.

We hold debt and equity securities, including U.S. Treasury and federal agency securities and federal agency MBS, securities of U.S. states and political subdivisions, residential and commercial MBS, corporate debt securities, other asset-backed securities and marketable equity securities, including securities relating to our venture capital activities. Because of changing economic and market conditions, as well as credit ratings, affecting issuers and the performance of any collateral underlying the securities, we may be required to recognize OTTI in future periods on the securities we hold. Furthermore, the value of the debt securities we hold can fluctuate due to changes in interest rates, issuer creditworthiness, and other factors. Our net income also is exposed to changes in interest rates, credit spreads, foreign exchange rates, and equity and commodity prices in connection with our trading activities, which are conducted primarily to accommodate the investment and risk management activities of our customers, as well as when we execute economic hedging to manage certain balance sheet risks. Trading debt securities and equity securities held for trading are carried at fair value with realized and unrealized gains and losses recorded in noninterest income. As part of our business to support our customers, we trade public debt and equity securities that are subject to market fluctuations with gains and losses recognized in net income. In addition, although high market volatility can increase our exposure to trading-related losses, periods of low volatility may have an adverse effect on our businesses as a result of reduced customer activity levels. Although we have processes in place to measure and monitor the risks associated with our trading activities, including stress testing and hedging strategies, there can be no assurance that our processes and strategies will be effective in avoiding losses that could have a material adverse effect on our financial results.

The value of our marketable and nonmarketable equity securities can fluctuate from quarter to quarter. Marketable equity securities are carried at fair value with unrealized gains and losses reflected in earnings. Nonmarketable equity securities are carried under the cost method, equity method, or measurement alternative, while others are carried at fair value with unrealized gains and losses reflected in earnings. Earnings from our equity securities portfolio may be volatile and hard to predict, and may have a significant effect on our earnings from period to period. When, and if, we recognize gains may depend on a number of factors, including general economic and market conditions, the prospects of the companies in which we invest, when a company goes public, the size of our position relative to the public float, and whether we are subject to any resale restrictions.

Nonmarketable equity securities include our private equity and venture capital investments that could result in significant OTTI losses for those investments carried under the measurement alternative or equity method. If we determine there is OTTI for an investment, we write-down the carrying value of the investment, resulting in a charge to earnings, which could be significant.

For more information, refer to the "Risk Management – Asset/Liability Management – Interest Rate Risk", "– Mortgage Banking Interest Rate and Market Risk", "– Market Risk – Trading Activities", and "– Market Risk – Equity Securities" and the "Balance Sheet Analysis – Available-for-Sale and Held-to-Maturity Debt Securities" sections in this Report and Note 4 (Trading Activities), Note 5 (Available-for-Sale and Held-to-Maturity Debt Securities) and Note 8 (Equity Securities) to Financial Statements in this Report.

Uncertainty about the future of the London Interbank Offered Rate (LIBOR) may adversely affect our business, results of operations, and financial condition. Due to uncertainty surrounding the suitability and sustainability of LIBOR, central banks and global regulators have called for financial market participants to prepare for the discontinuation of LIBOR by the end of 2021. We have a significant number of assets and liabilities referenced to LIBOR and other interbank offered rates such as commercial loans, adjustable-rate mortgage loans, derivatives, debt securities, and long-term debt. When any such benchmark rate or other referenced financial metric is significantly changed, replaced or discontinued, or ceases to be recognized as an acceptable market benchmark rate or financial metric, there may be uncertainty or differences in the calculation of the applicable interest rate or payment amount depending on the terms of the governing instrument.

This could impact the financial performance of previously booked transactions, result in losses on financial instruments we hold, require different hedging strategies or result in ineffective or increased basis risk on existing hedges, impact the overall interest rate environment and the availability or cost of floating-rate funding, and affect our capital and liquidity planning and management. In addition, the transition to using any new benchmark rate or other financial metric may require changes to existing transaction data, products, systems, models, operations, and pricing processes, require substantial changes to existing documentation and the renegotiation of a substantial volume of previously booked transactions, and could result in significant operational, systems, or other practical challenges, increased compliance, legal and operational costs, heightened expectations and scrutiny from regulators, reputational harm, or other adverse consequences. Furthermore, the transition away from widely used benchmark rates like LIBOR could result in customers or other market participants challenging the determination of their interest payments, disputing the interpretation or implementation of contract "fallback" provisions and other transition related changes, or entering into fewer transactions or postponing their financing needs, which could reduce our revenue and adversely affect our business. Moreover, to the extent borrowers with loans referenced to LIBOR, such as adjustable rate mortgage loans, experience higher interest payments as a result of the transition to a new benchmark rate, our customers' ability to repay their loans may be adversely affected, which can negatively impact our credit performance.

For additional information on the discontinuation of LIBOR and the steps we are taking to address and mitigate the risks we have identified, refer to the "Risk Management - Asset/Liability Management - LIBOR Transition" section in this Report.

Effective liquidity management, which ensures that we can meet customer loan requests, customer deposit maturities/withdrawals and other cash commitments, including principal and interest payments on our debt, efficiently under both normal operating conditions and other unpredictable circumstances of industry or financial market stress, is essential for the operation of our business, and our financial results and condition could be materially adversely affected if we do not effectively manage our liquidity. Our liquidity is essential for the operation of our business. We primarily rely on bank deposits to be a low-cost and stable source of funding for the loans we make and the operation of our business. Customer deposits, which include noninterest-bearing deposits, interest-bearing checking, savings certificates, certain market rate and other savings, and certain non-U.S. deposits, have historically provided us with a sizable source of relatively stable and low-cost funds. In addition to customer deposits, our sources of liquidity include certain debt and equity securities, our ability to sell or securitize loans in secondary markets and to pledge loans to access secured borrowing facilities through the FHLB and the FRB, and our ability to raise funds in domestic and international money through capital markets.

Our liquidity and our ability to fund and run our business could be materially adversely affected by a variety of conditions and factors, including financial and credit market disruption and volatility or a lack of market or customer confidence in financial markets in general similar to what occurred during the financial crisis in 2008 and early 2009, which may result in a loss of customer deposits or outflows of cash or collateral and/or our inability to access capital markets on favorable terms. Market disruption and volatility could impact our credit spreads, which are the amount in excess of the interest rate of U.S. Treasury securities, or other benchmark securities, of the same maturity that we need to pay to our funding providers. Increases in interest rates and our credit spreads could significantly increase our funding costs. Other conditions and factors that could materially adversely affect our liquidity and funding include a lack of market or customer confidence in the Company or negative news about the Company or the financial services industry generally which also may result in a loss of deposits and/or negatively affect our ability to access the capital markets; our inability to sell or securitize loans or other assets; disruptions or volatility in the repurchase market which also may increase our short-term funding costs; and, as described below, reductions in one or more of our credit ratings. Many of the above conditions and factors may be caused by events over which we have little or no control. While market conditions have improved since the financial crisis, there can be no assurance that significant disruption and volatility in the financial markets will not occur in the future. For example, concerns over geopolitical issues, commodity and currency prices, as well as global economic conditions, may cause financial market volatility.

In addition, concerns regarding U.S. government debt levels and any associated downgrade of U.S. government debt ratings may cause uncertainty and volatility as well. A downgrade of the sovereign debt ratings of the U.S. government or the debt ratings of related institutions, agencies or instrumentalities, as well as other fiscal or political events could, in addition to causing economic and financial market disruptions, materially adversely affect the market value of the U.S. government securities that we hold, the availability of those securities as collateral for borrowing, and our ability to access capital markets on favorable terms, as well as have other material adverse effects on the operation of our business and our financial results and condition.

As noted above, we rely heavily on bank deposits for our funding and liquidity. We compete with banks and other financial services companies for deposits. If our competitors raise the rates they pay on deposits our funding costs may increase, either because we raise our rates to avoid losing deposits or because we lose deposits and must rely on more expensive sources of funding. Higher funding costs reduce our net interest margin and net interest income. Checking and savings account balances and other forms of customer deposits may decrease when customers perceive alternative investments, such as the stock market, as providing a better risk/return tradeoff. When customers move money out of bank deposits and into other investments, we may lose a relatively low-cost source of funds, increasing our funding costs and negatively affecting our liquidity.

If we are unable to continue to fund our assets through customer bank deposits or access capital markets on favorable terms or if we suffer an increase in our borrowing costs or otherwise fail to manage our liquidity effectively (including on an intraday basis), our liquidity, net interest margin, financial results and condition may be materially adversely affected. As we did during the financial crisis, we may also need, or be required by our regulators, to raise additional capital through the issuance of common stock, which could dilute the ownership of existing stockholders, or reduce or even eliminate our common stock dividend to preserve capital or in order to raise additional capital.

For more information, refer to the “Risk Management – Asset/Liability Management” section in this Report.

