
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549
FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2019

OR

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

For the transition period from _____ to _____

Commission file number 001-07436

HSBC USA Inc.

(Exact name of registrant as specified in its charter)

Maryland

(State of incorporation)

452 Fifth Avenue, New York, New York

(Address of principal executive offices)

13-2764867

(I.R.S. Employer Identification No.)

10018

(Zip Code)

Registrant's telephone number, including area code (212) 525-5000

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

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

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

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
\$100,000,000 Zero Coupon Callable Accreting Notes due January 15, 2043	HBA/43	New York Stock Exchange
\$50,000,000 Zero Coupon Callable Accreting Notes due January 29, 2043	HBA/43A	New York Stock Exchange

As of April 26, 2019, there were 714 shares of the registrant's common stock outstanding, all of which are owned by HSBC North America Holdings Inc.

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PART I

Item 1. Financial Statements

CONSOLIDATED STATEMENT OF INCOME (LOSS) (UNAUDITED)

Three Months Ended March 31,	2019	2018
	(in millions)	
Interest income:		
Loans	\$ 716	\$ 598
Securities	304	253
Trading securities	63	49
Short-term investments	176	158
Other	18	16
Total interest income	1,277	1,074
Interest expense:		
Deposits	333	222
Short-term borrowings	62	33
Long-term debt	312	257
Other	8	10
Total interest expense	715	522
Net interest income	562	552
Provision for credit losses	58	(71)
Net interest income after provision for credit losses	504	623
Other revenues:		
Credit card fees, net	12	11
Trust and investment management fees	30	38
Other fees and commissions	147	160
Trading revenue	133	163
Other securities gains, net	7	5
Servicing and other fees from HSBC affiliates	81	99
Gain (loss) on instruments designated at fair value and related derivatives	(9)	30
Other income (loss)	(11)	7
Total other revenues	390	513
Operating expenses:		
Salaries and employee benefits	210	207
Support services from HSBC affiliates	380	411
Occupancy expense, net	45	43
Other expenses	115	621
Total operating expenses	750	1,282
Income (loss) before income tax	144	(146)
Income tax expense	35	92
Net income (loss)	\$ 109	\$ (238)

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS) (UNAUDITED)

Three Months Ended March 31,	2019	2018
	(in millions)	
<i>Net income (loss)</i>	\$ 109	\$ (238)
Net change in unrealized gains (losses), net of tax:		
Investment securities.....	179	(195)
Fair value option liabilities attributable to our own credit spread	(111)	12
Derivatives designated as cash flow hedges	14	2
Pension and post-retirement benefit plans	(3)	1
<i>Total other comprehensive income (loss)</i>	79	(180)
<i>Comprehensive income (loss)</i>	\$ 188	\$ (418)

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED BALANCE SHEET (UNAUDITED)

	March 31, 2019	December 31, 2018
(in millions, except share data)		
Assets⁽¹⁾		
Cash and due from banks.....	\$ 1,238	\$ 1,514
Interest bearing deposits with banks.....	20,197	15,700
Federal funds sold and securities purchased under agreements to resell (includes \$1.0 billion and nil designated under fair value option at March 31, 2019 and December 31, 2018, respectively).....	6,924	10,168
Trading assets (includes \$2.7 billion and \$2.5 billion of assets pledged to creditors at March 31, 2019 and December 31, 2018, respectively).....	26,101	21,978
Securities available-for-sale (includes \$1.2 billion and \$0.8 billion of assets pledged to creditors at March 31, 2019 and December 31, 2018, respectively).....	32,040	31,379
Securities held-to-maturity (fair value of \$14.3 billion and \$14.4 billion at March 31, 2019 and December 31, 2018, respectively).....	14,383	14,670
Loans.....	71,034	68,978
Less – allowance for credit losses.....	583	541
Loans, net.....	<u>70,451</u>	<u>68,437</u>
Loans held for sale (includes \$98 million and \$109 million designated under fair value option at March 31, 2019 and December 31, 2018, respectively).....	448	512
Properties and equipment, net.....	156	158
Goodwill.....	1,607	1,607
Other assets.....	7,376	6,325
Total assets	<u>\$ 180,921</u>	<u>\$ 172,448</u>
Liabilities⁽¹⁾		
Debt:		
Domestic deposits:		
Noninterest bearing.....	\$ 22,081	\$ 25,639
Interest bearing (includes \$8.5 billion and \$8.2 billion designated under fair value option at March 31, 2019 and December 31, 2018, respectively).....	85,061	78,830
Foreign deposits:		
Noninterest bearing.....	178	202
Interest bearing.....	6,310	6,274
Deposits held for sale.....	9	10
Total deposits.....	<u>113,639</u>	<u>110,955</u>
Short-term borrowings (includes \$191 million and \$560 million designated under fair value option at March 31, 2019 and December 31, 2018, respectively).....	9,567	4,180
Long-term debt (includes \$12.1 billion and \$11.2 billion designated under fair value option at March 31, 2019 and December 31, 2018, respectively).....	31,475	30,628
Total debt.....	<u>154,681</u>	<u>145,763</u>
Trading liabilities.....	3,908	3,643
Interest, taxes and other liabilities.....	4,011	2,536
Total liabilities	<u>162,600</u>	<u>151,942</u>
Equity		
Preferred stock (no par value; 40,999,000 shares authorized; 1,265 shares issued and outstanding at both March 31, 2019 and December 31, 2018).....	1,265	1,265
Common equity:		
Common stock (\$5 par; 150,000,000 shares authorized; 714 shares issued and outstanding at both March 31, 2019 and December 31, 2018).....	—	—
Additional paid-in capital.....	15,736	18,136
Retained earnings.....	1,607	1,471
Accumulated other comprehensive loss.....	(287)	(366)
Total common equity.....	<u>17,056</u>	<u>19,241</u>
Total equity	<u>18,321</u>	<u>20,506</u>
Total liabilities and equity	<u>\$ 180,921</u>	<u>\$ 172,448</u>

⁽¹⁾ The following table summarizes assets and liabilities related to our consolidated variable interest entities ("VIEs") at March 31, 2019 and December 31, 2018 which are consolidated on our balance sheet. Assets and liabilities exclude intercompany balances that eliminate in consolidation. See Note 17, "Variable Interest Entities," for additional information.

	March 31, 2019	December 31, 2018
(in millions)		
<i>Assets</i>		
Other assets.....	\$ 106	\$ 112
Total assets.....	<u>\$ 106</u>	<u>\$ 112</u>
<i>Liabilities</i>		
Long-term debt.....	\$ 66	\$ 66
Interest, taxes and other liabilities.....	36	37
Total liabilities.....	<u>\$ 102</u>	<u>\$ 103</u>

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (UNAUDITED)

Three Months Ended March 31,	2019	2018
	(in millions)	
Preferred stock		
Balance at beginning and end of period	\$ 1,265	\$ 1,265
Common stock		
Balance at beginning and end of period	—	—
Additional paid-in capital		
Balance at beginning of period	18,136	18,130
Return of capital to parent	(2,400)	—
Employee benefit plans	—	(3)
Balance at end of period	<u>15,736</u>	<u>18,127</u>
Retained earnings		
Balance at beginning of period	1,471	1,130
Cumulative effect adjustment to initially apply new accounting guidance for leases to recognize the previously deferred gain on the sale and leaseback of property, net of tax	27	—
Reclassification from accumulated other comprehensive loss of cumulative effect adjustment to initially apply new accounting guidance for equity investments which were previously classified as available-for-sale, net of tax	—	(4)
Cumulative effect adjustment to initially apply new accounting guidance for equity investments which were previously measured at cost, net of tax	—	10
Reclassification from accumulated other comprehensive loss of cumulative effect adjustment to initially apply new accounting guidance for stranded tax effects resulting from the Tax Cuts and Jobs Act ("Tax Legislation")	—	91
Balance at beginning of period, adjusted	<u>1,498</u>	<u>1,227</u>
Net income (loss)	109	(238)
Balance at end of period	<u>1,607</u>	<u>989</u>
Accumulated other comprehensive loss		
Balance at beginning of period	(366)	(431)
Reclassification to retained earnings of cumulative effect adjustment to initially apply new accounting guidance for equity investments which were previously classified as available-for-sale, net of tax	—	4
Reclassification to retained earnings of cumulative effect adjustment to initially apply new accounting guidance for stranded tax effects resulting from Tax Legislation	—	(91)
Balance at beginning of period, adjusted	<u>(366)</u>	<u>(518)</u>
Other comprehensive income (loss), net of tax	79	(180)
Balance at end of period	<u>(287)</u>	<u>(698)</u>
Total common equity	<u>17,056</u>	<u>18,418</u>
Total equity	<u>\$ 18,321</u>	<u>\$ 19,683</u>

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS (UNAUDITED)

Three Months Ended March 31,	2019	2018
	(in millions)	
<i>Cash flows from operating activities</i>		
Net income (loss)	\$ 109	\$ (238)
Adjustments to reconcile net income (loss) to net cash used in operating activities:		
Depreciation and amortization	11	(18)
Provision for credit losses	58	(71)
Net realized gains on securities available-for-sale	(7)	(5)
Net change in other assets and liabilities	1,326	(122)
Net change in loans held for sale:		
Originations and purchases of loans held for sale	(593)	(923)
Sales and collections of loans held for sale	621	1,175
Net change in trading assets and liabilities	(3,858)	(18,061)
Lower of amortized cost or fair value adjustments on loans held for sale	—	(3)
Loss (gain) on instruments designated at fair value and related derivatives	9	(30)
Net cash used in operating activities	<u>(2,324)</u>	<u>(18,296)</u>
<i>Cash flows from investing activities</i>		
Net change in federal funds sold and securities purchased under agreements to resell	3,244	22,804
Securities available-for-sale:		
Purchases of securities available-for-sale	(4,408)	(2,161)
Proceeds from sales of securities available-for-sale	2,145	987
Proceeds from maturities of securities available-for-sale	2,123	948
Securities held-to-maturity:		
Purchases of securities held-to-maturity	(229)	(900)
Proceeds from maturities of securities held-to-maturity	509	591
Change in loans:		
Originations, net of collections	(2,413)	5,012
Loans sold to third parties	381	207
Net cash used for acquisitions of properties and equipment	(8)	—
Outflows related to the sale of a portion of our Private Banking business	(2)	(232)
Other, net	(1)	(11)
Net cash provided by investing activities	<u>1,341</u>	<u>27,245</u>
<i>Cash flows from financing activities</i>		
Net change in deposits	2,479	(375)
Debt:		
Net change in short-term borrowings	5,387	487
Issuance of long-term debt	1,829	1,517
Repayment of long-term debt	(2,091)	(3,899)
Return of capital to parent	(2,400)	—
Other decreases in capital surplus	—	(3)
Net cash provided by (used in) financing activities	<u>5,204</u>	<u>(2,273)</u>
Net change in cash and due from banks and interest bearing deposits with banks ⁽¹⁾	<u>4,221</u>	<u>6,676</u>
Cash and due from banks and interest bearing deposits with banks at beginning of period ⁽¹⁾	17,214	12,272
<i>Cash and due from banks and interest bearing deposits with banks at end of period⁽¹⁾</i>	<u><u>\$ 21,435</u></u>	<u><u>\$ 18,948</u></u>

⁽¹⁾ As a result of adopting new accounting guidance in 2018, we changed our presentation of cash and cash equivalents to include cash and due from banks as well as interest bearing deposits with banks, which includes restricted cash. See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in our 2018 Form 10-K for further discussion. This resulted in an increase in cash provided by investing activities of \$6,968 million during the three months ended March 31, 2018.

The accompanying notes are an integral part of the consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

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1. Organization and Presentation

HSBC USA Inc. ("HSBC USA"), incorporated under the laws of Maryland, is a New York State based bank holding company and a wholly-owned subsidiary of HSBC North America Holdings Inc. ("HSBC North America"), which is an indirect wholly-owned subsidiary of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group"). The accompanying unaudited interim consolidated financial statements of HSBC USA and its subsidiaries (collectively "HUSI") have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X, as well as in accordance with predominant practices within the banking industry. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all normal and recurring adjustments considered necessary for a fair presentation of financial position, results of operations and cash flows for the interim periods have been made. HUSI may also be referred to in these notes to the consolidated financial statements as "we," "us" or "our." These unaudited interim consolidated financial statements should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2018 (the "2018 Form 10-K"). Certain reclassifications have been made to prior period amounts to conform to the current period presentation.

The preparation of financial statements in conformity with U.S. GAAP requires the use of estimates and assumptions that affect reported amounts and disclosures. Actual results could differ from those estimates. Interim results should not be considered indicative of results in future periods.

2. Trading Assets and Liabilities

Trading assets and liabilities consisted of the following:

	March 31, 2019	December 31, 2018
(in millions)		
Trading assets:		
U.S. Treasury	\$ 5,524	\$ 5,368
U.S. Government agency issued or guaranteed	112	111
U.S. Government sponsored enterprises.....	61	41
Asset-backed securities.....	201	208
Corporate and foreign bonds	11,192	10,562
Equity securities.....	888	751
Precious metals	5,127	1,889
Derivatives, net.....	2,996	3,048
Total trading assets.....	<u>\$ 26,101</u>	<u>\$ 21,978</u>
Trading liabilities:		
Securities sold, not yet purchased.....	\$ 687	\$ 738
Payables for precious metals	38	215
Derivatives, net.....	3,183	2,690
Total trading liabilities	<u>\$ 3,908</u>	<u>\$ 3,643</u>

At March 31, 2019 and December 31, 2018, the fair value of derivatives included in trading assets is net of \$2,257 million and \$2,013 million, respectively, relating to amounts recognized for the obligation to return cash collateral received under master netting agreements with derivative counterparties.

At March 31, 2019 and December 31, 2018, the fair value of derivatives included in trading liabilities is net of \$2,546 million and \$3,458 million, respectively, relating to amounts recognized for the right to reclaim cash collateral paid under master netting agreements with derivative counterparties.

See Note 9, "Derivative Financial Instruments," for further information on our trading derivatives and related collateral.

3. Securities

Our securities available-for-sale and securities held-to-maturity portfolios consisted of the following:

March 31, 2019	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
(in millions)				
Securities available-for-sale:				
U.S. Treasury	\$ 13,867	\$ 103	\$ (312)	\$ 13,658
U.S. Government sponsored enterprises:				
Mortgage-backed securities	5,310	35	(75)	5,270
Collateralized mortgage obligations	684	1	(21)	664
Direct agency obligations.....	3,016	31	(2)	3,045
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities	5,309	3	(113)	5,199
Collateralized mortgage obligations	1,001	8	(22)	987
Direct agency obligations.....	266	6	—	272
Asset-backed securities collateralized by:				
Home equity	42	—	(4)	38
Other.....	104	5	—	109
Foreign debt securities ⁽¹⁾	2,794	4	—	2,798
Total available-for-sale securities	<u>\$ 32,393</u>	<u>\$ 196</u>	<u>\$ (549)</u>	<u>\$ 32,040</u>
Securities held-to-maturity:				
U.S. Government sponsored enterprises:				
Mortgage-backed securities	\$ 1,906	\$ 5	\$ (15)	\$ 1,896
Collateralized mortgage obligations	1,810	38	(16)	1,832
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities	2,114	2	(31)	2,085
Collateralized mortgage obligations	8,540	43	(111)	8,472
Obligations of U.S. states and political subdivisions.....	11	1	—	12
Asset-backed securities collateralized by residential mortgages	2	—	—	2
Total held-to-maturity securities.....	<u>\$ 14,383</u>	<u>\$ 89</u>	<u>\$ (173)</u>	<u>\$ 14,299</u>

December 31, 2018	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in millions)			
Securities available-for-sale:				
U.S. Treasury	\$ 13,549	\$ 106	\$ (365)	\$ 13,290
U.S. Government sponsored enterprises:				
Mortgage-backed securities	5,541	6	(154)	5,393
Collateralized mortgage obligations	686	1	(35)	652
Direct agency obligations	2,831	37	(2)	2,866
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities	4,442	1	(171)	4,272
Collateralized mortgage obligations	1,140	9	(29)	1,120
Direct agency obligations	295	9	—	304
Asset-backed securities collateralized by:				
Home equity.....	44	—	(2)	42
Other	102	5	—	107
Foreign debt securities ⁽¹⁾	3,330	3	—	3,333
Total available-for-sale securities	<u>\$ 31,960</u>	<u>\$ 177</u>	<u>\$ (758)</u>	<u>\$ 31,379</u>
Securities held-to-maturity:				
U.S. Government sponsored enterprises:				
Mortgage-backed securities	\$ 1,812	\$ 1	\$ (34)	\$ 1,779
Collateralized mortgage obligations	1,878	34	(26)	1,886
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities	2,104	2	(63)	2,043
Collateralized mortgage obligations	8,863	35	(176)	8,722
Obligations of U.S. states and political subdivisions	11	—	—	11
Asset-backed securities collateralized by residential mortgages.....	2	—	—	2
Total held-to-maturity securities	<u>\$ 14,670</u>	<u>\$ 72</u>	<u>\$ (299)</u>	<u>\$ 14,443</u>

⁽¹⁾ Foreign debt securities represent public sector entity, bank or corporate debt.

Net unrealized losses were lower within the available-for-sale portfolio as compared with December 31, 2018 due primarily to decreasing yields on U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed, and U.S. Treasury securities.

The following table summarizes gross unrealized losses and related fair values at March 31, 2019 and December 31, 2018 classified as to the length of time the losses have existed:

March 31, 2019	One Year or Less			Greater Than One Year		
	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment
(dollars are in millions)						
Securities available-for-sale:						
U.S. Treasury	9	\$ (15)	\$ 1,773	42	\$ (297)	\$ 8,436
U.S. Government sponsored enterprises	1	—	75	166	(98)	3,816
U.S. Government agency issued or guaranteed	4	—	188	73	(135)	4,753
Asset-backed securities	—	—	—	5	(4)	38
Foreign debt securities	10	—	823	1	—	39
Securities available-for-sale	<u>24</u>	<u>\$ (15)</u>	<u>\$ 2,859</u>	<u>287</u>	<u>\$ (534)</u>	<u>\$ 17,082</u>
Securities held-to-maturity:						
U.S. Government sponsored enterprises	15	\$ —	\$ 3	578	\$ (31)	\$ 2,162
U.S. Government agency issued or guaranteed	68	(1)	366	512	(141)	7,622
Obligations of U.S. states and political subdivisions	1	—	—	1	—	—
Securities held-to-maturity	<u>84</u>	<u>\$ (1)</u>	<u>\$ 369</u>	<u>1,091</u>	<u>\$ (172)</u>	<u>\$ 9,784</u>
(dollars are in millions)						
December 31, 2018	One Year or Less			Greater Than One Year		
	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment
Securities available-for-sale:						
U.S. Treasury	8	\$ (12)	\$ 1,013	41	\$ (353)	\$ 8,828
U.S. Government sponsored enterprises	55	(6)	538	159	(185)	3,698
U.S. Government agency issued or guaranteed	8	(2)	106	72	(198)	4,825
Asset-backed securities	1	—	—	4	(2)	42
Foreign debt securities	16	—	1,724	—	—	—
Securities available-for-sale	<u>88</u>	<u>\$ (20)</u>	<u>\$ 3,381</u>	<u>276</u>	<u>\$ (738)</u>	<u>\$ 17,393</u>
Securities held-to-maturity:						
U.S. Government sponsored enterprises	103	\$ (8)	\$ 684	511	\$ (52)	\$ 1,739
U.S. Government agency issued or guaranteed	111	(14)	769	491	(225)	7,372
Obligations of U.S. states and political subdivisions	1	—	—	1	—	—
Securities held-to-maturity	<u>215</u>	<u>\$ (22)</u>	<u>\$ 1,453</u>	<u>1,003</u>	<u>\$ (277)</u>	<u>\$ 9,111</u>

Although the fair value of a particular security may be below its amortized cost, it does not necessarily result in a credit loss and hence an other-than-temporary impairment. The decline in fair value may be caused by, among other things, the illiquidity of the market. We have reviewed the securities for which there is an unrealized loss for other-than-temporary impairment in accordance with our accounting policies, discussed further below. At March 31, 2019 and December 31, 2018, we do not consider any of our debt securities to be other-than-temporarily impaired as we expect to recover their amortized cost basis and we neither intend nor expect to be required to sell these securities prior to recovery, even if that equates to holding securities until their individual maturities. However, other-than-temporary impairments may occur in future periods if the credit quality of the securities deteriorates.

Other-Than-Temporary Impairment On a quarterly basis, we perform an assessment to determine whether there have been any events or economic circumstances to indicate that a debt security with an unrealized loss has suffered other-than-temporary impairment. A debt security is considered impaired if its fair value is less than its amortized cost basis at the reporting date. If impaired, we assess whether the impairment is other-than-temporary.

If we intend to sell the debt security or if it is more-likely-than-not that we will be required to sell the debt security before the recovery of its amortized cost basis, the impairment is considered other-than-temporary and the unrealized loss is recorded in earnings. An impairment is also considered other-than-temporary if a credit loss exists (i.e., the present value of the expected future cash flows is less than the amortized cost basis of the debt security). In the event a credit loss exists, the credit loss component of an other-than-temporary impairment is recorded in earnings while the remaining portion of the impairment loss attributable to factors other than credit loss is recognized, net of tax, in other comprehensive income (loss).

For all securities held in the available-for-sale or held-to-maturity portfolios for which unrealized losses attributed to factors other than credit existed, we do not have the intention to sell and believe we will not be required to sell the securities for contractual, regulatory or liquidity reasons as of the reporting date. For a complete description of the factors considered when analyzing debt securities for impairments, see Note 4, "Securities," in our 2018 Form 10-K. There have been no material changes in our process for assessing impairment during 2019.

During the three months ended March 31, 2019 and 2018, none of our debt securities were determined to have other-than-temporary impairment, as such, there were no other-than-temporary impairment losses recognized related to credit loss.

Other securities gains, net The following table summarizes realized gains and losses on investment securities transactions attributable to available-for-sale securities:

Three Months Ended March 31,	2019	2018
	(in millions)	
Gross realized gains	\$ 16	\$ 9
Gross realized losses	(9)	(4)
Net realized gains	<u>\$ 7</u>	<u>\$ 5</u>

Contractual Maturities and Yields The following table summarizes the amortized cost and fair values of securities available-for-sale and securities held-to-maturity at March 31, 2019 by contractual maturity. Expected maturities differ from contractual maturities because borrowers have the right to prepay obligations without prepayment penalties in certain cases. The table below also reflects the distribution of maturities of debt securities held at March 31, 2019, together with the approximate yield of the portfolio. The yields shown are calculated by dividing annualized interest income, including the accretion of discounts and the amortization of premiums, by the amortized cost of securities outstanding at March 31, 2019.

	Within One Year		After One But Within Five Years		After Five But Within Ten Years		After Ten Years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
(dollars are in millions)								
Available-for-sale:								
U.S. Treasury	\$ 298	2.58%	\$ 5,761	2.02%	\$ 4,985	2.14%	\$ 2,823	2.96%
U.S. Government sponsored enterprises	1,187	3.15	1,567	2.75	2,424	2.80	3,832	3.09
U.S. Government agency issued or guaranteed	—	—	74	2.16	7	4.17	6,495	2.73
Asset-backed securities	—	—	—	—	57	5.31	89	4.02
Foreign debt securities.....	1,398	.16	1,396	2.62	—	—	—	—
Total amortized cost	<u>\$ 2,883</u>	1.64%	<u>\$ 8,798</u>	2.25%	<u>\$ 7,473</u>	2.38%	<u>\$ 13,239</u>	2.89%
Total fair value.....	<u>\$ 2,887</u>		<u>\$ 8,771</u>		<u>\$ 7,301</u>		<u>\$ 13,081</u>	
Held-to-maturity:								
U.S. Government sponsored enterprises	\$ 50	2.22%	\$ 378	2.71%	\$ 160	2.63%	\$ 3,128	3.00%
U.S. Government agency issued or guaranteed	—	—	14	3.94	25	3.56	10,615	2.66
Obligations of U.S. states and political subdivisions	1	4.71	5	3.44	5	4.19	—	—
Asset-backed securities	—	—	—	—	—	—	2	8.38
Total amortized cost	<u>\$ 51</u>	2.27%	<u>\$ 397</u>	2.76%	<u>\$ 190</u>	2.79%	<u>\$ 13,745</u>	2.74%
Total fair value.....	<u>\$ 51</u>		<u>\$ 398</u>		<u>\$ 189</u>		<u>\$ 13,661</u>	

Equity Securities Equity securities that are not classified as trading and are included in other assets consisted of the following:

	March 31, 2019	December 31, 2018
(in millions)		
Equity securities carried at fair value.....	\$ 286	\$ 278
Equity securities without readily determinable fair values	7	7

On a quarterly basis, we perform an assessment to determine whether any equity securities without readily determinable fair values are impaired. In the event an equity security is deemed impaired, the security is written down to fair value with impairment recorded in earnings. At March 31, 2019 and December 31, 2018, none of our equity securities without readily determinable fair values were determined to be impaired.

Also included in other assets were investments in Federal Home Loan Bank ("FHLB") stock and Federal Reserve Bank stock of \$151 million and \$631 million, respectively, at March 31, 2019 and \$156 million and \$631 million, respectively, at December 31, 2018.

4. Loans

Loans consisted of the following:

	March 31, 2019	December 31, 2018
	(in millions)	
Commercial loans:		
Real estate, including construction.....	\$ 11,290	\$ 11,344
Business and corporate banking.....	13,650	13,066
Global banking ⁽¹⁾	21,417	20,167
Other commercial ⁽²⁾	5,050	4,765
Total commercial.....	<u>51,407</u>	<u>49,342</u>
Consumer loans:		
Residential mortgages.....	17,368	17,383
Home equity mortgages.....	941	982
Credit cards.....	1,040	1,019
Other consumer.....	278	252
Total consumer.....	<u>19,627</u>	<u>19,636</u>
Total loans.....	<u>\$ 71,034</u>	<u>\$ 68,978</u>

⁽¹⁾ Represents large multinational firms including globally focused U.S. corporate and financial institutions, U.S. dollar lending to multinational banking clients managed by HSBC on a global basis and complex large business clients supported by Global Banking and Markets relationship managers.

⁽²⁾ Includes loans to HSBC affiliates which totaled \$2,688 million and \$2,274 million at March 31, 2019 and December 31, 2018, respectively. See Note 14, "Related Party Transactions," for additional information regarding loans to HSBC affiliates.

Net deferred origination costs totaled \$76 million and \$77 million at March 31, 2019 and December 31, 2018, respectively. At March 31, 2019 and December 31, 2018, we had a net unamortized premium on our loans of \$2 million and \$11 million, respectively.

Aging Analysis of Past Due Loans The following table summarizes the past due status of our loans, excluding loans held for sale, at March 31, 2019 and December 31, 2018. The aging of past due amounts is determined based on the contractual delinquency status of payments under the loan. An account is generally considered to be contractually delinquent when payments have not been made in accordance with the loan terms. Delinquency status is affected by customer account management policies and practices such as re-age, which results in the re-setting of the contractual delinquency status to current.

At March 31, 2019	Past Due		Total Past Due 30 Days or More	Current ⁽¹⁾	Total Loans
	30 - 89 Days	90+ Days			
(in millions)					
Commercial loans:					
Real estate, including construction	\$ 3	\$ 2	\$ 5	\$ 11,285	\$ 11,290
Business and corporate banking	17	34	51	13,599	13,650
Global banking	—	—	—	21,417	21,417
Other commercial	—	—	—	5,050	5,050
Total commercial	<u>20</u>	<u>36</u>	<u>56</u>	<u>51,351</u>	<u>51,407</u>
Consumer loans:					
Residential mortgages	391	259	650	16,718	17,368
Home equity mortgages	15	25	40	901	941
Credit cards	16	15	31	1,009	1,040
Other consumer	5	5	10	268	278
Total consumer	<u>427</u>	<u>304</u>	<u>731</u>	<u>18,896</u>	<u>19,627</u>
Total loans	<u>\$ 447</u>	<u>\$ 340</u>	<u>\$ 787</u>	<u>\$ 70,247</u>	<u>\$ 71,034</u>
(in millions)					
At December 31, 2018	Past Due		Total Past Due 30 Days or More	Current ⁽¹⁾	Total Loans
	30 - 89 Days	90+ Days			
Commercial loans:					
Real estate, including construction	\$ 76	\$ 3	\$ 79	\$ 11,265	\$ 11,344
Business and corporate banking	79	38	117	12,949	13,066
Global banking	—	—	—	20,167	20,167
Other commercial	15	—	15	4,750	4,765
Total commercial	<u>170</u>	<u>41</u>	<u>211</u>	<u>49,131</u>	<u>49,342</u>
Consumer loans:					
Residential mortgages	469	254	723	16,660	17,383
Home equity mortgages	14	27	41	941	982
Credit cards	13	14	27	992	1,019
Other consumer	5	5	10	242	252
Total consumer	<u>501</u>	<u>300</u>	<u>801</u>	<u>18,835</u>	<u>19,636</u>
Total loans	<u>\$ 671</u>	<u>\$ 341</u>	<u>\$ 1,012</u>	<u>\$ 67,966</u>	<u>\$ 68,978</u>

⁽¹⁾ Loans less than 30 days past due are presented as current.

Nonaccrual Loans Nonaccrual loans, including nonaccrual loans held for sale, and accruing loans 90 days or more delinquent consisted of the following:

	March 31, 2019	December 31, 2018
(in millions)		
Nonaccrual loans:		
Commercial:		
Real estate, including construction.....	\$ 5	\$ 7
Business and corporate banking	78	70
Global banking	48	65
Other commercial	—	1
Total commercial.....	<u>131</u>	<u>143</u>
Consumer:		
Residential mortgages ⁽¹⁾⁽²⁾⁽³⁾	344	341
Home equity mortgages ⁽¹⁾⁽²⁾	50	55
Consumer nonaccrual loans held for sale.....	1	1
Total consumer	<u>395</u>	<u>397</u>
Total nonaccruing loans.....	<u>526</u>	<u>540</u>
Accruing loans contractually past due 90 days or more:		
Commercial:		
Business and corporate banking	1	1
Total commercial.....	<u>1</u>	<u>1</u>
Consumer:		
Credit cards	15	14
Other consumer	5	6
Total consumer	<u>20</u>	<u>20</u>
Total accruing loans contractually past due 90 days or more.....	<u>21</u>	<u>21</u>
Total nonperforming loans.....	<u>\$ 547</u>	<u>\$ 561</u>

⁽¹⁾ At March 31, 2019 and December 31, 2018, nonaccrual consumer mortgage loans held for investment include \$262 million and \$289 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽²⁾ Nonaccrual consumer mortgage loans held for investment include all loans which are 90 or more days contractually delinquent as well as loans discharged under Chapter 7 bankruptcy and not re-affirmed and second lien loans where the first lien loan that we own or service is 90 or more days contractually delinquent.

⁽³⁾ Nonaccrual consumer mortgage loans for all periods does not include guaranteed loans purchased from the Government National Mortgage Association. Repayment of these loans is predominantly insured by the Federal Housing Administration and as such, these loans have different risk characteristics from the rest of our consumer loan portfolio.

The following table provides additional information on our nonaccrual loans:

Three Months Ended March 31,	2019	2018
(in millions)		
Interest income that would have been recorded if the nonaccrual loans had been current in accordance with contractual terms during the period.....	\$ 9	\$ 14
Interest income that was recorded on nonaccrual loans and included in interest income during the period.....	3	9

Impaired Loans A loan is considered to be impaired when it is deemed probable that not all principal and interest amounts due according to the contractual terms of the loan agreement will be collected. Probable losses from impaired loans are quantified and recorded as a component of the overall allowance for credit losses. Commercial and consumer loans for which we have modified the loan terms as part of a troubled debt restructuring are considered to be impaired loans. Additionally, commercial loans in nonaccrual status, or that have been partially charged-off or assigned a specific allowance for credit losses are also considered impaired loans.

Troubled debt restructurings TDR Loans represent loans for which the original contractual terms have been modified to provide for terms that are less than what we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition.

Modifications for consumer or commercial loans may include changes to one or more terms of the loan, including, but not limited to, a change in interest rate, extension of the amortization period, reduction in payment amount and partial forgiveness or deferment of principal, accrued interest or other loan covenants. A substantial amount of our modifications involve interest rate reductions on consumer loans, which lower the amount of interest income we are contractually entitled to receive in future periods. Through lowering the interest rate and other loan term changes, we believe we are able to increase the amount of cash flow that will ultimately be collected from the loan, given the borrower's financial condition. TDR Loans are reserved for primarily based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, which generally results in a higher reserve requirement for these loans, or as a practical expedient, the fair value of the collateral if the loan is collateral dependent or, for commercial loans, the observable market price if the loan is traded in the market. Once a consumer loan is classified as a TDR Loan, it continues to be reported as such until it is paid off or charged-off. For commercial loans, if subsequent performance is in accordance with the new terms and such terms reflect current market rates at the time of restructure, they will no longer be reported as a TDR Loan beginning in the year after restructuring. During the three months ended March 31, 2019 and 2018 there were no commercial loans that met this criteria and were removed from TDR Loan classification.

The following table presents information about loans which were modified during the three months ended March 31, 2019 and 2018 and as a result of this action became classified as TDR Loans:

Three Months Ended March 31,	2019	2018
	(in millions)	
Consumer loans:		
Residential mortgages	1	5
Home equity mortgages	—	2
Credit cards	1	1
Total consumer	2	8

During the three months ended March 31, 2019 and 2018, there were no commercial TDR Loans which were modified and as a result of this action became classified as TDR Loans.

The weighted-average contractual rate reduction for consumer loans which became classified as TDR Loans during the three months ended March 31, 2019 and 2018 was 1.24 percent and 3.86 percent, respectively.

The following table presents information about our TDR Loans and the related allowance for credit losses for TDR Loans:

	March 31, 2019		December 31, 2018	
	Carrying Value	Unpaid Principal Balance	Carrying Value	Unpaid Principal Balance
	(in millions)			
TDR Loans: ⁽¹⁾⁽²⁾				
Commercial loans:				
Business and corporate banking	\$ 71	\$ 89	\$ 68	\$ 86
Global banking.....	80	87	113	119
Total commercial ⁽³⁾	<u>151</u>	<u>176</u>	<u>181</u>	<u>205</u>
Consumer loans:				
Residential mortgages ⁽⁴⁾	622	709	640	730
Home equity mortgages ⁽⁴⁾	34	65	35	65
Credit cards	4	4	3	4
Total consumer.....	<u>660</u>	<u>778</u>	<u>678</u>	<u>799</u>
Total TDR Loans ⁽⁵⁾	<u>\$ 811</u>	<u>\$ 954</u>	<u>\$ 859</u>	<u>\$ 1,004</u>
Allowance for credit losses for TDR Loans: ⁽⁶⁾				
Commercial loans:				
Business and corporate banking	\$ 13		\$ 12	
Global banking.....	—		—	
Total commercial	<u>13</u>		<u>12</u>	
Consumer loans:				
Residential mortgages.....	2		3	
Home equity mortgages	—		1	
Credit cards	1		1	
Total consumer.....	<u>3</u>		<u>5</u>	
Total allowance for credit losses for TDR Loans	<u>\$ 16</u>		<u>\$ 17</u>	

⁽¹⁾ TDR Loans are considered to be impaired loans. For commercial loans, impaired loans include other loans in addition to TDR Loans which totaled \$59 million and \$54 million at March 31, 2019 and December 31, 2018, respectively.

⁽²⁾ The carrying value of TDR Loans includes basis adjustments on the loans, such as partial charge-offs.

⁽³⁾ Additional commitments to lend to commercial borrowers whose loans have been modified in TDR Loans totaled \$149 million and \$151 million at March 31, 2019 and December 31, 2018, respectively.

⁽⁴⁾ At March 31, 2019 and December 31, 2018, the carrying value of consumer mortgage TDR Loans held for investment includes \$602 million and \$615 million, respectively, of loans that are recorded at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽⁵⁾ At March 31, 2019 and December 31, 2018, the carrying value of TDR Loans includes \$256 million and \$286 million, respectively, of loans which are classified as nonaccrual.

⁽⁶⁾ Included in the allowance for credit losses.

The following table presents information about average TDR Loans and interest income recognized on TDR Loans:

Three Months Ended March 31,	2019	2018
	(in millions)	
Average balance of TDR Loans:		
Commercial loans:		
Business and corporate banking	\$ 70	\$ 175
Global banking	96	136
Total commercial	<u>166</u>	<u>311</u>
Consumer loans:		
Residential mortgages	628	676
Home equity mortgages.....	34	34
Credit cards.....	4	4
Total consumer	<u>666</u>	<u>714</u>
Total average balance of TDR Loans	<u>\$ 832</u>	<u>\$ 1,025</u>
Interest income recognized on TDR Loans:		
Commercial loans:		
Business and corporate banking	\$ 1	\$ 4
Global banking	1	1
Total commercial	<u>2</u>	<u>5</u>
Consumer loans:		
Residential mortgages	7	7
Total consumer	<u>7</u>	<u>7</u>
Total interest income recognized on TDR Loans	<u>\$ 9</u>	<u>\$ 12</u>

The following table presents consumer loans which were classified as TDR Loans during the previous 12 months which subsequently became 60 days or greater contractually delinquent during the three months ended March 31, 2019 and 2018:

Three Months Ended March 31,	2019	2018
	(in millions)	
Consumer loans:		
Residential mortgages	\$ 2	\$ 2
Home equity mortgages	—	1
Total consumer	<u>\$ 2</u>	<u>\$ 3</u>

During the three months ended March 31, 2019 and 2018, there were no commercial TDR Loans which were classified as TDR Loans during the previous 12 months which subsequently became 90 days or greater contractually delinquent.