Adverse changes in our credit ratings could have a material adverse effect on our liquidity, cash flows, financial results and condition. Our borrowing costs and ability to obtain funding are influenced by our credit ratings. Reductions in one or more of our credit ratings could adversely affect our ability to borrow funds and raise the costs of our borrowings substantially and could cause creditors and business counterparties to raise collateral requirements or take other actions that could adversely affect our ability to raise funding. Credit ratings and credit ratings agencies’ outlooks are based on the ratings agencies’ analysis of many quantitative and qualitative factors, such as our capital adequacy, liquidity, asset quality, business mix, the level and quality of our earnings, rating agency assumptions regarding the probability and extent of federal financial assistance or support, and other rating agency specific criteria. In addition to credit ratings, our borrowing costs are affected by various other external factors, including market volatility and concerns or perceptions about the financial services industry generally. There can be no assurance that we will maintain our credit ratings and outlooks and that credit ratings downgrades in the future would not materially affect our ability to borrow funds and borrowing costs.

Downgrades in our credit ratings also may trigger additional collateral or funding obligations which could negatively affect our liquidity, including as a result of credit-related contingent features in certain of our derivative contracts. Although a one or two notch downgrade in our current credit ratings would not be expected to trigger a material increase in our collateral or funding obligations, a more severe credit rating downgrade of our long-term and short-term credit ratings could increase our collateral or funding obligations and the effect on our liquidity could be material.

For information on our credit ratings, see the “Risk Management – Asset/Liability Management – Liquidity and Funding – Credit Ratings” section and for information regarding additional collateral and funding obligations required of certain derivative instruments in the event our credit ratings were to fall below investment grade, see Note 18 (Derivatives) to Financial Statements in this Report.

We rely on dividends from our subsidiaries for liquidity, and federal and state law, as well as certain contractual arrangements, can limit those dividends. Wells Fargo & Company, the parent holding company (the “Parent”), is a separate and distinct legal entity from its subsidiaries. It receives substantially all of its funding and liquidity from dividends and other distributions from its subsidiaries. We generally use these dividends and distributions, among other things, to pay dividends on our common and preferred stock and interest and principal on our debt. Federal and state laws limit the amount of dividends and distributions that our bank and some of our nonbank subsidiaries, including our broker-dealer subsidiaries, may pay to the Parent. In addition, under a Support Agreement dated June 28, 2017, as amended and restated on June 26, 2019, among the Parent, WFC Holdings, LLC, an intermediate holding company and subsidiary of the Parent (the “IHC”), Wells Fargo Bank, N.A., Wells Fargo Securities, LLC, Wells Fargo Clearing Services, LLC, and certain other direct and indirect subsidiaries of the Parent designated as material entities for resolution planning purposes or identified as related support entities in our resolution plan, the IHC may be restricted from making dividend payments to the Parent if certain liquidity and/or capital metrics fall below defined triggers or if the Parent’s board of directors authorizes it to file a case under the U.S. Bankruptcy Code. Also, our right to participate in a distribution of assets upon a subsidiary’s liquidation or reorganization is subject to the prior claims of the subsidiary’s creditors.

For more information, refer to the “Regulation and Supervision – Dividend Restrictions” and “– Holding Company Structure” sections in our 2019 Form 10-K and to Note 3 (Cash, Loan and Dividend Restrictions) and Note 29 (Regulatory and Agency Capital Requirements) to Financial Statements in this Report.

RISKS RELATED TO FINANCIAL REGULATORY REFORM AND OTHER LEGISLATION AND REGULATIONS

Enacted legislation and regulation, including the Dodd-Frank Act, as well as future legislation and/or regulation, could require us to change certain of our business practices, reduce our revenue and earnings, impose additional costs on us or otherwise adversely affect our business operations and/or competitive position. Our parent company, our subsidiary banks and many of our nonbank subsidiaries such as those related to our brokerage and mutual fund businesses, are subject to significant and extensive regulation under state and federal laws in the U.S., as well as the applicable laws of the various jurisdictions outside of the U.S. where they conduct business. These regulations protect depositors, federal deposit insurance funds, consumers, investors, team members, and the banking and financial system as a whole, not necessarily our security holders. Economic, market and political conditions during the past few years have led to a significant amount of legislation and regulation in the U.S. and abroad affecting the financial services industry, as well as heightened expectations and scrutiny of financial services companies from banking regulators. These laws and regulations may continue to affect the manner in which we do business and the products and services that we provide, affect or restrict our ability to compete in our current businesses or our ability to enter into or acquire new businesses, reduce or limit our revenue in businesses or impose additional fees, assessments or taxes on us, intensify the regulatory supervision of us and the financial services industry, and adversely affect our business operations or have other negative consequences. Our businesses and revenues in non-U.S. jurisdictions are also subject to risks from political, economic and social developments in those jurisdictions, including sanctions or business restrictions, asset freezes or confiscation, unfavorable political or diplomatic developments, or financial or social instability. In addition, greater government oversight and scrutiny of financial services companies has increased our operational and compliance costs as we must continue to devote substantial resources to enhancing our procedures and controls and meeting heightened regulatory standards and expectations. Any failure to meet regulatory requirements, standards or expectations, either in the U.S. or in non-U.S. jurisdictions, could result in fees, penalties, restrictions on our ability to engage in certain business activities, or other adverse consequences.

On July 21, 2010, the Dodd-Frank Act, which, among other things, imposes significant requirements and restrictions impacting the financial services industry, became law. The Dodd-Frank Act has resulted in significant rulemaking by federal regulators, including the FRB, OCC, CFPB, FDIC, SEC and CFTC, which may continue to impact our business, including the types of products and services we can provide, the manner in which we operate our businesses, and our compliance and risk management activities. The Dodd-Frank Act, including the rules implementing its provisions and the interpretation of those rules, may continue to result in a loss of revenue, require us to change certain of our business practices, limit our ability to pursue certain business opportunities, increase our capital requirements and impose additional assessments and costs on us and otherwise adversely affect our business operations and have other negative consequences.

Our consumer businesses, including our mortgage, automobile, credit card and other consumer lending and non-lending businesses, are subject to numerous and, in many cases, highly complex consumer protection laws and regulations, as well as enhanced regulatory scrutiny and more and expanded regulatory examinations and/or investigations. In particular, the CFPB's rules, which primarily impact our consumer businesses, may continue to increase our compliance costs and require changes in our business practices, which could limit or negatively affect the products and services that we offer our customers. If we fail to meet enhanced regulatory requirements and expectations with respect to our consumer businesses, we may be subject to increased costs, fines, penalties, restrictions on our business activities including the products and services we can provide, and/or harm to our reputation.

The Dodd-Frank Act's proposed prohibitions or limitations on proprietary trading and private fund investment activities, known as the "Volcker Rule," also may reduce our revenue. Federal banking regulators, the SEC and the CFTC jointly released a final rule to implement the Volcker Rule's restrictions, and have adopted amendments to the rule to streamline and tailor the requirements for compliance.

In addition, the Dodd-Frank Act established a comprehensive framework for regulating over-the-counter derivatives and federal regulators, including the CFTC and SEC, have adopted rules regulating swaps, security-based swaps, derivatives activities, and other broker-dealer conduct and activities. These rules may continue to negatively impact customer demand for over-the-counter derivatives, impact our ability to offer customers new derivatives or amendments to existing derivatives, and increase our costs for engaging in swaps, security-based swaps, and other derivatives activities. Moreover, these rules may impact the manner in which we conduct business with customers seeking investment advice and may affect certain investment product offerings.

We are also subject to various rules and regulations related to the prevention of financial crimes and combating terrorism, including the U.S. Patriot Act of 2001. These rules and regulations require us to, among other things, implement policies and procedures related to anti-money laundering, anti-bribery and corruption, fraud, compliance, suspicious activities, currency transaction reporting and due diligence on customers. Although we have policies and procedures designed to comply with these rules and regulations, to the extent they are not fully effective or do not meet heightened regulatory standards or expectations, we may be subject to fines, penalties, restrictions on certain activities, reputational harm, or other adverse consequences.

Our businesses are also subject to laws and regulations enacted by U.S. and non-U.S. regulators and governmental authorities relating to the privacy of the information of customers, team members and others. These laws and regulations, among other things, increase our compliance obligations; have a significant impact on our businesses' collection, processing, sharing, use, and retention of personal data and reporting of data breaches; and provide for significantly increased penalties for non-compliance.

In March 2017, we announced that the OCC had downgraded our most recent Community Reinvestment Act (CRA) rating, which covers the years 2009-2012, to "Needs to Improve" due to previously issued regulatory consent orders. A "Needs to Improve" rating imposes regulatory restrictions and limitations on certain of the Company's nonbank activities, including its ability to engage in certain nonbank mergers and acquisitions or undertake new financial in nature activities, and CRA performance is taken into account by regulators in reviewing applications to establish bank branches and for approving proposed bank mergers and acquisitions. The rating also results in the loss of expedited processing of applications to undertake certain activities, and requires the Company to receive prior regulatory approval for certain activities, including to issue or prepay certain subordinated debt obligations, open or relocate bank branches, or make certain public welfare investments. In addition, a "Needs to Improve" rating could have an impact on the Company's relationships with certain states, counties, municipalities or other public agencies to the extent applicable law, regulation or policy limits, restricts or influences whether such entity may do business with a company that has a below "Satisfactory" rating.

In addition, we are subject to consent orders with certain of our regulators, including a February 2018 consent order with the FRB regarding the Board's governance and oversight of the Company, and the Company's compliance and operational risk management program. The consent order limits the Company's total consolidated assets to the level as of December 31, 2017, until certain conditions are met. This limitation could adversely affect our results of operations or financial condition. We are also subject to April 2018 consent orders with the CFPB and OCC regarding the Company's compliance risk management program and past practices involving certain automobile collateral protection insurance policies and certain mortgage interest rate lock extensions.

Under the April 2018 consent order with the OCC, Wells Fargo Bank, N.A., remains subject to requirements that were originally imposed in November 2016 to provide prior written notice to, and obtain non-objection from, the OCC with respect to changes in directors and senior executive officers, and remains subject to certain regulatory limitations on post-termination payments to certain individuals and employees.

The Company may be subject to further actions, including the imposition of consent orders or similar regulatory agreements or civil money penalties, by other federal regulators regarding similar issues, including the Company's risk management policies and procedures. Compliance with the February 2018 FRB consent order, the April 2018 CFPB and OCC consent orders, and any other consent orders or regulatory actions, as well as the implementation of their requirements, may continue to increase the Company's costs, require the Company to reallocate resources away from growing its existing businesses, and require the Company to undergo significant changes to its business, products and services. For more information on the February 2018 FRB consent order and the April 2018 CFPB and OCC consent orders, refer to the "Regulatory Matters" section in this Report.

Other future regulatory initiatives that could significantly affect our business include proposals to reform the housing finance market in the United States. These proposals, among other things, consider ending the conservatorships of the GSEs and reducing or eliminating over time the role of the GSEs in buying mortgage loans or guaranteeing mortgage-backed securities (MBS), as well as the implementation of reforms relating to borrowers, lenders, and investors in the mortgage market. Regulatory changes to limit certain products, phase in a minimum down payment requirement for borrowers, tighten underwriting standards, or change the loan types and MBS pools included in the securitization process are also possible. Congress also may consider legislation to reform the mortgage finance market in an effort to assist borrowers experiencing difficulty making mortgage payments or refinancing their mortgages. The extent and timing of any regulatory reform or the adoption of any legislation regarding the GSEs and/or the home mortgage market, as well as any effect on the Company's business and financial results, are uncertain.

Any other future legislation and/or regulation, if adopted, also could significantly change our regulatory environment and increase our cost of doing business, limit the activities we may pursue or affect the competitive balance among banks, savings associations, credit unions, and other financial services companies, and have a material adverse effect on our financial results and condition.

For more information on the significant regulations and regulatory oversight initiatives that have affected or may affect our business, refer to the "Regulatory Matters" section in this Report and the "Regulation and Supervision" section in our 2019 Form 10-K.

We could be subject to more stringent capital, leverage or liquidity requirements or restrictions on our growth, activities or operations if regulators determine that our resolution or recovery plan is deficient. Pursuant to rules adopted by the FRB and the FDIC, Wells Fargo has prepared and submitted a resolution plan, also known as a "living will," that is designed to facilitate our rapid and orderly resolution in the event of material financial distress or failure. There can be no assurance that the FRB or FDIC will respond favorably to the Company's resolution plans. If the FRB and/or FDIC determine that our resolution plan has deficiencies, they may impose more stringent capital, leverage or liquidity requirements on us or restrict our growth, activities or operations until we adequately remedy the deficiencies. If the FRB and/or FDIC ultimately determine that we have been unable to remedy any deficiencies, they could require us to divest certain assets or operations. On December 17, 2019, the FRB and FDIC announced that the Company's 2019 resolution plan did not have any deficiencies, but they identified a specific shortcoming that would need to be addressed.

In addition to our resolution plans, we must also prepare and submit to the FRB a recovery plan that identifies a range of options that we may consider during times of idiosyncratic or systemic economic stress to remedy any financial weaknesses and restore market confidence without extraordinary government support. Our insured national bank subsidiary, Wells Fargo Bank, N.A. (the "Bank"), must also prepare and submit to the OCC a recovery plan. If either the FRB or the OCC determines that our recovery plan is deficient, they may impose fines, restrictions on our business or ultimately require us to divest assets.

Our security holders may suffer losses in a resolution of Wells Fargo, whether in a bankruptcy proceeding or under the orderly liquidation authority of the FDIC, even if creditors of our subsidiaries are paid in full. If Wells Fargo were to fail, it may be resolved in a bankruptcy proceeding or, if certain conditions are met, under the resolution regime created by the Dodd-Frank Act known as the "orderly liquidation authority." The orderly liquidation authority allows for the appointment of the FDIC as receiver for a systemically important financial institution that is in default or in danger of default if, among other things, the resolution of the institution under the U.S. Bankruptcy Code would have serious adverse effects on financial stability in the United States. If the FDIC is appointed as receiver for the Parent, then the orderly liquidation authority, rather than the U.S. Bankruptcy Code, would determine the powers of the receiver and the rights and obligations of our security holders. The FDIC's orderly liquidation authority requires that security holders of a company in receivership bear all losses before U.S. taxpayers are exposed to any losses, and allows the FDIC to disregard the strict priority of creditor claims under the U.S. Bankruptcy Code in certain circumstances.

The strategy described in our most recent resolution plan is a single point of entry strategy, in which the Parent would likely be the only material legal entity to enter resolution proceedings. However, we are not obligated to maintain a single point of entry strategy, and the strategy described in our resolution plan is not binding in the event of an actual resolution of Wells Fargo, whether conducted under the U.S. Bankruptcy Code or by the FDIC under the orderly liquidation authority. The FDIC has announced that a single point of entry strategy may be a desirable strategy under its implementation of the orderly liquidation authority, but not all aspects of how the FDIC might exercise this authority are known and additional rulemaking is possible.

To facilitate the orderly resolution of systemically important financial institutions in case of material distress or failure, federal banking regulations require that institutions, such as Wells Fargo, maintain a minimum amount of equity and unsecured debt to absorb losses and recapitalize operating subsidiaries. Federal banking regulators have also required measures to facilitate the continued operation of operating subsidiaries notwithstanding the failure of their parent companies, such as limitations on parent guarantees, and have issued guidance encouraging institutions to take legally binding measures to provide capital and liquidity resources to certain subsidiaries in order to facilitate an orderly resolution. In response to the regulators' guidance and to facilitate the orderly resolution of the Company, on June 28, 2017, the Parent entered into a support agreement, as amended and restated on June 26, 2019 (the "Support Agreement"), with WFC Holdings, LLC, an intermediate holding company and subsidiary of the Parent (the "IHC"), the Bank, Wells Fargo Securities, LLC ("WFS"), Wells Fargo Clearing Services, LLC ("WFCS"), and certain other direct and indirect subsidiaries of the Parent designated as material entities for resolution planning purposes (the "Covered Entities") or identified as related support entities in our resolution plan. Pursuant to the Support Agreement, the Parent transferred a significant amount of its assets, including the majority of its cash, deposits, liquid securities and intercompany loans (but excluding its equity interests in its subsidiaries and certain other assets), to the IHC and will continue to transfer those types of assets to the IHC from time to time. In the event of our material financial distress or failure, the IHC will be obligated to use the transferred assets to provide capital and/or liquidity to the Bank, WFS, WFCS, and the Covered Entities pursuant to the Support Agreement. Under the Support Agreement, the IHC will also provide funding and liquidity to the Parent through subordinated notes and a committed line of credit, which, together with the issuance of dividends, is expected to provide the Parent, during business as usual operating conditions, with the same access to cash necessary to service its debts, pay dividends, repurchase its shares, and perform its other obligations as it would have had if it had not entered into these arrangements and transferred any assets. If certain liquidity and/or capital metrics fall below defined triggers, or if the Parent's board of directors authorizes it to file a case under the U.S. Bankruptcy Code, the subordinated notes would be forgiven, the committed line of credit would terminate, and the IHC's ability to pay dividends to the Parent would be restricted, any of which could materially and adversely impact the Parent's liquidity and its ability to satisfy its debts and other obligations, and could result in the commencement of bankruptcy proceedings by the Parent at an earlier time than might have otherwise occurred if the Support Agreement were not implemented.

Any resolution of the Company will likely impose losses on shareholders, unsecured debt holders and other creditors of the Parent, while the Parent's subsidiaries may continue to operate. Creditors of some or all of our subsidiaries may receive significant or full recoveries on their claims, while the Parent's security holders could face significant or complete losses. This outcome may arise whether the Company is resolved under the U.S. Bankruptcy Code or by the FDIC under the orderly liquidation authority, and whether the resolution is conducted using a single point of entry strategy or using a multiple point of entry strategy, in which the Parent and one or more of its subsidiaries would each undergo separate resolution proceedings. Furthermore, in a single point of entry or multiple point of entry strategy, losses at some or all of our subsidiaries could be transferred to the Parent and borne by the Parent's security holders. Moreover, if either resolution strategy proved to be unsuccessful, our security holders could face greater losses than if the strategy had not been implemented.