Impaired commercial loans The following table presents information about impaired commercial loans and the related impairment reserve:

	Amount with Impairment Reserves ⁽¹⁾	Amount without Impairment Reserves ⁽¹⁾	Total Impaired Commercial Loans ⁽¹⁾⁽²⁾	Impairment Reserve	Unpaid Principal Balance
(in millions)					
At March 31, 2019					
Real estate, including construction.....	\$ 2	\$ 2	\$ 4	\$ 1	\$ 4
Business and corporate banking	66	42	108	19	122
Global banking	—	98	98	—	106
Other commercial	—	—	—	—	—
Total commercial	<u>\$ 68</u>	<u>\$ 142</u>	<u>\$ 210</u>	<u>\$ 20</u>	<u>\$ 232</u>
At December 31, 2018					
Real estate, including construction.....	\$ 3	\$ 3	\$ 6	\$ 1	\$ 6
Business and corporate banking	58	37	95	18	109
Global banking	—	133	133	—	140
Other commercial	—	1	1	—	1
Total commercial	<u>\$ 61</u>	<u>\$ 174</u>	<u>\$ 235</u>	<u>\$ 19</u>	<u>\$ 256</u>

⁽¹⁾ Reflects the carrying value of impaired commercial loans and includes basis adjustments on the loans, such as partial charge-offs.

⁽²⁾ Includes impaired commercial loans that are also considered TDR Loans which totaled \$151 million and \$181 million at March 31, 2019 and December 31, 2018, respectively.

The following table presents information about average impaired commercial loans and interest income recognized on impaired commercial loans:

Three Months Ended March 31,	2019	2018
(in millions)		
Average balance of impaired commercial loans:		
Real estate, including construction.....	\$ 5	\$ 12
Business and corporate banking	102	268
Global banking	116	380
Other commercial	1	—
Total average balance of impaired commercial loans	<u>\$ 224</u>	<u>\$ 660</u>
Interest income recognized on impaired commercial loans:		
Business and corporate banking	1	5
Global banking	1	1
Total interest income recognized on impaired commercial loans	<u>\$ 2</u>	<u>\$ 6</u>

Commercial Loan Credit Quality Indicators The following credit quality indicators are monitored for our commercial loan portfolio:

Criticized loans Criticized loan classifications presented in the table below are determined by the assignment of various criticized facility grades based on the risk rating standards of our regulator. The following table summarizes criticized commercial loans:

	Special Mention	Substandard	Doubtful	Total
(in millions)				
At March 31, 2019				
Real estate, including construction	\$ 576	\$ 88	\$ 3	\$ 667
Business and corporate banking	335	340	19	694
Global banking	240	270	—	510
Total commercial	<u>\$ 1,151</u>	<u>\$ 698</u>	<u>\$ 22</u>	<u>\$ 1,871</u>
At December 31, 2018				
Real estate, including construction	\$ 452	\$ 93	\$ 4	\$ 549
Business and corporate banking	193	314	15	522
Global banking	262	277	—	539
Other commercial	—	1	—	1
Total commercial	<u>\$ 907</u>	<u>\$ 685</u>	<u>\$ 19</u>	<u>\$ 1,611</u>

Nonperforming The following table summarizes the status of our commercial loan portfolio, excluding loans held for sale:

	Performing Loans	Nonaccrual Loans	Accruing Loans Contractually Past Due 90 days or More	Total
(in millions)				
At March 31, 2019				
Real estate, including construction	\$ 11,285	\$ 5	\$ —	\$ 11,290
Business and corporate banking	13,571	78	1	13,650
Global banking	21,369	48	—	21,417
Other commercial	5,050	—	—	5,050
Total commercial	<u>\$ 51,275</u>	<u>\$ 131</u>	<u>\$ 1</u>	<u>\$ 51,407</u>
At December 31, 2018				
Real estate, including construction	\$ 11,337	\$ 7	\$ —	\$ 11,344
Business and corporate banking	12,995	70	1	13,066
Global banking	20,102	65	—	20,167
Other commercial	4,764	1	—	4,765
Total commercial	<u>\$ 49,198</u>	<u>\$ 143</u>	<u>\$ 1</u>	<u>\$ 49,342</u>

Credit risk profile The following table shows the credit risk profile of our commercial loan portfolio:

	Investment Grade ⁽¹⁾	Non-Investment Grade	Total
	(in millions)		
At March 31, 2019			
Real estate, including construction	\$ 6,742	\$ 4,548	\$ 11,290
Business and corporate banking	5,642	8,008	13,650
Global banking.....	15,929	5,488	21,417
Other commercial	4,323	727	5,050
Total commercial	<u>\$ 32,636</u>	<u>\$ 18,771</u>	<u>\$ 51,407</u>
At December 31, 2018			
Real estate, including construction	\$ 6,769	\$ 4,575	\$ 11,344
Business and corporate banking	5,674	7,392	13,066
Global banking.....	14,764	5,403	20,167
Other commercial	3,990	775	4,765
Total commercial	<u>\$ 31,197</u>	<u>\$ 18,145</u>	<u>\$ 49,342</u>

⁽¹⁾ Investment grade includes commercial loans with credit ratings of at least BBB- or above or the equivalent based on our internal credit rating system.

Consumer Loan Credit Quality Indicators The following credit quality indicators are utilized for our consumer loan portfolio:

Delinquency The following table summarizes dollars of two-months-and-over contractual delinquency and as a percent of total loans and loans held for sale ("delinquency ratio") for our consumer loan portfolio:

	March 31, 2019		December 31, 2018	
	Delinquent Loans	Delinquency Ratio	Delinquent Loans	Delinquency Ratio
	(dollars are in millions)			
Residential mortgages ⁽¹⁾⁽²⁾	\$ 356	2.05%	\$ 347	1.99%
Home equity mortgages ⁽¹⁾⁽²⁾	29	3.08	30	3.05
Credit cards	22	2.12	20	1.96
Other consumer	7	2.52	8	2.62
Total consumer	<u>\$ 414</u>	<u>2.11%</u>	<u>\$ 405</u>	<u>2.05%</u>

⁽¹⁾ At March 31, 2019 and December 31, 2018, consumer mortgage loan delinquency includes \$223 million and \$254 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell, including \$1 million and \$1 million, respectively, relating to loans held for sale.

⁽²⁾ At March 31, 2019 and December 31, 2018, consumer mortgage loans and loans held for sale include \$135 million and \$125 million, respectively, of loans that were in the process of foreclosure.

Nonperforming The following table summarizes the status of our consumer loan portfolio, excluding loans held for sale:

	Performing Loans	Nonaccrual Loans	Accruing Loans Contractually Past Due 90 days or More	Total
(in millions)				
At March 31, 2019				
Residential mortgages	\$ 17,024	\$ 344	\$ —	\$ 17,368
Home equity mortgages.....	891	50	—	941
Credit cards.....	1,025	—	15	1,040
Other consumer	273	—	5	278
Total consumer	<u>\$ 19,213</u>	<u>\$ 394</u>	<u>\$ 20</u>	<u>\$ 19,627</u>
At December 31, 2018				
Residential mortgages	\$ 17,042	\$ 341	\$ —	\$ 17,383
Home equity mortgages.....	927	55	—	982
Credit cards.....	1,005	—	14	1,019
Other consumer	246	—	6	252
Total consumer	<u>\$ 19,220</u>	<u>\$ 396</u>	<u>\$ 20</u>	<u>\$ 19,636</u>

Troubled debt restructurings See discussion of impaired loans above for further details on this credit quality indicator.

Concentration of Credit Risk At March 31, 2019 and December 31, 2018, our loan portfolios included interest-only residential mortgage and home equity mortgage loans totaling \$3,290 million and \$3,208 million, respectively. An interest-only residential mortgage loan allows a customer to pay the interest-only portion of the monthly payment for a period of time which results in lower payments during the initial loan period. However, subsequent events affecting a customer's financial position could affect the ability of customers to repay the loan in the future when the principal payments are required which increases the credit risk of this loan type.

5. Allowance for Credit Losses

The following table summarizes the changes in the allowance for credit losses by product and the related loan balance by product during the three months ended March 31, 2019 and 2018:

	Commercial				Consumer				Total
	Real Estate, including Construction	Business and Corporate Banking	Global Banking	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
(in millions)									
Three Months Ended March 31, 2019									
Allowance for credit losses – beginning of period.....	\$ 116	\$ 219	\$ 108	\$ 15	\$ 13	\$ 7	\$ 58	\$ 5	\$ 541
Provision charged (credited) to income.....	3	22	14	—	(1)	1	16	3	58
Charge-offs	—	(2)	—	—	(4)	(1)	(13)	(1)	(21)
Recoveries	—	—	—	—	2	1	2	—	5
Net (charge-offs) recoveries	—	(2)	—	—	(2)	—	(11)	(1)	(16)
Allowance for credit losses – end of period	<u>\$ 119</u>	<u>\$ 239</u>	<u>\$ 122</u>	<u>\$ 15</u>	<u>\$ 10</u>	<u>\$ 8</u>	<u>\$ 63</u>	<u>\$ 7</u>	<u>\$ 583</u>
Ending balance: collectively evaluated for impairment	\$ 118	\$ 220	\$ 122	\$ 15	\$ 8	\$ 8	\$ 62	\$ 7	\$ 560
Ending balance: individually evaluated for impairment	1	19	—	—	2	—	1	—	23
Total allowance for credit losses	<u>\$ 119</u>	<u>\$ 239</u>	<u>\$ 122</u>	<u>\$ 15</u>	<u>\$ 10</u>	<u>\$ 8</u>	<u>\$ 63</u>	<u>\$ 7</u>	<u>\$ 583</u>

	Commercial				Consumer				Total
	Real Estate, including Construction	Business and Corporate Banking	Global Banking	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
(in millions)									
Loans:									
Collectively evaluated for impairment ⁽¹⁾ ...	\$ 11,286	\$ 13,542	\$ 21,319	\$ 5,050	\$ 16,495	\$ 882	\$ 1,036	\$ 278	\$ 69,888
Individually evaluated for impairment ⁽²⁾ ...	4	108	98	—	50	4	4	—	268
Loans carried at lower of amortized cost or fair value less cost to sell	—	—	—	—	823	55	—	—	878
Total loans	<u>\$ 11,290</u>	<u>\$ 13,650</u>	<u>\$ 21,417</u>	<u>\$ 5,050</u>	<u>\$ 17,368</u>	<u>\$ 941</u>	<u>\$ 1,040</u>	<u>\$ 278</u>	<u>\$ 71,034</u>
Three Months Ended March 31, 2018									
Allowance for credit losses – beginning of period	\$ 82	\$ 244	\$ 264	\$ 18	\$ 25	\$ 11	\$ 32	\$ 5	\$ 681
Provision charged (credited) to income.....	10	(34)	(49)	1	(10)	(1)	12	—	(71)
Charge-offs	—	(25)	(5)	—	—	(2)	(8)	(1)	(41)
Recoveries	—	22	1	—	3	2	2	—	30
Net (charge-offs) recoveries	—	(3)	(4)	—	3	—	(6)	(1)	(11)
Allowance for credit losses – end of period	<u>\$ 92</u>	<u>\$ 207</u>	<u>\$ 211</u>	<u>\$ 19</u>	<u>\$ 18</u>	<u>\$ 10</u>	<u>\$ 38</u>	<u>\$ 4</u>	<u>\$ 599</u>
Ending balance: collectively evaluated for impairment	\$ 91	\$ 168	\$ 149	\$ 19	\$ 13	\$ 9	\$ 37	\$ 4	\$ 490
Ending balance: individually evaluated for impairment	1	39	62	—	5	1	1	—	109
Total allowance for credit losses	<u>\$ 92</u>	<u>\$ 207</u>	<u>\$ 211</u>	<u>\$ 19</u>	<u>\$ 18</u>	<u>\$ 10</u>	<u>\$ 38</u>	<u>\$ 4</u>	<u>\$ 599</u>
Loans:									
Collectively evaluated for impairment ⁽¹⁾ ...	\$ 11,042	\$ 12,532	\$ 18,967	\$ 4,578	\$ 16,375	\$ 1,071	\$ 766	\$ 365	\$ 65,696
Individually evaluated for impairment ⁽²⁾ ...	12	286	322	—	55	3	4	—	682
Loans carried at lower of amortized cost or fair value less cost to sell	—	—	—	—	895	65	—	—	960
Total loans	<u>\$ 11,054</u>	<u>\$ 12,818</u>	<u>\$ 19,289</u>	<u>\$ 4,578</u>	<u>\$ 17,325</u>	<u>\$ 1,139</u>	<u>\$ 770</u>	<u>\$ 365</u>	<u>\$ 67,338</u>

⁽¹⁾ Other commercial includes loans to HSBC affiliates totaling \$2,688 million and \$1,920 million at March 31, 2019 and 2018, respectively, for which we do not carry an associated allowance for credit losses.

⁽²⁾ For consumer loans and certain small business loans, these amounts represent TDR Loans for which we evaluate reserves using a discounted cash flow methodology. Each loan is individually identified as a TDR Loan and then grouped together with other TDR Loans with similar characteristics. The discounted cash flow analysis is then applied to these groups of TDR Loans. Loans individually evaluated for impairment exclude TDR Loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell which totaled \$602 million and \$644 million at March 31, 2019 and 2018, respectively.

6. Loans Held for Sale

Loans held for sale consisted of the following:

	March 31, 2019	December 31, 2018
	(in millions)	
Commercial loans:		
Real estate, including construction.....	\$ 33	\$ 27
Global banking	383	367
Total commercial.....	<u>416</u>	<u>394</u>
Consumer loans:		
Residential mortgages	32	65
Other consumer	—	53
Total consumer	<u>32</u>	<u>118</u>
Total loans held for sale	<u>\$ 448</u>	<u>\$ 512</u>

Commercial Loans Included in commercial loans held for sale are certain loans that we no longer intend to hold for investment and transferred to held for sale which totaled \$318 million and \$285 million at March 31, 2019 and December 31, 2018, respectively. During the three months ended March 31, 2019 and 2018, we reversed nil and \$3 million, respectively, of the lower of amortized cost or fair value adjustment previously recorded on commercial loans held for sale as a component of other income (loss) in the consolidated statement of income (loss) as a result of an increase in fair value due to improved pricing.

Commercial loans held for sale also includes certain loans that we have elected to designate under the fair value option which consists of loans that we originate in connection with our participation in a number of syndicated credit facilities with the intent of selling them to unaffiliated third parties as well as loans that we purchase from the secondary market and hold as hedges against our exposure to certain total return swaps. The fair value of these loans totaled \$98 million and \$109 million at March 31, 2019 and December 31, 2018, respectively. See Note 10, "Fair Value Option," for additional information.

Consumer Loans Included in residential mortgage loans held for sale are agency-eligible residential mortgage loans which are originated and held for sale to third parties, currently on a servicing retained basis. Gains and losses from the sale of these residential mortgage loans are reflected as a component of other income (loss) in the accompanying consolidated statement of income (loss).

During the first quarter of 2019, we transferred \$53 million of student loans that were previously classified as other consumer loans held for sale back to held for investment as we now intend to hold these loans for the foreseeable future.

Loans held for sale are subject to market risk, liquidity risk and interest rate risk, in that their value will fluctuate as a result of changes in market conditions, as well as the credit environment. Interest rate risk for agency-eligible residential mortgage loans held for sale is partially mitigated through an economic hedging program to offset changes in the fair value of these mortgage loans held for sale, from the time of commitment to sale, attributable to changes in market interest rates. Revenue associated with this economic hedging program, which is reflected as a component of other income (loss) in the consolidated statement of income (loss), was less than \$1 million during both the three months ended March 31, 2019 and 2018.

Valuation Allowances Excluding the commercial loans designated under the fair value option discussed above, loans held for sale are recorded at the lower of amortized cost or fair value, with adjustments to fair value being recorded as a valuation allowance through other revenues. The valuation allowance on consumer loans held for sale was \$2 million and \$4 million at March 31, 2019 and December 31, 2018, respectively. The valuation allowance on commercial loans held for sale was nil and \$3 million at March 31, 2019 and December 31, 2018, respectively.

7. Goodwill

Goodwill was \$1,607 million at both March 31, 2019 and December 31, 2018. Goodwill for these periods reflects accumulated impairment losses of \$670 million, which were recognized in prior periods. During the first quarter of 2019, there were no events or changes in circumstances to indicate that it is more likely than not the fair values of any of our reporting units have reduced below their respective carrying amounts.

8. Leases

We have entered into operating leases for premises and equipment. As discussed more fully in Note 21, "New Accounting Pronouncements," beginning January 1, 2019, lease right-of-use ("ROU") assets and lease liabilities for operating leases are recognized at commencement date based on the present value of lease payments over the lease term, discounted using our incremental borrowing rate. Operating lease ROU assets are recorded in other assets while operating lease liabilities are recorded in interest, taxes and other liabilities. We have not entered into any finance leases.

Certain leases contain options to renew or terminate the lease which are recognized as part of our ROU assets and liabilities when it is reasonably certain the options will be exercised. Certain leases also contain escalation clauses. We have lease agreements that contain both lease and non-lease components, such as maintenance costs, which are accounted for separately. We do not recognize ROU assets or lease liabilities for short-term leases with a term of 12 months or less. In addition, variable lease payments for real estate taxes, insurance, maintenance and utilities, which are generally based on our pro rata share of the total property, are not included in the measurement of the ROU assets or lease liabilities and are expensed as incurred.

We have entered into agreements to sublease certain office space, including agreements to receive rental income from our affiliates for rent. As owner or lessee of the properties, we have entered into agreements with affiliates to charge them rent based on the office space utilized by their employees during the period. See Note 14, "Related Party Transactions," for further disclosure.

The following table summarizes the components of total operating lease costs, net and provides supplemental cash flow information related to leases:

Three Months Ended March 31,	2019
	(in millions)
Operating lease cost.....	\$ 32
Short-term lease cost.....	4
Variable lease cost.....	14
Sublease income	(14)
Total operating lease costs, net	<u>\$ 36</u>
Supplemental disclosure of cash flow information:	
Cash paid for amounts included in the measurement of operating lease liabilities.....	\$ 31
ROU assets recognized for new operating lease liabilities.....	10

The following table presents information about our operating lease ROU assets and liabilities:

	March 31, 2019
	(dollars are in millions)
Operating lease ROU assets ⁽¹⁾	\$ 767
Operating lease liabilities	817
Weighted-average remaining lease term.....	7.5 years
Weighted-average discount rate.....	3.2%

⁽¹⁾ Reported net of level lease adjustments and exit cost obligations.

The following table presents a maturity analysis of our operating lease liabilities at March 31, 2019:

Year Ending December 31,	(in millions)
2019	\$ 87
2020	135
2021	136
2022	133
2023	131
Thereafter.....	316
Total operating lease payments.....	<u>938</u>
Less - imputed interest.....	<u>(121)</u>
Total operating lease liabilities	<u>\$ 817</u>

At March 31, 2019, we had \$4 million of additional operating leases for premises that have not yet commenced.

For comparative periods prior to the adoption of the new accounting guidance on January 1, 2019, we have retained the following disclosures as previously reported. Net rental expense under operating leases, which did not include certain variable lease costs, was \$23 million during the three months ended March 31, 2018.

Future net minimum lease commitments under noncancellable operating lease arrangements at December 31, 2018, which did not include renewals, were as follows:

Year Ending December 31,	Minimum Lease Payments	Minimum Sublease Income	Net
	(in millions)		
2019	\$ 136	\$ (58)	\$ 78
2020	125	(2)	123
2021	115	(1)	114
2022	103	—	103
2023	91	—	91
Thereafter	182	(1)	181
Net minimum lease commitments.....	<u>\$ 752</u>	<u>\$ (62)</u>	<u>\$ 690</u>

9. Derivative Financial Instruments

In the normal course of business, the derivative instruments we enter into are for trading, market making and risk management purposes. For financial reporting purposes, derivative instruments are designated in one of the following categories: (a) hedging instruments designated as qualifying hedges under derivative and hedge accounting principles, (b) financial instruments held for trading or (c) non-qualifying economic hedges. The derivative instruments held are predominantly swaps, futures, options and forward contracts. All derivatives are stated at fair value. Where we enter into enforceable master netting agreements with counterparties, the master netting agreements permit us to net those derivative asset and liability positions and to offset cash collateral held and posted with the same counterparty.

The following table presents the fair value of derivative contracts by major product type on a gross basis. Gross fair values exclude the effects of both counterparty netting as well as collateral, and therefore are not representative of our exposure. The table below also presents the amounts of counterparty netting and cash collateral that have been offset in the consolidated balance sheet, as well as cash and securities collateral posted and received under enforceable master netting agreements that do not meet the criteria for netting. Derivative assets and liabilities which are not subject to an enforceable master netting agreement, or are subject to a netting agreement where an appropriate legal opinion to determine such agreements are enforceable has not been either sought or obtained, have not been netted in the table below. Where we have received or posted collateral under netting agreements where an appropriate legal opinion to determine such agreements are enforceable has not been either sought or obtained, the related collateral also has not been netted in the table below.

	March 31, 2019		December 31, 2018	
	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
	(in millions)			
Derivatives accounted for as fair value hedges⁽¹⁾				
OTC-cleared ⁽²⁾	\$ —	\$ —	\$ 6	\$ —
Bilateral OTC ⁽²⁾	—	133	—	117
Interest rate contracts	—	133	6	117
Derivatives accounted for as cash flow hedges⁽¹⁾				
Foreign exchange contracts - bilateral OTC⁽²⁾	28	1	11	32
Interest rate contracts - bilateral OTC⁽²⁾	—	20	—	13
Total derivatives accounted for as hedges	28	154	17	162
Trading derivatives not accounted for as hedges⁽³⁾				
Exchange-traded ⁽²⁾	6	17	2	45
OTC-cleared ⁽²⁾	71	16	50	14
Bilateral OTC ⁽²⁾	10,006	10,920	9,866	10,780
Interest rate contracts	10,083	10,953	9,918	10,839
Exchange-traded ⁽²⁾	3	17	—	15
OTC-cleared ⁽²⁾	—	5	—	—
Bilateral OTC ⁽²⁾	13,563	13,105	15,897	15,684
Foreign exchange contracts	13,566	13,127	15,897	15,699
Equity contracts - bilateral OTC⁽²⁾	2,603	2,590	2,034	2,061
Exchange-traded ⁽²⁾	271	99	16	274
Bilateral OTC ⁽²⁾	472	607	829	626
Precious metals contracts	743	706	845	900
OTC-cleared ⁽²⁾	226	193	125	107
Bilateral OTC ⁽²⁾	944	933	825	831
Credit contracts	1,170	1,126	950	938
Other non-qualifying derivatives not accounted for as hedges⁽¹⁾				
Interest rate contracts - bilateral OTC⁽²⁾	159	134	133	216
Foreign exchange contracts - bilateral OTC⁽²⁾	15	1	13	2
Equity contracts - bilateral OTC⁽²⁾	877	279	512	805
Credit contracts - bilateral OTC⁽²⁾	1	11	6	9
Other contracts - bilateral OTC⁽²⁾⁽⁴⁾	5	42	5	40
Total derivatives	29,250	29,123	30,330	31,671
Less: Gross amounts of receivable / payable subject to enforceable master netting agreements⁽⁵⁾⁽⁷⁾	23,267	23,267	25,172	25,172
Less: Gross amounts of cash collateral received / posted subject to enforceable master netting agreements⁽⁶⁾⁽⁷⁾	2,832	2,553	2,020	3,675
Net amounts of derivative assets / liabilities presented in the balance sheet	3,151	3,303	3,138	2,824
Less: Gross amounts of financial instrument collateral received / posted subject to enforceable master netting agreements but not offset in the consolidated balance sheet	668	1,462	832	568
Net amounts of derivative assets / liabilities	\$ 2,483	\$ 1,841	\$ 2,306	\$ 2,256

(1) Derivative assets / liabilities related to cash flow hedges, fair value hedges and derivative instruments held for purposes other than for trading are recorded in other assets / interest, taxes and other liabilities on the consolidated balance sheet.

(2) Over-the-counter ("OTC") derivatives include derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. The credit risk associated with bilateral OTC derivatives is managed through obtaining collateral and enforceable master netting agreements. OTC-cleared derivatives are executed bilaterally in the OTC market but then novated to a central clearing counterparty, whereby the central clearing counterparty becomes the counterparty to each of the original counterparties. Exchange traded derivatives are executed directly on an organized exchange. Credit risk is minimized for OTC-cleared derivatives and exchange traded derivatives through daily margining requirements. In addition, OTC-cleared interest-rate derivatives with certain central clearing counterparties are settled daily.

(3) Trading related derivative assets / liabilities are recorded in trading assets / trading liabilities on the consolidated balance sheet.

(4) Consists of swap agreements entered into in conjunction with the sales of Visa Inc. ("Visa") Class B common shares ("Class B Shares").

(5) Represents the netting of derivative receivable and payable balances for the same counterparty under enforceable netting agreements.

(6) Represents the netting of cash collateral posted and received by counterparty under enforceable netting agreements.

⁽⁷⁾ Netting is performed at a counterparty level in cases where enforceable master netting agreements are in place, regardless of the type of derivative instrument. Therefore, we have not allocated netting to the different types of derivative instruments shown in the table above.

See Note 18, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for further information on offsetting related to resale and repurchase agreements and securities borrowing and lending arrangements.

Derivatives Held for Risk Management Purposes Our risk management policy requires us to identify, analyze and manage risks arising from the activities conducted during the normal course of business. We use derivative instruments as an asset and liability management tool to manage our exposures in interest rate, foreign currency and credit risks in existing assets and liabilities, commitments and forecasted transactions. The accounting for changes in fair value of a derivative instrument will depend on whether the derivative has been designated and qualifies for hedge accounting.

We designate derivative instruments to offset the fair value risk and cash flow risk arising from fixed-rate and floating-rate assets and liabilities as well as forecasted transactions. We assess the hedging relationships, both at the inception of the hedge and on an ongoing basis, using a regression approach to determine whether the designated hedging instrument is highly effective in offsetting changes in the fair value or the cash flows attributable to the hedged risk. Accounting principles for qualifying hedges require us to prepare detailed documentation describing the relationship between the hedging instrument and the hedged item, including, but not limited to, the risk management objective, the hedging strategy and the methods to assess and measure the ineffectiveness of the hedging relationship. We discontinue hedge accounting when we determine that the hedge is no longer highly effective, the hedging instrument is terminated, sold or expired, the designated forecasted transaction is not probable of occurring, or when the designation is removed by us.

Fair Value Hedges In the normal course of business, we hold fixed-rate loans and securities and issue fixed-rate senior and subordinated debt obligations. The fair value of fixed-rate assets and liabilities fluctuates in response to changes in interest rates. We utilize interest rate swaps, forward and futures contracts to minimize our exposure to changes in fair value caused by interest rate volatility. The changes in the fair value of the hedged item designated in a qualifying hedge are captured as an adjustment to the carrying amount of the hedged item (basis adjustment). If the hedging relationship is discontinued and the hedged item continues to exist, the basis adjustment is amortized over the remaining life of the hedged item.

The following table presents the carrying amount of hedged items in fair value hedges recognized in the consolidated balance sheet at March 31, 2019, along with the cumulative amount of fair value hedging adjustments included in the carrying amount of those hedged items:

	Carrying Amount of Hedged Items ⁽¹⁾	Cumulative Amount of Fair Value Hedging Adjustments Increasing (Decreasing) the Carrying Amount of Hedged Items		
		Active	Discontinued	Total
(in millions)				
At March 31, 2019				
Securities available-for-sale ("AFS").....	\$ 12,851	\$ 374	\$ 209	\$ 583
Long-term debt.....	12,533	123	(61)	62

⁽¹⁾ The carrying amount of securities AFS represents the amortized cost basis.

The following table presents information on gains and losses on derivative instruments designated and qualifying as hedging instruments in fair value hedges and the hedged items in fair value hedges and their locations on the consolidated statement of income (loss):

	Gain (Loss) on Derivatives ⁽¹⁾		Gain (Loss) on Hedged Items ⁽¹⁾		Net Ineffective Gain (Loss) Recognized ⁽¹⁾
	Net Interest Income	Other Income (Loss)	Net Interest Income	Other Income (Loss)	Other Income (Loss)
(in millions)					
Three Months Ended March 31, 2019					
Interest rate contracts / Securities AFS	\$ (257)	\$ —	\$ 350	\$ —	\$ —
Interest rate contracts / Long-term debt	84	—	(199)	—	—
Total.....	<u>\$ (173)</u>	<u>\$ —</u>	<u>\$ 151</u>	<u>\$ —</u>	<u>\$ —</u>
Three Months Ended March 31, 2018					
Interest rate contracts / Securities AFS	\$ (23)	\$ 362	\$ 87	\$ (357)	\$ 5
Interest rate contracts / Long-term debt	(6)	(60)	(57)	61	1
Total.....	<u>\$ (29)</u>	<u>\$ 302</u>	<u>\$ 30</u>	<u>\$ (296)</u>	<u>\$ 6</u>

⁽¹⁾ As a result of adopting new accounting guidance discussed in Note 21, "New Accounting Pronouncements," beginning January 1, 2019, we report gains and losses on the derivatives and the hedged items in fair value hedges in net interest income. Prior to January 1, 2019, fair value hedge ineffectiveness was separately measured and reported in other income (loss).

Cash Flow Hedges We own or issue floating rate financial instruments and enter into forecasted transactions that give rise to variability in future cash flows. As a part of our risk management strategy, we use interest rate swaps, currency swaps and futures contracts to mitigate risk associated with variability in the cash flows. Changes in fair value of a derivative instrument associated with a qualifying cash flow hedge are recognized in other comprehensive income (loss). When the cash flows being hedged materialize and are recorded in income or expense, the associated gain or loss from the hedging derivative previously recorded in accumulated other comprehensive loss ("AOCI") is reclassified into earnings in the same accounting period in which the designated forecasted transaction or hedged item affects earnings. If a cash flow hedge of a forecasted transaction is discontinued because it is no longer highly effective, or if the hedge relationship is terminated, the cumulative gain or loss on the hedging derivative to that date will continue to be reported in AOCI unless it is probable that the hedged forecasted transaction will not occur by the end of the originally specified time period as documented at the inception of the hedge, at which time the cumulative gain or loss is released into earnings.

At March 31, 2019, active cash flow hedge relationships extend or mature through July 2036. During the three months ended March 31, 2019, \$10 million of losses related to discontinued cash flow hedge relationships were amortized to earnings from AOCI compared with losses of \$4 million during the three months ended March 31, 2018. During the next twelve months, we expect to amortize \$32 million of remaining losses to earnings resulting from these discontinued cash flow hedges. The interest accrual related to the hedging instruments is recognized in net interest income.

The following table presents information on gains and losses on derivative instruments designated and qualifying as hedging instruments in cash flow hedges (including amounts recognized in AOCI from discontinued cash flow hedges) and their locations on the consolidated statement of income (loss):

	Gain (Loss) Recognized in AOCI on Derivatives ⁽¹⁾		Location of Gain (Loss) Reclassified from AOCI into Income ⁽¹⁾	Gain (Loss) Reclassified From AOCI into Income ⁽¹⁾	
	2019	2018		2019	2018
(in millions)					
Three Months Ended March 31,					
Foreign exchange contracts	\$ 1	\$ (5)	Net interest income	\$ —	\$ —
Interest rate contracts	7	3	Net interest income	(10)	(4)
Total	<u>\$ 8</u>	<u>\$ (2)</u>		<u>\$ (10)</u>	<u>\$ (4)</u>

⁽¹⁾ As a result of adopting new accounting guidance discussed in Note 21, "New Accounting Pronouncements," beginning January 1, 2019, gains and losses on the derivatives in cash flow hedges are initially reported in AOCI and then reclassified into earnings in the same accounting period in which the designated forecasted transaction or hedged item affects earnings. Prior to January 1, 2019, cash flow hedge ineffectiveness was separately measured and reported immediately in other income (loss). Cash flow hedge ineffectiveness was immaterial during the three months ended March 31, 2018.

Trading Derivatives and Non-Qualifying Hedging Activities In addition to risk management, we also enter into derivative contracts, including buy- and sell-protection credit derivatives, for the purposes of trading and market making, or repackaging risks to form structured trades to meet clients' risk taking objectives. Additionally, we buy or sell securities and use derivatives to mitigate the market risks arising from our trading activities with our clients that exceed our risk appetite. We also use buy-protection credit derivatives to manage our counterparty credit risk exposure. Where we enter into derivatives for trading purposes, realized and unrealized gains and losses are recognized in trading revenue. Counterparty credit risk associated with OTC derivatives, including risk-mitigating buy-protection credit derivatives, are recognized as an adjustment to the fair value of the derivatives and are recorded in trading revenue.

Our non-qualifying hedging and other activities include:

- Derivative contracts related to the fixed-rate long-term debt issuances and hybrid instruments, including all structured notes and deposits, for which we have elected fair value option accounting. These derivative contracts are non-qualifying hedges but are considered economic hedges.
- Credit default swaps which are designated as economic hedges against the credit risks within our loan portfolio. In the event of an impairment loss occurring in a loan that is economically hedged, the impairment loss is recognized as provision for credit losses while the gain on the credit default swap is recorded as other income (loss).
- Swap agreements entered into in conjunction with the sales of Visa Class B Shares to a third party to retain the litigation risk associated with the Class B Shares sold until the related litigation is settled and the Class B Shares can be converted into Class A common shares ("Class A Shares"). See Note 18, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for additional information.
- Forward purchases or sales of to-be-announced ("TBA") securities used to economically hedge changes in the fair value of agency-eligible residential mortgage loans held for sale attributable to changes in market interest rates. Changes in the fair value of TBA positions, which are considered derivatives, are recorded in other income (loss). See Note 6, "Loans Held for Sale," for additional information.

Derivative instruments designated as economic hedges that do not qualify for hedge accounting are recorded at fair value through profit and loss. Realized and unrealized gains and losses on economic hedges are recognized in gain (loss) on instruments designated at fair value and related derivatives or other income (loss) while the derivative asset or liability positions are reflected as other assets or other liabilities.

The following table presents information on gains and losses on derivative instruments held for trading purposes and their locations on the consolidated statement of income (loss):

		Amount of Gain (Loss) Recognized in Income on Derivatives	
		Three Months Ended March 31,	
Location of Gain (Loss) Recognized in Income on Derivatives		2019	2018
(in millions)			
Interest rate contracts	Trading revenue	\$ 56	\$ 203
Foreign exchange contracts.....	Trading revenue	137	(100)
Equity contracts	Trading revenue	(89)	(3)
Precious metals contracts.....	Trading revenue	(134)	130
Credit contracts	Trading revenue	(122)	(3)
Total		<u>\$ (152)</u>	<u>\$ 227</u>

The following table presents information on gains and losses on derivative instruments held for non-qualifying hedging and other activities and their locations on the consolidated statement of income (loss):

		Amount of Gain (Loss) Recognized in Income on Derivatives	
		Three Months Ended March 31,	
Location of Gain (Loss) Recognized in Income on Derivatives		2019	2018
(in millions)			
Interest rate contracts	Gain (loss) on instruments designated at fair value and related derivatives	\$ 156	\$ (162)
Interest rate contracts	Other income (loss)	(1)	—
Foreign exchange contracts.....	Gain (loss) on instruments designated at fair value and related derivatives	(1)	(2)
Equity contracts.....	Gain (loss) on instruments designated at fair value and related derivatives	914	(339)
Credit contracts	Other income (loss)	(10)	(2)
Other contracts ⁽¹⁾	Other income (loss)	(6)	(2)
Total.....		<u>\$ 1,052</u>	<u>\$ (507)</u>

⁽¹⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

Credit-Risk Related Contingent Features The majority of our derivative contracts contain provisions that require us to maintain a specific credit rating from each of the major credit rating agencies. Sometimes the derivative instrument transactions are a part of broader structured product transactions. If our credit ratings were to fall below the current ratings, the counterparties to our derivative instruments could demand us to post additional collateral. The amount of additional collateral required to be posted will depend on whether we are downgraded by one or more notches. The aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a net liability position at March 31, 2019 was \$802 million, for which we had posted collateral of \$645 million. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a net liability position at December 31, 2018 was \$979 million, for which we had posted collateral of \$422 million. Substantially all of the collateral posted is in the form of cash or securities available-for-sale. See Note 18, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for further details.

The following table presents the amount of additional collateral that we would be required to post (from the current collateral level) related to derivative instruments with credit-risk related contingent features if our long-term ratings were downgraded by one or two notches. A downgrade by a single rating agency that does not result in a rating lower than a preexisting corresponding rating provided by another rating agency will generally not result in additional collateral.

	One-notch downgrade		Two-notch downgrade	
	(in millions)			
Amount of additional collateral to be posted upon downgrade	\$	33	\$	41

Notional Value of Derivative Contracts The following table summarizes the notional values of derivative contracts:

	March 31, 2019	December 31, 2018
	(in millions)	
Interest rate:		
Futures and forwards	\$ 750,139	\$ 787,049
Swaps	2,993,980	3,203,048
Options written	104,512	106,009
Options purchased	110,755	107,561
	<u>3,959,386</u>	<u>4,203,667</u>
Foreign exchange:		
Swaps, futures and forwards	1,177,668	1,052,088
Options written	43,821	30,567
Options purchased	45,005	31,069
Spot.....	42,675	31,084
	<u>1,309,169</u>	<u>1,144,808</u>
Commodities, equities and precious metals:		
Swaps, futures and forwards	43,310	41,328
Options written	35,600	28,595
Options purchased	47,339	40,236
	<u>126,249</u>	<u>110,159</u>
Credit derivatives	117,225	97,298
Other contracts ⁽¹⁾	872	736
Total.....	<u>\$ 5,512,901</u>	<u>\$ 5,556,668</u>

⁽¹⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

10. Fair Value Option

We report our results to HSBC in accordance with HSBC Group accounting and reporting policies ("Group Reporting Basis"), which apply International Financial Reporting Standards ("IFRSs") as issued by the International Accounting Standards Board ("IASB") and endorsed by the European Union ("EU"). We typically have elected to apply fair value option ("FVO") accounting to selected financial instruments to align the measurement attributes of those instruments under U.S. GAAP and the Group Reporting Basis and to simplify the accounting model applied to those financial instruments. We elected to apply FVO accounting to certain commercial loans held for sale, certain securities purchased and sold under resale and repurchase agreements, certain fixed-rate long-term debt issuances and all of our hybrid instruments, including structured notes and deposits. Excluding the fair value movement on fair value option liabilities attributable to our own credit spread, which is recorded in other comprehensive income (loss), changes in the fair value of fair value option assets and liabilities as well as the mark-to-market adjustment on the related derivatives and the net realized gains or losses on these derivatives are reported in gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income (loss).