For more information, refer to the "Regulatory Matters - 'Living Will' Requirements and Related Matters" section in this Report.

Bank regulations, including Basel capital and liquidity standards and FRB guidelines and rules, may require higher capital and liquidity levels, limiting our ability to pay common stock dividends, repurchase our common stock, invest in our business, or provide loans or other products and services to our customers. The Company and each of our insured depository institutions are subject to various regulatory capital adequacy requirements administered by federal banking regulators. In particular, the Company is subject to rules issued by federal banking regulators to implement Basel III capital requirements for U.S. banking organizations. These capital rules, among other things, establish required minimum ratios relating capital to different categories of assets and exposures. Federal banking regulators have also finalized rules to impose a supplementary leverage ratio on large BHCs like Wells Fargo and our insured depository institutions. The FRB has also finalized rules to address the amount of equity and unsecured long-term debt a U.S. G-SIB must hold to improve its resolvability and resiliency, often referred to as total loss absorbing capacity (TLAC). Similarly, federal banking regulators have issued a final rule that implements a liquidity coverage ratio.

In addition, as part of its obligation to impose enhanced capital and risk-management standards on large financial firms pursuant to the Dodd-Frank Act, the FRB issued a final capital plan rule that requires large BHCs, including the Company, to submit annual capital plans for review and to obtain regulatory approval before making capital distributions. There can be no assurance that the FRB would respond favorably to the Company's future capital plans. The FRB has also finalized a number of regulations implementing enhanced prudential requirements for large BHCs like Wells Fargo regarding risk-based capital and leverage, risk and liquidity management, and imposing debt-to-equity limits on any BHC that regulators determine poses a grave threat to the financial stability of the United States. The FRB and OCC have also finalized rules implementing stress testing requirements for large BHCs and national banks. The FRB has also finalized enhanced prudential standards that implement single counterparty credit limits, and has proposed a rule to establish remediation requirements for large BHCs experiencing financial distress. The OCC, under separate authority, has also established heightened governance and risk management standards for large national banks, such as Wells Fargo Bank, N.A.

The Basel standards and federal regulatory capital and liquidity requirements may limit or otherwise restrict how we utilize our capital, including common stock dividends and stock repurchases, and may require us to increase our capital and/or liquidity. Any requirement that we increase our regulatory capital, regulatory capital ratios or liquidity, including as a result of business growth, acquisitions or a change in our risk profile, could require us to liquidate assets or otherwise change our business, product offerings and/or investment plans, which may negatively affect our financial results. Although not currently anticipated, proposed capital requirements and/or our regulators may require us to raise additional capital in the future. Issuing additional common stock may dilute the ownership of existing stockholders. In addition, federal banking regulations may continue to increase our compliance costs as well as limit our ability to invest in our business or provide loans or other products and services to our customers.

For more information, refer to the "Capital Management," "Risk Management – Asset/Liability Management – Liquidity and Funding – Liquidity Standards," and "Regulatory Matters" sections in this Report and the "Regulation and Supervision" section in our 2019 Form 10-K.

FRB policies, including policies on interest rates, can significantly affect business and economic conditions and our financial results and condition. The FRB regulates the supply of money in the United States. Its policies determine in large part our cost of funds for lending and investing and the return we earn on those loans and investments, both of which affect our net interest income and net interest margin. The FRB's interest rate policies also can materially affect the value of financial instruments we hold, such as debt securities and MSRs. In addition, its policies can affect our borrowers, potentially increasing the risk that they may fail to repay their loans. Changes in FRB policies, including its target range for the federal funds rate or actions taken to increase or decrease the size of its balance sheet, are beyond our control and can be hard to predict. The FRB has stated that in determining the timing and size of any adjustments to the target range for the federal funds rate, the FRB will assess realized and expected economic conditions relative to its objectives of maximum employment and 2% inflation. As noted above, a declining or low interest rate environment and a flattening yield curve which may result from the FRB's actions could negatively affect our net interest income and net interest margin as it may result in us holding lower yielding loans and debt securities on our balance sheet.

CREDIT RISK

As one of the largest lenders in the U.S., increased credit risk, including as a result of a deterioration in economic conditions or changes in market conditions, could require us to increase our provision for credit losses and allowance for credit losses and could have a material adverse effect on our results of operations and financial condition. When we loan money or commit to loan money we incur credit risk, or the risk of losses if our borrowers do not repay their loans. As one of the largest lenders in the U.S., the credit performance of our loan portfolios significantly affects our financial results and condition. As noted above, if the current economic environment were to deteriorate, more of our customers may have difficulty in repaying their loans or other obligations which could result in a higher level of credit losses and provision for credit losses. We reserve for credit losses by establishing an allowance through a charge to earnings. The amount of this allowance is based on our assessment of credit losses inherent in our loan portfolio (including unfunded credit commitments). The process for determining the amount of the allowance is critical to our financial results and condition. It requires difficult, subjective and complex judgments about the future, including forecasts of economic or market conditions that might impair the ability of our borrowers to repay their loans. We might increase the allowance because of changing economic conditions, including falling home prices and higher unemployment, significant loan growth, changes in consumer behavior or other market conditions that adversely affect borrowers, or other factors. Additionally, the regulatory environment or external factors, such as natural disasters, disease pandemics, or political or social matters, also can influence recognition of credit losses in our loan portfolios and impact our allowance for credit losses.

Future allowance levels may increase or decrease based on a variety of factors, including loan growth, portfolio performance and general economic conditions. While we believe that our allowance for credit losses was appropriate at December 31, 2019, there is no assurance that it will be sufficient to cover future credit losses, especially if housing and employment conditions worsen. In the event of significant deterioration in economic conditions or if we experience significant loan growth, we may be required to build reserves in future periods, which would reduce our earnings.

For more information, refer to the "Risk Management – Credit Risk Management" and "Critical Accounting Policies – Allowance for Credit Losses" sections in this Report.

We may have more credit risk and higher credit losses to the extent our loans are concentrated by loan type, industry segment, borrower type, or location of the borrower or collateral. Our credit risk and credit losses can increase if our loans are concentrated to borrowers engaged in the same or similar activities or to borrowers who individually or as a group may be uniquely or disproportionately affected by economic or market conditions. Similarly, challenging economic or market conditions, or trade policies, affecting a particular industry or geography may also impact related or dependent industries or the ability of borrowers living in such affected areas or working in such industries to meet their financial obligations. We experienced the effect of concentration risk in 2009 and 2010 when we incurred greater than expected losses in our residential real estate loan portfolio due to a housing slowdown and greater than expected deterioration in residential real estate values in many markets, including the Central Valley California market and several Southern California metropolitan statistical areas. As California is our largest banking state in terms of loans and deposits, deterioration in real estate values and underlying economic conditions in those markets or elsewhere in California could result in materially higher credit losses. In addition, changes in consumer behavior or other market conditions, such as in response to climate change and other environmental and sustainability concerns, may adversely affect borrowers in certain industries or sectors, which may increase our credit risk and reduce the demand by these borrowers for our products and services. Moreover, deterioration in macro-economic conditions generally across the country could result in materially higher credit losses, including for our residential real estate loan portfolio, which includes nonconforming mortgage loans we retain on our balance sheet. We may experience higher delinquencies and higher loss rates as our consumer real estate secured lines of credit reach their contractual end of draw period and begin to amortize.

We are currently one of the largest CRE lenders in the U.S. A deterioration in economic conditions that negatively affects the business performance of our CRE borrowers, including increases in interest rates, declines in commercial property values, and/or changes in consumer behavior or other market conditions, could result in materially higher credit losses and have a material adverse effect on our financial results and condition.

Challenges and/or changes in non-U.S. economic conditions may increase our non-U.S. credit risk. Our non-U.S. loan exposure represented approximately 8% of our total consolidated outstanding loans and 4% of our total assets at December 31, 2019. Economic difficulties in non-U.S. jurisdictions could also indirectly have a material adverse effect on our credit performance and results of operations and financial condition to the extent they negatively affect the U.S. economy and/or our borrowers who have non-U.S. operations.

Due to regulatory requirements, we must clear certain derivative transactions through central counterparty clearinghouses (CCPs), which results in credit exposure to these CCPs. Similarly, because we are a member of various CCPs, we may be required to pay a portion of any losses incurred by the CCP in the event that one or more members of the CCP defaults on its obligations. In addition, we are exposed to the risk of non-performance by our clients for which we clear transactions through CCPs to the extent such non-performance is not sufficiently covered by available collateral.

In order to reduce credit risk and obtain additional funding, from time to time we may securitize or sell similar types or categories of loans that we originate, such as mortgage loans and automobile loans. The agreements under which we do this generally contain various representations and warranties regarding the origination and characteristics of the loans. We may be required to repurchase the loans, reimburse investors and others, or incur other losses, including regulatory fines and penalties, as a result of any breaches in these contractual representations and warranties. For more information about our repurchase obligations with respect to mortgage loans, refer to the "Risk Factors – Risks Related to Our Mortgage Business" section in this Report.

For more information regarding credit risk, refer to the "Risk Management – Credit Risk Management" section and Note 6 (Loans and Allowance for Credit Losses) to Financial Statements in this Report.

OPERATIONAL AND LEGAL RISK

A failure in or breach of our operational or security systems, controls or infrastructure, or those of our third-party vendors and other service providers, could disrupt our businesses, damage our reputation, increase our costs and cause losses. As a large financial institution that serves customers through numerous physical locations, ATMs, the internet, mobile banking and other distribution channels across the U.S. and internationally, we depend on our ability to process, record and monitor a large number of customer transactions on a continuous basis. As our customer base and locations have expanded throughout the U.S. and internationally, as we have increasingly used the internet and mobile banking to provide products and services to our customers, and as customer, public, legislative and regulatory expectations regarding operational and information security have increased, our operational systems, controls and infrastructure must continue to be safeguarded and monitored for potential failures, disruptions and breakdowns. Our business, financial, accounting, data processing systems or other operating systems and facilities may stop operating properly, become insufficient based on our evolving business needs, or become disabled or damaged as a result of a number of factors including events that are wholly or partially beyond our control. For example, there could be sudden increases in customer transaction volume; electrical or telecommunications outages; degradation or loss of internet, website or mobile banking availability; climate change related impacts and natural disasters such as earthquakes, tornados, and hurricanes; disease pandemics; events arising from local or larger scale political or social matters, including terrorist acts; and, as described below, cyber attacks or other information security breaches. Furthermore, enhancements and upgrades to our infrastructure or operating systems may be time-consuming, entail significant costs, and create risks associated with implementing new systems and integrating them with existing ones. Due to the complexity and interconnectedness of our systems, the process of enhancing our infrastructure and operating systems, including their security measures and controls, can itself create a risk of system disruptions and security issues. Similarly, we may not be able to timely recover critical business processes or operations that have been disrupted, which may further increase any associated costs and consequences of such disruptions. Although we have business continuity plans and other safeguards in place to help provide operational resiliency, our business operations may be adversely affected by significant and widespread disruption to our physical infrastructure or operating systems that support our businesses and customers. For example, on February 7, 2019, we experienced system issues caused by an automatic power shutdown at one of our main data center facilities. Although applications and related workloads were systematically re-routed to back-up data centers throughout the day, certain of our services, including our online and mobile banking systems, certain mortgage origination systems, and certain ATM functions, experienced disruptions that delayed service to our customers.

As a result of financial institutions and technology systems becoming more interconnected and complex, any operational incident at a third party may increase the risk of loss or material impact to us or the financial industry as a whole. Furthermore, third parties on which we rely, including those that facilitate our business activities or to which we outsource operations, such as exchanges, clearing houses, financial intermediaries or vendors that provide services or security solutions for our operations, could also be sources of operational risk to us, including from information breaches or loss, breakdowns, disruptions or failures of their own systems or infrastructure, or any deficiencies in the performance of their responsibilities. We are also exposed to the risk that a disruption or other operational incident at a common service provider to those third parties could impede their ability to provide services or perform their responsibilities for us. In addition, we must meet regulatory requirements and expectations regarding our use of third-party service providers, and any failure by our third-party service providers to meet their obligations to us or to comply with applicable laws, rules, regulations, or Wells Fargo policies could result in fines, penalties, restrictions on our business, or other negative consequences.

Disruptions or failures in the physical infrastructure, controls or operating systems that support our businesses and customers, failures of the third parties on which we rely to adequately or appropriately provide their services or perform their responsibilities, or our failure to effectively manage or oversee our third-party relationships, could result in business disruptions, loss of revenue or customers, legal or regulatory proceedings, compliance and other costs, violations of applicable privacy and other laws, reputational damage, or other adverse consequences, any of which could materially adversely affect our results of operations or financial condition.

A cyber attack or other information security breach of our technologies, computer systems or networks, or those of our third-party vendors and other service providers, could disrupt our businesses, result in the disclosure or misuse of confidential or proprietary information, damage our reputation, increase our costs and cause losses. Information security risks for large financial institutions such as Wells Fargo have generally increased in recent years in part because of the proliferation of new technologies, the use of the internet, mobile devices, and cloud technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists, activists, and other external parties, including foreign state-sponsored parties. Those parties also may continue to attempt to misrepresent personal or financial information to obtain loans or other financial products from us or attempt to fraudulently induce employees, customers, or other users of our systems to disclose confidential information in order to gain access to our data or that of our customers. As noted above, our operations rely on the secure processing, transmission and storage of confidential information in our computer systems and networks. Our banking, brokerage, investment advisory, and capital markets businesses rely on our digital technologies, computer and email systems, software, hardware, and networks to conduct their operations. In addition, to access our products and services, our customers may use personal smartphones, tablets, and other mobile devices that are beyond our control systems. Although we believe we have robust information security procedures and controls, our technologies, systems, networks, and our customers' devices may become the target of cyber attacks or other information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of Wells Fargo's or our customers' confidential, proprietary and other information, or otherwise disrupt Wells Fargo's or its customers' or other third parties' business operations. For example, various retailers have reported they were victims of cyber attacks in which large amounts of their customers' data, including debit and credit card information, was obtained. In these situations, we generally incur costs to replace compromised cards and address fraudulent transaction activity affecting our customers. We are also exposed to the risk that a team member or other person acting on behalf of the Company fails to comply with applicable policies and procedures and inappropriately circumvents controls for personal gain or other improper purposes.

Due to the increasing interconnectedness and complexity of financial institutions and technology systems, an information security incident at a third party may increase the risk of loss or material impact to us or the financial industry as a whole. In addition, third parties on which we rely, including those that facilitate our business activities or to which we outsource operations, such as internet, mobile technology and cloud service providers, could be sources of information security risk to us. If those third parties fail to adequately or appropriately safeguard their technologies, systems, and networks, we may suffer material harm, including business disruptions, losses or remediation costs, reputational damage, legal or regulatory proceedings, or other adverse consequences.

To date we have not experienced any material losses relating to cyber attacks or other information security breaches, but there can be no assurance that we will not suffer such losses in the future. Our risk and exposure to these matters remains heightened because of, among other things, the evolving nature of these threats, the prominent size and scale of Wells Fargo and its role in the financial services industry, our plans to continue to implement our digital and mobile banking channel strategies and develop additional remote connectivity solutions to serve our customers when and how they want to be served, our expanded geographic footprint and international presence, the outsourcing of some of our business operations, and the current global economic and political environment. For example, Wells Fargo and other financial institutions continue to be the target of various evolving and adaptive cyber attacks, including malware and denial-of-service, as part of an effort to disrupt the operations of financial institutions, potentially test their cybersecurity capabilities, commit fraud, or obtain confidential, proprietary or other information. Cyber attacks have also focused on targeting online applications and services, such as online banking, as well as cloud-based services provided by third parties, and have targeted the infrastructure of the internet, causing the widespread unavailability of websites and degrading website performance. As a result, information security and the continued development and enhancement of our controls, processes and systems designed to protect our networks, computers, software and data from attack, damage or unauthorized access remain a priority for Wells Fargo. We are also proactively involved in industry cybersecurity efforts and working with other parties, including our third-party service providers and governmental agencies, to continue to enhance defenses and improve resiliency to cybersecurity and other information security threats. As these threats continue to evolve, we may continue to be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities or incidents. Because the investigation of any information security breach is inherently unpredictable and would require time to complete, we may not be able to immediately address the consequences of a breach, which may further increase any associated costs and consequences. Moreover, to the extent our insurance covers aspects of information security risk, such insurance may not be sufficient to cover all losses associated with an information security breach.

Cyber attacks or other information security breaches affecting us or third parties on which we rely, including those that facilitate our business activities or to which we outsource operations, or security breaches of the networks, systems or devices that our customers use to access our products and services, could result in business disruptions, loss of revenue or customers, legal or regulatory proceedings, compliance and other costs, violations of applicable privacy and other laws, reputational damage, or other adverse consequences, any of which could materially adversely affect our results of operations or financial condition.