Loans We elected to apply FVO accounting to certain commercial syndicated loans which are originated with the intent to sell and certain commercial loans that we purchased from the secondary market and hold as hedges against our exposure to certain total return swaps and include these loans as loans held for sale in the consolidated balance sheet. The election allows us to account for these loans at fair value which is consistent with the manner in which the instruments are managed. Where available, fair value is based on observable market pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan-specific risk mitigating factors such as collateral arrangements in determining the fair value estimate. Interest from these loans is recorded as interest income in the consolidated statement of income (loss). Because a substantial majority of the loans elected for the fair value option are floating rate assets, changes in their fair value are primarily attributable to changes in loan-specific credit risk factors. The components of gain (loss) related to loans designated at fair value are summarized in the table below. At March 31, 2019 and

December 31, 2018, no loans for which the fair value option has been elected were 90 days or more past due or in nonaccrual status.

Resale and Repurchase Agreements We elected to apply FVO accounting to certain securities purchased and sold under resale and repurchase agreements which are trading in nature. The election allows us to account for these resale and repurchase agreements at fair value which is consistent with the manner in which the instruments are managed. The fair value of the resale and repurchase agreements is determined using market rates currently offered on comparable transactions with similar underlying collateral and maturities. Interest on these resale and repurchase agreements is recorded as interest income or expense in the consolidated statement of income (loss). The components of gain (loss) related to these resale and repurchase agreements designated at fair value are summarized in the table below.

Long-Term Debt (Own Debt Issuances) We elected to apply FVO accounting for certain fixed-rate long-term debt for which we had applied or otherwise would elect to apply fair value hedge accounting. The election allows us to achieve a similar accounting effect without having to meet the hedge accounting requirements. The own debt issuances elected under FVO are traded in secondary markets and, as such, the fair value is determined based on observed prices for the specific instruments. The observed market price of these instruments reflects the effect of changes to our own credit spreads and interest rates. Interest on the fixed-rate debt accounted for under FVO is recorded as interest expense in the consolidated statement of income (loss). The components of gain (loss) in the consolidated statement of income (loss) related to long-term debt designated at fair value are summarized in the table below.

Hybrid Instruments We elected to apply FVO accounting to all of our hybrid instruments issued, including structured notes and deposits. The valuation of the hybrid instruments is predominantly driven by the derivative features embedded within the instruments and our own credit risk. Cash flows of the hybrid instruments in their entirety, including the embedded derivatives, are discounted at an appropriate rate for the applicable duration of the instrument adjusted for our own credit spreads. The credit spreads applied to structured notes are determined with reference to our own debt issuance rates observed in the primary and secondary markets, internal funding rates, and structured note rates in recent executions while the credit spreads applied to structured deposits are determined using market rates currently offered on comparable deposits with similar characteristics and maturities. Interest on this debt is recorded as interest expense in the consolidated statement of income (loss). The components of gain (loss) in the consolidated statement of income (loss) related to hybrid instruments designated at fair value are summarized in the table below.

The following table summarizes the fair value and unpaid principal balance for items we account for under FVO:

	Fair Value	Unpaid Principal Balance	Fair Value Over (Under) Unpaid Principal Balance
	(in millions)		
At March 31, 2019			
Commercial loans held for sale.....	\$ 98	\$ 106	\$ (8)
Securities purchased under resale agreements	961	961	—
Securities sold under repurchase agreements	191	191	—
Fixed rate long-term debt.....	2,052	1,750	302
Hybrid instruments:			
Structured deposits	8,465	8,790	(325)
Structured notes.....	10,029	9,393	636
At December 31, 2018			
Commercial loans held for sale.....	\$ 109	\$ 120	\$ (11)
Securities sold under repurchase agreements	560	560	—
Fixed rate long-term debt.....	1,935	1,750	185
Hybrid instruments:			
Structured deposits	8,154	8,441	(287)
Structured notes.....	9,314	9,546	(232)

Components of Gain (Loss) on Instruments Designated at Fair Value and Related Derivatives The following table summarizes the components of gain (loss) on instruments designated at fair value and related derivatives reflected in the consolidated statement of income (loss) for the three months ended March 31, 2019 and 2018:

	Loans	Securities Purchased Under Resale Agreements	Securities Sold Under Repurchase Agreements	Long-Term Debt	Hybrid Instruments	Total
(in millions)						
Three Months Ended March 31, 2019						
Interest rate and other components ⁽¹⁾	\$ —	\$ —	\$ —	\$ (69)	\$ (1,012)	\$ (1,081)
Credit risk component ⁽²⁾	3	—	—	—	—	3
Total mark-to-market on financial instruments designated at fair value	3	—	—	(69)	(1,012)	(1,078)
Mark-to-market on related derivatives	—	—	—	53	1,006	1,059
Net realized gain on related long-term debt derivatives	—	—	—	10	—	10
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ 3</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (6)</u>	<u>\$ (6)</u>	<u>\$ (9)</u>
Three Months Ended March 31, 2018						
Interest rate and other components ⁽¹⁾	\$ —	\$ —	\$ (1)	\$ 88	\$ 442	\$ 529
Credit risk component ⁽²⁾	4	—	—	—	—	4
Total mark-to-market on financial instruments designated at fair value	4	—	(1)	88	442	533
Mark-to-market on related derivatives	—	—	—	(77)	(439)	(516)
Net realized gain on related long-term debt derivatives	—	—	—	13	—	13
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ 4</u>	<u>\$ —</u>	<u>\$ (1)</u>	<u>\$ 24</u>	<u>\$ 3</u>	<u>\$ 30</u>

⁽¹⁾ As it relates to hybrid instruments, interest rate and other components primarily includes interest rate, foreign exchange and equity contract risks.

⁽²⁾ The fair value movement on fair value option liabilities attributable to our own credit spread is recorded in other comprehensive income (loss).

11. Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss includes certain items that are reported directly within a separate component of equity. The following table presents changes in accumulated other comprehensive loss balances:

Three Months Ended March 31,	2019	2018
	(in millions)	
Unrealized gains (losses) on investment securities:		
Balance at beginning of period.....	\$ (519)	\$ (250)
Cumulative effect adjustment to initially apply new accounting guidance for equity investments which were previously classified as available-for-sale, net of tax of \$2 million ⁽¹⁾	—	4
Cumulative effect adjustment to initially apply new accounting guidance for stranded tax effects resulting from Tax Legislation ⁽¹⁾	—	(53)
Balance at beginning of period, adjusted	(519)	(299)
Other comprehensive income (loss) for period:		
Net unrealized gains (losses) arising during period, net of tax of \$55 million and \$(63) million, respectively	180	(193)
Reclassification adjustment for gains realized in net income (loss), net of tax of \$(2) million and \$(1) million, respectively ⁽²⁾ ..	(5)	(4)
Amortization of net unrealized losses on securities transferred from available-for-sale to held-to-maturity realized in net income (loss), net of tax of \$1 million and \$1 million, respectively ⁽³⁾	4	2
Total other comprehensive income (loss) for period.....	179	(195)
Balance at end of period.....	(340)	(494)
Unrealized gains (losses) on fair value option liabilities attributable to our own credit spread:		
Balance at beginning of period.....	301	(19)
Cumulative effect adjustment to initially apply new accounting guidance for stranded tax effects resulting from Tax Legislation ⁽¹⁾	—	(4)
Balance at beginning of period, adjusted	301	(23)
Other comprehensive income (loss) for period:		
Net unrealized gains (losses) arising during period, net of tax of \$(35) million and \$5 million, respectively	(111)	12
Total other comprehensive income (loss) for period.....	(111)	12
Balance at end of period.....	190	(11)
Unrealized gains (losses) on derivatives designated as cash flow hedges:		
Balance at beginning of period.....	(159)	(164)
Cumulative effect adjustment to initially apply new accounting guidance for stranded tax effects resulting from Tax Legislation ⁽¹⁾	—	(35)
Balance at beginning of period, adjusted	(159)	(199)
Other comprehensive income (loss) for period:		
Net unrealized gains (losses) arising during period, net of tax of \$2 million and less than \$(1) million, respectively	6	(1)
Reclassification adjustment for losses realized in net income (loss), net of tax of \$2 million and \$1 million, respectively ⁽⁴⁾	8	3
Total other comprehensive income (loss) for period.....	14	2
Balance at end of period.....	(145)	(197)
Pension and postretirement benefit liability:		
Balance at beginning of period.....	11	2
Cumulative effect adjustment to initially apply new accounting guidance for stranded tax effects resulting from Tax Legislation ⁽¹⁾	—	1
Balance at beginning of period, adjusted	11	3
Other comprehensive income (loss) for period:		
Change in unfunded pension and postretirement liability, net of tax of \$(1) million and less than \$1 million, respectively	(3)	1
Total other comprehensive income for period.....	(3)	1
Balance at end of period.....	8	4
Total accumulated other comprehensive loss at end of period.....	\$ (287)	\$ (698)

⁽¹⁾ See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in our 2018 Form 10-K for additional discussion.

⁽²⁾ Amount reclassified to net income (loss) is included in other securities gains, net in our consolidated statement of income (loss).

⁽³⁾ Amount amortized to net income (loss) is included in interest income in our consolidated statement of income (loss). During 2014, we transferred securities from available-for-sale to held-to-maturity. At the date of transfer, AOCI included net pretax unrealized losses related to the transferred securities which are being amortized over the remaining contractual life of each security as an adjustment of yield in a manner consistent with the amortization of any premium or discount.

⁽⁴⁾ Amount reclassified to net income (loss) is included in net interest income in our consolidated statement of income (loss).

12. Pension and Other Postretirement Benefits

Defined Benefit Pension Plan The table below reflects the portion of pension expense and its related components of the combined HSBC North America Pension Plan (either the "HSBC North America Pension Plan" or the "Plan") which has been allocated to us and is recorded in our consolidated statement of income (loss). We have not been allocated any portion of the Plan's net pension liability.

Three Months Ended March 31,	2019	2018
	(in millions)	
Interest cost on projected benefit obligation	\$ 15	\$ 15
Expected return on plan assets	(18)	(21)
Amortization of net actuarial loss	7	5
Administrative costs	1	1
Pension expense	<u>\$ 5</u>	<u>\$ —</u>

Postretirement Plans Other Than Pensions Our employees also participate in plans which provide medical and life insurance benefits to certain retirees and eligible dependents. These plans cover substantially all employees who meet certain age and vested service requirements. We have instituted dollar limits on payments under the plans to control the cost of future medical benefits. Net periodic postretirement benefit cost was less than \$1 million during both the three months ended March 31, 2019 and 2018.

13. Fee Income from Contracts with Customers

The following table summarizes fee income from contracts with customers disaggregated by type of activity, as well as a reconciliation to total other revenues, during the three months ended March 31, 2019 and 2018. Following the table is a description of the various types of fee-based activities and how revenue associated with these activities is recognized.

Three Months Ended March 31,	2019	2018
	(in millions)	
Credit card fees, net	\$ 12	\$ 11
Trust and investment management fees	30	38
Other fees and commissions:		
Account services ⁽¹⁾	65	69
Credit facilities	69	78
Other fees ⁽¹⁾	13	13
Total other fees and commissions	<u>147</u>	<u>160</u>
Servicing and other fees from HSBC affiliates	81	99
Insurance ⁽²⁾	2	3
Total fee income from contracts with customers	<u>272</u>	<u>311</u>
Other non-fee revenues	<u>118</u>	<u>202</u>
Total other revenues ⁽³⁾	<u>\$ 390</u>	<u>\$ 513</u>

⁽¹⁾ During the fourth quarter of 2018, we concluded that certain wire transfer fees would be better presented in account services as opposed to other fees. As a result, we have reclassified \$4 million of wire transfer fees from other fees to account services during the three months ended March 31, 2018 to conform with the current year presentation.

⁽²⁾ Included within other income (loss) in the consolidated statement of income (loss).

⁽³⁾ See Note 15, "Business Segments," for a reconciliation of total other revenues on a U.S. GAAP basis to other operating income for each business segment under the Group Reporting Basis.

Credit card fees, net Credit card fees, net includes interchange fees earned from merchants who accept our cards in connection with the purchase of their goods and/or services. These fees are recognized when we satisfy the performance obligation by simultaneously approving a card holder's purchase at the point of sale and remitting payment to the merchant. We recognized

interchange fees of \$22 million and \$21 million during the three months ended March 31, 2019 and 2018, respectively. Annual fees on credit cards, net of direct lending costs, are billed upfront and recognized on a straight-line basis over one year. Other credit card fees such as cash advance and over-limit fees are transaction based and are recognized and billed at the point in time the transaction occurs which is when the performance obligation is met. Costs related to our credit card rewards program vary based on multiple factors including card holder activity, card holder reward redemption rates and card holder reward selections. These costs are recorded when the rewards are earned by the customer and are presented as a reduction to credit card fees. Credit card rewards program costs totaled \$12 million during both the three months ended March 31, 2019 and 2018.

Trust and investment management fees Trust and investment management fees include investment management and administration fees which are typically billed as a percentage of the average value of a customer's assets during an agreed payment period or for some contracts, the value of a customer's assets at the end of an agreed payment period and therefore represent variable consideration. The fee percentage and payment period are agreed with the customer upfront. Generally, payment periods are monthly or quarterly and coincide with our reporting periods, thereby resolving the uncertainty of the variable consideration by the reporting date. For payment periods that do not coincide with our reporting periods, judgment is required to estimate the fee and determine the amount to include in an accrual. An accrual is only recorded to the extent it is highly probable that a significant reversal of revenue will not occur. In most cases, a significant reversal of revenue is not highly probable. Other trust and investment management fees are transaction based and are recognized and billed at the point in time the transaction occurs which is when the performance obligation is met. From time to time, we may also receive performance fees from some funds, though these fees are typically only recognized when the performance fee is determinable and the uncertainty of the variable consideration is resolved.

Account services We provide services for commercial and consumer customer accounts that generate fees from various activities including: accounts statements, ATM transactions, cash withdrawals, wire transfers, remittances, check cashing, debit cards and internet and phone banking. The fees for these services are established in the customer account agreement and are either billed individually at the time the service is performed or on a monthly basis for a package or bundle of services as the services are performed. The performance obligation for these services is met when the services are performed. Customer account agreements typically include a package of services with multiple performance obligations or a bundle of services making up a single performance obligation. In the case of a package of services, the pattern of transfer to the customer is usually the same for all services, and therefore the package of services is treated as a single performance obligation. In some cases, a package or bundle of services is billed upfront as an annual fee and recognized on a straight-line basis over one year as the services are performed and the performance obligation is met.

Credit facilities Credit facilities fees include fees generated from lending activities that are not included in the direct loan origination fees which are recognized in interest income as an adjustment to yield. This includes fees associated with loan commitments, revolving credit facilities, standby letters of credit, loan syndication and other transaction based fees. These fees are either billed as a fixed price or as a percentage of the approved lending limit or transaction value. The fee percentage is agreed with the customer upfront. Although the percentage-based fees represent variable consideration, the uncertainty of the variable consideration is resolved by the time the revenue is recognized as the lending limit or transaction value is known on the contract or transaction date. Loan syndication fees received for managing a syndication and other transaction based fees are recognized and billed at the point in time the transaction occurs, which is when the performance obligation is met. Fees associated with loan commitments, revolving credit facilities and standby letters of credit are billed upfront and recognized on a straight-line basis over the period the service is performed which is when the performance obligation is met (e.g., the commitment period). In the event a loan commitment or standby letter of credit is exercised, the remaining unamortized fee is recognized as an adjustment to yield over the loan term.

Other fees and commissions Other fees and commissions include fees received associated with various other activities such as custody services, imports/exports, clearing and other miscellaneous services. These fees are typically transaction based and are recognized and billed at the point in time the transaction occurs which is when the performance obligation is met. Fees earned from providing customers with custody services are typically recognized and billed on a monthly basis over the period the service is performed which is when the performance obligation is met, as a percentage of the value of the customer's assets held in custody (calculated daily or monthly).

Servicing and other fees from HSBC affiliates We receive fees from other HSBC affiliates for providing them with various banking, wealth management and other miscellaneous services as well as support for certain administrative and global business activities. These fees are reported in servicing and other fees from HSBC affiliates and are typically recognized and billed on a monthly basis over the period the service is performed or for some fees that are transaction based, at the point in time the transaction occurs, which is when the performance obligation is met. See Note 14, "Related Party Transactions," for additional information regarding the various services provided and other transactions with HSBC affiliates.

Insurance We earn commissions from the sale of third-party insurance policies which are typically recognized on a weekly or monthly basis, when the policy goes into effect which is when the performance obligation is met.

Deferred Fee Income

Information related to deferred fee income on loan commitments, revolving credit facilities and standby letters of credit is included in Note 18, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," and Note 19, "Fair Value Measurements." Excluding these items, we had deferred fee income related to certain account service fees that are paid upfront and recognized over the service period and annual fees on credit cards which collectively totaled \$2 million at both March 31, 2019 and December 31, 2018. We expect to recognize this revenue over a remaining period of one year or less.

Other than as described above under trust and investment management fees, we do not use significant judgments in the determination of the amount and timing of fee income from contracts with customers. Additionally, costs to obtain or fulfill contracts with customers were immaterial.

14. Related Party Transactions

In the normal course of business, we conduct transactions with HSBC and its subsidiaries. HSBC policy requires that these transactions occur at prevailing market rates and terms and, where applicable, these transactions are compliant with United States banking regulations. All extensions of credit by (and certain credit exposures of) HSBC Bank USA, National Association ("HSBC Bank USA") to other HSBC affiliates (other than Federal Deposit Insurance Corporation insured banks) are legally required to be secured by eligible collateral. The following tables and discussions below present the more significant related party balances and the income (expense) generated by related party transactions:

	March 31, 2019	December 31, 2018
	(in millions)	
Assets:		
Cash and due from banks	\$ 241	\$ 245
Interest bearing deposits with banks.....	978	1,000
Trading assets	27	102
Loans	2,688	2,274
Other ⁽¹⁾	623	169
Total assets	<u>\$ 4,557</u>	<u>\$ 3,790</u>
Liabilities:		
Deposits	\$ 13,783	\$ 12,000
Trading liabilities.....	239	349
Short-term borrowings.....	736	638
Long-term debt	7,846	7,845
Other ⁽¹⁾	350	333
Total liabilities	<u>\$ 22,954</u>	<u>\$ 21,165</u>

⁽¹⁾ Other assets and other liabilities primarily consist of derivative balances associated with hedging activities and other miscellaneous account receivables and payables.

Three Months Ended March 31,	2019	2018
	(in millions)	
Income (Expense):		
Interest income	\$ 43	\$ 22
Interest expense	(124)	(78)
Net interest expense	(81)	(56)
Trading revenue (expense)	(1,514)	1,158
Servicing and other fees from HSBC affiliates:		
HSBC Bank plc	35	41
HSBC Markets (USA) Inc. ("HMUS")	30	31
Other HSBC affiliates	16	27
Total servicing and other fees from HSBC affiliates	81	99
Gain (loss) on instruments designated at fair value and related derivatives	1,008	(438)
Support services from HSBC affiliates:		
HSBC Technology & Services (USA) ("HTSU")	(277)	(298)
HMUS	(27)	(31)
Other HSBC affiliates	(76)	(82)
Total support services from HSBC affiliates	(380)	(411)
Rental income from HSBC affiliates, net ⁽¹⁾	12	12
Stock based compensation expense ⁽²⁾	(6)	(5)

⁽¹⁾ We receive rental income from our affiliates, and in some cases pay rental expense to our affiliates, for rent on certain office space. Net rental income from our affiliates is recorded as a component of occupancy expense, net in our consolidated statement of income (loss).

⁽²⁾ Employees may participate in one or more stock compensation plans sponsored by HSBC. These expenses are included in salaries and employee benefits in our consolidated statement of income (loss). Certain employees are also eligible to participate in a defined benefit pension plan and other postretirement plans sponsored by HSBC North America which are discussed in Note 12, "Pension and Other Postretirement Benefits."

Funding Arrangements with HSBC Affiliates:

We use HSBC affiliates to fund a portion of our borrowing and liquidity needs. At both March 31, 2019 and December 31, 2018, long-term debt with affiliates reflected \$7.8 billion of borrowings from HSBC North America. The outstanding balances include \$1.5 billion of fixed-rate senior debt which matures in March 2021, \$2.0 billion of fixed-rate senior debt which matures in May 2021, \$0.9 billion of floating-rate subordinated debt which matures in May 2025, \$2.0 billion of fixed-rate senior debt which matures in September 2025 and \$1.5 billion of fixed-rate senior debt which matures in March 2026.

We have a \$150 million uncommitted line of credit with HSBC North America. There was no outstanding balance under this credit facility at either March 31, 2019 or December 31, 2018.

We have also incurred short-term borrowings with certain affiliates, largely securities sold under repurchase agreements with HSBC Securities (USA) Inc. ("HSI"). In addition, certain affiliates have also placed deposits with us.

Lending and Derivative Related Arrangements Extended to HSBC Affiliates:

At March 31, 2019 and December 31, 2018, we had the following loan balances outstanding with HSBC affiliates:

	March 31, 2019	December 31, 2018
	(in millions)	
HMUS and subsidiaries	\$ 2,360	\$ 2,235
HSBC Bank Canada	250	—
Other short-term affiliate lending	78	39
Total loans	\$ 2,688	\$ 2,274

HMUS and subsidiaries We have extended loans and lines, some of them uncommitted, to HMUS and its subsidiaries in the amount of \$12.8 billion at both March 31, 2019 and December 31, 2018 of which \$2.4 billion and \$2.2 billion, respectively, was outstanding. The maturities of the outstanding balances range from overnight to three months. Each borrowing is re-evaluated prior to its maturity date and either extended or allowed to mature.

HSBC Bank Canada We have extended an uncommitted line of credit to HSBC Bank Canada in the amount of \$500 million at both March 31, 2019 and December 31, 2018 of which \$250 million and nil was outstanding at March 31, 2019 and December 31, 2018, respectively. The outstanding balance matures in May 2019.

We have extended lines of credit to various other HSBC affiliates totaling \$4.0 billion which did not have any outstanding balances at either March 31, 2019 or December 31, 2018.

Other short-term affiliate lending In addition to loans and lines extended to affiliates discussed above, from time to time we may extend loans to affiliates which are generally short term in nature. At March 31, 2019 and December 31, 2018, there were \$78 million and \$39 million, respectively, of these loans outstanding.

Derivative Contracts As part of a global HSBC strategy to offset interest rate or other market risks associated with certain securities, debt issues and derivative contracts with unaffiliated third parties, we routinely enter into derivative transactions with HSBC Bank plc and other HSBC affiliates. The notional value of derivative contracts related to these transactions was approximately \$897.0 billion and \$809.5 billion at March 31, 2019 and December 31, 2018, respectively. The net credit exposure (defined as the net fair value of derivative assets and liabilities, including any collateral received) related to the contracts was approximately \$79 million and \$108 million at March 31, 2019 and December 31, 2018, respectively. Our Global Banking and Markets business accounts for these transactions on a mark to market basis, with the change in value of contracts with HSBC affiliates substantially offset by the change in value of related contracts entered into with unaffiliated third parties.

Services Provided Between HSBC Affiliates:

Under multiple service level agreements, we provide services to and receive services from various HSBC affiliates. These activities are summarized in Note 22, "Related Party Transactions," in our 2018 Form 10-K. There have been no significant changes in these activities since December 31, 2018.

Other Transactions with HSBC Affiliates:

At both March 31, 2019 and December 31, 2018, we had \$1,265 million of non-cumulative preferred stock issued and outstanding to HSBC North America. See Note 17, "Preferred Stock," in our 2018 Form 10-K for additional details.

During the first quarter of 2019, we paid a distribution on our common stock of \$2.4 billion from surplus capital to HSBC North America. See Note 16, "Retained Earnings and Regulatory Capital Requirements," for additional details.

15. Business Segments

We have five distinct business segments that we utilize for management reporting and analysis purposes, which are aligned with HSBC's global business strategy: Retail Banking and Wealth Management ("RBWM"), Commercial Banking ("CMB"), Global Banking and Markets ("GB&M"), Private Banking ("PB") and a Corporate Center ("CC"). There have been no changes in the basis of our segmentation as compared with the presentation in our 2018 Form 10-K.

Net interest income of each segment represents the difference between actual interest earned on assets and interest incurred on liabilities of the segment, adjusted for a funding charge or credit that includes both interest rate and liquidity components. Segments are charged a cost to fund assets (e.g. customer loans) and receive a funding credit for funds provided (e.g. customer deposits) based on equivalent market rates that incorporate both repricing (interest rate risk) and tenor (liquidity) characteristics. The objective of these charges/credits is to transfer interest rate risk from the segments to one centralized unit in Balance Sheet Management, recognize term funding costs/benefits and more appropriately reflect the profitability of the segments.

Certain other revenue and operating expense amounts are also apportioned among the business segments based upon the benefits derived from this activity or the relationship of this activity to other segment activity. These inter-segment transactions have not been eliminated, and we generally account for them as if they were with third parties.

Our segment results are presented in accordance with HSBC Group accounting and reporting policies, which apply IFRSs as issued by the IASB and endorsed by the EU, and, as a result, our segment results are prepared and presented using financial information prepared on the Group Reporting Basis as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources, such as employees, are primarily made on this basis. We continue, however, to monitor capital adequacy and report to regulatory agencies on a U.S. GAAP basis.

There have been no changes in the measurement of segment profit as compared with the presentation in our 2018 Form 10-K.

A summary of significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 23, "Business Segments," in our 2018 Form 10-K. Other than the change discussed below, there have been no other significant changes since December 31, 2018 in the differences between U.S. GAAP and the Group Reporting Basis impacting our results.

Property - The sale and leaseback of our 452 Fifth Avenue property, including the 1 W. 39th Street building, in 2010 resulted in the recognition of a gain under the Group Reporting Basis, while under U.S. GAAP, such gain was historically deferred and was being recognized over the lease term. In January 2019, we adopted new accounting guidance under U.S. GAAP which resulted in a cumulative effect adjustment to recognize the previously deferred gain in retained earnings as of January 1, 2019.

The following table summarizes the results for each segment on a Group Reporting Basis, as well as provides a reconciliation of total results under the Group Reporting Basis to U.S. GAAP consolidated totals:

	Group Reporting Basis Consolidated Amounts						Group Reporting Basis Adjustments ⁽¹⁾	Group Reporting Basis Reclassifications ⁽²⁾	U.S. GAAP Consolidated Totals
	RBWM	CMB	GB&M	PB	CC	Total			
(in millions)									
Three Months Ended March 31, 2019									
Net interest income.....	\$ 221	\$ 201	\$ 151	\$ 37	\$ 14	\$ 624	\$ 6	\$ (68)	\$ 562
Other operating income.....	65	58	175	16	24	338	(17)	69	390
Total operating income.....	286	259	326	53	38	962	(11)	1	952
Expected credit losses / provision for credit losses.....	21	6	(17)	(1)	1	10	41	7	58
	265	253	343	54	37	952	(52)	(6)	894
Operating expenses.....	311	138	206	53	40	748	8	(6)	750
Profit (loss) before income tax expense.....	\$ (46)	\$ 115	\$ 137	\$ 1	\$ (3)	\$ 204	\$ (60)	\$ —	\$ 144
Balances at end of period:									
Total assets.....	\$ 18,733	\$ 25,612	\$ 78,899	\$ 6,686	\$ 79,715	\$ 209,645	\$ (28,724)	\$ —	\$ 180,921
Total loans, net.....	16,885	24,447	20,068	5,584	2,230	69,214	(1,797)	3,034	70,451
Goodwill.....	581	358	—	321	—	1,260	347	—	1,607
Total deposits.....	33,459	22,323	28,274	7,540	6,629	98,225	(2,827)	18,241	113,639
Three Months Ended March 31, 2018									
Net interest income.....	\$ 216	\$ 186	\$ 149	\$ 47	\$ 15	\$ 613	\$ 8	\$ (69)	\$ 552
Other operating income.....	93	55	197	20	83	448	(11)	76	513
Total operating income.....	309	241	346	67	98	1,061	(3)	7	1,065
Expected credit losses / provision for credit losses.....	3	(10)	(14)	(3)	3	(21)	(51)	1	(71)
	306	251	360	70	95	1,082	48	6	1,136
Operating expenses.....	325	151	216	61	532	1,285	(9)	6	1,282
Profit (loss) before income tax expense.....	\$ (19)	\$ 100	\$ 144	\$ 9	\$ (437)	\$ (203)	\$ 57	\$ —	\$ (146)
Balances at end of period:									
Total assets.....	\$ 18,533	\$ 24,421	\$ 85,481	\$ 7,356	\$ 77,074	\$ 212,865	\$ (30,830)	\$ —	\$ 182,035
Total loans, net.....	16,665	23,402	18,100	6,132	1,791	66,090	(683)	1,332	66,739
Goodwill.....	581	358	—	321	—	1,260	347	—	1,607
Total deposits.....	34,822	23,573	33,778	7,970	3,635	103,778	(2,803)	16,978	117,953

⁽¹⁾ Represents adjustments associated with differences between U.S. GAAP and the Group Reporting Basis.

⁽²⁾ Represents differences in financial statement presentation between U.S. GAAP and the Group Reporting Basis.

16. Retained Earnings and Regulatory Capital Requirements

Bank dividends are one of the sources of funds used for payment of shareholder dividends and other HSBC USA cash needs. Approval from the Office of the Comptroller of the Currency ("OCC") is required if the total of all dividends HSBC Bank USA declares in any year exceeds the cumulative net income for that year, combined with the net income for the two preceding years reduced by dividends attributable to those years. OCC approval also is required for a reduction of permanent capital of HSBC Bank USA. Under a separate restriction, payment of dividends is prohibited in amounts greater than undivided profits then on hand, after deducting actual losses and bad debts. Bad debts are debts due and unpaid for a period of six months unless well secured, as defined, and in the process of collection.

In early 2019, HSBC Bank USA's Board of Directors approved a common stock return of capital of \$2.4 billion to HSBC USA and HSBC USA's Board of Directors approved a distribution on its common stock of \$2.4 billion from surplus capital to HSBC North America, which were paid in February 2019.

HSBC Bank USA is also required to maintain reserve balances either in the form of vault cash or on deposit with the Federal Reserve Bank, based on a percentage of deposits. At March 31, 2019 and December 31, 2018, HSBC Bank USA was required to maintain \$2,237 million and \$2,205 million, respectively, of reserve balances with the Federal Reserve Bank which are reported within interest bearing deposits with banks on the consolidated balance sheet.

We are subject to regulatory capital rules issued by U.S. banking regulators including Basel III (the "Basel III rule"). The following table summarizes the capital amounts and ratios of HSBC USA and HSBC Bank USA, calculated in accordance with the Basel III rule at March 31, 2019 and December 31, 2018:

	March 31, 2019			December 31, 2018		
	Capital Amount	Well-Capitalized Ratio ⁽¹⁾	Actual Ratio	Capital Amount	Well-Capitalized Ratio ⁽¹⁾	Actual Ratio
(dollars are in millions)						
Common equity Tier 1 ratio:						
HSBC USA.....	\$ 15,374	4.5% ⁽²⁾	11.9%	\$ 17,459	4.5% ⁽²⁾	13.6%
HSBC Bank USA.....	17,376	6.5	13.9	19,456	6.5	15.7
Tier 1 capital ratio:						
HSBC USA.....	16,639	6.0	12.9	18,724	6.0	14.6
HSBC Bank USA.....	19,876	8.0	15.9	21,956	8.0	17.7
Total capital ratio:						
HSBC USA.....	20,059	10.0	15.6	21,972	10.0	17.2
HSBC Bank USA.....	23,248	10.0	18.6	25,293	10.0	20.4
Tier 1 leverage ratio:						
HSBC USA.....	16,639	4.0 ⁽²⁾	9.6	18,724	4.0 ⁽²⁾	11.0
HSBC Bank USA.....	19,876	5.0	11.7	21,956	5.0	13.1
Supplementary leverage ratio ("SLR"):						
HSBC USA.....	16,639	3.0 ⁽³⁾	6.7	18,724	3.0 ⁽³⁾	7.6
HSBC Bank USA.....	19,876	3.0 ⁽³⁾	8.2	21,956	3.0 ⁽³⁾	9.1
Risk-weighted assets: ⁽⁴⁾						
HSBC USA.....	128,729			127,917		
HSBC Bank USA.....	125,217			124,112		
Adjusted quarterly average assets: ⁽⁵⁾						
HSBC USA.....	173,253			170,565		
HSBC Bank USA.....	170,139			168,154		
Total leverage exposure: ⁽⁶⁾						
HSBC USA.....	247,547			245,796		
HSBC Bank USA.....	242,946			242,264		

⁽¹⁾ HSBC USA and HSBC Bank USA are categorized as "well-capitalized," as defined by their principal regulators. To be categorized as well-capitalized under regulatory guidelines, a banking institution must have the ratios reflected in the above table, and must not be subject to a directive, order, or written agreement to meet and maintain specific capital levels.

⁽²⁾ There are no common equity Tier 1 or Tier 1 leverage ratio components in the definition of a well-capitalized bank holding company. The ratios shown are the regulatory minimum ratios.

⁽³⁾ There is no SLR component in the definition of a well-capitalized banking institution. The ratios shown are the regulatory minimum ratios.

⁽⁴⁾ Calculated using the generally-applicable Standardized Approach.

⁽⁵⁾ Represents the Tier 1 leverage ratio denominator which reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital.

⁽⁶⁾ Represents the SLR denominator which includes adjusted quarterly average assets plus certain off-balance sheet exposures.

17. Variable Interest Entities

In the ordinary course of business, we have organized special purpose entities ("SPEs") primarily to structure financial products to meet our clients' investment needs, to facilitate clients to access and raise financing from capital markets and to securitize financial assets held to meet our own funding needs. For disclosure purposes, we aggregate SPEs based on the purpose, risk characteristics and business activities of the SPEs. An SPE is a VIE if it lacks sufficient equity investment at risk to finance its activities without additional subordinated financial support or, as a group, the holders of the equity investment at risk lack either a) the power through voting or similar rights to direct the activities of the entity that most significantly impacts the entity's economic performance; or b) the obligation to absorb the entity's expected losses, the right to receive the expected residual returns, or both.

Variable Interest Entities We consolidate VIEs in which we hold a controlling financial interest as evidenced by the power to direct the activities of a VIE that most significantly impact its economic performance and the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE and therefore are deemed to be the primary beneficiary. We take into account our entire involvement in a VIE (explicit or implicit) in identifying variable interests that individually or in the aggregate could be significant enough to warrant our designation as the primary beneficiary and hence require us to consolidate the VIE or otherwise require us to make appropriate disclosures. We consider our involvement to be potentially significant where we, among other things, (i) enter into derivative contracts to absorb the risks and benefits from the VIE or from the assets held by the VIE; (ii) provide a financial guarantee that covers assets held or liabilities issued by a VIE; (iii) sponsor the VIE in that we design, organize and structure the transaction; and (iv) retain a financial or servicing interest in the VIE.

We are required to evaluate whether to consolidate a VIE when we first become involved and on an ongoing basis. In almost all cases, a qualitative analysis of our involvement in the entity provides sufficient evidence to determine whether we are the primary beneficiary. In rare cases, a more detailed analysis to quantify the extent of variability to be absorbed by each variable interest holder is required to determine the primary beneficiary.

Consolidated VIEs The following table summarizes assets and liabilities related to our consolidated VIEs at March 31, 2019 and December 31, 2018 which are consolidated on our balance sheet. Assets and liabilities exclude intercompany balances that eliminate in consolidation.

	March 31, 2019		December 31, 2018	
	Consolidated Assets	Consolidated Liabilities	Consolidated Assets	Consolidated Liabilities
(in millions)				
Low income housing limited liability partnership:				
Other assets	\$ 106	\$ —	\$ 112	\$ —
Long-term debt.....	—	66	—	66
Interest, taxes and other liabilities.....	—	36	—	37
Total	<u>\$ 106</u>	<u>\$ 102</u>	<u>\$ 112</u>	<u>\$ 103</u>

Low income housing limited liability partnership In 2009, all low income housing investments held by us at the time were transferred to a Limited Liability Partnership ("LLP") in exchange for debt and equity while a third party invested cash for an equity interest that is mandatorily redeemable at a future date. The LLP was created in order to ensure the utilization of future tax benefits from these low income housing tax projects. The LLP was deemed to be a VIE as it does not have sufficient equity investment at risk to finance its activities. Upon entering into this transaction, we concluded that we are the primary beneficiary of the LLP due to the nature of our continuing involvement and, as a result, we consolidate the LLP and report the equity interest issued to the third party investor in other liabilities and the assets of the LLP in other assets on our consolidated balance sheet. The investments held by the LLP represent equity investments in the underlying low income housing partnerships. The LLP does not consolidate the underlying partnerships because it does not have the power to direct the activities of the partnerships that most significantly impact the economic performance of the partnerships.

As a practical expedient, we amortize our low income housing investments in proportion to the allocated tax benefits under the proportional amortization method and present the associated tax benefits net of investment amortization in income tax expense.

Unconsolidated VIEs We also have variable interests in other VIEs that are not consolidated because we are not the primary beneficiary. The following table provides additional information on these unconsolidated VIEs, including the variable interests held by us and our maximum exposure to loss arising from our involvements in these VIEs, at March 31, 2019 and December 31, 2018:

	Total Assets Held by Unconsolidated VIEs	Carrying Value of Variable Interests Held Reported as		Maximum Exposure to Loss
		Assets	Liabilities	
(in millions)				
At March 31, 2019				
Structured note vehicles.....	\$ 1,527	\$ 510	\$ 12	\$ 1,515
Limited partnership investments.....	2,010	473	234	543
Total.....	<u>\$ 3,537</u>	<u>\$ 983</u>	<u>\$ 246</u>	<u>\$ 2,058</u>
At December 31, 2018				
Structured note vehicles.....	\$ 3,033	\$ 1,803	\$ 20	\$ 3,003
Limited partnership investments.....	1,578	454	209	454
Total.....	<u>\$ 4,611</u>	<u>\$ 2,257</u>	<u>\$ 229</u>	<u>\$ 3,457</u>

Information on the types of VIEs with which we are involved, the nature of our involvement and the variable interests held in those entities is presented below.

Structured note vehicles We provide derivatives, such as interest rate and currency swaps, to structured note vehicles and, in certain instances, invest in the vehicles' debt instruments. We hold variable interests in these structured note vehicles in the form of total return swaps under which we take on the risks and benefits of the structured notes they issue. The same risks and benefits are passed on to third party entities through back-end total return swaps. We earn a spread for facilitating the transaction. Since we do not have the power to direct the activities of the VIE and are not the primary beneficiary, we do not consolidate them. Our maximum exposure to loss is the notional amount of the derivatives wrapping the structured notes. The maximum exposure to loss of \$1,515 million at March 31, 2019 will occur in the unlikely scenario where the value of the structured notes is reduced to zero and, at the same time, the counterparty of the back-end swap defaults with zero recovery. In certain instances, we hold credit default swaps with the structured note vehicles under which we receive credit protection on specified reference assets in exchange for the payment of a premium. Through these derivatives, the vehicles assume the credit risk associated with the reference assets which are then passed on to the holders of the debt instruments they issue. Because they create rather than absorb variability, the credit default swaps we hold are not considered variable interests. We record all investments in, and derivative contracts with, unconsolidated structured note vehicles at fair value on our consolidated balance sheet.

During the first quarter of 2019, one of the structured note vehicles was unwound and our investment in the structured note vehicle along with the related derivatives were terminated. As a result, we recognized a loss of approximately \$39 million, reflecting a payment made to the derivative counterparty as a result of the termination. At the time of unwind, our investment in the structured note vehicle had a total carrying value of \$1,293 million, which was recorded in trading assets on the consolidated balance sheet.

Limited partnership investments We invest as a limited partner in partnerships that operate qualified affordable housing, renewable energy and community development projects. The returns of these investments are generated primarily from the tax benefits, including Federal tax credits and tax deductions from operating losses in the project companies. In addition, some of the investments also help us comply with the Community Reinvestment Act. Certain limited partnership structures are considered to be VIEs because either (a) they do not have sufficient equity investment at risk or (b) the limited partners with equity at risk do not have substantive kick-out rights through voting rights or substantive participating rights over the general partner. As a limited partner, we are not the primary beneficiary of the VIEs and do not consolidate them. Our investments in these partnerships are recorded in other assets on the consolidated balance sheet. The maximum exposure to loss shown in the table above represents our recorded investments.

Third-party sponsored securitization entities We invest in asset-backed securities issued by third party sponsored securitization entities which may be considered VIEs. The investments are transacted at arm's-length and decisions to invest are based on a credit analysis of the underlying collateral assets or the issuer. We are a passive investor in these issuers and do not have the power to direct the activities of these issuers. As such, we do not consolidate these securitization entities. Additionally, we do not have other involvements in servicing or managing the collateral assets or provide financial or liquidity support to these issuers which potentially give rise to risk of loss exposure. These investments are an integral part of the disclosure in Note 2, "Trading Assets and Liabilities," Note 3, "Securities," and Note 19, "Fair Value Measurements," and, therefore, are not disclosed in this note to avoid redundancy.

18. Guarantee Arrangements, Pledged Assets and Repurchase Agreements

Guarantee Arrangements As part of our normal operations, we enter into credit derivatives and various off-balance sheet guarantee arrangements with affiliates and third parties. These arrangements arise principally in connection with our lending and client intermediation activities and include standby letters of credit and certain credit derivative transactions. The contractual amounts of these arrangements represent our maximum possible credit exposure in the event that we are required to fulfill the maximum obligation under the contractual terms of the guarantee.

The following table presents total carrying value and contractual amounts of our sell protection credit derivatives and major off-balance sheet guarantee arrangements at March 31, 2019 and December 31, 2018. Following the table is a description of the various arrangements.

	March 31, 2019		December 31, 2018	
	Carrying Value	Notional / Maximum Exposure to Loss	Carrying Value	Notional / Maximum Exposure to Loss
(in millions)				
Credit derivatives ⁽¹⁾⁽²⁾	\$ (266)	\$ 55,005	\$ (562)	\$ 45,384
Financial standby letters of credit, net of participations ⁽³⁾⁽⁴⁾	—	5,479	—	5,302
Performance standby letters of credit, net of participations ⁽³⁾⁽⁴⁾	—	3,472	—	3,670
Total	\$ (266)	\$ 63,956	\$ (562)	\$ 54,356

(1) Includes \$32,510 million and \$25,734 million of notional issued for the benefit of HSBC affiliates at March 31, 2019 and December 31, 2018, respectively.

(2) For credit derivatives, the maximum loss is represented by the notional amounts without consideration of mitigating effects from collateral or recourse arrangements.

(3) Includes \$1,414 million and \$1,321 million of both financial and performance standby letters of credit issued for the benefit of HSBC affiliates at March 31, 2019 and December 31, 2018, respectively.

(4) For standby letters of credit, maximum loss represents losses to be recognized assuming the letters of credit have been fully drawn and the obligors have defaulted with zero recovery.

Credit-Risk Related Guarantees

Credit derivatives Credit derivatives are financial instruments that transfer the credit risk of a reference obligation from the credit protection buyer to the credit protection seller who is exposed to the credit risk without buying the reference obligation. We sell credit protection on underlying reference obligations (such as loans or securities) by entering into credit derivatives, primarily in the form of credit default swaps, with various institutions. We account for all credit derivatives at fair value. Where we sell credit protection to a counterparty that holds the reference obligation, the arrangement is effectively a financial guarantee on the reference obligation. Under a credit derivative contract, the credit protection seller will reimburse the credit protection buyer upon occurrence of a credit event (such as bankruptcy, insolvency, restructuring or failure to meet payment obligations when due) as defined in the derivative contract, in return for a periodic premium. Upon occurrence of a credit event, we will pay the counterparty the stated notional amount of the derivative contract and receive the underlying reference obligation. The recovery value of the reference obligation received could be significantly lower than its notional principal amount when a credit event occurs.

Certain derivative contracts are subject to master netting arrangements and related collateral agreements. A party to a derivative contract may demand that the counterparty post additional collateral in the event its net exposure exceeds certain predetermined limits and when the credit rating falls below a certain grade. We set the collateral requirements by counterparty such that the collateral covers various transactions and products, and is not allocated to specific individual contracts.

We manage our exposure to credit derivatives using a variety of risk mitigation strategies where we enter into offsetting hedge positions or transfer the economic risks, in part or in entirety, to investors through the issuance of structured credit products. We actively manage the credit and market risk exposure in the credit derivative portfolios on a net basis and, as such, retain no or a limited net position at any time. The following table summarizes our net credit derivative positions at March 31, 2019 and December 31, 2018:

	March 31, 2019		December 31, 2018	
	Carrying / Fair Value	Notional	Carrying / Fair Value	Notional
(in millions)				
Sell-protection credit derivative positions	\$ (266)	\$ 55,005	\$ (562)	\$ 45,384
Buy-protection credit derivative positions.....	324	62,220	601	51,914
Net position ⁽¹⁾	\$ 58	\$ 7,215	\$ 39	\$ 6,530

⁽¹⁾ Positions are presented net in the table above to provide a complete analysis of our risk exposure and depict the way we manage our credit derivative portfolio. The offset of the sell-protection credit derivatives against the buy-protection credit derivatives may not be legally binding in the absence of master netting agreements with the same counterparty. Furthermore, the credit loss triggering events for individual sell protection credit derivatives may not be the same or occur in the same period as those of the buy protection credit derivatives thereby not providing an exact offset.

Standby letters of credit A standby letter of credit is issued to a third party for the benefit of a client and is a guarantee that the client will perform or satisfy certain obligations under a contract. It irrevocably obligates us to pay a specified amount to the third party beneficiary if the client fails to perform the contractual obligation. We issue two types of standby letters of credit: performance and financial. A performance standby letter of credit is issued where the client is required to perform some non-financial contractual obligation, such as the performance of a specific act, whereas a financial standby letter of credit is issued where the client's contractual obligation is of a financial nature, such as the repayment of a loan or debt instrument.

The issuance of a standby letter of credit is subject to our credit approval process and collateral requirements. We charge fees for issuing letters of credit commensurate with the client's credit evaluation and the nature of any collateral. Included in other liabilities are deferred fees on standby letters of credit amounting to \$44 million and \$43 million at March 31, 2019 and December 31, 2018, respectively. Also included in other liabilities is an allowance for credit losses on unfunded standby letters of credit of \$17 million and \$16 million at March 31, 2019 and December 31, 2018, respectively.

The following table summarizes the credit ratings related to guarantees including the ratings of counterparties against which we sold credit protection and financial standby letters of credit at March 31, 2019 as an indicative proxy of payment risk:

Notional/Contractual Amounts	Average Life (in years)	Credit Ratings of the Obligors		
		Investment Grade	Non-Investment Grade	Total
(dollars are in millions)				
Sell-protection Credit Derivatives ⁽¹⁾				
Single name credit default swaps ("CDS").....	3.4	\$ 29,090	\$ 12,582	\$ 41,672
Index credit derivatives	4.3	5,367	6,627	11,994
Total return swaps.....	2.5	1,075	264	1,339
Subtotal.....		35,532	19,473	55,005
Standby Letters of Credit ⁽²⁾	1.2	7,391	1,560	8,951
Total.....		\$ 42,923	\$ 21,033	\$ 63,956

⁽¹⁾ The credit ratings in the table represent external credit ratings for classification as investment grade and non-investment grade.

⁽²⁾ External ratings for most of the obligors are not available. Presented above are the internal credit ratings which are developed using similar methodologies and rating scale equivalent to external credit ratings for purposes of classification as investment grade and non-investment grade.

Our internal credit ratings are determined based on HSBC's risk rating systems and processes which assign a credit grade based on a scale which ranks the risk of default of a client. The credit grades are assigned and used for managing risk and determining level of credit exposure appetite based on the client's operating performance, liquidity, capital structure and debt service ability. In addition, we also incorporate subjective judgments into the risk rating process concerning such things as industry trends, comparison of performance to industry peers and perceived quality of management. We compare our internal risk ratings to outside external rating agency benchmarks, where possible, at the time of formal review and regularly monitor whether our risk ratings are comparable to the external ratings benchmark data.

A non-investment grade rating of a referenced obligor has a negative impact to the fair value of the credit derivative and increases the likelihood that we will be required to perform under the credit derivative contract. We employ market-based parameters and, where possible, use the observable credit spreads of the referenced obligors as measurement inputs in determining the fair value of the credit derivatives. We believe that such market parameters are more indicative of the current status of payment/performance risk than external ratings by the rating agencies which may not be forward-looking in nature and, as a result, lag behind those market-based indicators.

Non Credit-Risk Related Guarantees and Other Arrangements

Visa covered litigation In 2008, we received Class B Shares as part of Visa's initial public offering ("IPO"). Pursuant to the IPO, we, along with all the other Class B shareholders, agreed to indemnify Visa for the claims and obligations arising from certain specific covered litigation. The Class B Shares are not eligible to be converted into publicly traded Class A Shares until settlement of the covered litigation described in Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K. Accordingly, the Class B Shares are considered restricted and are only transferable under limited circumstances, which include transfers to other Class B shareholders.

Beginning in 2016 and into 2017, we sold substantially all of our remaining Visa Class B Shares to a third party. Under the terms of the sale agreements, we entered into swap agreements with the purchaser to retain the litigation risk associated with the Class B Shares sold until the related litigation is settled and the Class B Shares can be converted into Class A Shares. These swaps had a carrying value of \$42 million and \$40 million at March 31, 2019 and December 31, 2018, respectively. The swap agreements we entered into with the purchaser requires us to (a) make periodic payments, calculated by reference to the market price of Class A Shares and (b) make or receive payments based on subsequent changes in the conversion rate of Class B Shares into Class A Shares. In 2017, we entered into a total return swap position to economically hedge the periodic payments made under these swap agreements. The payments under the derivative will continue until the Class B Shares are able to be converted into Class A Shares. The fair value of the swap agreements is estimated using a discounted cash flow methodology and is dependent upon the final resolution of the related litigation. Changes in fair value between periods are recognized in other income (loss). See Note 9, "Derivative Financial Instruments," for further information.

Clearing houses and exchanges We are a member of various exchanges and clearing houses that trade and clear securities and/or derivatives contracts. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, members of a clearing house may be required to contribute to a guaranty fund to backstop members' obligations to the clearing house. As a member, we may be required to pay a proportionate share of the financial obligations of another member who defaults on its obligations to the exchange or the clearing house. Our guarantee obligations would arise only if the exchange or clearing house had exhausted its resources. Any potential contingent liability under these membership agreements cannot be estimated.

Lease Obligations We are obligated under a number of noncancellable operating leases for premises and equipment. See Note 8, "Leases," for a full discussion of our leases, including a maturity analysis of our operating lease liabilities.

Mortgage Loan Repurchase Obligations We have provided various representations and warranties related to the origination and sale of mortgage loans including, among other things, the ownership of the loans, the validity of the liens, the loan selection and origination process, and the compliance to the origination criteria established by the government agencies. In the event of a breach of our representations and warranties, we may be obligated to repurchase the loans with identified defects or to indemnify the buyers. Our contractual obligation arises only when the breach of representations and warranties are discovered and repurchase is demanded. From 2013 to 2017, we sold agency-eligible mortgage loan originations directly to PHH Mortgage Corporation and they are responsible for origination representations and warranties for all such loans. With the insourcing of our mortgage fulfillment operations, beginning with 2018 applications, we are now responsible for origination representations and warranties for all agency-eligible mortgage loan originations sold to third parties.

In estimating our repurchase liability arising from breaches of representations and warranties, we consider historical losses on residual risks not covered by settlement agreements adjusted for any risk factors not captured in the historical losses as well as the level of outstanding repurchase demands received. Outstanding repurchase demands received totaled \$3 million and \$2 million at March 31, 2019 and December 31, 2018, respectively.

There were no changes in our estimated repurchase liability during both the three months ended March 31, 2019 and 2018 for obligations arising from the breach of representations and warranties associated with mortgage loans sold.

Our repurchase liability of \$8 million at March 31, 2019 represents our best estimate of the loss that has been incurred, including interest, arising from breaches of representations and warranties associated with mortgage loans sold. Because the level of mortgage loan repurchase losses is dependent upon economic factors, investor demand strategies and other external risk factors such as housing market trends that may change, the level of the liability for mortgage loan repurchase losses requires significant judgment. We continue to evaluate our methods of determining the best estimate of loss based on recent trends. As these estimates are influenced by factors outside our control, there is uncertainty inherent in these estimates making it reasonably possible that they could change. The range of reasonably possible losses in excess of our recorded repurchase liability is between zero and \$25

million at March 31, 2019. This estimated range of reasonably possible losses was determined based upon modifying the assumptions utilized in our best estimate of probable losses to reflect what we believe to be reasonably possible adverse assumptions.

Securitization Activity In addition to the repurchase risk described above, we have also been involved as a sponsor/seller of loans used to facilitate whole loan securitizations underwritten by our affiliate, HSI. In this regard, we began acquiring residential mortgage loans in 2005 which were warehoused on our balance sheet with the intent of selling them to HSI to facilitate HSI's whole loan securitization program which was discontinued in 2007. During 2005-2007, we purchased and sold \$24 billion of such loans to HSI which were subsequently securitized and sold by HSI to third parties. See "Mortgage Securitization Matters" in Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K for additional discussion of related exposure. The outstanding principal balance on these loans was approximately \$3.7 billion and \$3.8 billion at March 31, 2019 and December 31, 2018, respectively.

Pledged Assets

Pledged assets included in the consolidated balance sheet consisted of the following:

	March 31, 2019	December 31, 2018
	(in millions)	
Interest bearing deposits with banks	\$ 2,176	\$ 3,225
Trading assets ⁽¹⁾	2,845	2,465
Securities available-for-sale ⁽²⁾	7,631	7,440
Securities held-to-maturity ⁽²⁾	2,341	1,747
Loans ⁽³⁾	18,546	18,189
Other assets ⁽⁴⁾	1,835	2,289
Total.....	<u>\$ 35,374</u>	<u>\$ 35,355</u>

⁽¹⁾ Trading assets are primarily pledged against liabilities associated with repurchase agreements.

⁽²⁾ Securities are primarily pledged against derivatives, public fund deposits, trust deposits and various short-term and long term borrowings, as well as providing capacity for potential secured borrowings from the FHLB and the Federal Reserve Bank of New York.

⁽³⁾ Loans are primarily residential mortgage loans pledged against current and potential borrowings from the FHLB and the Federal Reserve Bank of New York.

⁽⁴⁾ Other assets represent cash on deposit with non-banks related to derivative collateral support agreements.

Debt securities pledged as collateral under repurchase agreements that can be sold or repledged by the secured party continue to be reported on the consolidated balance sheet. The fair value of securities available-for-sale that could be sold or repledged was \$1,201 million and \$822 million at March 31, 2019 and December 31, 2018, respectively. The fair value of trading assets that could be sold or repledged was \$2,707 million and \$2,464 million at March 31, 2019 and December 31, 2018, respectively.

The fair value of collateral we accepted under security resale agreements but was not reported on the consolidated balance sheet was \$11,208 million and \$13,004 million at March 31, 2019 and December 31, 2018, respectively. Of this collateral, \$10,158 million and \$11,904 million could be sold or repledged at March 31, 2019 and December 31, 2018, respectively, of which \$3,633 million and \$243 million, respectively, had been sold or repledged as collateral under repurchase agreements or to cover short sales.

Repurchase Agreements

We enter into purchases of securities under agreements to resell (resale agreements) and sales of securities under agreements to repurchase (repurchase agreements) identical or substantially the same securities. Resale and repurchase agreements are accounted for as secured lending and secured borrowing transactions, respectively.

Repurchase agreements may require us to deposit cash or other collateral with the lender. In connection with resale agreements, it is our policy to obtain possession of collateral, which may include the securities purchased, with market value in excess of the principal amount loaned. The market value of the collateral subject to the resale and repurchase agreements is regularly monitored, and additional collateral is obtained or provided when appropriate, to ensure appropriate collateral coverage of these secured financing transactions.

The following table provides information about resale and repurchase agreements that are subject to offset at March 31, 2019 and December 31, 2018:

	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet ⁽¹⁾	Net Amounts Presented in the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		Net Amount ⁽³⁾
				Financial Instruments ⁽²⁾	Cash Collateral Received / Pledged	
(in millions)						
At March 31, 2019						
Assets:						
Securities purchased under resale agreements	\$ 10,498	\$ 3,574	\$ 6,924	\$ 6,918	\$ —	\$ 6
Liabilities:						
Securities sold under repurchase agreements	\$ 7,288	\$ 3,574	\$ 3,714	\$ 3,712	\$ —	\$ 2
At December 31, 2018						
Assets:						
Securities purchased under resale agreements	\$ 12,035	\$ 1,867	\$ 10,168	\$ 10,165	\$ —	\$ 3
Liabilities:						
Securities sold under repurchase agreements	\$ 3,333	\$ 1,867	\$ 1,466	\$ 1,458	\$ —	\$ 8

⁽¹⁾ Represents recognized amount of resale and repurchase agreements with counterparties subject to legally enforceable netting agreements that meet the applicable netting criteria as permitted by generally accepted accounting principles.

⁽²⁾ Represents securities received or pledged to cover financing transaction exposures.

⁽³⁾ Represents the amount of our exposure that is not collateralized / covered by pledged collateral.

The following table provides the class of collateral pledged and remaining contractual maturity of repurchase agreements accounted for as secured borrowings at March 31, 2019 and December 31, 2018:

	Overnight and Continuous	Up to 30 Days	31 to 90 Days	91 Days to One Year	Greater Than One Year	Total
	(in millions)					
At March 31, 2019						
U.S. Treasury, U.S. Government sponsored and U.S. Government agency securities	\$ 5,810	\$ 253	\$ 93	\$ 500	\$ 500	\$ 7,156
Foreign debt securities	16	116	—	—	—	132
Total repurchase agreements accounted for as secured borrowings	\$ 5,826	\$ 369	\$ 93	\$ 500	\$ 500	\$ 7,288
At December 31, 2018						
U.S. Treasury, U.S. Government sponsored and U.S. Government agency securities	\$ 1,773	\$ 369	\$ —	\$ 191	\$ 1,000	\$ 3,333

19. Fair Value Measurements

Accounting principles related to fair value measurements provide a framework for measuring fair value that focuses on the exit price that would be received to sell an asset or paid to transfer a liability in the principal market (or in the absence of the principal market, the most advantageous market) accessible in an orderly transaction between willing market participants (the "Fair Value Framework"). Where required by the applicable accounting standards, assets and liabilities are measured at fair value using the "highest and best use" valuation premise. Fair value measurement guidance clarifies that financial instruments do not have alternative use and, as such, the fair value of financial instruments should be determined using an "in-exchange" valuation premise. However, the fair value measurement literature provides a valuation exception and permits an entity to measure the fair value of a group of financial assets and financial liabilities with offsetting credit risks and/or market risks based on the exit price it would receive or pay to transfer the net risk exposure of a group of assets or liabilities if certain conditions are met. We elected to apply the measurement exception to a group of derivative instruments with offsetting credit risks and market risks, which primarily relate to interest rate, foreign currency, debt and equity price risk, and commodity price risk as of the reporting date.

Fair Value Adjustments The best evidence of fair value is quoted market price in an actively traded market, where available. In the event listed price or market quotes are not available, valuation techniques that incorporate relevant transaction data and market parameters reflecting the attributes of the asset or liability under consideration are applied. Where applicable, fair value adjustments are made to ensure the financial instruments are appropriately recorded at fair value. The fair value adjustments reflect the risks associated with the products, contractual terms of the transactions, and the liquidity of the markets in which the transactions occur. The fair value adjustments are broadly categorized by the following major types:

Credit valuation adjustment - The credit valuation adjustment is an adjustment to a group of financial assets and financial liabilities, predominantly derivative assets and derivative liabilities, to reflect the credit quality of the parties to the transaction in arriving at fair value. A credit valuation adjustment to a financial asset is required to reflect the default risk of the counterparty. A debit valuation adjustment to a financial liability is recorded to reflect the default risk of HUSI. See "Valuation Techniques - Derivatives" below for additional details.

Liquidity risk adjustment - The liquidity risk adjustment (primarily in the form of bid-offer adjustment) reflects the cost that would be incurred to close out the market risks by hedging, disposing or unwinding the position. Valuation models generally produce mid-market values. The bid-offer adjustment is made in such a way that results in a measure that reflects the exit price that most represents the fair value of the financial asset or financial liability under consideration or, where applicable, the fair value of the net market risk exposure of a group of financial assets or financial liabilities. These adjustments relate primarily to Level 2 assets.

Model valuation adjustment - Where fair value measurements are determined using an internal valuation model based on observable and unobservable inputs, certain valuation inputs may be less readily determinable. There may be a range of possible valuation inputs that market participants may assume in determining the fair value measurement. The resultant fair value measurement has inherent measurement risk if one or more parameters are unobservable and must be estimated. An input valuation adjustment is necessary to reflect the likelihood that market participants may use different input parameters, and to mitigate the possibility of measurement error. In addition, the values derived from valuation techniques are affected by the choice of valuation model and model limitation. When different valuation techniques are available, the choice of valuation model can be subjective. Furthermore, the valuation model applied may have measurement limitations. In those cases, an additional valuation adjustment is also applied to mitigate the measurement risk. Model valuation adjustments are not material and relate primarily to Level 2 instruments.

We apply stress scenarios in determining appropriate liquidity risk and model risk adjustments for Level 3 fair values by reviewing the historical data for unobservable inputs (e.g., correlation, volatility). Some stress scenarios involve at least a 95 percent confidence interval (i.e., two standard deviations). We also utilize unobservable parameter adjustments when instruments are valued using internally developed models which reflects the uncertainty in the value estimates provided by the model.

Funding Fair Value Adjustment ("FFVA") - The FFVA reflects the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at rates other than the Overnight Indexed Swap ("OIS") rate. See "Valuation Techniques - Derivatives" below for additional details.

Fair Value Hierarchy The Fair Value Framework establishes a three-tiered fair value hierarchy as follows:

Level 1 quoted market price - Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 valuation technique using observable inputs - Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are inactive, and measurements determined using valuation models where all significant inputs are observable, such as interest rates and yield curves that are observable at commonly quoted intervals.

Level 3 valuation technique with significant unobservable inputs - Level 3 inputs are unobservable inputs for the asset or liability and include situations where fair values are measured using valuation techniques based on one or more significant unobservable inputs.

Classification within the fair value hierarchy is based on whether the lowest hierarchical level input that is significant to the fair value measurement is observable. As such, the classification within the fair value hierarchy is dynamic and can be transferred to other hierarchy levels in each reporting period.

Where fair value measurements are determined based on information obtained from independent pricing services or brokers, Finance applies appropriate validation procedures to substantiate fair value. For price validation purposes, quotations from at least two independent pricing sources are obtained for each financial instrument, where possible.

The following factors are considered in determining fair values:

- similarities between the asset or the liability under consideration and the asset or liability for which quotation is received;
- collaboration of pricing by referencing to other independent market data such as market transactions and relevant benchmark indices;
- consistency among different pricing sources;
- the valuation approach and the methodologies used by the independent pricing sources in determining fair value;
- the elapsed time between the date to which the market data relates and the measurement date;
- the source of the fair value information; and
- whether the security is traded in an active or inactive market.

Greater weight is given to quotations of instruments with recent market transactions, pricing quotes from dealers who stand ready to transact, quotations provided by market-makers who structured such instrument and market consensus pricing based on inputs from a large number of survey participants. Any significant discrepancies among the external quotations are reviewed and adjustments to fair values are recorded where appropriate. Where the transaction volume of a specific instrument has been reduced and the fair value measurement becomes less transparent, Finance will apply more detailed procedures to understand and challenge the appropriateness of the unobservable inputs and the valuation techniques used by the independent pricing service. Where applicable, Finance will develop a fair value estimate using its own pricing model inputs to test reasonableness. Where fair value measurements are determined using internal valuation models, Finance will validate the fair value measurement by either developing unobservable inputs based on the industry consensus pricing surveys in which we participate or back testing by observing the actual settlements occurring soon after the measurement date.

Assets and Liabilities Recorded at Fair Value on a Recurring Basis The following table presents information about our assets and liabilities measured at fair value on a recurring basis at March 31, 2019 and December 31, 2018, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value. Unless otherwise noted below, assets and liabilities in the following table are recorded at fair value through net income (loss).

March 31, 2019	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting ⁽⁷⁾	Net Balance
	(in millions)					
Assets:						
Securities purchased under agreements to resell ⁽¹⁾	\$ —	\$ 961	\$ —	\$ 961	\$ —	\$ 961
Trading assets, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	5,524	173	—	5,697	\$ —	5,697
Asset-backed securities:						
Collateralized debt obligations	—	—	90	90	—	90
Residential mortgages	—	—	16	16	—	16
Student loans	—	—	95	95	—	95
Corporate and other domestic debt securities	—	—	510	510	—	510
Debt securities issued by foreign entities	10,519	163	—	10,682	—	10,682
Equity securities	888	—	—	888	—	888
Precious metals trading	—	5,127	—	5,127	—	5,127
Derivatives: ⁽²⁾						
Interest rate contracts	6	10,229	7	10,242	—	10,242
Foreign exchange contracts	3	13,604	2	13,609	—	13,609
Equity contracts	—	3,285	195	3,480	—	3,480
Precious metals contracts	272	471	—	743	—	743
Credit contracts	—	1,092	79	1,171	—	1,171
Other contracts ⁽³⁾	—	—	5	5	—	5
Derivatives netting	—	—	—	—	(26,099)	(26,099)
Total derivatives	281	28,681	288	29,250	(26,099)	3,151
Securities available-for-sale: ⁽⁴⁾						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	16,621	12,474	—	29,095	—	29,095
Asset-backed securities:						
Home equity	—	38	—	38	—	38
Other	—	—	109	109	—	109
Debt securities issued by foreign entities	2,185	613	—	2,798	—	2,798
Loans ⁽¹⁾	—	98	—	98	—	98
Other assets:						
Equity securities	—	190	—	190	—	190
Equity Securities measured at net asset value ⁽⁵⁾	—	—	—	96	—	96
Other ⁽⁶⁾	—	—	4	4	—	4
Total assets	\$ 36,018	\$ 48,518	\$ 1,112	\$ 85,744	\$ (26,099)	\$ 59,645
Liabilities:						
Domestic deposits ⁽¹⁾	\$ —	\$ 7,516	\$ 949	\$ 8,465	\$ —	\$ 8,465
Trading liabilities, excluding derivatives	687	38	—	725	—	725
Derivatives: ⁽²⁾						
Interest rate contracts	17	11,223	—	11,240	—	11,240
Foreign exchange contracts	18	13,108	3	13,129	—	13,129
Equity contracts	—	2,698	171	2,869	—	2,869
Precious metals contracts	99	607	—	706	—	706
Credit contracts	—	1,111	26	1,137	—	1,137
Other contracts ⁽³⁾	—	—	42	42	—	42
Derivatives netting	—	—	—	—	(25,820)	(25,820)
Total derivatives	134	28,747	242	29,123	(25,820)	3,303
Short-term borrowings ⁽¹⁾	—	191	—	191	—	191
Long-term debt ⁽¹⁾	—	11,628	453	12,081	—	12,081
Total liabilities	\$ 821	\$ 48,120	\$ 1,644	\$ 50,585	\$ (25,820)	\$ 24,765

December 31, 2018	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting ⁽⁷⁾	Net Balance
	(in millions)					
Assets:						
Trading assets, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises.....	\$ 5,368	\$ 152	\$ —	\$ 5,520	\$ —	\$ 5,520
Asset-backed securities:						
Collateralized debt obligations.....	—	—	100	100	—	100
Residential mortgages.....	—	—	16	16	—	16
Student loans.....	—	—	92	92	—	92
Corporate and other domestic debt securities.....	—	—	1,803	1,803	—	1,803
Debt securities issued by foreign entities.....	8,552	207	—	8,759	—	8,759
Equity securities.....	751	—	—	751	—	751
Precious metals trading.....	—	1,889	—	1,889	—	1,889
Derivatives: ⁽²⁾						
Interest rate contracts.....	2	10,053	2	10,057	—	10,057
Foreign exchange contracts.....	—	15,919	2	15,921	—	15,921
Equity contracts.....	—	2,449	97	2,546	—	2,546
Precious metals contracts.....	16	829	—	845	—	845
Credit contracts.....	—	883	73	956	—	956
Other contracts ⁽³⁾	—	—	5	5	—	5
Derivatives netting.....	—	—	—	—	(27,192)	(27,192)
Total derivatives.....	18	30,133	179	30,330	(27,192)	3,138
Securities available-for-sale: ⁽⁴⁾						
U.S. Treasury, U.S. Government agencies and sponsored enterprises.....	16,198	11,699	—	27,897	—	27,897
Asset-backed securities:						
Home equity.....	—	42	—	42	—	42
Other.....	—	—	107	107	—	107
Debt securities issued by foreign entities.....	2,362	971	—	3,333	—	3,333
Loans ⁽¹⁾	—	109	—	109	—	109
Other assets:						
Equity securities.....	—	190	—	190	—	190
Equity Securities measured at net asset value ⁽⁵⁾	—	—	—	88	—	88
Other assets ⁽⁶⁾	—	—	4	4	—	4
Total assets.....	<u>\$ 33,249</u>	<u>\$ 45,392</u>	<u>\$ 2,301</u>	<u>\$ 81,030</u>	<u>\$ (27,192)</u>	<u>\$ 53,838</u>
Liabilities:						
Domestic deposits ⁽¹⁾	\$ —	\$ 7,229	\$ 925	\$ 8,154	\$ —	\$ 8,154
Trading liabilities, excluding derivatives.....	738	215	—	953	—	953
Derivatives: ⁽²⁾						
Interest rate contracts.....	45	11,140	—	11,185	—	11,185
Foreign exchange contracts.....	15	15,715	3	15,733	—	15,733
Equity contracts.....	—	2,717	149	2,866	—	2,866
Precious metals contracts.....	274	626	—	900	—	900
Credit contracts.....	—	926	21	947	—	947
Other contracts ⁽³⁾	—	—	40	40	—	40
Derivatives netting.....	—	—	—	—	(28,847)	(28,847)
Total derivatives.....	334	31,124	213	31,671	(28,847)	2,824
Short-term borrowings ⁽¹⁾	—	560	—	560	—	560
Long-term debt ⁽¹⁾	—	10,837	412	11,249	—	11,249
Total liabilities.....	<u>\$ 1,072</u>	<u>\$ 49,965</u>	<u>\$ 1,550</u>	<u>\$ 52,587</u>	<u>\$ (28,847)</u>	<u>\$ 23,740</u>

⁽¹⁾ See Note 10, "Fair Value Option," for additional information. Excluding the fair value movement on fair value option liabilities attributable to our own credit spread, which is recorded in other comprehensive income (loss), fair value option assets and liabilities are recorded at fair value through net income (loss).

⁽²⁾ Includes trading derivative assets of \$2,996 million and \$3,048 million and trading derivative liabilities of \$3,183 million and \$2,690 million at March 31, 2019 and December 31, 2018, respectively, as well as derivatives held for hedging and commitments accounted for as derivatives. See Note 9, "Derivative Financial Instruments," for additional information. Excluding changes in fair value of a derivative instrument associated with a qualifying cash flow hedge, which are recognized initially in other comprehensive income (loss), derivative assets and liabilities are recorded at fair value through net income (loss).

⁽³⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

- (4) Securities available-for-sale are recorded at fair value through other comprehensive income (loss).
(5) Investments that are measured at fair value using the net asset value per share practical expedient have not been classified in the fair value hierarchy.
(6) Represents contingent consideration receivable associated with the sale of a portion of our PB business.
(7) Represents counterparty and cash collateral netting which allow the offsetting of amounts relating to certain contracts if certain conditions are met.

Information on Level 3 assets and liabilities The following table summarizes additional information about changes in the fair value of Level 3 assets and liabilities during the three months ended March 31, 2019 and 2018. As a risk management practice, we may risk manage the Level 3 assets and liabilities, in whole or in part, using securities and derivative positions that are classified as Level 1 or Level 2 measurements within the fair value hierarchy. Since those Level 1 and Level 2 risk management positions are not included in the table below, the information provided does not reflect the effect of such risk management activities related to the Level 3 assets and liabilities.

	Total Realized / Unrealized Gains (Losses) Included in									
	Jan. 1, 2019	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Mar. 31, 2019	Current Period Unrealized Gains (Losses)
(in millions)										
Assets:										
Trading assets, excluding derivatives: ⁽¹⁾										
Collateralized debt obligations	\$ 100	\$ 1	\$ —	\$ —	\$ —	\$ (11)	\$ —	\$ —	\$ 90	\$ (6)
Residential mortgage asset-backed securities.....	16	—	—	—	—	—	—	—	16	—
Student loan asset-backed securities	92	5	—	—	—	(2)	—	—	95	3
Corporate and other domestic debt securities	1,803	—	—	—	—	(1,293)	—	—	510	—
Derivatives, net: ⁽²⁾										
Interest rate contracts	2	5	—	—	—	—	—	—	7	5
Foreign exchange contracts....	(1)	—	—	—	—	—	—	—	(1)	—
Equity contracts	(52)	71	—	—	—	4	—	1	24	75
Credit contracts	52	(37)	—	—	—	38	—	—	53	—
Other contracts ⁽³⁾	(35)	(6)	—	—	—	4	—	—	(37)	—
Other asset-backed securities available-for-sale ⁽⁴⁾	107	—	2	—	—	—	—	—	109	2
Other assets ⁽⁵⁾	4	—	—	—	—	—	—	—	4	—
Total assets	<u>\$ 2,088</u>	<u>\$ 39</u>	<u>\$ 2</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (1,260)</u>	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ 870</u>	<u>\$ 79</u>
Liabilities:										
Domestic deposits ⁽⁶⁾	\$ (925)	\$ (29)	\$ (5)	\$ —	\$ (96)	\$ 45	\$ —	\$ 61	\$ (949)	\$ (105)
Long-term debt ⁽⁶⁾	(412)	(28)	(3)	—	(31)	13	—	8	(453)	(52)
Total liabilities	<u>\$ (1,337)</u>	<u>\$ (57)</u>	<u>\$ (8)</u>	<u>\$ —</u>	<u>\$ (127)</u>	<u>\$ 58</u>	<u>\$ —</u>	<u>\$ 69</u>	<u>\$ (1,402)</u>	<u>\$ (157)</u>

	Total Realized / Unrealized Gains (Losses) Included in									Current Period Unrealized Gains (Losses)
	Jan. 1, 2018	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Mar. 31, 2018	
(in millions)										
Assets:										
Trading assets, excluding derivatives: ⁽¹⁾										
Collateralized debt obligations	\$ 129	\$ 7	\$ —	\$ —	\$ —	\$ (5)	\$ —	\$ —	\$ 131	\$ 7
Corporate and other domestic debt securities	1,803	—	—	—	—	—	—	—	1,803	—
Derivatives, net: ⁽²⁾										
Interest rate contracts	—	—	—	—	—	—	—	—	—	—
Foreign exchange contracts....	—	—	—	—	—	—	—	—	—	—
Equity contracts	81	(40)	—	—	—	(14)	—	—	27	(42)
Credit contracts	114	1	—	—	—	(2)	—	—	113	(1)
Other contracts ⁽³⁾	(46)	(2)	—	—	—	4	—	—	(44)	—
Other asset-backed securities available-for-sale ⁽⁴⁾	111	(4)	—	—	—	—	—	—	107	(4)
Other assets ⁽⁵⁾	15	—	—	—	—	—	—	—	15	—
Total assets	<u>\$ 2,207</u>	<u>\$ (38)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (17)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,152</u>	<u>\$ (40)</u>
Liabilities:										
Domestic deposits ⁽⁶⁾	\$ (897)	\$ 21	\$ (2)	\$ —	\$ (91)	\$ 22	\$ (3)	\$ 34	\$ (916)	\$ 19
Long-term debt ⁽⁶⁾	(641)	11	4	—	(115)	67	—	44	(630)	18
Total liabilities	<u>\$ (1,538)</u>	<u>\$ 32</u>	<u>\$ 2</u>	<u>\$ —</u>	<u>\$ (206)</u>	<u>\$ 89</u>	<u>\$ (3)</u>	<u>\$ 78</u>	<u>\$ (1,546)</u>	<u>\$ 37</u>

⁽¹⁾ Gains (losses) on trading assets, excluding derivatives are included in trading revenue in the consolidated statement of income (loss).