Our framework for managing risks may not be fully effective in mitigating risk and loss to us. Our risk management framework seeks to mitigate risk and loss to us. We have established processes and procedures intended to identify, measure, monitor, report and analyze the types of risk to which we are subject, including liquidity risk, credit risk, market risk, interest rate risk, operational risk, legal and compliance risk, and reputational risk, among others. However, as with any risk management framework, there are inherent limitations to our risk management strategies as there may exist, or develop in the future, risks that we have not appropriately anticipated, identified or managed. Our risk management framework is also dependent on ensuring that effective operational controls and a sound culture exist throughout the Company. The inability to develop effective operational controls or to foster the appropriate culture in each of our lines of business, including the inability to align performance management and compensation to achieve the desired culture, could adversely impact the effectiveness of our risk management framework. Similarly, if we are unable to effectively manage our business or operations, we may be exposed to increased risks or unexpected losses. We are also exposed to risks if we do not accurately or completely execute a process or transaction, whether due to human error or otherwise, or if a team member fails to comply with applicable policies and procedures or inappropriately circumvents controls. In certain instances, we rely on models to measure, monitor and predict risks, such as market and interest rate risks, as well as to help inform business decisions; however, there is no assurance that these models will appropriately or sufficiently capture all relevant risks or accurately predict future events or exposures. Furthermore, certain of our models are subject to regulatory review and approval, and any failure to meet regulatory standards or expectations could result in fines, penalties, restrictions on our ability to engage in certain business activities, or other adverse consequences, and any required modifications or changes to these models can impact our capital ratios and requirements and result in increased operational and compliance costs. In addition, we rely on data to aggregate and assess our various risk exposures and business activities, and any issues with the quality or effectiveness of our data, including our aggregation, management, and validation procedures, could result in ineffective risk management practices, business decisions or customer service, inefficient use of resources, or inaccurate regulatory or other risk reporting. We also use artificial intelligence to help further inform our business decisions and risk management practices, but there is no assurance that artificial intelligence will appropriately or sufficiently replicate certain outcomes or accurately predict future events or exposures. The recent financial and credit crisis and resulting regulatory reform highlighted both the importance and some of the limitations of managing unanticipated risks, and our regulators remain focused on ensuring that financial institutions build and maintain robust risk management policies and practices. If our risk management framework proves ineffective, we could suffer unexpected losses which could materially adversely affect our results of operations or financial condition.

Risks related to sales practices and other instances where customers may have experienced financial harm. Various government entities and offices have undertaken formal or informal inquiries, investigations or examinations arising out of certain sales practices of the Company that were the subject of settlements with the CFPB, the Office of the Comptroller of the Currency, and the Office of the Los Angeles City Attorney announced by the Company on September 8, 2016. In addition to imposing monetary penalties and other sanctions, regulatory authorities may require admissions of wrongdoing and compliance with other conditions in connection with such matters, which can lead to restrictions on our ability to engage in certain business activities or offer certain products or services, limitations on our ability to access capital markets, limitations on capital distributions, the loss of customers, and/or other direct and indirect adverse consequences. A number of lawsuits have also been filed by non-governmental parties seeking damages or other remedies related to these sales practices. The ultimate resolution of any of these pending legal proceedings or government investigations, depending on the sanctions and remedy sought and granted, could materially adversely affect our results of operations and financial condition. We may continue to incur additional costs and expenses in order to address and defend these pending legal proceedings and government investigations, and we may continue to have increased compliance and other costs related to these matters. Furthermore, negative publicity or public opinion resulting from these matters may increase the risk of reputational harm to our business, which can impact our ability to keep and attract customers, affect our ability to attract and retain qualified team members, result in the loss of revenue, or have other material adverse effects on our results of operations and financial condition.

Furthermore, our priority of rebuilding trust has included an ongoing effort to identify other areas or instances where customers may have experienced financial harm. For example, we have identified certain issues related to past practices involving certain automobile collateral protection insurance policies and certain issues related to the unused portion of guaranteed automobile protection waiver or insurance agreements. The identification of such other areas or instances where customers may have experienced financial harm could lead to, and in some cases has already resulted in, additional remediation costs, loss of revenue or customers, legal or regulatory proceedings, compliance and other costs, reputational damage, or other adverse consequences.

For more information, refer to the “Overview – Retail Sales Practices Matters” and “– Other Customer Remediation Activities” sections and Note 17 (Legal Actions) to Financial Statements in this Report.

We may incur fines, penalties and other negative consequences from regulatory violations, possibly even inadvertent or unintentional violations, or from any failure to meet regulatory standards or expectations. We maintain systems and procedures designed to ensure that we comply with applicable laws and regulations. However, we are subject to heightened compliance and regulatory oversight and expectations, particularly due to the evolving and increasing regulatory landscape we operate in. We are also subject to consent orders with regulators that subject us to various conditions and restrictions. In addition, a single event or issue may give rise to numerous and overlapping investigations and proceedings, either by multiple federal and state agencies in the U.S. or by multiple regulators and other governmental entities in different jurisdictions. Also, the laws and regulations in jurisdictions in which we operate may be different or even conflict with each other, such as differences between U.S. federal and state law or differences between U.S. and non-U.S. laws as to the products and services we may offer or other business activities we may engage in, which can lead to compliance difficulties or issues. Furthermore, many legal and regulatory regimes require us to report transactions and other information to regulators and other governmental authorities, self-regulatory organizations, exchanges, clearing houses and customers. We may be subject to fines, penalties, restrictions on our business, or other negative consequences if we do not timely, completely, or accurately provide regulatory reports, customer notices or disclosures. Moreover, some legal/regulatory frameworks provide for the imposition of fines or penalties for noncompliance even though the noncompliance was inadvertent or unintentional and even though there was in place at the time systems and procedures designed to ensure compliance. For example, we are subject to regulations issued by the Office of Foreign Assets Control (OFAC) that prohibit financial institutions from participating in the transfer of property belonging to the governments of certain non-U.S. countries and designated nationals of those countries. OFAC may impose penalties or restrictions on certain activities for inadvertent or unintentional violations even if reasonable processes are in place to prevent the violations. Any violation of these or other applicable laws or regulatory requirements, even if inadvertent or unintentional, or any failure to meet regulatory standards or expectations, including any failure to satisfy the conditions of any consent orders, could result in fees, penalties, restrictions on our ability to engage in certain business activities, reputational harm, loss of customers or other negative consequences.

Reputational harm, including as a result of our actual or alleged conduct or public opinion of the financial services industry generally, could adversely affect our business, results of operations, and financial condition. Reputation risk, or the risk to our business, earnings and capital from negative public opinion, is inherent in our business and has increased substantially because of the financial crisis, our size and profile in the financial services industry, and sales practices related matters and other instances where customers may have experienced financial harm. Negative public opinion about the financial services industry generally or Wells Fargo specifically could adversely affect our reputation and our ability to keep and attract customers. Negative public opinion could result from our actual or alleged conduct in any number of activities, including sales practices; mortgage, automobile or other consumer lending practices; loan origination or servicing activities; mortgage foreclosure actions; management of client accounts or investments; lending, investing or other business relationships; identification and management of potential conflicts of interest from transactions, obligations and interests with and among our customers; corporate governance; regulatory compliance; risk management; incentive compensation practices; and disclosure, sharing or inadequate protection or improper use of customer information, and from actions taken by government regulators and community or other organizations in response to that conduct. Although we have policies and procedures in place intended to detect and prevent conduct by team members and third-party service providers that could potentially harm customers or our reputation, there is no assurance that such policies and procedures will be fully effective in preventing such conduct. Furthermore, our actual or perceived failure to address or prevent any such conduct or otherwise to effectively manage our business or operations could result in significant reputational harm. In addition, because we conduct most of our businesses under the "Wells Fargo" brand, negative public opinion about one business also could affect our other businesses. Moreover, actions by the financial services industry generally or by certain members or individuals in the industry also can adversely affect our reputation. The proliferation of social media websites utilized by Wells Fargo and other third parties, as well as the personal use of social media by our team members and others, including personal blogs and social network profiles, also may increase the risk that negative, inappropriate or unauthorized information may be posted or released publicly that could harm our reputation or have other negative consequences, including as a result of our team members interacting with our customers in an unauthorized manner in various social media outlets.

Wells Fargo and other financial institutions have been targeted from time to time by protests and demonstrations, which have included disrupting the operation of our retail banking locations and have resulted in negative public commentary about financial institutions, including the fees charged for various products and services. Wells Fargo and other financial institutions have also been subject to negative publicity as a result of providing financial services to or making investments in industries or organizations subject to stakeholder concerns. There can be no assurance that continued protests or negative public opinion of the Company specifically or large financial institutions generally will not harm our reputation and adversely affect our business, results of operations, and financial condition.

Risks related to legal actions. Wells Fargo and some of its subsidiaries are involved in judicial, regulatory, governmental, arbitration, and other proceedings or investigations concerning matters arising from the conduct of our business activities, and many of those proceedings and investigations expose Wells Fargo to potential financial loss. Although we believe we have a meritorious defense in all significant legal actions pending against us, there can be no assurance as to the ultimate outcome. We establish accruals for legal actions when potential losses associated with the actions become probable and the costs can be reasonably estimated. We may still incur costs for a legal action even if we have not established an accrual. In addition, the actual cost of resolving a legal action may be substantially higher than any amounts accrued for that action. The ultimate resolution of a pending legal proceeding or investigation, depending on the remedy sought and granted, could materially adversely affect our results of operations and financial condition.

As noted above, we are subject to heightened regulatory oversight and scrutiny, which may lead to regulatory investigations, proceedings or enforcement actions. In addition to imposing monetary penalties and other sanctions, regulatory authorities may require criminal pleas or other admissions of wrongdoing and compliance with other conditions in connection with settling such matters, which can lead to reputational harm, loss of customers, restrictions on the ability to access capital markets, limitations on capital distributions, the inability to engage in certain business activities or offer certain products or services, and/or other direct and indirect adverse effects.

For more information, refer to Note 17 (Legal Actions) to Financial Statements in this Report.