⁽²⁾ Level 3 net derivatives included derivative assets of \$288 million and derivative liabilities of \$242 million at March 31, 2019 and derivative assets of \$281 million and derivative liabilities of \$185 million at March 31, 2018. Gains (losses) on derivatives, net are predominantly included in trading revenue and gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income (loss).

⁽³⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares. Gains (losses) on these swap agreements are included in other income (loss) in the consolidated statement of income (loss).

⁽⁴⁾ Realized gains (losses) on securities available-for-sale are included in other securities gains, net in the consolidated statement of income (loss). Unrealized gains (losses) on securities available-for-sale are included in other comprehensive income (loss).

⁽⁵⁾ Represents contingent consideration receivable associated with the sale of a portion of our PB business. Gains (losses) associated with this transaction are included in other income (loss) in the consolidated statement of income (loss).

⁽⁶⁾ Excluding unrealized gains (losses) on fair value option liabilities attributable to our own credit spread, which are recorded in other comprehensive income (loss), gains (losses) on fair value option liabilities are included in gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income (loss).

The following table presents quantitative information about the unobservable inputs used to determine the recurring fair value measurement of assets and liabilities classified as Level 3 fair value measurements at March 31, 2019 and December 31, 2018:

March 31, 2019

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Collateralized debt obligations	\$ 90	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	0% - 1%
			Conditional default rates	0% - 1%
			Loss severity rates	90% - 95%
Residential mortgage asset-backed securities	\$ 16	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	0% - 5%
			Conditional default rates	1% - 3%
			Loss severity rates	80% - 85%
			Discount margin	100bps - 250bps
Student loan asset-backed securities	\$ 95	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	7% - 8%
			Conditional default rates	0% - 1%
			Loss severity rates	25% - 40%
			Discount margin	91bps - 115bps
Corporate and other domestic debt securities	\$ 510	Discounted cash flows	Spread volatility on collateral assets	2% - 4%
			Correlation between insurance claim shortfall and collateral value	80%
Interest rate derivative contracts	\$ 7	Market comparable adjusted for probability to fund and, where applicable, discounted cash flows	Probability to fund for rate lock commitments	15% - 99%
			Likelihood of transaction being executed	75% - 100%
Foreign exchange derivative contracts ⁽¹⁾ .	\$ (1)	Option pricing model	Implied volatility of currency pairs	12% - 17%
Equity derivative contracts ⁽¹⁾	\$ 24	Option pricing model	Equity / Equity Index volatility	7% - 38%
			Equity / Equity and Equity / Index correlation	43% - 79%
			Equity dividend yields	0% - 5%
Credit derivative contracts	\$ 53	Option pricing model and, where applicable, discounted cash flows	Credit default swap spreads	69bps - 80bps
Other derivative contracts	\$ (37)	Discounted cash flows	Conversion rate	1.6 times
			Expected duration	1 - 3 years
Other asset-backed securities available-for-sale	\$ 109	Discounted cash flows	Market assumptions related to yields for comparable instruments	1% - 3%
Other assets	\$ 4	Discounted cash flows	Client transfer rates based on rating	50% - 95%
Domestic deposits (structured deposits) ⁽¹⁾⁽²⁾	\$ (949)	Option adjusted discounted cash flows	Implied volatility of currency pairs	12% - 17%
			Equity / Equity Index volatility	7% - 30%
			Equity / Equity and Equity / Index correlation	44% - 48%
Long-term debt (structured notes) ⁽¹⁾⁽²⁾	\$ (453)	Option adjusted discounted cash flows	Implied volatility of currency pairs	12% - 17%
			Equity / Equity Index volatility	7% - 31%
			Equity / Equity and Equity / Index correlation	44% - 79%

December 31, 2018

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Collateralized debt obligations	\$ 100	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	0% - 1%
			Conditional default rates	0% - 1%
			Loss severity rates	90% - 95%
Residential mortgage asset-backed securities	\$ 16	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	0% - 5%
			Conditional default rates	1% - 4%
			Loss severity rates	80% - 85%
Student loan asset-backed securities	\$ 92	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	6% - 7%
			Conditional default rates	1% - 2%
			Loss severity rates	25% - 40%
Corporate and other domestic debt securities	\$ 1,803	Discounted cash flows	Spread volatility on collateral assets	2% - 4%
			Correlation between insurance claim shortfall and collateral value	80%
			Interest rate derivative contracts	\$ 2	Market comparable adjusted for probability to fund and, where applicable, discounted cash flows	Probability to fund for rate lock commitments	3% - 99%
Foreign exchange derivative contracts ⁽¹⁾ .	\$ (1)	Option pricing model	Likelihood of transaction being executed	75% - 100%
			Implied volatility of currency pairs	8% - 12%
Equity derivative contracts ⁽¹⁾	\$ (52)	Option pricing model	Equity / Equity Index volatility	7% - 44%
			Equity / Equity and Equity / Index correlation	42% - 79%
			Equity dividend yields	0% - 7%
Credit derivative contracts	\$ 52	Option pricing model and, where applicable, discounted cash flows	Credit default swap spreads	102bps - 118bps
Other derivative contracts	\$ (35)	Discounted cash flows	Conversion rate	1.6 times
			Expected duration	2 - 3 years
Other asset-backed securities available-for-sale	\$ 107	Discounted cash flows	Market assumptions related to yields for comparable instruments	1% - 3%
Other assets	\$ 4	Discounted cash flows	Client transfer rates based on rating	50% - 95%
Domestic deposits (structured deposits) ⁽¹⁾⁽²⁾	\$ (925)	Option adjusted discounted cash flows	Implied volatility of currency pairs	8% - 12%
			Equity / Equity Index volatility	7% - 37%
			Equity / Equity and Equity / Index correlation	42% - 49%
Long-term debt (structured notes) ⁽¹⁾⁽²⁾	\$ (412)	Option adjusted discounted cash flows	Implied volatility of currency pairs	8% - 12%
			Equity / Equity Index volatility	7% - 42%
			Equity / Equity and Equity / Index correlation	45% - 79%

⁽¹⁾ We are the client-facing entity and we enter into identical but opposite derivatives to transfer the resultant risks to our affiliates. With the exception of counterparty credit risks, we are market neutral. The corresponding intra-group derivatives are presented as equity derivatives and foreign exchange derivatives in the table.

⁽²⁾ Structured deposits and structured notes contain embedded derivative features whose fair value measurements contain significant Level 3 inputs.

Significant Unobservable Inputs for Recurring Fair Value Measurements

Collateralized debt obligations ("CDOs"), residential mortgage asset-backed securities and student loan asset-backed securities

- **Prepayment rate** - The rate at which borrowers pay off the loans early. The prepayment rate is affected by a number of factors including location of the collateral, interest rate type of the loan, borrowers' credit and sensitivity to interest rate

movement. The weighted average prepayment rates of our CDOs, residential mortgage asset-backed securities and student loan asset-backed securities was 0.4 percent, 5 percent and 8 percent, respectively, at March 31, 2019.

- *Default rate* - Annualized percentage of default rate over a group of collateral such as residential or commercial mortgage loans. The default rate and loss severity rate are positively correlated. The weighted average default rates of our CDOs, residential mortgage asset-backed securities and student loan asset-backed securities was 0.9 percent, 3 percent and 0.8 percent, respectively, at March 31, 2019.
- *Loss severity rate* - The loss severity rate is the percentage of total lifetime losses (both interest and principal) as a percentage of principal balance measured at default date. The weighted average loss severity rates of our CDOs, residential mortgage asset-backed securities and student loan asset-backed securities was 93 percent, 85 percent and 36 percent, respectively, at March 31, 2019.
- *Discount margin* - An expected return earned in addition to the index underlying (in this case the London Interbank Offered Rate ("LIBOR")) is another input into valuation of securities. The weighted average discount margins of our residential mortgage asset-backed securities and student loan asset-backed securities was 200 basis points and 100 basis points, respectively, at March 31, 2019.

Derivatives

- *Implied volatility* - The implied volatility is a significant pricing input for freestanding or embedded options including equity, foreign currency and interest rate options. The level of volatility is a function of the nature of the underlying risk, the level of strike price and the years to maturity of the option. Depending on the underlying risk and tenure, we determine the implied volatility based on observable input where information is available. However, substantially all of the implied volatilities are derived based on historical information. The implied volatility for different foreign currency pairs is between 12 percent and 17 percent while the implied volatility for equity/equity or equity/equity index is between 7 percent and 38 percent, respectively, at March 31, 2019. Although implied foreign currency volatility and equity volatility appear to be widely distributed at the portfolio level, the deviation of implied volatility on a trade-by-trade basis is narrower. The average deviation of implied volatility for the foreign currency pair and at-the-money equity option are 9 percent and 12 percent, respectively, at March 31, 2019.
- *Correlations of a group of foreign currency or equity* - Correlation measures the relative change in values among two or more variables (i.e., equity or foreign currency pair). Variables can be positively or negatively correlated. Correlation is a key input in determining the fair value of a derivative referenced to a basket of variables such as equities or foreign currencies. A majority of the correlations are not observable, but are derived based on historical data. The correlation between equity/equity and equity/equity index was between 43 percent and 79 percent at March 31, 2019.

Uncertainty of Level 3 Inputs to Fair Value Measurements

CDOs - Probability of default, prepayment speed and loss severity rate are significant unobservable inputs. A significant increase (decrease) in these inputs would have resulted in a lower (higher) fair value measurement of the CDOs. Generally, a change in assumption for default probability would have been accompanied by a directionally similar change in loss severity, and a directionally opposite change in prepayment speed.

Residential mortgage and student loan asset-backed securities - Probability of default, prepayment speed, loss severity rate and discount margin are significant unobservable inputs. A significant increase (decrease) in these inputs would have resulted in a lower (higher) fair value measurement of the securities. Generally, a change in assumption for default probability would have been accompanied by a directionally similar change in loss severity, and a directionally opposite change in prepayment speed.

Corporate and domestic debt securities - The fair value measurement of certain corporate debt securities is affected by the fair value of the underlying portfolios of investments used as collateral and the make-whole guarantee provided by third party guarantors. The probability that the collateral fair value declines below the collateral call threshold concurrent with the guarantors' failure to perform its make whole obligation is unobservable. Generally, an increase (decrease) in the probability the collateral value falls below the collateral call threshold would have been accompanied by a directionally similar change in default probability of the guarantor.

Credit derivatives - Correlation of default among a basket of reference credit names is a significant unobservable input if the credit attributes of the portfolio are not within the parameters of relevant standardized CDS indices. A significant increase (decrease) in the default correlation would have resulted in a lower (higher) fair value measurement of the credit derivative. Generally, a change in assumption for default correlation would have been accompanied by a directionally similar change in default probability and loss rates of other credit names in the basket. For certain credit derivatives, the credit spreads of credit default swap contracts insuring asset backed securities is a significant unobservable input. A significant increase (decrease) in the credit spreads would have resulted in a lower (higher) fair value measurement of the credit derivative.

Equity and foreign exchange derivatives - The fair value measurement of a structured equity or foreign exchange derivative is primarily affected by the implied volatility of the underlying equity price or exchange rate of the paired foreign currencies. The

implied volatility is not observable. A significant increase (decrease) in the implied volatility would have resulted in a higher (lower) fair value of a long position in the derivative contract.

Other derivatives - The fair value of the swap agreements we entered into in conjunction with the sales of Visa Class B Shares is dependent upon the final resolution of the related litigation. Significant unobservable inputs used in the fair value measurement include estimated changes in the conversion rate of Visa Class B Shares into Visa Class A Shares and the expected timing of the final resolution. An increase (decrease) in the loss estimate or in the timing of the resolution of the related litigation would have resulted in a higher (lower) fair value measurement of the derivative.

Other asset-backed securities available-for-sale - The fair value measurement of certain asset-backed securities is primarily affected by estimated yields which are determined based on current market yields of comparable instruments adjusted for market liquidity. An increase (decrease) in the yields would have resulted in a decrease (increase) in the fair value measurement of the securities.

Other assets - The fair value of the contingent consideration receivable associated with the sale of a portion of our PB business is dependent upon the clients' decisions to transfer their accounts to UBS Wealth Management Americas ("UBS"), the timing and amounts of client assets transferred and the acceptance of the client assets by UBS which are significant unobservable inputs. An increase (decrease) in the client transfer rate would have resulted in a higher (lower) fair value measurement of the receivable.

Significant Transfers Into and Out of Level 3 Measurements During the three months ended March 31, 2019, we transferred \$61 million of domestic deposits and \$8 million of long-term debt, which we have elected to carry at fair value, from Level 3 to Level 2 as a result of the embedded derivative no longer being unobservable as the derivative option is closer to maturity and there is more observability in short term volatility.

During the three months ended March 31, 2018, we transferred \$34 million of domestic deposits and \$44 million of long-term debt, which we have elected to carry at fair value, from Level 3 to Level 2 as a result of the embedded derivative no longer being unobservable as the derivative option is closer in maturity and there is more observability in short term volatility. Additionally, during the three months ended March 31, 2018, we transferred \$3 million, respectively, of domestic deposits, which we have elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying instruments that resulted in the embedded derivative being unobservable.

Assets and Liabilities Recorded at Fair Value on a Non-recurring Basis Certain financial and non-financial assets are measured at fair value on a non-recurring basis and therefore, are not included in the tables above. These assets include (a) loans classified as held for sale reported at the lower of amortized cost or fair value and (b) impaired loans or assets that are written down to fair value based on the valuation of underlying collateral during the period. These instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustment in certain circumstances (e.g., impairment). The following table presents the fair value hierarchy level within which the fair value of the financial and non-financial assets has been recorded at March 31, 2019 and December 31, 2018. The gains (losses) during the three months ended March 31, 2019 and 2018 are also included.

	Non-Recurring Fair Value Measurements at March 31, 2019				Total Gains (Losses) For the Three Months Ended March 31, 2019
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Consumer loans ⁽¹⁾	\$ —	\$ 5	\$ —	\$ 5	\$ (2)
Impaired commercial loans ⁽²⁾	—	—	45	45	(1)
Real estate owned ⁽³⁾	—	6	—	6	(1)
Total assets at fair value on a non-recurring basis	\$ —	\$ 11	\$ 45	\$ 56	\$ (4)
	(in millions)				
	Non-Recurring Fair Value Measurements at December 31, 2018				Total Gains (Losses) For the Three Months Ended March 31, 2018
	Level 1	Level 2	Level 3	Total	
Consumer loans ⁽¹⁾	\$ —	\$ 15	\$ —	\$ 15	\$ (1)
Commercial loans held for sale ⁽⁴⁾	—	36	—	36	3
Impaired commercial loans ⁽²⁾	—	—	37	37	55
Real estate owned ⁽³⁾	—	7	—	7	1
Total assets at fair value on a non-recurring basis	\$ —	\$ 58	\$ 37	\$ 95	\$ 58

⁽¹⁾ Represents residential mortgage loans held for investment whose carrying amount was reduced during the periods presented based on the fair value of the underlying collateral.

- (2) Certain commercial loans have undergone troubled debt restructurings and are considered impaired. As a matter of practical expedient, we measure the credit impairment of a collateral-dependent loan based on the fair value of the collateral asset. The collateral often involves real estate properties that are illiquid due to market conditions. As a result, these loans are classified as a Level 3 fair value measurement within the fair value hierarchy.
- (3) Real estate owned is required to be reported on the balance sheet net of transactions costs. The real estate owned amounts in the table above reflect the fair value unadjusted for transaction costs.
- (4) At December 31, 2018, the fair value of the loans held for sale was below cost.

The following tables present quantitative information about non-recurring fair value measurements of assets and liabilities classified with Level 3 of the fair value hierarchy at March 31, 2019 and December 31, 2018:

At March 31, 2019

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Impaired commercial loans	\$ 45	Valuation of third party appraisal on underlying collateral	Loss severity rates	13% - 100%

At December 31, 2018

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Impaired commercial loans	\$ 37	Valuation of third party appraisal on underlying collateral	Loss severity rates	13% - 100%

Significant Unobservable Inputs for Non-Recurring Fair Value Measurements

The weighted average severity rate for impaired commercial loans was approximately 32 percent at March 31, 2019. These severity rates are primarily impacted by the value of the underlying collateral securing the loans.

Valuation Techniques

Following is a description of valuation methodologies used for assets and liabilities recorded at fair value.

Securities purchased and sold under resale and repurchase agreements designated under FVO - We elected to apply FVO accounting to certain securities purchased and sold under resale and repurchase agreements at fair value. The fair value of these resale and repurchase agreements is determined using market rates currently offered on comparable transactions with similar underlying collateral and maturities.

Consumer loans held for sale - Consumer loans held for sale are recorded at the lower of amortized cost or fair value. The fair value estimates of consumer loans held for sale are determined primarily using observed market prices of instruments with similar characteristics. Adjustments are made to reflect differences in collateral location, loan-to-value ratio, FICO scores, vintage year, default rates, the completeness of the loan documentation and other risk characteristics. Where observable market parameters are not available, fair value is determined using the discounted cash flow method using assumptions consistent with those which would be used by market participants in valuing such loans, including estimates of prepayment rates, default rates, loss severities and market rates of return. We also may hold discussions on value directly with potential investors.

Commercial loans held for sale - Commercial loans held for sale (that are not designated under FVO as discussed below) are recorded at the lower of amortized cost or fair value. The fair value estimates of commercial loans held for sale are determined primarily using observable market pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. We also may hold discussions on value directly with potential investors.

Commercial loans held for sale designated under FVO - We elected to apply FVO accounting to certain commercial loans held for sale at fair value. Where available, fair value is based on observable market pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan-specific risk mitigating factors such as collateral arrangements in determining the fair value estimate.

Commercial impaired loans - Generally represents collateral dependent commercial loans with fair value determined based on pricing quotes obtained from an independent third party appraisal.

Precious metals trading - Precious metals trading primarily includes physical inventory which is valued using spot prices.

Securities - Where available, debt and equity securities are valued based on quoted market prices. If a quoted market price for the identical security is not available, the security is valued based on quotes from similar securities, where possible. For certain

securities, internally developed valuation models are used to determine fair values or validate quotes obtained from pricing services. The following summarizes the valuation methodology used for our major security classes:

- U.S. Treasury, U.S. Government agency issued or guaranteed and obligations of U.S. state and political subdivisions – As these securities transact in an active market, fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated.
- U.S. Government sponsored enterprises – For government sponsored mortgage-backed securities which transact in an active market, fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated. For government sponsored mortgage-backed securities which do not transact in an active market, fair value is determined primarily based on pricing information obtained from pricing services and is verified by internal review processes.
- Asset-backed securities, including CDOs – Fair value is primarily determined based on pricing information obtained from independent pricing services adjusted for the characteristics and the performance of the underlying collateral.
- Other domestic debt and foreign debt securities (corporate and government) - For non-callable corporate securities, a credit spread scale is created for each issuer. These spreads are then added to the equivalent maturity U.S. Treasury yield to determine current pricing. Credit spreads are obtained from the new market, secondary trading levels and dealer quotes. For securities with early redemption features, an option adjusted spread model is incorporated to adjust the spreads determined above. Additionally, we survey the broker/dealer community to obtain relevant trade data including benchmark quotes and updated spreads.
- Equity securities – Fair value measurements are determined based on quoted prices for the identical security. Certain equity securities represent investments in private equity funds that help us comply with the Community Reinvestment Act. The fair value of these investments are estimated using the net asset value per share as calculated by the fund managers. Distributions will be received from the funds as the underlying assets are liquidated. While the funds do not allow us to redeem our investments, we are permitted to sell or transfer our investments subject to the approval of the fund manager. Unfunded commitments associated with these investments totaled \$79 million and \$72 million at March 31, 2019 and December 31, 2018, respectively.

The following tables provide additional information relating to our asset-backed securities, including certain CDOs, at March 31, 2019:

Trading asset-backed securities:

Rating of Securities: ⁽¹⁾	Collateral Type:	Level 3	Total
		(in millions)	
AAA - A.....	Student loans.....	\$ 95	\$ 95
BBB - B.....	Collateralized debt obligations.....	90	90
CCC - Unrated.....	Residential mortgages - Subprime.....	16	16
		\$ 201	\$ 201

Available-for-sale asset-backed securities:

Rating of Securities: ⁽¹⁾	Collateral Type:	Level 2	Level 3	Total
		(in millions)		
AAA - A.....	Home equity - Alt A.....	\$ 38	\$ —	\$ 38
	Other.....	—	50	50
	Total AAA -A.....	\$ 38	\$ 50	\$ 88
BBB -B.....	Other.....	—	59	59
		\$ 38	\$ 109	\$ 147

⁽¹⁾ We utilize Standard and Poor's ("S&P") as the primary source of credit ratings in the tables above. If S&P ratings are not available, ratings by Moody's and Fitch are used in that order. Ratings for CDOs represent the ratings associated with the underlying collateral.

Derivatives – Derivatives are recorded at fair value. Asset and liability positions in individual derivatives that are covered by legally enforceable master netting agreements, including receivables (payables) for cash collateral posted (received), are offset and presented net in accordance with accounting principles which allow the offsetting of amounts.

Derivatives traded on an exchange are valued using quoted prices. OTC derivatives, which comprise a majority of derivative contract positions, are valued using valuation techniques. The fair value for the majority of our derivative instruments are determined based on internally developed models that utilize independently corroborated market parameters, including interest rate yield curves, option volatilities, and currency rates. For complex or long-dated derivative products where market data is not available, fair value may be affected by the underlying assumptions about, among other things, the timing of cash flows, expected exposure, probability of default and recovery rates. The fair values of certain structured derivative products are sensitive to unobservable inputs such as default correlations of the referenced credit and volatilities of embedded options. These estimates are susceptible to significant change in future periods as market conditions change.

We use the OIS curves as the base discounting curve for measuring the fair value of all derivatives, both collateralized and uncollateralized, and apply a FFVA to reflect the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at rates other than the OIS rate. The FFVA is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralized component of the OTC derivative portfolio. The expected future funding exposure is calculated by a simulation methodology, where available, and is adjusted for events that may terminate the exposure, such as the default of HUSI or the counterparty.

Significant inputs related to derivative classes are broken down as follows:

- Credit Derivatives – Use credit default curves and recovery rates which are generally provided by broker quotes and various pricing services. Certain credit derivatives may also use correlation inputs in their model valuation.
- Interest Rate Derivatives – Swaps use interest rate curves based on currency that are actively quoted by brokers and other pricing services. Options will also use volatility inputs which are also quoted in the broker market.
- Foreign Exchange ("FX") Derivatives – FX transactions, to the extent possible, use spot and forward FX rates which are quoted in the broker market. Where applicable, we also use implied volatility of currency pairs as inputs.
- Equity Derivatives – Use listed equity security pricing and implied volatilities from equity traded options position.
- Precious Metal Derivatives – Use spot and forward metal rates which are quoted in the broker market.

As discussed earlier, we make fair value adjustments to model valuations in order to ensure that those values represent appropriate estimates of fair value. These adjustments, which are applied consistently over time, are generally required to reflect factors such as bid-ask spreads and counterparty credit risk that can affect prices in arms-length transactions with unrelated third parties. Such adjustments are based on management judgment and may not be observable.

We estimate the counterparty credit risk for financial assets and our own credit standing for financial liabilities (the "credit valuation adjustments") in determining the fair value measurement. For derivative instruments, we calculate the credit valuation adjustment by applying the probability of default of the counterparty to the expected exposure, and multiplying the result by the expected loss given default. We also take into consideration the risk mitigating factors including collateral agreements and master netting agreements in determining credit valuation adjustments. We estimate the implied probability of default based on the credit spread of the specific counterparty observed in the credit default swap market. Where credit default spread of the counterparty is not available, we use the credit default spread of a specific proxy (e.g., the credit default swap spread of the counterparty's parent) or a proxy based on credit default swaps referencing to credit names of similar credit standing.

Real estate owned - Fair value is determined based on third party appraisals obtained at the time we take title to the property and, if less than the carrying amount of the loan, the carrying amount of the loan is adjusted to the fair value. The carrying amount of the property is further reduced, if necessary, at least every 90 days to reflect observable local market data, including local area sales data.

Structured notes and deposits designated under FVO – Structured notes and deposits are hybrid instruments containing embedded derivatives and are elected to be measured at fair value in their entirety under FVO accounting principles. The valuation of hybrid instruments is predominantly driven by the derivative features embedded within the instruments and our own credit risk. The valuation of embedded derivatives may include significant unobservable inputs such as correlation of the referenced credit names or volatility of the embedded option. Cash flows of the funded notes and deposits in their entirety, including the embedded derivatives, are discounted at the relevant interest rates for the duration of the instrument adjusted for our own credit spreads. The credit spreads so applied are determined with reference to our own debt issuance rates observed in primary and secondary markets, internal funding rates, and the structured note rates in recent executions.

Long-term debt designated under FVO – We elected to apply FVO accounting to certain of our own debt issuances for which fair value hedge accounting otherwise would have been applied. These own debt issuances elected under FVO are traded in secondary markets and, as such, the fair value is determined based on observed prices for the specific instrument. The observed market price of these instruments reflects the effect of our own credit spreads. The credit spreads applied to these instruments were derived from the spreads at the measurement date.

Additional Disclosures About the Fair Value of Financial Instruments that are Not Carried at Fair Value on the Consolidated Balance Sheet The fair value estimates set forth below are made solely to comply with disclosures required by generally accepted accounting principles in the United States and should be read in conjunction with the financial statements and notes included in this report.

The carrying amount of certain financial instruments recorded at cost on the consolidated balance sheet is considered to approximate fair value because they are short-term in nature, bear interest rates that approximate market rates, and generally have negligible credit risk. These items include cash and due from banks, interest bearing deposits with banks, customer acceptance assets and liabilities, federal funds sold and purchased, certain securities purchased and sold under resale and repurchase agreements, deposits with no stated maturity (e.g., demand, savings and certain money market deposits), short-term borrowings and dividends payable.

The following table summarizes the carrying value and estimated fair value of our financial instruments, excluding financial instruments that are carried at fair value on a recurring basis, at March 31, 2019 and December 31, 2018 and their classification within the fair value hierarchy:

March 31, 2019	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(in millions)				
Financial assets:					
Short-term financial assets	\$ 21,450	\$ 21,450	\$ 1,238	\$ 20,197	\$ 15
Federal funds sold and securities purchased under agreements to resell	5,963	5,963	—	5,963	—
Securities held-to-maturity	14,383	14,299	—	14,299	—
Commercial loans, net of allowance for credit losses	50,912	52,911	—	—	52,911
Commercial loans held for sale	318	318	—	318	—
Consumer loans, net of allowance for credit losses	19,539	19,139	—	—	19,139
Consumer loans held for sale:					
Residential mortgages	32	32	—	29	3
Financial liabilities:					
Short-term financial liabilities	\$ 9,390	\$ 9,401	\$ —	\$ 9,386	\$ 15
Deposits:					
Without fixed maturities	89,189	89,189	—	89,189	—
Fixed maturities	15,976	15,886	—	15,886	—
Deposits held for sale	9	9	—	9	—
Long-term debt	19,394	19,672	—	19,672	—

December 31, 2018	Carrying Value	Fair Value	Level 1	Level 2	Level 3
(in millions)					
Financial assets:					
Short-term financial assets	\$ 17,237	\$ 17,237	\$ 1,514	\$ 15,700	\$ 23
Federal funds sold and securities purchased under agreements to resell	10,168	10,168	—	10,168	—
Securities held-to-maturity	14,670	14,443	—	14,443	—
Commercial loans, net of allowance for credit losses	48,884	50,671	—	—	50,671
Commercial loans held for sale	285	285	—	285	—
Consumer loans, net of allowance for credit losses	19,553	18,878	—	—	18,878
Consumer loans held for sale:					
Residential mortgages	65	65	—	65	—
Other consumer	53	53	—	—	53
Financial liabilities:					
Short-term financial liabilities	\$ 3,643	\$ 3,649	\$ —	\$ 3,626	\$ 23
Deposits:					
Without fixed maturities	91,794	91,794	—	91,794	—
Fixed maturities	10,996	10,933	—	10,933	—
Deposits held for sale	10	10	—	10	—
Long-term debt	19,379	19,688	—	19,688	—

Lending-related commitments - The fair value of loan commitments, revolving credit facilities and standby letters of credit are not included in the table. The majority of the lending-related commitments are not carried at fair value on a recurring basis nor are they actively traded. These instruments generate fees, which approximate those currently charged to originate similar commitments, which are recognized over the term of the commitment period. Deferred fees on loan commitments, revolving credit facilities and standby letters of credit totaled \$160 million and \$165 million at March 31, 2019 and December 31, 2018, respectively.

20. *Litigation and Regulatory Matters*

The following supplements, and should be read together with, the disclosure in Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K. Only those matters with significant updates and new matters since our disclosure in our 2018 Form 10-K are reported herein.

In addition to the matters described below and in our 2018 Form 10-K, in the ordinary course of business, we are routinely named as defendants in, or as parties to, various legal actions and proceedings relating to activities of our current and/or former operations. These legal actions and proceedings may include claims for substantial or indeterminate compensatory or punitive damages, or for injunctive relief. In the ordinary course of business, we also are subject to governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal), certain of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. In connection with formal and informal inquiries by these regulators, we receive numerous requests, subpoenas and orders seeking documents, testimony and other information in connection with various aspects of our regulated activities.

Due to the inherent unpredictability of legal matters, including litigation, governmental and regulatory matters, particularly where the damages sought are substantial or indeterminate or when the proceedings or investigations are in the early stages, we cannot determine with any degree of certainty the timing or ultimate resolution of such matters or the eventual loss, fines, penalties or business impact, if any, that may result. We establish reserves for litigation, governmental and regulatory matters when those matters present loss contingencies that are both probable and can be reasonably estimated. Once established, reserves are adjusted from time to time, as appropriate, in light of additional information. The actual costs of resolving litigation and regulatory matters, however, may be substantially higher than the amounts reserved for those matters.

During the three months ended March 31, 2019 and 2018, we recorded expense related to various legal matters of nil and \$494 million, respectively. The expense in the 2018 period included expense related to a mortgage securitization matter that was settled in October 2018. See Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K for additional discussion.

For the legal matters disclosed below, including litigation and governmental and regulatory matters, as well as for the legal matters disclosed in Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K, as to which a loss in excess of accrued liability

is reasonably possible in future periods and for which there is sufficient currently available information on the basis of which management believes it can make a reliable estimate, we believe a reasonable estimate could be as much as \$400 million for HUSI. The legal matters underlying this estimate of possible loss will change from time to time and actual results may differ significantly from this current estimate.

In addition, based on the facts currently known for each of the ongoing investigations disclosed in Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K, it is not practicable at this time for us to determine the terms on which these ongoing investigations will be resolved or the timing of such resolution. As matters progress, it is possible that any fines and/or penalties could be significant.

Given the substantial or indeterminate amounts sought in certain of these matters, and the inherent unpredictability of such matters, an adverse outcome in certain of these matters could have a material adverse effect on our consolidated financial statements in any particular quarterly or annual period.

Foreign Exchange ("FX") Matters

FX Opt Out Litigation The plaintiffs filed an amended complaint on March 1, 2019, and the defendants' joint motion to dismiss was filed on April 1, 2019.

It is possible that additional actions will be initiated against the HSBC entities, including HSBC Bank USA, in relation to their historical foreign exchange activities.

Investigations HSBC and certain of its affiliates, including HSBC Bank USA, along with a number of other firms, are being investigated by regulatory agencies in relation to trading on the foreign exchange market. The investigations involving HSBC Bank USA continue, including an investigation by the California Attorney General's Office. We are cooperating with the investigation.

Madoff Litigation

In 2008, Bernard L. Madoff ("Madoff") was arrested and ultimately pleaded guilty to running a Ponzi scheme and a trustee was appointed for the liquidation of his firm, Bernard L. Madoff Investment Securities LLC ("Madoff Securities"), an SEC-registered broker-dealer and investment adviser. Various non-U.S. HSBC companies provided custodial, administration and similar services to a number of funds incorporated outside the United States whose assets were invested with Madoff Securities. Plaintiffs have commenced Madoff-related proceedings against numerous defendants arising out of Madoff Securities' fraud.

In February 2019, the Second Circuit issued a decision reversing the November 2016 decision of the U.S. Bankruptcy Court for the Southern District of New York that had dismissed the majority of the remaining claims against the non-U.S. HSBC defendants in these actions on the bases of extraterritoriality and comity.

Benchmark Rate Litigation

CDOR: In March 2019, the court granted the defendants motion to dismiss. We anticipate that plaintiff will seek to amend the complaint or appeal the ruling.

Mortgage Securitization Trust Litigation In February 2019, Park Royal LLC filed a summons with notice in New York state court against HSBC Bank USA, as trustee for three residential mortgage-backed securities trusts, alleging the same misconduct that other plaintiffs have alleged against the trustee and seeking damages of \$59 million. No complaint has yet been filed or served on HSBC Bank USA.

Shareholder Derivative Action Defendants HSBC, HSBC Bank USA, HSBC North America and HSBC USA's motion for reargument or, in the alternative, for leave to appeal to the New York Court of Appeals regarding the appellate court's reversal of the state court's dismissal was denied in March 2019.

Timothy O'Sullivan, et al. v. Deutsche Bank AG, et al. The court granted defendants' motion to dismiss in March 2019. The second action filed in 2018 ("O'Sullivan II"), which is substantially similar to the first action, has been stayed based upon the parties' agreement.

Joel Tavera, et al. v. Deutsche Bank AG, et al. This action has been stayed based upon the parties' agreement.

James Donaldson v. HSBC Holdings plc, et al. This action has been stayed based upon the parties' agreement.

Kathleen Stephens v. HSBC Holdings plc, et al. This action has been stayed based upon the parties' agreement.

Ryan Bowman et al. v. HSBC Holdings plc, et al. In April 2019, a new action in the U.S. District Court for the Eastern District of New York was filed against HSBC Holdings plc, HSBC Bank plc, HSBC Bank Middle East Limited, and HSBC Bank USA, among other defendants. Designating the case as related to *Charlotte Freeman, et al. v. HSBC Holdings plc, et al.* the claims are based on allegations that Iranian payments were purportedly provided to terrorist organizations operating in Iraq. Plaintiffs allege violations of the Anti-Terrorism Act (18 U.S.C. §2331 et seq.). This action is at a very early stage.

21. New Accounting Pronouncements

The following new accounting pronouncements were adopted effective January 1, 2019:

- Leases** In February 2016, the Financial Accounting Standards Board ("FASB") issued an Accounting Standards Update ("ASU") which requires a lessee to recognize a lease liability and a ROU asset on its balance sheet for all leases, including operating leases. Lease classification is still performed, with any lease classified as a finance lease reported as a financing transaction. The ASU does not substantially change lessor accounting. Additionally, the ASU makes several other targeted amendments including a) revising the definition of lease payments to include fixed payments by the lessee to cover lessor costs related to ownership of the underlying asset such as for property taxes or insurance; b) requiring seller-lessees in a sale-leaseback transaction to recognize the entire gain from the sale of the underlying asset at the time of sale rather than over the leaseback term; and c) expanding disclosures to provide quantitative and qualitative information about lease transactions. The adoption of this guidance resulted in a gross-up of our balance sheet of approximately \$780 million as a result of recognizing lease liabilities and corresponding ROU assets for operating leases upon adoption as of January 1, 2019. In accordance with the new guidance, we elected the short-term lease exemption for all leases with a term of 12 months or less and, therefore, do not recognize ROU assets or lease liabilities for short-term leases. The adoption of this guidance also required a cumulative effect adjustment to the consolidated balance sheet to recognize the previously deferred gain on the sale and leaseback of our 452 Fifth Avenue property, which resulted in an increase in retained earnings of \$27 million, after tax, as of January 1, 2019. The adoption of this guidance did not result in material changes to the recognition of operating lease expense. See Note 8, "Leases," for the new disclosure required by this standard.
- Premium Amortization on Purchased Callable Debt Securities** In March 2017, the FASB issued an ASU that shortens the premium amortization period for purchased non-contingently callable debt securities by requiring the premium to be amortized to the earliest call date, rather than the contractual maturity date. After the earliest call date, if the call option is not exercised, the effective yield will be reset using the payment terms of the debt security. The new guidance does not change the discount amortization period for purchased debt securities. The discount continues to be amortized to the contractual maturity date. The adoption of this guidance did not have a material impact on our consolidated financial statements.
- Derivatives and Hedging - Targeted Improvements to Accounting for Hedging Activities** In August 2017, the FASB issued an ASU amending its hedge accounting guidance to expand an entity's ability to hedge nonfinancial and financial risk components, reduce complexity in fair value hedges of interest rate risk and ease the requirements for effectiveness testing and hedge documentation. The ASU eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. The ASU also requires expanded disclosures. The adoption of this guidance did not have a material impact on our consolidated financial statements. See Note 9, "Derivative Financial Instruments," for additional information, including the new disclosure required by this standard.

The following are accounting pronouncements which will be adopted in future periods:

- Financial Instruments - Credit Impairment** In June 2016, the FASB issued an ASU that significantly changes how entities will measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income (loss). The ASU replaces the existing incurred loss impairment guidance and requires entities to estimate and recognize an allowance for lifetime expected credit losses for loans (including TDR Loans), held-to-maturity debt securities, off-balance sheet credit exposures and certain other financial assets measured at amortized cost. The ASU also requires entities to recognize an allowance for credit losses on AFS debt securities and revises the accounting model for purchased credit impaired loans and debt securities. Additionally, existing disclosures will also be revised under the ASU. The ASU is effective for all annual and interim periods beginning January 1, 2020 and is required to be applied by recording a cumulative effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. While early adoption is permitted, we have not elected early adoption. Our implementation efforts continued throughout 2018, assessing existing credit loss forecasting models and processes against the new guidance to determine modifications that will be required. Our implementation plan has progressed through the initial design, build and testing phases and, in the first quarter of 2019, we began testing the end to end operating model, including our ability to meet the expanded disclosure requirements, which will continue throughout 2019. While we continue to evaluate the impact the new guidance will have on our consolidated financial statements, we currently expect the new guidance may result in an increase to our allowance for credit losses given the change to estimated losses over the contractual life of the loan portfolio as well as the adoption of an allowance for debt securities. The amount of any change to our allowance is still under review and will depend, in part, upon the composition of our loan and held-to-maturity securities portfolios at the adoption date as well as economic conditions and loss forecasts at that date.
- Goodwill Impairment Testing** In January 2017, the FASB issued an ASU that simplifies the accounting for goodwill impairment by removing step two of the goodwill impairment test. Under step two, an entity was required to determine the

fair value of individual assets and liabilities of a reporting unit (including unrecognized assets and liabilities) using the procedure for determining fair values in a business combination. Under the new guidance, goodwill impairment will now be measured at the amount by which a reporting unit's carrying amount, including those with a zero or negative carrying amount, exceeds its fair value. Any resulting impairment is limited to the carrying amount of goodwill. An entity must also disclose the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount. The ASU is effective for all annual and interim periods beginning January 1, 2020 and is required to be applied prospectively with early adoption permitted. The adoption of this guidance is not expected to have a material impact on the results of our goodwill impairment testing or our consolidated financial statements.

- ***Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement*** In August 2018, the FASB issued an ASU that eliminates, amends and adds certain disclosure requirements for fair value measurements. The ASU is effective for all annual and interim periods beginning January 1, 2020, with early adoption permitted. We elected to early adopt the new guidance related to the eliminated and amended disclosure requirements in 2018. While adoption of the remaining guidance will result in changes to our existing disclosures, it will not have any additional impact on our consolidated financial statements.

There have been no additional accounting pronouncements issued that are expected to have or could have a material impact on our consolidated financial statements.

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

Forward-Looking Statements

Certain matters discussed throughout this Form 10-Q are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, we may make or approve certain statements in future filings with the United States Securities and Exchange Commission ("SEC"), in press releases, or oral or written presentations by representatives of HSBC USA Inc. ("HSBC USA" and, together with its subsidiaries, "HUSI") that are not statements of historical fact and may also constitute forward-looking statements. Words such as "may," "will," "should," "would," "could," "appears," "believe," "intends," "expects," "estimates," "targeted," "plans," "anticipates," "goal," and similar expressions are intended to identify forward-looking statements but should not be considered as the only means through which these statements may be made. These matters or statements will relate to our future financial condition, economic forecast, results of operations, plans, objectives, performance or business developments and will involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from that which was expressed or implied by such forward-looking statements.

All forward-looking statements are, by their nature, subject to risks and uncertainties, many of which are beyond our control. Our actual future results may differ materially from those set forth in our forward-looking statements. While there is no assurance that any list of risks and uncertainties or risk factors is complete, below are certain factors which could cause actual results to differ materially from those in the forward-looking statements:

- uncertainty concerning the future market and economic conditions in the United States and abroad, including but not limited to, changes in interest rates, energy prices and unemployment levels, a decline in housing prices, the availability of credit and liquidity, changes in consumer confidence and consumer spending and behavior, consumer perception as to the continuing availability of credit and price competition in the market segments we serve and the consequences of unexpected geopolitical events, such as trade disputes and the decision by the United Kingdom ("U.K.") to exit the European Union ("EU");
- changes in laws and regulatory requirements;
- the potential impact of any legal, regulatory or policy changes affecting financial institutions and the global economy as a result of the current Administration in the U.S.;
- the ability to deliver on our regulatory priorities;
- capital and liquidity requirements under Basel guidance, the Federal Reserve Board's ("FRB") Comprehensive Capital Analysis and Review ("CCAR") program, and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act" or "Dodd-Frank") stress testing ("DFAST"), including the U.S. FRB requirements for U.S. global systemically important banks ("G-SIBs") and U.S. intermediate holding companies ("IHCs") owned by non-U.S. G-SIBs to issue total loss-absorbing capacity ("TLAC") instruments;
- regulatory requirements in the U.S. and in non-U.S. jurisdictions to facilitate the future orderly resolution of large financial institutions;
- changes in central banks' policies with respect to the provision or removal of liquidity support to financial markets;
- the ability of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group") and HSBC Bank USA, National Association (together with its subsidiaries, "HSBC Bank USA") to fulfill the requirements imposed by applicable consent orders or guidance from regulators generally;
- the use of us as a conduit for illegal activities without our knowledge by third parties;
- the ability to successfully manage our risks;
- the possibility of the inadequacy of our data management and policies and processes;
- the financial condition of our clients and counterparties and our ability to manage counterparty risk;
- concentrations of credit and market risk;
- increases in our allowance for credit losses and changes in our assessment of our loan portfolios;
- the ability to implement our business strategies;
- the ability to successfully implement changes to our operational practices as needed and/or required from time to time;
- damage to our reputation;
- the ability to attract and retain customers and to attract and retain key employees;

- the effects of competition in the markets where we operate including increased competition from non-bank financial services companies, including securities firms;
- the effects of operational risks that are inherent in banking operations, including fraudulent and other criminal activities, breakdowns in processes or procedures and systems failure or non-availability;
- disruption in our operations from the external environment arising from events such as natural disasters, global pandemics, acts of war, terrorist attacks, or essential utility outages;
- a failure in or a breach of our operation or security systems or infrastructure, or those of third party servicers or vendors, including as a result of cyberattacks;
- the ability of third party suppliers, outsourcing vendors, off-shored functions and our affiliates to provide adequate services;
- losses suffered due to the negligence, fraud or misconduct of our employees or the negligence, fraud or misconduct on the part of third parties;
- a failure in our internal controls;
- our ability to meet our funding requirements;
- adverse changes to our credit ratings;
- financial difficulties or credit downgrades of mortgage bond insurers;
- our ability to cross-sell our products to existing customers;
- changes in Financial Accounting Standards Board ("FASB") and International Accounting Standards Board ("IASB") accounting standards and their interpretation;
- heightened regulatory and government enforcement scrutiny of financial institutions, including in connection with product governance and sales practices, account opening and closing procedures, customer and employee complaints and sales compensation structures related to such practices;
- continued heightened regulatory scrutiny with respect to existing and future residential mortgage servicing and foreclosure practices, with particular focus on loss mitigation, foreclosure prevention and outsourcing;
- possible negative impact of regulatory investigations and legal proceedings related to alleged foreign exchange manipulation;
- changes in the methodology for determining benchmark rates and the implementation of alternative benchmark rates;
- heightened regulatory and government enforcement scrutiny of financial markets, with a particular focus on traded asset classes, including foreign exchange;
- the possibility of incorrect assumptions or estimates in our financial statements, including reserves related to litigation, deferred tax assets and the fair value of certain assets and liabilities;
- model limitations or failure;
- the possibility of incorrect interpretations, application of or changes in tax laws to which we and our clients are subject;
- additional financial contribution requirements to the HSBC North America Holdings Inc. ("HSBC North America") pension plan;
- unexpected and/or increased expenses relating to, among other things, litigation and regulatory matters, remediation efforts, penalties and fines; and
- the other risk factors and uncertainties described under Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the year ended December 31, 2018 (the "2018 Form 10-K").

Forward-looking statements are based on our current views and assumptions and speak only as of the date they are made. We undertake no obligation to update any forward-looking statement to reflect subsequent circumstances or events. You should, however, consider any additional disclosures of a forward-looking nature that arise after the date hereof as may be discussed in any of our subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q or Current Reports on Form 8-K.

Executive Overview

HSBC USA is a wholly-owned subsidiary of HSBC North America, which is an indirect wholly-owned subsidiary of HSBC. HUSI may also be referred to in Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") as "we," "us" or "our."

Economic Environment The U.S. economy continued to grow during the first quarter of 2019. U.S. Gross Domestic Product ("GDP") grew at an estimated annual rate of 3.2 percent in the first quarter of 2019, higher than 2018's GDP annual growth rate, while inflation in the first quarter of 2019 averaged near the FRB's target inflation rate. In March 2019, the FRB decided to hold short-term interest rates steady and indicated that no increases in short-term interest rates are expected in 2019. The FRB also announced that it will slow the pace of reducing its holdings of U.S. Treasury bonds and mortgage-backed securities and that its reduction program will come to an end at the end of September. The U.S. economy added over 500 thousand jobs during the first quarter of 2019 and the total unemployment rate fell to 3.8 percent at March 2019 as compared with 3.9 percent at December 2018.

Although the U.S. economy continued to grow in the first quarter of 2019, uncertainty concerning the future economic environment exists as growth continues to slow. The sustainability of economic growth will be determined by numerous other variables including consumer sentiment, energy prices, credit market volatility, employment levels and housing market conditions which will impact corporate earnings and the capital markets. Concerns over interest rate levels, inflation, domestic and global policy issues, U.S. trade policy and geopolitical events as well as the implications of those events on the markets in general further add to global uncertainty. Interest rate levels, in combination with global economic conditions, fiscal and monetary policy and the level of regulatory and government scrutiny of financial institutions will continue to impact our results in 2019 and beyond.

Performance, Developments and Trends The following table sets forth selected financial highlights for HUSI for the three months ended March 31, 2019 and 2018 and at March 31, 2019 and December 31, 2018:

Three Months Ended March 31,	2019	2018
	(dollars are in millions)	
Net income (loss)	\$ 109	\$ (238)
Rate of return on average:		
Total assets .....	.3%	(.5)%
Risk-weighted assets .....	.3	(.8)
Common equity	2.4	(5.2)
Tangible common equity	2.7	(5.6)
Total equity	2.3	(4.8)
Net interest margin	1.42	1.37
Efficiency ratio	78.8	120.4
Commercial net charge-off ratio ⁽¹⁾02	.06
Consumer net charge-off ratio ⁽¹⁾29	.08

⁽¹⁾ Excludes loans held for sale.

March 31, 2019 December 31, 2018

(dollars are in millions)

Additional Select Ratios:

Allowance as a percent of loans ⁽¹⁾82%	.78%
Commercial allowance as a percent of loans ⁽¹⁾96	.93
Consumer allowance as a percent of loans ⁽¹⁾45	.42
Consumer two-months-and-over contractual delinquency	2.11	2.05
Loans to deposits ratio ⁽²⁾	81.39	75.02
Common equity Tier 1 capital to risk-weighted assets	11.9	13.6
Tier 1 capital to risk-weighted assets	12.9	14.6
Total capital to risk-weighted assets.....	15.6	17.2
Tier 1 leverage ratio.....	9.6	11.0
Supplementary leverage ratio.....	6.7	7.6
Total equity to total assets	10.1	11.9

Select Balance Sheet Data:

Cash and interest bearing deposits with banks.....	\$ 21,435	\$ 17,214
Trading assets	26,101	21,978
Securities available-for-sale	32,040	31,379
Loans:		
Commercial loans.....	51,407	49,342
Consumer loans	19,627	19,636
Total loans	71,034	68,978
Deposits	113,639	110,955

⁽¹⁾ Excludes loans held for sale.

⁽²⁾ Represents period end loans, net of allowance for loan losses, as a percentage of core deposits as calculated in accordance with Federal Financial Institutions Examination Council guidelines which generally include all domestic demand, money market and other savings accounts, as well as time deposits with balances not exceeding \$250,000.

Net income (loss) was income of \$109 million during the three months ended March 31, 2019 compared with a loss of \$238 million during the three months ended March 31, 2018. Income (loss) before income tax was income of \$144 million during the three months ended March 31, 2019 compared with a loss of \$146 million during the three months ended March 31, 2018. The increase in income (loss) before income tax during the three months ended March 31, 2019 was due primarily to lower operating expenses driven by expense recorded in the prior year period related to a mortgage securitization legal matter that was settled in October 2018, partially offset by a higher provision for credit losses and lower other revenues. For additional discussion of the mortgage securitization legal matter, see Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K.

Our reported results in the prior year period was impacted by an item management believes to be significant, which distorts comparability between periods. Significant items are excluded to arrive at adjusted performance because management would ordinarily identify and consider them separately to better understand underlying business trends. The following table summarizes the impact of this significant item for all periods presented:

Three Months Ended March 31,	2019	2018
	(in millions)	
Income (loss) before income tax, as reported	\$ 144	\$ (146)
Expense related to certain mortgage loan legal matters.....	—	491
Adjusted performance ⁽¹⁾	\$ 144	\$ 345

⁽¹⁾ Represents a non-U.S. GAAP financial measure.

Excluding the impact of the item in the table above, our adjusted performance during the three months ended March 31, 2019 decreased \$201 million compared with the prior year period due primarily to a higher provision for credit losses and lower other revenues, partially offset by lower operating expenses.

See "Results of Operations" for a more detailed discussion of our operating trends. In addition, see "Balance Sheet Review" for further discussion on our asset and liability trends, "Liquidity and Capital Resources" for further discussion on funding and capital and "Credit Quality" for additional discussion on our credit trends.

In early 2019, our Board of Directors approved a distribution on our common stock of \$2.4 billion from surplus capital to HSBC North America, which was paid in February 2019.

Basis of Reporting

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP").

Group Reporting Basis We report financial information to HSBC in accordance with HSBC Group accounting and reporting policies, which apply International Financial Reporting Standards ("IFRSs") as issued by the IASB and endorsed by the EU and, as a result, our segment results are prepared and presented using financial information prepared on the basis of HSBC Group's accounting and reporting policies ("Group Reporting Basis"). Because operating results on the Group Reporting Basis are used in managing our businesses and rewarding performance of employees, our management also separately monitors profit before tax under this basis of reporting. The following table reconciles our U.S. GAAP versus Group Reporting Basis profit before tax:

Three Months Ended March 31,	2019	2018
	(in millions)	
Profit (loss) before tax – U.S. GAAP basis.....	\$ 144	\$ (146)
Adjustments:		
Expected credit losses.....	42	(47)
Precious metal loans.....	14	4
Deposit incentives.....	5	—
Loan origination.....	3	1
Pension and other postretirement benefit costs.....	(2)	(2)
Loans held for sale.....	(1)	(7)
Property.....	—	(2)
Other.....	(1)	(4)
Profit (loss) before tax – Group Reporting Basis.....	<u>\$ 204</u>	<u>\$ (203)</u>

The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 23, "Business Segments," in our 2018 Form 10-K. In addition, see Note 15, "Business Segments," in the accompanying consolidated financial statements for a discussion of significant changes since December 31, 2018 in the differences between U.S. GAAP and the Group Reporting Basis impacting our results. Differences in reported profit before tax in the table above that were individually significant for the periods presented are explained below.

During the first quarter of 2019, credit loss estimates were higher under U.S. GAAP than under the Group Reporting Basis due primarily to the impact of downgrades in the commercial loan portfolio, which was more pronounced under U.S. GAAP. In addition, expected credit losses under the Group Reporting Basis reflect a release in credit loss reserves due to the upgrade of a single oil and gas industry client which resulted in reclassification from 'stage 2' (which requires a lifetime expected credit losses estimate) to 'stage 1' (which requires a 12-month expected credit losses estimate).

During the first quarter of 2018, releases in credit loss reserves were higher under U.S. GAAP than under the Group Reporting Basis due primarily to the impact of paydowns, sales and maturities in the commercial loan portfolio where existing allowances were higher under U.S. GAAP. The releases in credit loss reserves under U.S. GAAP were partially offset by a provision for risk factors associated with geopolitical risks and market volatility inherent in certain segments of the portfolio.

Balance Sheet Review

The following table provides balance sheet totals at March 31, 2019 and increases (decreases) since December 31, 2018:

	March 31, 2019	Increase (Decrease) From December 31, 2018	
		Amount	%
(dollars are in millions)			
Period end assets:			
Short-term investments	\$ 28,359	\$ 977	3.6%
Loans, net	70,451	2,014	2.9
Loans held for sale	448	(64)	(12.5)
Trading assets	26,101	4,123	18.8
Securities	46,423	374	.8
All other assets	9,139	1,049	13.0
	<u>\$ 180,921</u>	<u>\$ 8,473</u>	<u>4.9%</u>
Period end liabilities and equity:			
Total deposits	\$ 113,639	\$ 2,684	2.4%
Trading liabilities	3,908	265	7.3
Short-term borrowings	9,567	5,387	*
Long-term debt.....	31,475	847	2.8
Interest, taxes and other liabilities.....	4,011	1,475	58.2
Total equity.....	18,321	(2,185)	(10.7)
	<u>\$ 180,921</u>	<u>\$ 8,473</u>	<u>4.9%</u>

* Percentage change is greater than 100 percent.

Short-Term Investments Short-term investments include cash and due from banks, interest bearing deposits with banks and federal funds sold and securities purchased under agreements to resell. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity. Short-term investments increased modestly compared with December 31, 2018 driven by our conservative liquidity management practices, where we raise funds in advance of their usage and opportunistically deploy them to maximize returns.

Loans, Net The following table summarizes our loan balances at March 31, 2019 and increases (decreases) since December 31, 2018:

	March 31, 2019	Increase (Decrease) From December 31, 2018	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Real estate, including construction	\$ 11,290	\$ (54)	(.5)%
Business and corporate banking	13,650	584	4.5
Global banking ⁽¹⁾	21,417	1,250	6.2
Other commercial ⁽²⁾	5,050	285	6.0
Total commercial	<u>51,407</u>	<u>2,065</u>	<u>4.2</u>
Consumer loans:			
Residential mortgages	17,368	(15)	(.1)
Home equity mortgages	941	(41)	(4.2)
Credit cards	1,040	21	2.1
Other consumer	278	26	10.3
Total consumer	<u>19,627</u>	<u>(9)</u>	<u>—</u>
Total loans	<u>71,034</u>	<u>2,056</u>	<u>3.0</u>
Allowance for credit losses	583	42	7.8
Loans, net	<u>\$ 70,451</u>	<u>\$ 2,014</u>	<u>2.9 %</u>

⁽¹⁾ Represents large multinational firms including globally focused U.S. corporate and financial institutions, U.S. dollar lending to multinational banking clients managed by HSBC on a global basis and complex large business clients supported by GB&M relationship managers.

⁽²⁾ Includes loans to HSBC affiliates which totaled \$2,688 million and \$2,274 million at March 31, 2019 and December 31, 2018, respectively.

Commercial loans increased compared with December 31, 2018 due to new business activity as we continued to focus efforts on improving returns while applying a disciplined lending approach to grow the business and, to a lesser extent, higher loans to affiliates. The growth in commercial non-affiliate loans was primarily in the entertainment, energy, capital good, and diversified financial industries, partially offset by a decrease in the banking industry.

Consumer loans were flat compared with December 31, 2018 as a continued decline in home equity mortgages due to net paydowns were offset by higher credit card receivables reflecting growth in customer activity driven by new product promotions as well as an increase in other consumer loans. The increase in other consumer loans reflects a transfer of certain student loans from held for sale to held for investment as discussed below, partially offset by paydowns.

The following table presents loan-to-value ("LTV") ratios for our residential mortgage loan portfolio, excluding mortgage loans held for sale:

	LTV Ratios ⁽¹⁾⁽²⁾			
	March 31, 2019		December 31, 2018	
	First Lien	Second Lien	First Lien	Second Lien
LTV < 80%	98.5%	95.4%	98.4%	94.1%
80% ≤ LTV < 90%	1.1	3.5	1.1	4.4
90% ≤ LTV < 100% .....	.2	.8	.3	1.2
LTV ≥ 100% .....	.2	.3	.2	.3
Average LTV for portfolio	48.8	47.5	49.1	48.7

⁽¹⁾ LTVs for first liens are calculated using the loan balance as of the reporting date. LTVs for second liens are calculated using the loan balance as of the reporting date plus the senior lien amount at origination. Current estimated property values are derived from the property's appraised value at the time of loan origination updated by the change in the Federal Housing Finance Agency's house pricing index ("HPI") at either a Core Based Statistical Area or state level. The estimated value of the homes could differ from actual fair values due to changes in condition of the underlying property, variations in housing price changes within metropolitan statistical areas and other factors. As a result, actual property values associated with loans that end in foreclosure may be significantly lower than the estimates used for purposes of this disclosure.

- ⁽²⁾ Current estimated property values are calculated using the most current HPIs available and applied on an individual loan basis, which results in an approximate three month delay in the production of reportable statistics. Therefore, the information in the table above reflects current estimated property values using HPIs at December 31, 2018 and September 30, 2018, respectively.

Loans Held for Sale The following table summarizes loans held for sale at March 31, 2019 and increases (decreases) since December 31, 2018:

	March 31, 2019	Increase (Decrease) From December 31, 2018	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Real estate, including construction	\$ 33	\$ 6	22.2 %
Global banking	383	16	4.4
Total commercial.....	<u>416</u>	<u>22</u>	<u>5.6</u>
Consumer loans:			
Residential mortgages	32	(33)	(50.8)
Other consumer	—	(53)	(100.0)
Total consumer	<u>32</u>	<u>(86)</u>	<u>(72.9)</u>
Total loans held for sale.....	<u>\$ 448</u>	<u>\$ (64)</u>	<u>(12.5)%</u>

Commercial loans held for sale increased compared with December 31, 2018. Included in commercial loans held for sale are certain loans that we no longer intend to hold for investment and transferred to held for sale which totaled \$318 million and \$285 million at March 31, 2019 and December 31, 2018, respectively.

Commercial loans held for sale also includes certain loans that we have elected to designate under the fair value option which consists of loans that we originate in connection with our participation in a number of syndicated credit facilities with the intent of selling them to unaffiliated third parties as well as loans that we purchase from the secondary market and hold as hedges against our exposure to certain total return swaps. The fair value of these loans totaled \$98 million and \$109 million at March 31, 2019 and December 31, 2018, respectively. Balances will fluctuate from period to period depending on the volume and level of activity.

Consumer loans held for sale decreased compared with December 31, 2018. Included in residential mortgage loans held for sale are agency-eligible residential mortgage loans which are originated and held for sale to third parties, currently on a servicing retained basis. Balances will fluctuate from period to period depending on the volume and level of activity. Gains and losses from the sale of these residential mortgage loans are reflected as a component of other income (loss) in the accompanying consolidated statement of income (loss).

During the first quarter of 2019, we transferred \$53 million of student loans that were previously classified as other consumer loans held for sale back to held for investment as we now intend to hold these loans for the foreseeable future.

Excluding the commercial loans designated under fair value option discussed above, loans held for sale are recorded at the lower of amortized cost or fair value, with adjustments to fair value being recorded as a valuation allowance through other revenues. The valuation allowance on consumer loans held for sale was \$2 million and \$4 million at March 31, 2019 and December 31, 2018, respectively. The valuation allowance on commercial loans held for sale was nil and \$3 million at March 31, 2019 and December 31, 2018, respectively.

Trading Assets and Liabilities The following table summarizes trading assets and liabilities at March 31, 2019 and increases (decreases) since December 31, 2018:

	March 31, 2019	Increase (Decrease) From December 31, 2018	
		Amount	%
(dollars are in millions)			
Trading assets:			
Securities ⁽¹⁾	\$ 17,978	\$ 937	5.5 %
Precious metals	5,127	3,238	*
Derivatives, net	2,996	(52)	(1.7)
	<u>\$ 26,101</u>	<u>\$ 4,123</u>	<u>18.8 %</u>
Trading liabilities:			
Securities sold, not yet purchased	\$ 687	\$ (51)	(6.9)%
Payables for precious metals	38	(177)	(82.3)
Derivatives, net	3,183	493	18.3
	<u>\$ 3,908</u>	<u>\$ 265</u>	<u>7.3 %</u>

* Percentage change is greater than 100 percent.

⁽¹⁾ See Note 2, "Trading Assets and Liabilities," in the accompanying consolidated financial statements for a breakout of trading securities by category.

Trading securities balances increased compared with December 31, 2018 due primarily to increases in foreign sovereign and U.S. Treasury positions. Trading security positions are held as economic hedges of interest rate, credit and equity derivative products issued to clients of domestic and emerging markets. This increase was partially offset by a decrease in corporate bond positions reflecting the unwind of one of our unconsolidated variable interest entities ("VIEs") which resulted in the termination of our investment in the VIE along with the related derivatives during the first quarter of 2019. At the time of unwind, our investment in the VIE had a total carrying value of \$1,293 million. Balances of securities sold, not yet purchased were lower compared with December 31, 2018 driven by a decrease in short U.S. Treasury positions related to economic hedges of derivatives in the interest rate trading portfolio.

Precious metals trading assets increased compared with December 31, 2018 due to increases in our own silver and gold inventory positions due primarily to a redeployment of liquidity in the short term which is economically hedged with derivative positions to protect against changes in market pricing and, to a lesser extent, an increase in positions held as hedges for client activity. Payables for precious metals were lower compared with December 31, 2018 reflecting a decline in borrowing of gold inventory to support client activity levels. Precious metal positions may not represent our net underlying exposure as we may use derivatives contracts to reduce our risk associated with these positions, the fair value of which would appear in derivatives in the table above.

Derivative asset balances were relatively flat while derivative liability balances increased compared with December 31, 2018 as lower balances from market movements and the termination of derivatives associated with the unwind of an unconsolidated VIE as discussed above were offset by the impact of lower netting of outstanding positions. The increase in derivative liability positions also reflects the impact of lower netting of cash collateral posted. Market movements resulted in lower valuations of foreign exchange and commodity derivatives, partially offset by higher valuations of equity, credit and interest rate derivatives.

Securities Securities include securities available-for-sale and securities held-to-maturity. Securities balances were relatively flat compared with December 31, 2018 as net purchases of U.S. Treasury and U.S. Government agency mortgage-backed securities were largely offset by a decline in foreign sovereign securities as part of our continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes.

All Other Assets All other assets includes, among other items, properties and equipment, net and goodwill. All other assets increased compared with December 31, 2018 due primarily to higher lease assets and higher outstanding settlement balances related to security sales. As discussed more fully in Note 21, "New Accounting Pronouncements," in the accompanying consolidated financial statements, the adoption of new accounting guidance resulted in a gross-up of our balance sheet to recognize lease liabilities and corresponding right-of-use assets for operating leases as of January 1, 2019. These increases were partially offset by lower margin requirements related to futures trading and lower cash collateral posted.

Deposits The following table summarizes deposit balances by major depositor categories at March 31, 2019 and increases (decreases) since December 31, 2018:

	March 31, 2019	Increase (Decrease) From December 31, 2018	
		Amount	%
(dollars are in millions)			
Individuals, partnerships and corporations.....	\$ 99,476	\$ 3,963	4.1 %
Domestic and foreign banks	11,064	(1,062)	(8.8)
U.S. government and states and political subdivisions	486	54	12.5
Foreign governments and official institutions	2,604	(270)	(9.4)
Deposits held for sale ⁽¹⁾	9	(1)	(10.0)
Total deposits.....	<u>\$ 113,639</u>	<u>\$ 2,684</u>	<u>2.4 %</u>
Total core deposits ⁽²⁾	<u>\$ 87,112</u>	<u>\$ (4,797)</u>	<u>(5.2)%</u>

⁽¹⁾ Represents deposits associated with the sale of a portion of our Private Banking business.

⁽²⁾ Core deposits, as calculated in accordance with Federal Financial Institutions Examination Council ("FFIEC") guidelines, generally include all domestic demand, money market and other savings accounts, as well as time deposits with balances not exceeding \$250,000.

Total deposits increased compared with December 31, 2018 due to an increase in wholesale time deposits driven by new issuances, higher deposits from affiliates and increased retail deposits driven by promotional rates offered on savings accounts and certificates of deposit. These increases were partially offset by lower commercial demand and savings deposits due primarily to the impact of seasonality as clients managed their cash needs at year-end and, to a lesser extent, volatility reflecting competitive pressures in a rising interest rate environment. Deposits were also lower in Private Banking reflecting withdrawals from a few large clients. We continue to actively manage our balance sheet to increase profitability while maintaining adequate liquidity.

Short-Term Borrowings Short-term borrowings were higher compared with December 31, 2018 due primarily to increases in federal funds purchased and securities sold under repurchase agreements resulting from the management of our short-term funding positions. We continue to actively manage our balance sheet to increase profitability while maintaining adequate liquidity.

Long-Term Debt Long-term debt increased compared with December 31, 2018 due primarily to fair value movements on fair value option debt. Debt issuances during the three months ended March 31, 2019 totaled \$1,829 million, of which \$1,192 million was issued by HSBC Bank USA.

Incremental issuances from our shelf registration statement with the SEC totaled \$637 million of senior structured notes during the three months ended March 31, 2019. Total long-term debt outstanding under this shelf was \$16,180 million and \$16,249 million at March 31, 2019 and December 31, 2018, respectively.

Incremental issuances from the HSBC Bank USA Global Bank Note Program totaled \$192 million during the three months ended March 31, 2019. Total debt outstanding under this program was \$4,409 million and \$4,493 million at March 31, 2019 and December 31, 2018, respectively.

Borrowings from the Federal Home Loan Bank of New York ("FHLB") totaled \$2,000 million and \$2,100 million at March 31, 2019 and December 31, 2018, respectively.

Interest, Taxes and Other Liabilities Interest, taxes and other liabilities increased compared with December 31, 2018 due primarily to higher outstanding settlement balances related to security purchases, higher lease liabilities due to the adoption of new accounting guidance as discussed above and higher margin requirements related to futures trading. These increases were partially offset by lower tax liabilities.

Total Equity During the first quarter of 2019, we paid a distribution on our common stock of \$2.4 billion from surplus capital to HSBC North America. See Note 16, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements for additional details.

Results of Operations

Net Interest Income Net interest income is the total interest income on earning assets less the total interest expense on deposits and borrowed funds. An analysis of consolidated average balances and interest rates is presented in this MD&A under the caption "Consolidated Average Balances and Interest Rates."

The significant components of net interest margin are summarized in the following table:

Three Months Ended March 31,	2019	2019 Compared with 2018 Increase (Decrease)		2018
		Volume	Rate	
(dollars are in millions)				
Interest income:				
Short-term investments	\$ 176	\$ (63)	\$ 81	\$ 158
Trading securities	63	21	(7)	49
Securities	304	9	42	253
Commercial loans	522	15	93	414
Consumer loans	194	1	9	184
Other	18	(5)	7	16
Total interest income	<u>1,277</u>	<u>(22)</u>	<u>225</u>	<u>1,074</u>
Interest expense:				
Deposits	333	(13)	124	222
Short-term borrowings	62	6	23	33
Long-term debt	312	(17)	72	257
Tax liabilities and other	8	(4)	2	10
Total interest expense	<u>715</u>	<u>(28)</u>	<u>221</u>	<u>522</u>
Net interest income	<u>\$ 562</u>	<u>\$ 6</u>	<u>\$ 4</u>	<u>\$ 552</u>
Yield on total interest earning assets	3.22%			2.66%
Cost of total interest bearing liabilities	2.31			1.60
Interest rate spread .....	.91			1.06
Benefit from net non-interest paying funds ⁽¹⁾51			.31
Net interest margin on average earning assets	<u>1.42%</u>			<u>1.37%</u>

⁽¹⁾ Represents the benefit associated with interest earning assets in excess of interest bearing liabilities. Increased percentages reflect growth in this excess or a higher cost of interest bearing liabilities, while decreased percentages reflect a reduction in this excess or a lower cost of interest bearing liabilities.

Net interest income increased slightly during the three months ended March 31, 2019 as the favorable net impact of higher market rates was largely offset by the unfavorable impact of lower average short-term investment and deposit balances. Higher market rates resulted in higher interest income from short-term investments, securities and loans, partially offset by higher interest expense from deposits, short-term borrowings and long-term debt.

Short-term investments Interest income increased during the three months ended March 31, 2019 due to higher yields earned on these investments, partially offset by lower average balances.

Trading securities Interest income increased during the three months ended March 31, 2019 due to higher average balances reflecting a redeployment of liquidity to trading security positions. The increase in balances was primarily in lower yielding foreign sovereign positions which resulted in a shift in mix and a lower yield overall. Securities in the trading portfolio are managed as economic hedges against the derivative activity of our clients. As a result, interest income associated with trading securities was partially offset within trading revenue by the performance of the associated derivatives as discussed further below.

Securities Interest income increased during the three months ended March 31, 2019 due to higher yields and, to a lesser extent, higher average balances. The increase in balances was driven primarily by net purchases of foreign sovereign and U.S. Government sponsored mortgage-backed securities, partially offset by net sales of U.S. Treasury securities.

Commercial loans Interest income was higher during the three months ended March 31, 2019 due to higher yields driven by rate increases on variable rate products and, to a lesser extent, higher average balances due to loan growth.

Consumer loans Interest income increased during the three months ended March 31, 2019 due primarily to higher yields on residential mortgages.

Other Higher interest income during the three months ended March 31, 2019 reflects higher yields on cash collateral posted, partially offset by lower average cash collateral balances.

Deposits Interest expense increased during the three months ended March 31, 2019 due primarily to higher rates paid reflecting the impact of rate increases on wholesale deposits and promotional rates offered to our retail customers on savings accounts and certificates of deposit. The increase was partially offset by lower average interest-bearing deposit balances due to lower savings and demand deposits driven by volatility reflecting competitive pressures in a rising interest rate environment and the attrition of retail balances associated with previous promotional rate campaigns. Also contributing to the decrease in average interest-bearing deposit balances was lower deposits from affiliates and lower deposits in Private Banking.

Short-term borrowings Higher interest expense during the three months ended March 31, 2019 was due to higher rates paid on these borrowings and, to a lesser extent, higher average borrowings. Higher average borrowings reflect increases in commercial paper and federal funds purchased, partially offset by a decline in securities sold under repurchase agreements.

Long-term debt Interest expense was higher during the three months ended March 31, 2019 due to higher rates paid reflecting the impact of rate increases on variable rate borrowings, partially offset by lower average borrowings.

Tax liabilities and other Interest expense decreased during the three months ended March 31, 2019 driven by lower average borrowings in securities sold, not yet repurchased, partially offset by higher rates paid on these borrowings.

Provision for Credit Losses The following table summarizes the provision for credit losses associated with our various loan portfolios:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Commercial:				
Real estate, including construction	\$ 3	\$ 10	\$ (7)	(70.0)%
Business and corporate banking	22	(34)	56	*
Global banking.....	14	(49)	63	*
Other commercial	—	1	(1)	(100.0)
Total commercial	<u>39</u>	<u>(72)</u>	<u>111</u>	<u>*</u>
Consumer:				
Residential mortgages.....	(1)	(10)	9	90.0
Home equity mortgages.....	1	(1)	2	*
Credit cards.....	16	12	4	33.3
Other consumer.....	3	—	3	*
Total consumer.....	<u>19</u>	<u>1</u>	<u>18</u>	<u>*</u>
Total provision for credit losses.....	<u>\$ 58</u>	<u>\$ (71)</u>	<u>\$ 129</u>	<u>*</u>
Provision as a percentage of average loans	<u>.3%</u>	<u>(.4)%</u>		

* Percentage change is greater than 100 percent.

Our provision for credit losses increased \$129 million during the three months ended March 31, 2019 due to a higher provision for credit losses in both our commercial and consumer loan portfolios. During the three months ended March 31, 2019, we increased our allowance for credit losses as the provision for credit losses was higher than net charge-offs by \$42 million.

The provision for credit losses in our commercial loan portfolio increased \$111 million during the three months ended March 31, 2019 reflecting a loss provision in the current year period compared with a release in credit loss reserves in the prior year period. The loss provision in the current year period was driven by downgrades reflecting weakness in the financial condition of certain client relationships and loan growth which were partially offset by releases in credit loss reserves due to paydowns. In the prior year period, the release in credit loss reserves reflected improvements in the credit quality of our portfolio driven by paydowns, sales and maturities as we focused efforts on improving returns as well as improvements in credit conditions associated with certain

clients at that time. The release in the prior year period was partially offset by a provision for risk factors associated with geopolitical risks and market volatility inherent in certain segments of the portfolio.

The provision for credit losses in our consumer loan portfolio was higher by \$18 million during the three months ended March 31, 2019 due largely to a lower release in the provision for credit losses on residential mortgages as the positive impact of improvements in economic and credit conditions was more pronounced in the prior year period. Also contributing to the increase was a higher provision for credit losses on credit cards reflecting growth in customer activity driven by new product promotions along with an associated increase in dollars of delinquency as well as a higher provision for credit losses in other consumer loans driven by deterioration in early stage delinquency roll rates.

Our methodology and accounting policies related to the allowance for credit losses are presented in our 2018 Form 10-K under the caption "Critical Accounting Policies and Estimates" and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements." See "Credit Quality" in this MD&A for additional discussion on the allowance for credit losses associated with our various loan portfolios.

Other Revenues The following table summarizes the components of other revenues:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
			(in millions)	
Credit card fees, net	\$ 12	\$ 11	\$ 1	9.1 %
Trust and investment management fees	30	38	(8)	(21.1)
Other fees and commissions	147	160	(13)	(8.1)
Trading revenue	133	163	(30)	(18.4)
Other securities gains, net	7	5	2	40.0
Servicing and other fees from HSBC affiliates.....	81	99	(18)	(18.2)
Gain (loss) on instruments designated at fair value and related derivatives	(9)	30	(39)	*
Other income (loss):				
Valuation of loans held for sale.....	—	3	(3)	(100.0)
Residential mortgage banking expense.....	(2)	—	(2)	*
Insurance	2	3	(1)	(33.3)
Miscellaneous income (loss).....	(11)	1	(12)	*
Total other income (loss).....	(11)	7	(18)	*
Total other revenues	\$ 390	\$ 513	\$ (123)	(24.0)%

* Percentage change is greater than 100 percent.

Credit card fees, net Credit card fees, net were relatively flat during the three months ended March 31, 2019.

Trust and investment management fees Trust and investment management fees decreased during the three months ended March 31, 2019 due to lower average assets under management driven in part by negative market performance as well as the impact of the client referral agreement with UBS Wealth Management Americas ("UBS").

Other fees and commissions Other fees and commissions decreased during the three months ended March 31, 2019 due to lower loan syndication fees and a decline in wire transfer fees. See Note 13, "Fee Income from Contracts with Customers," in the accompanying consolidated financial statements for additional information including a summary of the components of other fees and commissions.

Trading revenue Trading revenue is generated by participation in the foreign exchange, rates, credit, equities and precious metals markets. The following table presents trading revenue by business activity. Not included in the table below is the impact on net interest income associated with trading securities which is an integral part of trading activities' overall performance. Net interest income related to trading activities is recorded in net interest income in the consolidated statement of income (loss). Trading revenue related to the mortgage banking business are included as a component of other income (loss).

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
	(in millions)			
Business Activities:				
Derivatives ⁽¹⁾⁽²⁾	\$ 28	\$ 26	\$ 2	7.7 %
Foreign Exchange	44	58	(14)	(24.1)
Metals	38	72	(34)	(47.2)
Balance Sheet Management	11	8	3	37.5
Global Banking	—	(1)	1	100.0
Other trading	12	—	12	*
Total trading revenue	<u>\$ 133</u>	<u>\$ 163</u>	<u>\$ (30)</u>	<u>(18.4)%</u>

* Percentage change is greater than 100 percent.