RISKS RELATED TO OUR MORTGAGE BUSINESS

Our mortgage banking revenue can be volatile from quarter to quarter, including from the impact of changes in interest rates on our origination activity and on the value of our MSRs, MLHFS and associated economic hedges, and we rely on the GSEs to purchase our conforming loans to reduce our credit risk and provide liquidity to fund new mortgage loans. We are one of the largest mortgage originators and residential mortgage servicers in the U.S., and we earn revenue from fees we receive for originating mortgage loans and for servicing mortgage loans. As a result of our mortgage servicing business, we have a sizable portfolio of MSRs, which we initially measure and carry using the fair value measurement method. Fair value is the present value of estimated future net servicing income, calculated based on a number of variables, including assumptions about the likelihood of prepayment by borrowers. Changes in interest rates can affect prepayment assumptions and thus fair value. When interest rates fall, borrowers are usually more likely to prepay their mortgage loans by refinancing them at a lower rate. As the likelihood of prepayment increases, the fair value of our MSRs can decrease. Each quarter we evaluate the fair value of our MSRs, and any decrease in fair value reduces earnings in the period in which the decrease occurs. We also measure at fair value MLHFS for which an active secondary market and readily available market prices exist. In addition, we measure at fair value certain other interests we hold related to residential loan sales and securitizations. Similar to other interest-bearing securities, the value of these MLHFS and other interests may be negatively affected by changes in interest rates. For example, if market interest rates increase relative to the yield on these MLHFS and other interests, their fair value may fall.

When rates rise, the demand for mortgage loans usually tends to fall, reducing the revenue we receive from loan originations. Under the same conditions, revenue from our MSRs can increase through increases in fair value. When rates fall, mortgage originations usually tend to increase and the value of our MSRs usually tends to decline, also with some offsetting revenue effect. Even though they can act as a "natural hedge," the hedge is not perfect, either in amount or timing. For example, the negative effect on revenue from a decrease in the fair value of residential MSRs is generally immediate, but any offsetting revenue benefit from more originations and the MSRs relating to the new loans would generally accrue over time. It is also possible that, because of economic conditions and/or a weak or deteriorating housing market, even if interest rates were to fall or remain low, mortgage originations may also fall or any increase in mortgage originations may not be enough to offset the decrease in the MSRs value caused by the lower rates.

We typically use derivatives and other instruments to hedge our mortgage banking interest rate risk. We may not hedge all of our risk, and we may not be successful in hedging any of the risk. Hedging is a complex process, requiring sophisticated models and constant monitoring, and is not a perfect science. We may use hedging instruments that may not perfectly correlate with the value or income being hedged. We could incur significant losses from our hedging activities. There may be periods where we elect not to use derivatives and other instruments to hedge mortgage banking interest rate risk.

We rely on the GSEs to purchase mortgage loans that meet their conforming loan requirements and on the Federal Housing Authority (FHA) to insure loans that meet their policy requirements. In order to meet customer needs, we also originate loans that do not conform to either the GSEs or FHA standards, which are referred to as "nonconforming" loans. We generally retain these nonconforming loans on our balance sheet. When we retain a loan on our balance sheet not only do we keep the credit risk of the loan but we also do not receive any sale proceeds that could be used to generate new loans. If we were unable or unwilling to retain nonconforming loans on our balance sheet, whether due to regulatory, business or other reasons, our ability to originate new nonconforming loans may be reduced, thereby reducing the interest income we could earn from these loans. Similarly, if the GSEs or FHA were to limit or reduce their purchases or insuring of loans, our ability to fund, and thus originate new mortgage loans, could also be reduced. We cannot assure that the GSEs or FHA will not materially limit their purchases or insuring of conforming loans or change their criteria for what constitutes a conforming loan (e.g., maximum loan amount or borrower eligibility). Each of the GSEs is currently in conservatorship, with its primary regulator, the Federal Housing Finance Agency (FHFA) acting as conservator. While the FHFA has stated that it intends to end the conservatorship, we cannot predict if, when or precisely how the conservatorship will end, or any associated changes to the GSEs business structure and operations that could result. As noted above, there are various proposals to reform the housing finance market in the U.S., including the role of the GSEs in the housing finance market. The impact of any such regulatory reform regarding the housing finance market and the GSEs, including any changes to the GSE's structure, capital requirements, or market presence, as well as any effect on the Company's business and financial results, are uncertain.

For more information, refer to the "Risk Management – Asset/Liability Management – Mortgage Banking Interest Rate and Market Risk," "Critical Accounting Policies – Valuation of Residential Mortgage Servicing Rights" and "Critical Accounting Policies - Fair Value of Financial Instruments" sections in this Report.

We may be required to repurchase mortgage loans or reimburse investors and others as a result of breaches in contractual representations and warranties, and we may incur other losses as a result of real or alleged violations of statutes or regulations applicable to the origination of our residential mortgage loans. We often sell residential mortgage loans that we originate to various parties, including GSEs, SPEs that issue private label MBS, and other financial institutions that purchase mortgage loans for investment or private label securitization. We may also pool FHA-insured and VA-guaranteed mortgage loans which back securities guaranteed by GNMA. The agreements under which we sell mortgage loans and the insurance or guaranty agreements with the FHA and VA contain various representations and warranties regarding the origination and characteristics of the mortgage loans. We may be required to repurchase mortgage loans, indemnify the securitization trust, investor or insurer, or reimburse the securitization trust, investor or insurer for credit losses incurred on loans in the event of a breach of contractual representations or warranties that is not remedied within a period (usually 90 days or less) after we receive notice of the breach. We establish a mortgage repurchase liability related to the various representations and warranties that reflect management's estimate of losses for loans which we have a repurchase obligation. Because the level of mortgage loan repurchase losses depends upon economic factors, investor demand strategies and other external conditions that may change over the life of the underlying loans, the level of the liability for mortgage loan repurchase losses is difficult to estimate, requires considerable management judgment, and is subject to change. If economic conditions or the housing market worsen or future investor repurchase demand and our success at appealing repurchase requests differ from past experience, we could have increased repurchase obligations and increased loss severity on repurchases, requiring significant additions to the repurchase liability.

Additionally, for residential mortgage loans that we originate, borrowers may allege that the origination of the loans did not comply with applicable laws or regulations in one or more respects and assert such violation as an affirmative defense to payment or to the exercise by us of our remedies, including foreclosure proceedings, or in an action seeking statutory and other damages in connection with such violation. If we are not successful in demonstrating that the loans in dispute were originated in accordance with applicable statutes and regulations, we could become subject to monetary damages and other civil penalties, including the loss of certain contractual payments or the inability to exercise certain remedies under the loans.

For more information, refer to the "Risk Management – Credit Risk Management – Liability for Mortgage Loan Repurchase Losses" section in this Report.

We may be terminated as a servicer or master servicer, be required to repurchase a mortgage loan or reimburse investors for credit losses on a mortgage loan, or incur costs, liabilities, fines and other sanctions if we fail to satisfy our servicing obligations, including our obligations with respect to mortgage loan foreclosure actions. We act as servicer and/or master servicer for mortgage loans included in securitizations and for unsecuritized mortgage loans owned by investors. As a servicer or master servicer for those loans we have certain contractual obligations to the securitization trusts, investors or other third parties, including certain foreclosure obligations or, if applicable, considering alternatives to foreclosure such as loan modifications or short-sales, as well as certain servicing obligations for properties that fall within a flood zone. If we fail to satisfy our servicing obligations, we may face a number of consequences, including termination as servicer or master servicer, requirements to indemnify the securitization trustee against losses from any failure by us to perform our servicing obligations, and/or contractual obligations to repurchase a mortgage loan or reimburse investors for credit losses, any of which could significantly reduce our net servicing income.

We may incur costs, liabilities to borrowers, title insurers and/or securitization investors, legal proceedings, or other adverse consequences if we fail to meet our obligations with respect to mortgage foreclosure actions or we experience delays in the foreclosure process. Our net servicing income and the fair value of our MSRs may be negatively affected to the extent our servicing costs increase because of higher foreclosure or other servicing related costs. We may be subject to fines and other sanctions imposed by federal or state regulators as a result of actual or perceived deficiencies in our mortgage servicing practices, including with respect to our foreclosure practices or our servicing of flood zone properties. Any of these actions may harm our reputation, negatively affect our residential mortgage origination or servicing business, or result in material fines, penalties, equitable remedies, or other enforcement actions.

For more information, refer to the "Risk Management – Credit Risk Management – Liability for Mortgage Loan Repurchase Losses" and "– Risks Relating to Servicing Activities," and "Critical Accounting Policies – Valuation of Residential Mortgage Servicing Rights" sections and Note 16 (Guarantees, Pledged Assets and Collateral, and Other Commitments) and Note 17 (Legal Actions) to Financial Statements in this Report.