(1) Includes derivative contracts related to the Credit, Rates and Equities business activities within Global Markets as well as our legacy structured credit products. Derivative contracts related to the Foreign Exchange and Metals business activities within Global Markets as well as derivative products related to Balance Sheet Management, Global Banking and other trading are reported separately within those respective business activities.

(2) Derivatives trading revenue in all periods does not reflect associated net interest income as certain derivatives, such as total return swaps, were economically hedged by holding the underlying interest bearing referenced assets.

During the first quarter of 2019, one of our unconsolidated VIEs was unwound and our investment in the VIE along with the related derivatives were terminated resulting in a loss of approximately \$39 million, reflecting a payment made to the derivative counterparty as a result of the termination. Excluding this item, trading revenue increased during the three months ended March 31, 2019 driven by higher Derivatives revenue due primarily to emerging markets rate products as well as higher Other trading revenue which reflects the impact of favorable funding spreads in the current year period. These increases were partially offset by a decline in Metals revenue due primarily to a lower redeployment of liquidity in the short term to Metals and lower trading activity as well as a decline in Foreign Exchange revenue reflecting the impact of market conditions.

Other securities gains, net We maintain securities portfolios as part of our balance sheet diversification and risk management strategies. During the three months ended March 31, 2019 and 2018, we sold \$2,145 million and \$987 million, respectively, of primarily U.S. Treasury, U.S. Government agency mortgage-backed and U.S. Government sponsored mortgage-backed securities as part of a continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes. Other securities gains, net increased slightly during the three months ended March 31, 2019 reflecting the impact of higher sales activity. The gross realized gains and losses from sales of securities, which is included as a component of other securities gains, net above, are summarized in Note 3, "Securities," in the accompanying consolidated financial statements.

Servicing and other fees from HSBC affiliates Servicing and other fees from HSBC affiliates decreased during the three months ended March 31, 2019 due primarily to lower cost reimbursements associated with shared service activities performed on behalf of other HSBC affiliates, including the non-recurrence of approximately \$10 million of cost reimbursements recorded in the prior year period associated with enhancing the HSBC Group's digital banking platform, as well as lower performance fees associated with trading activities performed on behalf of HSBC Bank plc.

Gain (loss) on instruments designated at fair value and related derivatives We have elected to apply fair value option accounting to certain commercial loans held for sale, certain securities purchased and sold under resale and repurchase agreements, certain of our own fixed-rate debt issuances and all of our hybrid instruments issued, including structured notes and deposits. We also use derivatives to economically hedge the interest rate and other risks associated with certain financial liabilities for which fair value option accounting has been elected. Gain (loss) on instruments designated at fair value and related derivatives was lower during the three months ended March 31, 2019 attributable primarily to unfavorable movements related to the economic hedging of interest rate and other risks within our own debt and structured notes. See Note 10, "Fair Value Option," in the accompanying consolidated financial statements for additional information including a breakout of these amounts by individual component.

Other income (loss) Beginning January 1, 2019, fair value hedge ineffectiveness is recorded in net interest income. Excluding this item, which resulted in a gain of \$6 million during the three months ended March 31, 2018, other income (loss) remained lower during the three months ended March 31, 2019 due primarily to higher losses associated with credit default swap protection which largely reflects the hedging of a single client relationship, lower valuation gains on loans held for sale and higher residential

mortgage banking expense driven by the non-recurrence of an early termination fee received in the prior year period from PHH Mortgage Corporation. These decreases were partially offset by higher income associated with bank owned life insurance.

Operating Expenses The following table summarizes the components of operating expenses:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Salaries and employee benefits.....	\$ 210	\$ 207	\$ 3	1.4 %
Support services from HSBC affiliates:				
Fees paid to HTSU	277	298	(21)	(7.0)
Fees paid to HSBC Markets (USA) Inc. ("HMUS").....	27	31	(4)	(12.9)
Fees paid to other HSBC affiliates.....	76	82	(6)	(7.3)
Total support services from HSBC affiliates.....	380	411	(31)	(7.5)
Occupancy expense, net.....	45	43	2	4.7
Other expenses:				
Equipment and software.....	19	11	8	72.7
Marketing	36	28	8	28.6
Outside services	16	16	—	—
Professional fees	11	22	(11)	(50.0)
Off-balance sheet credit reserves	(7)	(2)	(5)	*
Federal Deposit Insurance Corporation ("FDIC") assessment fees	8	33	(25)	(75.8)
Expense related to legal matters.....	—	494	(494)	(100.0)
Miscellaneous.....	32	19	13	68.4
Total other expenses.....	115	621	(506)	(81.5)
Total operating expenses.....	\$ 750	\$ 1,282	\$ (532)	(41.5)%
Personnel - average number.....	4,730	4,784		
Efficiency ratio.....	78.8%	120.4%		

* Percentage change is greater than 100 percent.

Salaries and employee benefits Salaries and employee benefits expense increased slightly during the three months ended March 31, 2019 as higher incentive compensation expense was largely offset by a health care cost reimbursement recorded during the first quarter of 2019. In addition, while continued cost management efforts including targeted staff reductions to optimize staffing and improve efficiency resulted in a decline in the average number of personnel, the impact of these reductions was largely offset by the addition of personnel associated with growth initiatives in certain businesses.

Support services from HSBC affiliates Support services from HSBC affiliates decreased during the three months ended March 31, 2019 due primarily to lower cost allocations in our technology, risk and compliance support service functions as well as lower costs associated with business systems reflecting the completion of certain projects. A summary of the activities charged to us from various HSBC affiliates is included in Note 14, "Related Party Transactions," in the accompanying consolidated financial statements.

Occupancy expense, net Prior to 2019, occupancy expense was impacted by the amortization of the deferred gain associated with the sale and leaseback of our 452 Fifth Avenue property, which resulted in the recognition of a gain of \$2 million during the three months ended March 31, 2018. In January 2019, we adopted new accounting guidance which resulted in a cumulative effect adjustment to recognize the previously deferred gain in retained earnings on January 1, 2019. Excluding this item, occupancy expense was flat during the three months ended March 31, 2019.

Other expenses Other expenses were lower during the three months ended March 31, 2019 due primarily to lower expense related to legal matters driven by expense recorded in the prior year period related to a mortgage securitization matter that was settled in October 2018 and, to a lesser extent, lower deposit insurance assessment fees and lower professional fees. For additional discussion of the mortgage securitization legal matter, see Note 28, "Litigation and Regulatory Matters," in our 2018 Form 10-K. These decreases were partially offset by lower levels of expense capitalization related to internally developed software, higher losses associated with card fraud, higher marketing expense and higher capitalized software amortization expense.

Efficiency ratio Our efficiency ratio improved during the three months ended March 31, 2019 due primarily to lower operating expenses, partially offset by lower other revenues as discussed in detail above.

Income tax expense The following table provides an analysis of the difference between effective rates based on the provision for income taxes attributable to pretax income (loss) and the statutory U.S. Federal income tax rate:

Three Months Ended March 31,	2019		2018	
	(dollars are in millions)			
Tax expense (benefit) at the U.S. Federal statutory income tax rate.....	\$ 30	21.0%	\$ (31)	(21.0)%
Increase (decrease) in rate resulting from:				
State and local taxes, net of Federal benefit.....	5	3.5	12	8.2
Non-deductible FDIC assessment fees.....	2	1.4	12	8.2
Other non-deductible / non-taxable items ⁽¹⁾	—	—	100	68.5
Low income housing and other tax credit investments.....	(3)	(2.1)	(1)	(.9)
Other.....	1	.5	—	—
Provision for income taxes.....	<u>\$ 35</u>	<u>24.3%</u>	<u>\$ 92</u>	<u>63.0 %</u>

⁽¹⁾ For 2018, the amount relates to the accrual of non-deductible expense related to legal matters.

The Tax Cuts and Jobs Act ("Tax Legislation"), which was enacted in 2017, contains certain complex provisions such as the Base Erosion and Anti-Abuse Tax ("BEAT"), which may have a material impact in future periods on income tax expense and taxes payable for the HSBC North America consolidated tax group, of which we are a member. In December 2018, the Internal Revenue Service and the Treasury Department issued proposed regulations (the "Proposed Regulations") related to the BEAT, which provided guidance and clarified some of the key aspects of this tax which were not addressed in the Tax Legislation. Based on our current interpretation of the Tax Legislation and the Proposed Regulations, the HSBC North America consolidated tax group has not recorded a liability for the BEAT as of March 31, 2019. We continue to evaluate the BEAT provisions, including the Proposed Regulations and their potential impact, which remains uncertain and will depend upon the issuance of final treasury regulations, actions HSBC North America or its affiliates may take as a result of the Tax Legislation and the future earnings of HUSI and other subsidiaries of HSBC North America. Although our analysis is ongoing and could change depending upon the factors discussed above, we currently do not anticipate a material impact on HUSI's financial position or results of operations from the BEAT.

Segment Results – Group Reporting Basis

We have five distinct business segments that we utilize for management reporting and analysis purposes, which are aligned with HSBC's global business strategy: Retail Banking and Wealth Management ("RBWM"), Commercial Banking ("CMB"), Global Banking and Markets ("GB&M"), Private Banking ("PB") and a Corporate Center ("CC"). See Item 1, "Business," in our 2018 Form 10-K for a description of our segments, which are based upon our global businesses, including a discussion of the main business activities of the segments and a summary of their products and services. There have been no changes in the basis of our segmentation as compared with the presentation in our 2018 Form 10-K.

Net interest income of each segment represents the difference between actual interest earned on assets and interest incurred on liabilities of the segment, adjusted for a funding charge or credit that includes both interest rate and liquidity components. Segments are charged a cost to fund assets (e.g. customer loans) and receive a funding credit for funds provided (e.g. customer deposits) based on equivalent market rates that incorporate both repricing (interest rate risk) and tenor (liquidity) characteristics. The objective of these charges/credits is to transfer interest rate risk from the segments to one centralized unit in Balance Sheet Management, recognize term funding costs/benefits and more appropriately reflect the profitability of the segments.

Certain other revenue and operating expense amounts are also apportioned among the business segments based upon the benefits derived from this activity or the relationship of this activity to other segment activity. These inter-segment transactions have not been eliminated, and we generally account for them as if they were with third parties.

We report financial information to our parent, HSBC, in accordance with HSBC Group accounting and reporting policies, which apply IFRS issued by the IASB and endorsed by the EU, and, as a result, our segment results are prepared and presented using financial information prepared on the Group Reporting Basis as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources, such as employees, are primarily made on this basis. We continue, however, to monitor capital adequacy and report to regulatory agencies on a U.S. GAAP basis.

There have been no changes in the measurement of segment profit as compared with the presentation in our 2018 Form 10-K.

The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 23, "Business Segments," in our 2018 Form 10-K. In addition, see Note 15, "Business Segments," in the accompanying consolidated financial statements for a discussion of significant changes since December 31, 2018 in the differences between U.S. GAAP and the Group Reporting Basis impacting our results.

Retail Banking and Wealth Management The following table summarizes the Group Reporting Basis results for our RBWM segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 221	\$ 216	\$ 5	2.3%
Other operating income.....	65	93	(28)	(30.1)
Total operating income ⁽¹⁾	286	309	(23)	(7.4)
Expected credit losses	21	3	18	*
Net operating income	265	306	(41)	(13.4)
Operating expenses	311	325	(14)	(4.3)
Loss before tax.....	\$ (46)	\$ (19)	\$ (27)	*

* Percentage change is greater than 100 percent.

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our RBWM segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Current accounts, savings and deposits	\$ 173	\$ 172	\$ 1	.6 %
Mortgages, credit cards and other personal lending.....	52	58	(6)	(10.3)
Wealth and asset management products	23	31	(8)	(25.8)
Retail business banking and other ⁽²⁾	38	48	(10)	(20.8)
Total operating income	\$ 286	\$ 309	\$ (23)	(7.4)%

⁽²⁾ Includes cost reimbursements associated with activities performed on behalf of other HSBC affiliates.

Our RBWM segment reported a higher loss before tax during the three months ended March 31, 2019 due to lower other operating income and higher expected credit losses, partially offset by lower operating expenses and higher net interest income.

Net interest income increased slightly during the three months ended March 31, 2019 as higher net interest income from deposits driven by improved spreads was largely offset by lower net interest income from lending driven by a continued decline in home equity mortgages and lower spreads.

Other operating income decreased during the three months ended March 31, 2019 due primarily to lower cost reimbursements associated with shared service activities performed on behalf of other HSBC affiliates, including the non-recurrence of approximately \$10 million of cost reimbursements recorded in the prior year period associated with enhancing the HSBC Group's digital banking platform. The decrease also reflects lower asset management fees due to lower average assets under management driven in part by negative market performance as well as the non-recurrence of an early termination fee received in the prior year period from PHH Mortgage Corporation.

Expected credit losses were higher during the three months ended March 31, 2019 due primarily to higher expected credit losses in credit cards reflecting growth in customer activity driven by new product promotions along with an associated increase in dollars of delinquency as well as higher expected credit losses in residential mortgages as the positive impact of improvements in economic and credit conditions was more pronounced in the prior year period.

Operating expenses decreased during the three months ended March 31, 2019 due to lower cost allocations from affiliates in our risk and compliance support service functions, lower deposit insurance assessment fees and lower legal costs, partially offset by higher losses associated with card fraud and higher marketing expense.

Commercial Banking The following table summarizes the Group Reporting Basis results for our CMB segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 201	\$ 186	\$ 15	8.1%
Other operating income.....	58	55	3	5.5
Total operating income ⁽¹⁾	259	241	18	7.5
Expected credit losses	6	(10)	16	*
Net operating income	253	251	2	.8
Operating expenses	138	151	(13)	(8.6)
Profit before tax	\$ 115	\$ 100	\$ 15	15.0%

* Percentage change is greater than 100 percent.

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our CMB segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Lending and Transaction Management	\$ 110	\$ 108	\$ 2	1.9%
Global Liquidity and Cash Management, current accounts and savings deposits	116	109	7	6.4
Global Trade and Receivables Finance	12	12	—	—
Investment banking products and other.....	21	12	9	75.0
Total operating income	\$ 259	\$ 241	\$ 18	7.5%

Our CMB segment reported a higher profit before tax during the three months ended March 31, 2019 due primarily to higher net interest income and lower operating expenses, partially offset by higher expected credit losses.

Net interest income increased during the three months ended March 31, 2019 due to the favorable impact of higher loan balances as we continued to focus efforts on improving returns while applying a disciplined lending approach to grow the business as well as improved spreads from rate increases.

Other operating income increased slightly during the three months ended March 31, 2019 due primarily to higher collaboration revenue, credit facility fees and Global Liquidity and Cash Management fees.

Expected credit losses were higher during the three months ended March 31, 2019 due to downgrades reflecting weakness in the financial condition of certain client relationships and loan growth compared with a release in credit loss reserves in the prior year period reflecting improvements in credit conditions associated with certain clients at that time as well as releases of reserves due to paydowns, sales and maturities.

Operating expenses decreased during the three months ended March 31, 2019 due primarily to lower cost allocations from affiliates in our technology, risk and compliance support service functions and lower deposit insurance assessment fees, partially offset by higher staff costs.

Global Banking and Markets The following table summarizes the Group Reporting Basis results for our GB&M segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 151	\$ 149	\$ 2	1.3 %
Other operating income.....	175	197	(22)	(11.2)
Total operating income ⁽¹⁾	326	346	(20)	(5.8)
Expected credit losses	(17)	(14)	(3)	(21.4)
Net operating income	343	360	(17)	(4.7)
Operating expenses	206	216	(10)	(4.6)
Profit before tax	\$ 137	\$ 144	\$ (7)	(4.9)%

* Percentage change is greater than 100 percent.

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our GB&M segment. For purposes of the discussion below the table, total operating income is referred to as revenue.

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Credit	\$ 9	\$ 12	\$ (3)	(25.0)%
Rates	20	6	14	*
Foreign Exchange and Metals	65	84	(19)	(22.6)
Equities	3	12	(9)	(75.0)
Total Global Markets	97	114	(17)	(14.9)
Global Banking.....	73	89	(16)	(18.0)
Global Liquidity and Cash Management.....	126	133	(7)	(5.3)
Securities Services.....	16	17	(1)	(5.9)
Global Trade and Receivables Finance	15	14	1	7.1
Credit and funding valuation adjustments.....	13	4	9	*
Other ⁽²⁾	(14)	(25)	11	44.0
Total operating income	\$ 326	\$ 346	\$ (20)	(5.8)%

⁽²⁾ Includes cost reimbursements associated with activities performed on behalf of other HSBC affiliates and certain corporate funding charges not assigned to products. Beginning in the fourth quarter of 2018, we began allocating interest earned on capital, which was historically reported in Other, to the product lines in the table above and, as a result, we have reclassified prior year amounts in order to conform to the current year presentation. Reported total operating income for all periods was unaffected.

Our GB&M segment reported a lower profit before tax during the three months ended March 31, 2019 due primarily to lower other operating income, partially offset by lower operating expenses.

Credit revenue decreased during the three months ended March 31, 2019 due to lower revenue from collateralized financing related activity.

Rates revenue increased during the three months ended March 31, 2019 due to higher revenue from emerging markets rate products.

Foreign Exchange and Metals revenue decreased during the three months ended March 31, 2019 due to lower revenue in Foreign Exchange as stable client trading activity was more than offset by the impact of market conditions as well as lower revenue in Metals driven by a lower redeployment of liquidity in the short term to Metals and lower trading activity.

Equities revenue decreased during the three months ended March 31, 2019 due to lower client activity in structured equity derivatives.

Global Banking revenue decreased during the three months ended March 31, 2019 due to higher losses associated with credit default swap protection which largely reflects the hedging of a single client exposure, lower net interest income and lower loan syndication fees.

Global Liquidity and Cash Management revenue decreased during the three months ended March 31, 2019 due to lower clearing fees, lower compliance fees, an unfavorable shift in product mix and a reporting change for cost reimbursements associated with activities performed on behalf of other HSBC affiliates as discussed below. These decreases were partially offset by higher net interest income due to the favorable impact of higher short-term market rates.

Securities Services revenue was relatively flat during the three months ended March 31, 2019 as a reporting change for cost reimbursements associated with activities performed on behalf of other HSBC affiliates as discussed below was largely offset by higher revenue from additional direct custody and clearing client activity as well as higher net interest income due to the favorable impact of higher short-term market rates.

Global Trade and Receivables Finance revenue was relatively flat during the three months ended March 31, 2019.

Credit and funding valuation adjustments resulted in higher gains during the three months ended March 31, 2019 attributable primarily to movements in our own credit spreads within our derivative liability balances.

Other revenue improved during the three months ended March 31, 2019 due to lower excess liquidity charges and a reporting change for cost reimbursements associated with activities performed on behalf of other HSBC affiliates. During the second quarter of 2018, we began reporting these cost reimbursements in Other and, as a result, we reported \$8 million of cost reimbursements in Other during the three months ended March 31, 2019 that previously would have been reported in Global Liquidity and Cash Management and Securities Services above.

Expected credit losses reflected slightly higher releases during the three months ended March 31, 2019 as higher releases in credit loss reserves due to improvements in credit conditions associated with certain client relationships, including the upgrade of a single oil and gas industry client in the current year period, was largely offset by lower releases in credit loss reserves associated with paydowns, sales and maturities as well as higher loss estimates for downgrades reflecting weakness in the financial condition of certain client relationships and loan growth.

Operating expenses were lower during the three months ended March 31, 2019 due to lower deposit insurance assessment fees, lower cost allocations from affiliates in our technology, risk and compliance support service functions and lower staff costs.

Private Banking The following table summarizes the Group Reporting Basis results for our PB segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 37	\$ 47	\$ (10)	(21.3)%
Other operating income.....	16	20	(4)	(20.0)
Total operating income	53	67	(14)	(20.9)
Expected credit losses	(1)	(3)	2	66.7
Net operating income	54	70	(16)	(22.9)
Operating expenses	53	61	(8)	(13.1)
Profit before tax	\$ 1	\$ 9	\$ (8)	(88.9)%

In August 2017, our PB business entered into an agreement to refer parts of its Latin America portfolio, consisting primarily of clients based in areas where we do not have a corporate presence, including Central America and the Andean Pact, to UBS. Under the terms of the agreement, we facilitate the referral of these client relationships to UBS for a fee, including the transfer of client assets, consisting of client investments and deposits, as well as the transfer of the relationship managers and client service employees that support these clients. Loans associated with these client relationships were not included in the agreement. Total operating income associated with these client relationships was nil and \$8 million during the first quarter of 2019 and 2018, respectively.

The following table provides information regarding PB client assets during the three months ended March 31, 2019 and 2018:

Three Months Ended March 31,	2019		2018	
	(in millions)			
Client assets at beginning of period.....	\$ 36,017	\$ 39,089		
Net new money.....	1,001	133		
Client transfers to UBS	(23)	(805)		
Value change	1,413	(265)		
Client assets at end of period.....	\$ 38,408	\$ 38,152		

Our PB segment reported a lower profit before tax during the three months ended March 31, 2019 due primarily to lower net interest income and lower other operating income, partially offset by lower operating expenses.

Net interest income decreased during the three months ended March 31, 2019 reflecting the impact of lower deposit balances due primarily to the impact of the client referral agreement with UBS.

Other operating income decreased during the three months ended March 31, 2019 due to lower fees and commissions reflecting a decline in assets under management.

Expected credit losses increased slightly during the three months ended March 31, 2019 due to a higher release in credit loss reserves in the prior year period reflecting lower loss estimates on residential mortgages.

Operating expenses decreased during the three months ended March 31, 2019 largely due to lower staff costs and lower deposit insurance assessment fees.

Corporate Center The following table summarizes the Group Reporting Basis results for our CC segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 14	\$ 15	\$ (1)	(6.7)%
Other operating income.....	24	83	(59)	(71.1)
Total operating income ⁽¹⁾	38	98	(60)	(61.2)
Expected credit losses	1	3	(2)	(66.7)
Net operating income	37	95	(58)	(61.1)
Operating expenses	40	532	(492)	(92.5)
Loss before tax	\$ (3)	\$ (437)	\$ 434	99.3 %

* Percentage change is greater than 100 percent.

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our CC segment:

Three Months Ended March 31,	2019	2018	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Balance Sheet Management ⁽²⁾	\$ 69	\$ 68	\$ 1	1.5 %
Legacy structured credit products	(31)	17	(48)	*
Other	—	13	(13)	(100.0)
Total operating income	\$ 38	\$ 98	\$ (60)	(61.2)%

⁽²⁾ Balance Sheet Management includes gains on the sale of securities of \$7 million and \$5 million in the three months ended March 31, 2019 and 2018, respectively.

Our CC segment reported a lower loss before tax during the three months ended March 31, 2019 due primarily to lower operating expenses driven by expense recorded in the prior year period related to a mortgage securitization legal matter that was settled in October 2018, partially offset by lower other operating income.

Net interest income was relatively flat during the three months ended March 31, 2019.

Other operating income decreased during the three months ended March 31, 2019 due primarily to a loss of approximately \$39 million recorded during the first quarter of 2019 related to the unwind of one of our unconsolidated VIEs as well as unfavorable movements related to the economic hedging of interest rate risk within our own debt.

Expected credit losses were lower during the three months ended March 31, 2019 due to a higher loss in the prior year period reflecting higher loss estimates on certain financial assets.

Operating expenses were lower during the three months ended March 31, 2019 due primarily to lower expense related to legal matters driven by expense recorded in the prior year period related to a mortgage securitization matter as discussed above.

Reconciliation of Segment Results As previously discussed, segment results are reported on a Group Reporting Basis. See Note 15, "Business Segments," in the accompanying consolidated financial statements for a reconciliation of our Group Reporting Basis segment results to U.S. GAAP consolidated totals.

Credit Quality

In the normal course of business, we enter into a variety of transactions that involve both on and off-balance sheet credit risk. Principal among these activities is lending to various commercial, institutional, governmental and individual customers. We participate in lending activity throughout the U.S. and, on a limited basis, internationally.

Our reported results under U.S. GAAP reflect the following methodologies for establishing the allowance for credit losses.

Allowance for Credit Losses Commercial loans are monitored on a continuous basis with a formal assessment completed, at a minimum, annually. As part of this process, a credit grade and loss given default are assigned and an allowance is established for these loans based on a probability of default estimate associated with each credit grade under the allowance for credit losses methodology. Credit Review, a function independent of the business, provides an ongoing assessment of lending activities that includes independently assessing credit grades and loss given default estimates for sampled credits across various portfolios. When it is deemed probable based upon known facts and circumstances that full interest and principal on an individual loan will not be collected in accordance with its contractual terms, the loan is considered impaired. An impairment reserve is then established primarily based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, or as a practical expedient, the fair value of the collateral if the loan is collateral dependent or the loan's observable market price if the loan is traded in the market. Updated appraisals for collateral dependent loans are generally obtained only when such loans are considered troubled and the frequency of such updates are generally based on management judgment under the specific circumstances on a case-by-case basis. In addition, loss reserves on commercial loans are maintained to reflect our judgment of portfolio risk factors which may not be fully reflected in the reserve calculations.

Our probability of default estimates for commercial loans are mapped to our credit grade master scale. These probability of default estimates are validated on an annual basis using back-testing of actual default rates and benchmarking of the internal ratings with external rating agency data like Standard and Poor's ("S&P") ratings and default rates. Substantially all appraisals in connection with commercial real estate loans are ordered by the independent real estate appraisal review unit at HSBC. The appraisal must be reviewed and accepted by this unit. For loans greater than \$250,000, an appraisal is generally ordered when the loan is classified as Substandard as defined by the Office of the Comptroller of the Currency ("OCC"). On average, it takes approximately four weeks from the time the appraisal is ordered until it is completed and the values accepted by HSBC's independent appraisal review unit. Subsequent provisions or charge-offs are completed shortly thereafter, generally within the quarter in which the appraisal is received.

In situations where an external appraisal is not used to determine the fair value of the underlying collateral of impaired loans, current information such as rent rolls and operating statements of the subject property are reviewed and presented in a standardized format. Operating results such as net operating income and cash flows before and after debt service are established and reported with relevant ratios. Third-party market data is gathered and reviewed for relevance to the subject collateral. Data is also collected from similar properties within the portfolio. Actual sales levels of properties, operating income and expense figures and rental data on a square foot basis are derived from existing loans and, when appropriate, used as comparables for the subject property. Property specific data, augmented by market data research, is used to project a stabilized year of income and expense to create a 10-year cash flow model to be discounted at appropriate rates to present value. These valuations are then used to determine if any impairment on the underlying loans exists and an appropriate allowance is recorded when warranted.

For loans identified as troubled debt restructurings ("TDR Loans"), an allowance for credit losses is maintained primarily based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, or as a practical expedient, the fair value of the collateral if the loan is collateral dependent or, for commercial loans, the observable market price if the loan is traded in the market. The circumstances in which we perform a loan modification involving a TDR Loan at a then current market interest rate for a borrower with similar credit risk would include other changes to the terms of the original loan made as part of the restructuring (e.g. principal reductions, collateral changes, etc.) in order for the loan to be classified as a TDR Loan.

For pools of homogeneous consumer loans and certain small business loans which do not qualify as TDR Loans, we estimate probable losses using a roll rate migration analysis that estimates the likelihood that a loan will progress through the various stages of delinquency and ultimately charge-off based upon recent historical performance experience of other loans in our portfolio. This migration analysis incorporates estimates of the period of time between a loss occurring and the confirming event of its charge-off. This analysis considers delinquency status, loss experience and severity and takes into account whether borrowers have filed for bankruptcy or have been subject to account management actions, such as the re-age or modification of accounts. We also take into consideration the loss severity expected based on the underlying collateral, if any, for the loan in the event of default based on historical and recent trends which are updated monthly based on a rolling average of several months' data using the most recently available information.

The roll rate methodology is a migration analysis based on contractual delinquency and rolling average historical loss experience which captures the increased likelihood of an account migrating to charge-off as the past due status of such account increases. The roll rate models used were developed by tracking the movement of delinquencies by age of delinquency over a specified time

period. Each stage of delinquency represents a period of delinquency in 30-day increments. The roll from the last delinquency stage results in charge-off. Contractual delinquency is a method for determining aging of past due accounts based on the status of payments under the loan. Average roll rates are developed to avoid temporary aberrations caused by seasonal trends in delinquency experienced by some product types. We have determined that a 12-month average roll rate balances the desire to avoid temporary aberrations, while at the same time analyzing recent historical data. The roll rate calculations are performed monthly and are done consistently from period to period. We regularly monitor our portfolio to evaluate the period of time utilized in our roll rate migration analysis and perform a formal review on an annual basis. In addition, loss reserves on consumer loans are maintained to reflect our judgment of portfolio risk factors which may not be fully reflected in the statistical roll rate calculation.

Our allowance for credit losses methodology and our accounting policies related to the allowance for credit losses are presented in further detail under the caption "Critical Accounting Policies and Estimates" and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in our 2018 Form 10-K. Our approach toward credit risk management is summarized under the caption "Risk Management" in our 2018 Form 10-K. There have been no significant revisions to our policies or methodologies during the first quarter of 2019.

The following table sets forth the allowance for credit losses for the periods indicated:

	March 31, 2019	December 31, 2018
	(dollars are in millions)	
Allowance for credit losses	\$ 583	\$ 541
Ratio of Allowance for credit losses to:		
Loans: ⁽¹⁾		
Commercial:		
Non-affiliates	1.02%	.97%
Affiliates	—	—
Total commercial .....	.96	.93
Consumer:		
Residential mortgages .....	.06	.07
Home equity mortgages .....	.85	.71
Credit cards	6.06	5.69
Other consumer	2.52	1.98
Total consumer .....	.45	.42
Total .....	.82%	.78%
Net charge-offs: ⁽²⁾		
Commercial ⁽³⁾	6,188%	1,117%
Consumer	154	319
Total	897%	807%
Nonperforming loans: ⁽¹⁾⁽⁴⁾		
Commercial	375%	318%
Consumer	21	20
Total	107%	97%

⁽¹⁾ Ratios exclude loans held for sale as these loans are carried at the lower of amortized cost or fair value.

⁽²⁾ Ratios at March 31, 2019 reflect year-to-date net charge-offs, annualized. Ratios at December 31, 2018 reflect full year net charge-offs.

⁽³⁾ Our commercial net charge-off coverage ratio for the quarter ended March 31, 2019 and year ended December 31, 2018 was 743 months and 134 months, respectively. The net charge-off coverage ratio represents the commercial allowance for credit losses at period end divided by average monthly commercial net charge-offs during the period.

⁽⁴⁾ Represents our commercial and consumer allowance for credit losses, as appropriate, divided by the corresponding outstanding balance of total nonperforming loans held for investment. Nonperforming loans include accruing loans contractually past due 90 days or more.

See Note 5, "Allowance for Credit Losses," in the accompanying consolidated financial statements for a rollforward of credit losses by general loan categories for the three months ended March 31, 2019 and 2018.

The allowance for credit losses at March 31, 2019 increased \$42 million or 8 percent as compared with December 31, 2018 due to higher loss estimates in both our commercial and consumer loan portfolios.

Our commercial allowance for credit losses increased \$37 million or 8 percent as compared with December 31, 2018 due to downgrades reflecting weakness in the financial condition of certain client relationships and loan growth, partially offset by releases in credit loss reserves due to paydowns.

Our consumer allowance for credit losses increased \$5 million or 6 percent as compared with December 31, 2018 due to a higher allowance for credit losses in credit cards reflecting growth in customer activity driven by new product promotions along with an associated increase in dollars of delinquency as well as a higher allowance for credit losses in other consumer loans driven by deterioration in early stage delinquency roll rates. These increases were partially offset by a lower allowance for credit losses in residential mortgages due to improvements in economic and credit conditions.

Our residential mortgage loan allowance for credit losses in all periods reflects consideration of risk factors relating to trends such as recent portfolio performance as compared with average roll rates as well as housing market trends and second lien exposure.

The allowance for credit losses as a percentage of total loans held for investment at March 31, 2019 increased as compared with December 31, 2018 as the increase in our allowance for credit losses for the reasons discussed above outpaced the increase in total loans held for investment.

The allowance for credit losses as a percentage of net charge-offs at March 31, 2019 increased as compared with December 31, 2018 due to an increase in our allowance for credit losses for the reasons discussed above and a decrease in dollars of net charge-offs driven by lower charge-offs in our commercial loan portfolio associated with loan sales and managed reductions in certain exposures, partially offset by higher charge-offs in our consumer loan portfolio due primarily to higher charge-offs in credit cards reflecting growth in customer activity driven by new product promotions and, to a lesser extent, higher charge-offs in residential mortgages due to a net recovery in the prior year period.

The allowance for credit losses as a percentage of nonperforming loans held for investment at March 31, 2019 increased as compared with December 31, 2018 due to an increase in our allowance for credit losses for the reasons discussed above and a decrease in nonperforming loans due primarily to the paydown of a large oil and gas industry loan in our commercial loan portfolio.

The following table presents the allowance for credit losses by major loan categories, excluding loans held for sale:

	% of Loans to Total Loans		% of Loans to Total Loans	
	Amount	Amount	Amount	Amount
	March 31, 2019		December 31, 2018	
(dollars are in millions)				
Commercial ⁽¹⁾	\$ 495	72.4%	\$ 458	71.5%
Consumer:				
Residential mortgages.....	10	24.5	13	25.2
Home equity mortgages.....	8	1.3	7	1.4
Credit cards.....	63	1.5	58	1.5
Other consumer.....	7	.3	5	.4
Total consumer.....	88	27.6	83	28.5
Total.....	\$ 583	100.0%	\$ 541	100.0%

⁽¹⁾ See Note 5, "Allowance for Credit Losses," in the accompanying consolidated financial statements for components of the commercial allowance for credit losses.

Reserves for Off-Balance Sheet Credit Risk We also maintain a separate reserve for credit risk associated with certain commercial off-balance sheet exposures, including letters of credit, unused commitments to extend credit and financial guarantees. The following table summarizes this reserve, which is included in other liabilities on the consolidated balance sheet. The related provision is recorded as a component of other expense within operating expenses.

	March 31, 2019	December 31, 2018
Off-balance sheet credit risk reserve.....	\$ 89	\$ 96

(in millions)

Off-balance sheet reserves at March 31, 2019 decreased as compared with December 31, 2018 reflecting lower outstanding exposure. Off-balance sheet exposures are summarized under the caption "Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations" in this MD&A.

Delinquency The following table summarizes dollars of two-months-and-over contractual delinquency and two-months-and-over contractual delinquency as a percent of total loans and loans held for sale ("delinquency ratio"):

	March 31, 2019	December 31, 2018
(dollars are in millions)		
Delinquent loans:		
Commercial	\$ 37	\$ 60
Consumer:		
Residential mortgages ⁽¹⁾⁽²⁾	356	347
Home equity mortgages ⁽¹⁾⁽²⁾	29	30
Credit cards	22	20
Other consumer	7	8
Total consumer	<u>414</u>	<u>405</u>
Total	<u>\$ 451</u>	<u>\$ 465</u>
Delinquency ratio:		
Commercial .....	.07%	.12%
Consumer:		
Residential mortgages ⁽¹⁾⁽²⁾	2.05	1.99
Home equity mortgages ⁽¹⁾⁽²⁾	3.08	3.05
Credit cards	2.12	1.96
Other consumer	2.52	2.62
Total consumer	<u>2.11</u>	<u>2.05</u>
Total	<u>.63%</u>	<u>.67%</u>

⁽¹⁾ At March 31, 2019 and December 31, 2018, consumer mortgage loan delinquency includes \$223 million and \$254 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less costs to sell, including \$1 million and \$1 million, respectively, relating to loans held for sale.

⁽²⁾ The following table reflects dollars of contractual delinquency and delinquency ratios for interest-only loans and adjustable rate mortgage loans:

	March 31, 2019	December 31, 2018
(dollars are in millions)		
Dollars of delinquent loans:		
Interest-only loans	\$ 34	\$ 9
ARM loans	129	114
Delinquency ratio:		
Interest-only loans	1.03%	.28%
ARM loans	1.06	.94

Compared with December 31, 2018, our two-months-and-over contractual delinquency ratio decreased 4 basis points due to lower dollars of delinquency in our commercial loan portfolio, partially offset by higher dollars of delinquency in our consumer loan portfolio.

Our commercial loan two-months-and-over contractual delinquency ratio decreased 5 basis points compared with December 31, 2018 due to improved collections, including the collection of a commercial real estate loan which became 60 days delinquent in the fourth quarter of 2018, as well as higher outstanding loan balances.

Compared with December 31, 2018, our consumer loan two-month-and-over contractual delinquency ratio increased 6 basis points due primarily to higher dollars of residential mortgage delinquency driven by certain Private Banking customers which became 60 days delinquent in the first quarter and slightly higher dollars of credit card delinquency reflecting growth in customer activity driven by new product promotions.

Net Charge-offs of Loans The following table summarizes net charge-off (recovery) dollars as well as the net charge-off (recovery) of loans for the quarter, annualized, as a percentage of average loans, excluding loans held for sale, ("net charge-off ratio"):

	March 31, 2019	December 31, 2018	March 31, 2018
(dollars are in millions)			
Net Charge-off Dollars:			
Commercial:			
Business and corporate banking.....	\$ 2	\$ 6	\$ 3
Global banking.....	—	—	4
Total commercial	<u>2</u>	<u>6</u>	<u>7</u>
Consumer:			
Residential mortgages.....	2	1	(3)
Credit cards	11	9	6
Other consumer.....	1	1	1
Total consumer.....	<u>14</u>	<u>11</u>	<u>4</u>
Total	<u>\$ 16</u>	<u>\$ 17</u>	<u>\$ 11</u>
Net Charge-off Ratio:			
Commercial:			
Business and corporate banking.....	.06	.18	.10
Global banking.....	—	—	.08
Total commercial	<u>.02</u>	<u>.05</u>	<u>.06</u>
Consumer:			
Residential mortgages.....	.05	.02	(.07)
Credit cards	4.41	3.76	3.26
Other consumer.....	1.78	1.63	1.13
Total consumer.....	<u>.29</u>	<u>.22</u>	<u>.08</u>
Total	<u>.09%</u>	<u>.10%</u>	<u>.07%</u>

Our net charge-off ratio as a percentage of average loans for the quarter ended March 31, 2019 decreased 1 basis point compared with the quarter ended December 31, 2018 due to lower levels of net charge-offs in our commercial loan portfolio associated with managed reductions in certain exposures, partially offset by higher levels of net charge-offs in our consumer loan portfolio due primarily to higher charge-offs in credit cards reflecting growth in customer activity driven by new product promotions.