RISKS RELATED TO OUR INDUSTRY'S COMPETITIVE OPERATING ENVIRONMENT

We face significant and increasing competition in the rapidly evolving financial services industry. We compete with other financial institutions in a highly competitive industry that is undergoing significant changes as a result of financial regulatory reform, technological advances, increased public scrutiny stemming from the financial crisis, and current economic conditions. Our success depends on our ability to develop and maintain deep and enduring relationships with our customers based on the quality of our customer service, the wide variety of products and services that we can offer our customers and the ability of those products and services to satisfy our customers' needs and preferences, the pricing of our products and services, the extensive distribution channels available for our customers, our innovation, and our reputation. Continued or increased competition in any one or all of these areas may negatively affect our customer relationships, market share and results of operations and/or cause us to increase our capital investment in our businesses in order to remain competitive. In addition, our ability to reposition or reprice our products and services from time to time may be limited and could be influenced significantly by the current economic, regulatory and political environment for large financial institutions as well as by the actions of our competitors. Furthermore, any changes in the types of products and services that we offer our customers and/or the pricing for those products and services could result in a loss of customer relationships and market share and could materially adversely affect our results of operations.

Continued technological advances and the growth of e-commerce have made it possible for non-depository institutions to offer products and services that traditionally were banking products, and for financial institutions and other companies to provide electronic and internet-based financial solutions, including electronic securities trading, lending and payment solutions. In addition, technological advances, including digital currencies, may diminish the importance of depository institutions and other financial intermediaries in the transfer of funds between parties. We may not respond effectively to these and other competitive threats from existing and new competitors and may be forced to sell products at lower prices, increase our investment in our business to modify or adapt our existing products and services, and/or develop new products and services to respond to our customers' needs and preferences. To the extent we are not successful in developing and introducing new products and services or responding or adapting to the competitive landscape or to changes in customer preferences, we may lose customer relationships and our revenue growth and results of operations may be materially adversely affected.

Our ability to attract and retain qualified team members is critical to the success of our business and failure to do so could adversely affect our business performance, competitive position and future prospects. The success of Wells Fargo is heavily dependent on the talents and efforts of our team members, including our senior leaders, and in many areas of our business, including commercial banking, brokerage, investment advisory, capital markets, risk management and technology, the competition for highly qualified personnel is intense. We also seek to retain a pipeline of team members to provide continuity of succession for our senior leadership positions. In order to attract and retain highly qualified team members, we must provide competitive compensation and effectively manage team member performance and development. As a large financial institution and additionally to the extent we remain subject to consent orders we may be subject to limitations on compensation by our regulators that may adversely affect our ability to attract and retain these qualified team members, especially if some of our competitors may not be subject to these same compensation limitations. If we are unable to continue to attract and retain qualified team members, including successors for senior leadership positions, our business performance, competitive position and future prospects may be adversely affected.

RISKS RELATED TO OUR FINANCIAL STATEMENTS

Changes in accounting policies or accounting standards, and changes in how accounting standards are interpreted or applied, could materially affect how we report our financial results and condition. Our accounting policies are fundamental to determining and understanding our financial results and condition. As described below, some of these policies require use of estimates and assumptions that may affect the value of our assets or liabilities and financial results. Any changes in our accounting policies could materially affect our financial statements.

From time to time the FASB and the SEC change the financial accounting and reporting standards that govern the preparation of our external financial statements. For example, on January 1, 2020, we adopted Accounting Standards Update 2016-13 – *Financial Instruments-Credit Losses* (Topic 326), which replaced the previous "incurred loss" model for the allowance for credit losses with an "expected loss" model referred to as the Current Expected Credit Loss model, or CECL.

In addition, accounting standard setters and those who interpret the accounting standards (such as the FASB, SEC, banking regulators and our outside auditors) may change or even reverse their previous interpretations or positions on how these standards should be applied. Changes in financial accounting and reporting standards and changes in current interpretations may be beyond our control, can be hard to predict and could materially affect how we report our financial results and condition. We may be required to apply a new or revised standard retroactively or apply an existing standard differently, also retroactively, in each case potentially resulting in our restating prior period financial statements in material amounts.

For more information, including information on our adoption of CECL, refer to the "Current Accounting Developments" section in this Report.

Our financial statements are based in part on assumptions and estimates which, if wrong, could cause unexpected losses in the future, and our financial statements depend on our internal controls over financial reporting. Pursuant to U.S. GAAP, we are required to use certain assumptions and estimates in preparing our financial statements, including in determining credit loss reserves, reserves for mortgage repurchases, reserves related to litigation and the fair value of certain assets and liabilities, among other items. Several of our accounting policies are critical because they require management to make difficult, subjective and complex judgments about matters that are inherently uncertain and because it is likely that materially different amounts would be reported under different conditions or using different assumptions. For a description of these policies, refer to the "Critical Accounting Policies" section in this Report. If assumptions or estimates underlying our financial statements are incorrect, we may experience material losses.

Certain of our financial instruments, including derivative assets and liabilities, debt securities, certain loans, MSRs, private equity investments, structured notes and certain repurchase and resale agreements, among other items, require a determination of their fair value in order to prepare our financial statements. Where quoted market prices are not available, we may make fair value determinations based on internally developed models or other means which ultimately rely to some degree on management judgment, and there is no assurance that our models will capture or appropriately reflect all relevant inputs required to accurately determine fair value. Some of these and other assets and liabilities may have no direct observable price levels, making their valuation particularly subjective, being based on significant estimation and judgment. In addition, sudden illiquidity in markets or declines in prices of certain loans and securities may make it more difficult to value certain balance sheet items, which may lead to the possibility that such valuations will be subject to further change or adjustment and could lead to declines in our earnings.

The Sarbanes-Oxley Act of 2002 (Sarbanes-Oxley) requires our management to evaluate the Company's disclosure controls and procedures and its internal control over financial reporting and requires our auditors to issue a report on our internal control over financial reporting. We are required to disclose, in our annual report on Form 10-K, the existence of any "material weaknesses" in our internal controls. We cannot assure that we will not identify one or more material weaknesses as of the end of any given quarter or year, nor can we predict the effect on our stock price of disclosure of a material weakness. In addition, our customers may rely on the effectiveness of our internal controls as a service provider, and any deficiency in those controls could affect our customers and damage our reputation or business. Sarbanes-Oxley also limits the types of non-audit services our outside auditors may provide to us in order to preserve their independence from us. If our auditors were found not to be "independent" of us under SEC rules, we could be required to engage new auditors and re-file financial statements and audit reports with the SEC. We could be out of compliance with SEC rules until new financial statements and audit reports were filed, limiting our ability to raise capital and resulting in other adverse consequences.

RISKS RELATED TO STRATEGIC DECISIONS

If we are unable to develop and execute effective business plans or strategies or manage change effectively, our competitive standing and results of operations could suffer. We are subject to rapid changes in technology, regulation, and product innovation, face intense competition for customers, sources of revenue, capital, services, qualified team members, and other essential business resources, and are subject to heightened regulatory expectations particularly with respect to compliance and risk management. In order to meet these challenges, we may undertake business plans or strategies related to, among other things, our organizational structure, our compliance and risk management framework, our expenses and efficiency, the types of products and services we offer, the types of businesses we engage in, the geographies in which we operate, the manner in which we serve our clients and customers, the third parties with which we do business, and the methods and distribution channels by which we offer our products and services. Accomplishing these business plans or strategies may be complex, time intensive, require significant financial, technological, management and other resources, and may divert management attention and resources away from other areas of the Company, and there is no guarantee that any business plans or strategies will ultimately be successful. To the extent we are unable to develop or execute effective business plans or strategies or manage change effectively, our competitive position, reputation, prospects for growth, and results of operations may be adversely affected.

In addition, we regularly explore opportunities to expand our products, services, and assets through strategic acquisitions of companies or businesses in the financial services industry. We generally must receive federal regulatory approvals before we can acquire a bank, bank holding company, or certain other financial services businesses. We cannot be certain when or if, or on what terms and conditions, any required regulatory approvals will be granted. We might be required to sell banks, branches and/or business units or assets or issue additional equity as a condition to receiving regulatory approval for an acquisition. When we do announce an acquisition, our stock price may fall depending on the size of the acquisition, the type of business to be acquired, the purchase price, and the potential dilution to existing stockholders or our earnings per share if we issue common stock in connection with the acquisition. Furthermore, difficulty in integrating an acquired company or business may cause us not to realize expected revenue increases, cost savings, increases in geographic or product presence, and other projected benefits from the acquisition. The integration could result in higher than expected deposit attrition, loss of key team members, an increase in our compliance costs or risk profile, disruption of our business or the acquired business, or otherwise harm our ability to retain customers and team members or achieve the anticipated benefits of the acquisition. Time and resources spent on integration may also impair our ability to grow our existing businesses. Many of the foregoing risks may be increased if the acquired company or business operates internationally or in a geographic location where we do not already have significant business operations and/or team members. Similarly, from time to time, we may decide to divest certain businesses or assets. Difficulties in executing a divestiture may cause us not to realize any expected cost savings or other benefits from the divestiture, or may result in higher than expected losses of team members or harm our ability to retain customers.

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Any factor described in this Report or in any of our other SEC filings could by itself, or together with other factors, adversely affect our financial results and condition. Refer to our quarterly reports on Form 10-Q filed with the SEC in 2020 for material changes to the above discussion of risk factors. There are factors not discussed above or elsewhere in this Report that could adversely affect our financial results and condition.