Compared with the quarter ended March 31, 2018, our net charge-off ratio as a percentage of average loans increased 2 basis points due to higher levels of net charge-offs in our consumer loan portfolio due to higher charge-offs in credit cards reflecting growth in customer activity driven by new product promotions and higher charge-offs in residential mortgages as the positive impact of improvements in economic and credit conditions was more pronounced in the prior year period. These increases were partially offset by lower levels of net charge-offs in our commercial loan portfolio associated with loan sales and managed reductions in certain exposures.

Nonperforming Assets Nonperforming assets consisted of the following:

	March 31, 2019	December 31, 2018
(in millions)		
Nonaccrual loans:		
Commercial:		
Real estate, including construction.....	\$ 5	\$ 7
Business and corporate banking	78	70
Global banking	48	65
Other commercial	—	1
Total commercial.....	<u>131</u>	<u>143</u>
Consumer:		
Residential mortgages ⁽¹⁾⁽²⁾⁽³⁾	344	341
Home equity mortgages ⁽¹⁾⁽²⁾	50	55
Consumer nonaccrual loans held for sale.....	1	1
Total consumer	<u>395</u>	<u>397</u>
Total nonaccruing loans	<u>526</u>	<u>540</u>
Accruing loans contractually past due 90 days or more:		
Commercial:		
Business and corporate banking	1	1
Total commercial.....	<u>1</u>	<u>1</u>
Consumer:		
Credit cards	15	14
Other consumer	5	6
Total consumer	<u>20</u>	<u>20</u>
Total accruing loans contractually past due 90 days or more	<u>21</u>	<u>21</u>
Total nonperforming loans	<u>547</u>	<u>561</u>
Other real estate owned ⁽⁴⁾	12	12
Total nonperforming assets	<u>\$ 559</u>	<u>\$ 573</u>

⁽¹⁾ At March 31, 2019 and December 31, 2018, nonaccrual consumer mortgage loans held for investment include \$262 million and \$289 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽²⁾ Nonaccrual consumer mortgage loans held for investment include all loans which are 90 or more days contractually delinquent as well as loans discharged under Chapter 7 bankruptcy and not re-affirmed and second lien loans where the first lien loan that we own or service is 90 or more days contractually delinquent.

⁽³⁾ Nonaccrual consumer mortgage loans for all periods does not include guaranteed loans purchased from the Government National Mortgage Association. Repayment of these loans is predominantly insured by the Federal Housing Administration and as such, these loans have different risk characteristics from the rest of our customer loan portfolio.

⁽⁴⁾ Includes \$1 million or less of commercial other real estate owned at March 31, 2019 and December 31, 2018.

Nonaccrual loans decreased compared with December 31, 2018 due primarily to lower levels of nonaccrual loans in our commercial loan portfolio driven by the paydown of a large oil and gas industry loan, partially offset by the downgrade of a business and corporate banking loan. Accruing loans past due 90 days or more were flat as compared with December 31, 2018.

Our policies and practices for problem loan management and placing loans on nonaccrual status are summarized in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in our 2018 Form 10-K.

Impaired Commercial Loans See Note 4, "Loans," in the accompanying consolidated financial statements for information regarding impaired loans, including TDR Loans as well as certain other commercial credit quality indicators. Commercial impaired loans decreased as compared with December 31, 2018 due to lower nonaccrual loans as discussed above as well as the paydown of a large accruing TDR Loan in global banking.

Concentration of Credit Risk A concentration of credit risk is defined as a significant credit exposure with an individual or group engaged in similar activities or affected similarly by economic conditions. We enter into a variety of transactions in the normal course of business that involve both on and off-balance sheet credit risk. Principal among these activities is lending to various commercial, institutional, governmental and individual customers throughout the United States and internationally. We manage the varying degrees of credit risk associated with on and off-balance sheet transactions through specific credit policies and procedures which provide for a strict approval, monitoring and reporting process. It is our policy to require collateral when it is deemed appropriate. Varying degrees and types of collateral are secured depending upon management's credit evaluation.

Our consumer loan portfolio includes the following types of loans:

- Interest-only loans – A loan which allows a customer to pay the interest-only portion of the monthly payment for a period of time which results in lower payments during the initial loan period.
- Adjustable rate mortgage ("ARM") loans – A loan which allows us to adjust pricing on the loan in line with market movements.

The following table summarizes the balances of interest-only and ARM loans in our loan portfolios, including certain loans held for sale, at March 31, 2019 and December 31, 2018. Each category is not mutually exclusive and loans may appear in more than one category below.

	March 31, 2019	December 31, 2018
	(in millions)	
Interest-only residential mortgage and home equity mortgage loans	\$ 3,290	\$ 3,208
ARM loans ⁽¹⁾	12,184	12,096

⁽¹⁾ During the remainder of 2019 and during 2020, approximately \$363 million and \$746 million, respectively, of the ARM loans will experience their first interest rate reset.

The following table summarizes the concentrations of first and second liens within the outstanding residential mortgage and home equity mortgage portfolios. Amounts in the table exclude residential mortgage loans held for sale of \$32 million and \$65 million at March 31, 2019 and December 31, 2018, respectively.

	March 31, 2019	December 31, 2018
	(in millions)	
Closed end:		
First lien.....	\$ 17,368	\$ 17,383
Second lien	39	40
Revolving ⁽¹⁾	902	942
Total.....	<u>\$ 18,309</u>	<u>\$ 18,365</u>

⁽¹⁾ A majority of revolving are second lien mortgages.

Geographic Concentrations The following table reflects regional exposure at March 31, 2019 and December 31, 2018 for our real estate secured loan portfolios:

	Commercial Real Estate, including Construction Loans	Residential Mortgages and Home Equity Mortgages
March 31, 2019		
New York State	30.8%	31.6%
California	21.5	43.8
North Central United States	3.5	2.0
North Eastern United States, excluding New York State.....	6.4	7.8
Southern United States	29.7	10.2
Western United States, excluding California.....	8.1	4.6
Total.....	<u>100.0%</u>	<u>100.0%</u>
December 31, 2018		
New York State	32.1 %	31.8 %
California	21.5	43.5
North Central United States	3.0	2.0
North Eastern United States, excluding New York State.....	6.4	7.8
Southern United States	28.9	10.4
Western United States, excluding California.....	8.1	4.5
Total.....	<u>100.0 %</u>	<u>100.0 %</u>

Credit Risks Associated with Derivative Contracts Credit risk associated with derivatives is measured as the net replacement cost of derivative contracts in a receivable position in the event the counterparties of such contracts fail to perform under the terms of those contracts. In managing derivative credit risk, both the current exposure, which is the replacement cost of contracts on the measurement date, as well as an estimate of the potential change in value of contracts over their remaining lives are considered. Counterparties to our derivative activities include financial institutions, central clearing parties, foreign and domestic government agencies, corporations, funds (mutual funds, hedge funds, etc.), insurance companies and private clients as well as other HSBC entities. These counterparties are subject to regular credit review by the credit risk management department. To minimize credit risk, we may enter into legally enforceable master netting agreements which reduce risk by permitting the closeout and netting of transactions with the same counterparty upon occurrence of certain events. In addition, we reduce credit risk by obtaining collateral from counterparties. The determination of the need for and the levels of collateral will differ based on an assessment of the credit risk of the counterparty and/or regulatory requirements.

The total risk in a derivative contract is a function of a number of variables, such as:

- volatility of interest rates, currencies, equity or corporate reference entity used as the basis for determining contract payments;
- current market events or trends;
- country risk;
- maturity and liquidity of contracts;
- creditworthiness of the counterparties in the transaction;
- the existence of a master netting agreement among the counterparties; and
- existence and value of collateral received from counterparties to secure exposures.

The table below presents total credit risk exposure calculated using the general risk-based capital rules of the Basel III Standardized Approach which includes the net positive mark-to-market of the derivative contracts plus any adjusted potential future exposure as measured in reference to the notional amount. The regulatory capital rules recognize that bilateral netting agreements reduce credit risk and, therefore, allow for reductions of risk-weighted assets when netting requirements have been met and collateral exists. As a result, risk-weighted amounts for regulatory capital purposes are a portion of the original gross exposures. Furthermore, many contracts contain provisions that allow us to close out the transaction if the counterparty fails to post required collateral. In addition, many contracts give us the right to break the transactions earlier than the final maturity date. As a result, these contracts have potential future exposures that are often much smaller than the future exposures derived from the regulatory capital rules.

	March 31, 2019	December 31, 2018
	(in millions)	
Risk associated with derivative contracts:		
Total credit risk exposure.....	\$ 33,548	\$ 30,643
Less: collateral held against exposure.....	6,038	5,251
Net credit risk exposure	<u>\$ 27,510</u>	<u>\$ 25,392</u>

Liquidity and Capital Resources

Effective liquidity management is defined as ensuring we can meet customer loan requests, customer deposit maturities/withdrawals and other cash commitments efficiently under both normal operating conditions and under unpredictable circumstances of industry or market stress. To achieve this objective, we have guidelines that require sufficient liquidity to cover potential funding requirements and to avoid over-dependence on volatile, less reliable funding markets. Guidelines are set for the consolidated balance sheet of HSBC USA to ensure that it is a source of strength for our regulated, deposit-taking banking subsidiary, as well as to address the more limited sources of liquidity available to it as a holding company. Similar guidelines are set for HSBC Bank USA to ensure that it can meet its liquidity needs in various stress scenarios. Cash flow analysis, including stress testing scenarios, forms the basis for liquidity management and contingency funding plans. See "Risk Management" in this MD&A for further discussion of our approach towards liquidity risk management, including information regarding the key measures employed to define, monitor and control our liquidity and funding risk.

Interest Bearing Deposits with Banks totaled \$20,197 million and \$15,700 million at March 31, 2019 and December 31, 2018, respectively, of which \$18,983 million and \$14,376 million, respectively, were held with the Federal Reserve Bank. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity. Surplus

interest bearing deposits with the Federal Reserve Bank may be deployed into securities purchased under agreements to resell or other investments depending on market conditions and the opportunity to maximize returns.

Federal Funds Sold and Securities Purchased under Agreements to Resell totaled \$6,924 million and \$10,168 million at March 31, 2019 and December 31, 2018, respectively. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity.

Trading Assets includes securities totaling \$17,978 million and \$17,041 million at March 31, 2019 and December 31, 2018, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

Securities includes securities available-for-sale and securities held-to-maturity totaling \$46,423 million and \$46,049 million at March 31, 2019 and December 31, 2018, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

Short-Term Borrowings totaled \$9,567 million and \$4,180 million at March 31, 2019 and December 31, 2018, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on short-term borrowing trends.

Deposits totaled \$113,639 million and \$110,955 million at March 31, 2019 and December 31, 2018, respectively, which included \$87,112 million and \$91,909 million, respectively, of core deposits as calculated in accordance with FFIEC guidelines. See "Balance Sheet Review" in this MD&A for further analysis and discussion on deposit trends.

Long-Term Debt increased to \$31,475 million at March 31, 2019 from \$30,628 million at December 31, 2018. The following table presents the maturities of long-term debt at March 31, 2019:

	(in millions)
2019	\$ 5,267
2020	7,160
2021	5,789
2022	1,636
2023	1,112
Thereafter.....	10,511
Total	<u>\$ 31,475</u>

The following table summarizes issuances and retirements of long-term debt during the three months ended March 31, 2019 and 2018:

Three Months Ended March 31,	2019	2018
	(in millions)	
Long-term debt issued.....	\$ 1,829	\$ 1,517
Long-term debt repaid.....	(2,091)	(3,899)
Net long-term debt repaid	<u>\$ (262)</u>	<u>\$ (2,382)</u>

See "Balance Sheet Review" in this MD&A for further analysis and discussion on long-term debt trends, including additional information on debt issued and repaid during the three months ended March 31, 2019.

Under our shelf registration statement on file with the SEC, we may issue certain securities including debt securities and preferred stock. We satisfy the eligibility requirements for designation as a "well-known seasoned issuer," which allows us to file a registration statement that does not have a limit on issuance capacity. The ability to issue under the registration statement is limited by the authority granted by the Board of Directors. During the first quarter of 2019, due to an anticipated decrease in utilization of the shelf registration statement, the Board of Directors approved a reduction in the amount we are authorized to issue from \$36,000 million at December 31, 2018 to \$30,000 million at March 31, 2019, of which \$13,820 million was available. HSBC Bank USA has a \$40,000 million Global Bank Note Program that provides for the issuance of subordinated and senior notes, of which \$13,855 million was available at March 31, 2019. We anticipate using the Global Bank Note Program more in the future as part of our efforts designed to minimize overall funding costs while accessing diverse funding channels.

As a member of the FHLB and the Federal Reserve Bank of New York, we have secured borrowing facilities which are collateralized by loans and investment securities. At March 31, 2019, long-term debt included \$2,000 million of borrowings from the FHLB facility. Based upon the amounts pledged as collateral under these facilities, we have additional borrowing capacity of up to \$16,322 million.

Preferred Equity See Note 17, "Preferred Stock," in our 2018 Form 10-K for information regarding all outstanding preferred share issues.

Common Equity During the first quarter of 2019, HSBC USA received a common stock return of capital of \$2.4 billion from its subsidiary, HSBC Bank USA, and paid a distribution on its common stock of \$2.4 billion from surplus capital to its parent, HSBC North America.

Capital Ratios In managing capital, we develop targets for common equity Tier 1 capital to risk-weighted assets, Tier 1 capital to risk-weighted assets, total capital to risk-weighted assets, Tier 1 capital to adjusted quarterly average assets (i.e., the "Tier 1 leverage ratio") and Tier 1 capital to total leverage exposure (i.e., the "supplementary leverage ratio" or "SLR"). Capital targets are reviewed at least semi-annually to ensure they reflect our business mix and risk profile, as well as real-time conditions and circumstances. The following table summarizes HSBC USA's Basel III capital ratios calculated as of March 31, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
Common equity Tier 1 capital to risk-weighted assets	11.9%	13.6%
Tier 1 capital to risk-weighted assets	12.9	14.6
Total capital to risk-weighted assets	15.6	17.2
Tier 1 leverage ratio ⁽¹⁾	9.6	11.0
Supplementary leverage ratio ⁽²⁾	6.7	7.6

⁽¹⁾ Adjusted quarterly average assets, the Tier 1 leverage ratio denominator, reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital.

⁽²⁾ Total leverage exposure, the SLR denominator, includes adjusted quarterly average assets plus certain off-balance sheet exposures.

HSBC USA manages capital in accordance with HSBC Group policy. The HSBC North America Internal Capital Adequacy Assessment Process ("ICAAP") works in conjunction with the HSBC Group's ICAAP. The HSBC North America ICAAP applies to HSBC Bank USA and evaluates regulatory capital adequacy and capital adequacy under various stress scenarios. Our approach is to meet our capital needs for these stress scenarios locally through activities which reduce risk. To the extent that local alternatives are insufficient, as a wholly-owned subsidiary of HSBC, we would seek support from our ultimate parent. Regulatory capital requirements are based on the amount of capital required to be held, plus applicable capital buffers, as defined by regulations, and the amount of risk-weighted assets and leverage exposure, also calculated based on regulatory definitions.

We are subject to regulatory capital rules issued by U.S. banking regulators including Basel III (the "Basel III rule"). Under the Basel III rule, there are two methods available to calculate risk-weighted assets, the generally-applicable Standardized Approach and the Advanced Approaches, which are required in addition to the Standardized Approach for large banking organizations that meet certain thresholds. As previously disclosed, in accordance with FRB rules, HSBC North America and HSBC Bank USA received regulatory approval to opt out of the Advanced Approaches and are calculating their risk-based capital requirements solely under the Standardized Approach. HSBC Bank USA submits an annual statement to the OCC to maintain this opt out. For additional discussion of the Basel III final rule requirements, including required minimum capital ratios, as well as a discussion of recent regulatory developments and their expected impact see Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in our 2018 Form 10-K. We continue to review the composition of our capital structure and capital buffers in light of these developments.

Capital Planning and Stress Testing The FRB requires IHCs and large bank holding companies ("BHCs"), including HSBC North America, to comply with the FRB's capital plan rule and CCAR program, as well as the annual supervisory stress tests conducted by the FRB, and periodic company-run stress tests as required under Dodd-Frank (collectively, "DFAST"), as amended by the Economic Growth, Regulatory Relief and Consumer Protection Act ("Relief Act"). HSBC Bank USA is subject to the OCC's DFAST requirements, which require certain banks to conduct annual company-run stress tests. The company-run stress tests are forward looking exercises to assess the impact of hypothetical macroeconomic baseline and severely adverse scenarios provided by the FRB and the OCC for the annual exercise, and internally developed scenarios for both the annual and periodic company-run exercises, on the financial condition and capital adequacy of a bank-holding company or bank over a nine quarter planning horizon. See Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in our 2018 Form 10-K for further discussion on capital planning and stress testing, including detail regarding the FRB's supervisory assessment as part of the CCAR process, as well as a discussion of recent regulatory developments and their expected impact.

HSBC North America submitted its latest CCAR capital plan and both HSBC North America and HSBC Bank USA submitted their latest annual company-run DFAST results in April 2019. HSBC North America and HSBC Bank USA will publicly disclose their latest annual DFAST results, as required, within 15 days of the FRB disclosing the results of its own DFAST results. The FRB will publicly disclose its own DFAST and CCAR results on or before June 30, 2019. Stress testing results are based solely on hypothetical adverse stress scenarios and should not be viewed or interpreted as forecasts of expected outcomes or capital adequacy or of the actual financial condition of HSBC North America or HSBC Bank USA. Capital planning and stress testing for HSBC North America or HSBC Bank USA may impact our future capital and liquidity.

While bank holding company regulatory capital compliance is generally performed at the HSBC North America level, and also separately for HSBC Bank USA, as a bank holding company we are required to meet minimum capital requirements imposed by the FRB. We present our capital ratios, together with HSBC Bank USA's in Note 16, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements.

Other Regulatory Developments In April 2019, the FRB and the other federal banking agencies jointly proposed rules to implement the Relief Act that would tailor the application of the enhanced prudential standards to U.S. operations of foreign banking organizations ("FBOs") to implement the Relief Act amendments (the "Tailoring Proposals"). The proposed rules would assign each FBO with \$100 billion or more in total U.S. assets, taking into account their combined U.S. operations, to one of four categories based on its size and five risk-based indicators.

In connection with the release of the proposed rules, FRB staff indicated which firms likely would fall into each of the four categories based on data for the third quarter of 2018. According to the FRB staff's projections, HSBC and HSBC North America would be subject to the Category III standards under the proposed rules. If the Tailoring Proposals were finalized as proposed and HSBC North America became subject to Category III standards, HSBC North America would (i) remain subject to the generally applicable Standardized Approach capital requirements and the SLR; (ii) become eligible to opt-out of the requirement to recognize most elements of accumulated other comprehensive income in regulatory capital (iii) remain subject to annual supervisory stress testing and capital plan requirements as part of the annual CCAR exercise; (iv) become subject to company-run stress testing requirements on a two-year cycle; and (v) remain subject to single counterparty credit limits. Under the Tailoring Proposals, whether HSBC North America would be required to comply with full daily liquidity coverage ratio and net stable funding ratio requirements would depend on whether its weighted short-term wholesale funding would exceed \$75 billion. The Tailoring Proposals also clarify that the IHC of a Category III FBO, such as HSBC North America, would be not be considered an "Advanced Approaches banking organization" and therefore would not be required to use the Standardized Approach to counterparty credit risk ("SA-CCR") to measure its derivative exposure. Instead, HSBC North America would have the option to use either the SA-CCR or the current exposure method for its risk-based capital ratios and its SLR under the federal banking agencies' pending proposal to implement the SA-CCR.

Simultaneous with the Tailoring Proposals, the FRB and FDIC jointly released a proposal to revise the regulations implementing the resolution planning requirements in the Dodd-Frank Act (the "Resolution Plan Proposal"). Under the Resolution Plan Proposal, HSBC would be required to file a resolution plan every three years (rather than annually), alternating between a full resolution plan and a targeted resolution plan, which would generally be limited to core areas such as capital and liquidity, as well as material changes in other areas. Under the Resolution Plan Proposal, HSBC's next full resolution plan submission would not be required until July 1, 2021 and its first targeted resolution plan submission would not be required until July 1, 2024.

The Tailoring Proposals and the Resolution Plan Proposal are subject to modification through the federal rulemaking process in accordance with the Administrative Procedures Act. The ultimate effects of the Relief Act and the Tailoring Proposals on HSBC North America cannot be determined at this time and will be subject to the final form of the Tailoring Proposals and additional rulemakings issued by the FRB and other federal regulators.

2019 Funding Strategy Our current estimate for funding needs and sources for 2019 are summarized in the following table:

	Actual January 1 through March 31, 2019	Estimated April 1 through December 31, 2019	Estimated Full Year 2019
	(in billions)		
Increase (decrease) in funding needs:			
Net change in loans	\$ 2	\$ 6	\$ 8
Net change in short-term investments and securities	2	(3)	(1)
Net change in trading and other assets	5	5	10
Total funding needs	<u>\$ 9</u>	<u>\$ 8</u>	<u>\$ 17</u>
Increase (decrease) in funding sources:			
Net change in deposits	\$ 3	\$ 9	\$ 12
Net change in trading and other short-term liabilities	5	1	6
Net change in long-term debt	1	(2)	(1)
Total funding sources	<u>\$ 9</u>	<u>\$ 8</u>	<u>\$ 17</u>

The above table reflects a long-term funding strategy. Daily balances fluctuate as we accommodate customer needs, while ensuring that we have liquidity in place to support the balance sheet maturity funding profile. Should market conditions deteriorate, we have contingency plans to generate additional liquidity through the sales of assets or financing transactions. We remain confident

in our ability to access the market for long-term debt funding needs in the current market environment. We continue to seek well-priced and stable customer deposits. We also continue to sell new agency-eligible mortgage loan originations to third parties.

HSBC Bank USA is subject to significant restrictions imposed by federal law on extensions of credit to, and certain other 'covered transactions' with HSBC USA and other affiliates. For further discussion, see Part I, "Regulation and Competition - Affiliate Transaction Restrictions," in our 2018 Form 10-K.

For further discussion relating to our sources of liquidity and contingency funding plan, see the caption "Risk Management" in this MD&A.

Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations

As part of our normal operations, we enter into credit derivatives and various off-balance sheet arrangements with affiliates and third parties. These arrangements arise principally in connection with our lending and client intermediation activities and involve primarily extensions of credit and, in certain cases, guarantees.

As a financial services provider, we routinely extend credit through loan commitments and lines and letters of credit and provide financial guarantees, including derivative transactions having characteristics of a guarantee. The contractual amounts of these financial instruments represent our maximum possible credit exposure in the event that a counterparty draws down the full commitment amount or we are required to fulfill our maximum obligation under a guarantee.

The following table provides maturity information related to our credit derivatives and off-balance sheet arrangements. Many of these commitments and guarantees expire unused or without default. As a result, we believe that the contractual amount is not representative of the actual future credit exposure or funding requirements.

	Balance at March 31, 2019				Balance at December 31, 2018
	One Year or less	Over One through Five Years	Over Five Years	Total	
	(in millions)				
Standby letters of credit, net of participations ⁽¹⁾	\$ 6,378	\$ 2,465	\$ 108	\$ 8,951	\$ 8,972
Commercial letters of credit.....	127	46	—	173	218
Credit derivatives ⁽²⁾	8,048	41,781	5,176	55,005	45,384
Other commitments to extend credit:					
Commercial ⁽³⁾	20,455	62,350	3,286	86,091	89,302
Consumer.....	8,276	—	—	8,276	7,927
Total.....	<u>\$ 43,284</u>	<u>\$ 106,642</u>	<u>\$ 8,570</u>	<u>\$ 158,496</u>	<u>\$ 151,803</u>

⁽¹⁾ Includes \$1,414 million and \$1,321 million issued for the benefit of HSBC affiliates at March 31, 2019 and December 31, 2018, respectively.

⁽²⁾ Includes \$32,510 million and \$25,734 million issued for the benefit of HSBC affiliates at March 31, 2019 and December 31, 2018, respectively.

⁽³⁾ Includes \$1,600 million and \$2,045 million issued for the benefit of HSBC affiliates at March 31, 2019 and December 31, 2018, respectively.

Other Commitments to Extend Credit Other commitments to extend credit include arrangements whereby we are contractually obligated to extend credit in the form of loans, participations in loans, lease financing receivables, or similar transactions. Consumer commitments are comprised of certain unused MasterCard/Visa credit card lines, where we have the right to change terms or conditions upon notification to the customer, and commitments to extend credit secured by residential properties, where we have the right to change terms or conditions, for cause, upon notification to the customer. Commercial commitments comprise primarily those related to secured and unsecured loans and lines of credit.

In addition to the above, we have established and manage a number of constant net asset value ("CNAV") money market funds that invest in shorter-dated highly-rated money market securities to provide investors with a highly liquid and secure investment. These funds price the assets in their portfolio on an amortized cost basis, which enables them to create and liquidate shares at a constant price. The funds, however, are not permitted to price their portfolios at amortized cost if that amount varies by more than 50 basis points from the portfolio's market value. In that case, the fund would be required to price its portfolio at market value and consequently would no longer be able to create or liquidate shares at a constant price. We do not consolidate the CNAV funds because we do not absorb the majority of the expected future risk associated with the fund's assets, including interest rate, liquidity, credit and other relevant risks that are expected to affect the value of the assets.

Fair Value

Fair Value Hierarchy Fair value measurement accounting principles establish a fair value hierarchy structure that prioritizes the inputs to determine the fair value of an asset or liability (the "Fair Value Framework"). The Fair Value Framework distinguishes between inputs that are based on observed market data and unobservable inputs that reflect market participants' assumptions. It emphasizes the use of valuation methodologies that maximize observable market inputs. For financial instruments carried at fair value, the best evidence of fair value is a quoted price in an actively traded market (Level 1). Where the market for a financial instrument is not active, valuation techniques are used. The majority of our valuation techniques use market inputs that are either observable or indirectly derived from and corroborated by observable market data for substantially the full term of the financial instrument (Level 2). Because Level 1 and Level 2 instruments are determined by observable inputs, less judgment is applied in determining their fair values. In the absence of observable market inputs, the financial instrument is valued based on valuation techniques that feature one or more significant unobservable inputs (Level 3). The determination of the level of fair value hierarchy within which the fair value measurement of an asset or a liability is classified often requires judgment and may change over time as market conditions evolve. We consider the following factors in developing the fair value hierarchy:

- whether the asset or liability is transacted in an active market with a quoted market price;
- the level of bid-ask spreads;
- a lack of pricing transparency due to, among other things, complexity of the product and market liquidity;
- whether only a few transactions are observed over a significant period of time;
- whether the pricing quotations differ substantially among independent pricing services;
- whether inputs to the valuation techniques can be derived from or corroborated with market data; and
- whether significant adjustments are made to the observed pricing information or model output to determine the fair value.

Level 1 inputs are unadjusted quoted prices in active markets that the reporting entity has the ability to access for identical assets or liabilities. A financial instrument is classified as a Level 1 measurement if it is listed on an exchange or is an instrument actively traded in the over-the-counter ("OTC") market where transactions occur with sufficient frequency and volume. We regard financial instruments such as debt securities, equity securities and derivative contracts listed on the primary exchanges of a country to be actively traded. Non-exchange-traded instruments classified as Level 1 assets include securities issued by the U.S. Treasury, to-be-announced securities, non-callable securities issued by U.S. Government sponsored enterprises and certain foreign government-backed debt.

Level 2 inputs are those that are observable either directly or indirectly but do not qualify as Level 1 inputs. We classify mortgage pass-through securities, agency and certain non-agency mortgage collateralized obligations, certain derivative contracts, asset-backed securities, obligations of U.S. states and political subdivisions, corporate debt, certain foreign government-backed debt, preferred securities, securities purchased and sold under resale and repurchase agreements, precious metals, certain commercial loans held for sale, residential mortgage loans whose carrying amount was reduced based on the fair value of the underlying collateral and real estate owned as Level 2 measurements. Where possible, at least two quotations from independent sources are obtained based on transactions involving comparable assets and liabilities to validate the fair value of these instruments. We have established a process to understand the methodologies and inputs used by the third party pricing services to ensure that pricing information meets the fair value objective and, where appropriate, this pricing data is back-tested to market trade executions. Where significant differences arise among the independent pricing quotes and the internally determined fair value, we investigate and reconcile the differences. If the investigation results in a significant adjustment to the fair value, the instrument will be classified as Level 3 within the fair value hierarchy. In general, we have observed that there is a correlation between the credit standing and the market liquidity of a non-derivative instrument.

Level 2 derivative instruments are generally valued based on discounted future cash flows or an option pricing model adjusted for counterparty credit risk and market liquidity. The fair value of certain derivative products is determined using valuation techniques based on inputs derived from observable indices traded in the OTC market. Appropriate control processes and procedures have been applied to ensure that the derived inputs are applied to value only those instruments that share similar risks to the relevant benchmark indices and therefore demonstrate a similar response to market factors.

Level 3 inputs are unobservable estimates that management expects market participants would use to determine the fair value of the asset or liability. That is, Level 3 inputs incorporate market participants' assumptions about risk and the risk premium required by market participants in order to bear that risk. We develop Level 3 inputs based on the best information available in the circumstances. At March 31, 2019 and December 31, 2018, our Level 3 measurements included the following: collateralized debt obligations ("CDOs") for which there is a lack of pricing transparency due to market illiquidity, certain structured deposits and structured notes for which the embedded credit, foreign exchange or equity derivatives have significant unobservable inputs (e.g., volatility or default correlations), asset-backed credit default swaps with certain inputs which are unobservable, certain corporate debt securities, certain asset-backed securities, impaired commercial loans, derivatives referenced to illiquid assets of less desirable

credit quality, swap agreements entered into in conjunction with the sales of Visa Class B Shares for which the fair value is dependent upon the final resolution of the related litigation and a contingent consideration receivable associated with the sale of a portion of our PB business. See Note 19, "Fair Value Measurements," in the accompanying consolidated financial statements for additional information on Level 3 inputs.

Level 3 Measurements The following table provides information about Level 3 assets/liabilities in relation to total assets/liabilities measured at fair value at March 31, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
	(dollars are in millions)	
Level 3 assets ⁽¹⁾⁽²⁾	\$ 1,157	\$ 2,338
Total assets measured at fair value ⁽¹⁾⁽³⁾	85,800	81,125
Level 3 liabilities ⁽¹⁾	1,644	1,550
Total liabilities measured at fair value ⁽¹⁾	50,585	52,587
Level 3 assets as a percent of total assets measured at fair value	1.3%	2.9%
Level 3 liabilities as a percent of total liabilities measured at fair value	3.2%	2.9%

⁽¹⁾ Presented without netting which allows the offsetting of amounts relating to certain contracts if certain conditions are met.

⁽²⁾ Includes \$1,112 million of recurring Level 3 assets and \$45 million of non-recurring Level 3 assets at March 31, 2019. Includes \$2,301 million of recurring Level 3 assets and \$37 million of non-recurring Level 3 assets at December 31, 2018.

⁽³⁾ Includes \$85,744 million of assets measured on a recurring basis and \$56 million of assets measured on a non-recurring basis at March 31, 2019. Includes \$81,030 million of assets measured on a recurring basis and \$95 million of assets measured on a non-recurring basis at December 31, 2018.

Significant Changes in Fair Value for Level 3 Assets and Liabilities During the first quarter of 2019, one of our unconsolidated VIEs was unwound and our investment in the VIE along with the related derivatives were terminated. Our investment in the VIE, which was a level 3 asset measured at fair value on a recurring basis, had a carrying value of \$1,293 million at the time of unwind. See Note 17, "Variable Interest Entities," in the accompanying consolidated financial statements for additional information.

See Note 19, "Fair Value Measurements," in the accompanying consolidated financial statements for information on additions to and transfers into (out of) Level 3 measurements during the three months ended March 31, 2019 and 2018 as well as for further details including the classification hierarchy associated with assets and liabilities measured at fair value.

Effect of Changes in Significant Unobservable Inputs The fair value of certain financial instruments is measured using valuation techniques that incorporate pricing assumptions not supported by, derived from or corroborated by observable market data. The resultant fair value measurements are dependent on unobservable input parameters which can be selected from a range of estimates and may be interdependent. Changes in one or more of the significant unobservable input parameters may change the fair value measurements of these financial instruments. For the purpose of preparing the financial statements, the final valuation inputs selected are based on management's best judgment that reflect the assumptions market participants would use in pricing similar assets or liabilities.

The unobservable input parameters selected are subject to the internal valuation control processes and procedures. When we perform a test of all the significant input parameters to the extreme values within the range at the same time, it could result in an increase of the overall fair value measurement of approximately \$45 million or a decrease of the overall fair value measurement of approximately \$16 million at March 31, 2019. The effect of changes in significant unobservable input parameters are primarily driven by the uncertainty in determining the fair value of credit derivatives executed against certain insurers and certain asset-backed securities including CDOs.

Risk Management

Overview Managing risk effectively is fundamental to the delivery of our strategic priorities.

We use a comprehensive risk management framework across the organization and across all risk types underpinned by our risk culture. This framework fosters continuous monitoring, promotes risk awareness and encourages sound operational and strategic decision-making. It also ensures a consistent approach to monitoring, managing and mitigating the risks we accept and incur in our activities.

Our Board of Directors has the ultimate responsibility for effective management of risk and approves HUSI's risk appetite. It is advised on risk matters by the Risk Committee of the Board of Directors and the Compliance and Conduct Committee. In particular, the Risk Committee of the Board of Directors advises the Board of Directors on risk appetite and its alignment with our strategy,

risk governance and internal controls as well as high-level risk related matters. Robust risk governance and accountability are embedded throughout our business through an established framework that helps to ensure appropriate oversight of and accountability for the effective management of risk.

The principal risks associated with our operations include the following:

- *Credit risk* is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract;
- *Liquidity risk* is the risk that we do not have sufficient financial resources to meet our obligations as they fall due or that we can only do so at an excessive cost, or that funding considered to be sustainable, and therefore used to fund assets, is not sustainable over time;
- *Interest rate risk* is the potential reduction of net interest income due to mismatched pricing between assets and liabilities as well as losses in value due to interest rate movements;
- *Market risk* is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios;
- *Operational risk* is the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems, or from external events;
- *Regulatory compliance risk* is the risk that we fail to observe the letter and spirit of relevant laws, codes, rules, regulations and standards of good market practice causing us to incur fines, penalties and damage to our business and reputation;
- *Financial crime risk* is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity through the HSBC Group. It arises from day to day banking operations;
- *Reputational risk* is the risk arising from failure to meet stakeholder expectations as a result of any event, behavior, action or inaction, either by us, our employees, the HSBC Group or those with whom it is associated, that may cause stakeholders to form a negative view of us. This might also result in financial or non-financial impacts, loss of confidence or other consequences;
- *Strategic risk* is the risk that the business will fail to identify, execute and react appropriately to opportunities and/or threats arising from changes in the market, some of which may emerge over a number of years such as changing economic and political circumstances, customer requirements, demographic trends, regulatory developments or competitor action;
- *Model risk* is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. This occurs primarily for two reasons: 1) the model may produce inaccurate outputs when compared with the intended business use and design objective; and 2) the model could be used incorrectly;
- *Pension risk* is the risk of increased costs from the post-employment benefit plans that we have established for our employees;
- *Sustainability risk* is the risk that financial services provided to customers indirectly result in unacceptable impacts on people or on the environment.

In the course of our regular risk management activities, we use simulation models to help quantify the risk we are taking. We believe that the assumptions used in these models are reasonable, but actual events may unfold differently than what is assumed in the models. Consequently, model results may be considered reasonable estimates, with the understanding that actual results may differ significantly from model projections.

See "Risk Management" in MD&A in our 2018 Form 10-K for a more complete discussion of the objectives of our risk management system as well as our risk management policies and practices. There have been no material changes to our approach to risk management since December 31, 2018.

Liquidity Risk Management Although our overall approach to liquidity risk management has not changed, we continuously monitor the impact of market events on our liquidity positions and will continue to adapt our liquidity framework to reflect market events and the evolving regulatory landscape and view as to best practices. See "Risk Management" in MD&A in our 2018 Form 10-K for a more complete discussion of our approach to liquidity risk.

As part of our approach towards liquidity risk management, we employ the measures discussed below to define, monitor and control our liquidity and funding risk in accordance with HSBC policy.

The Basel Committee based Liquidity Coverage Ratio ("LCR") is designed to be a short-term liquidity measure to ensure banks have sufficient High Quality Liquid Assets ("HQLA") to cover net stressed cash outflows over the next 30 days. At both March 31, 2019 and December 31, 2018, HSBC USA's LCR under the EU LCR rule exceeded 100 percent. A LCR of 100 percent or higher reflects an unencumbered HQLA balance that is equal to or exceeds liquidity needs for a 30 calendar day liquidity stress scenario. HQLA consists of cash or assets that can be converted into cash at little or no loss of value in private markets. HSBC North America and HSBC Bank USA are also subject to the U.S. LCR rule. Under the U.S. rule, U.S. institutions, including HSBC North America and HSBC Bank USA, are required to maintain a minimum LCR of 100 percent and report LCR to U.S. regulators on a daily basis. During the three months ended March 31, 2019 and year ended December 31, 2018, HSBC Bank USA's LCR under the U.S. LCR rule remained above the 100 percent minimum requirement.

The European calibration of the Basel Committee based Net Stable Funding Ratio ("NSFR"), which is a longer term liquidity measure with a 12-month time horizon to ensure a sustainable maturity structure of assets and liabilities, is still pending. Therefore, our calculation of NSFR is based on our current interpretation and understanding of the Basel Committee NSFR guidance, which may differ in future periods depending on completion of the European calibration and further implementation guidance from regulators. At both March 31, 2019 and December 31, 2018, HSBC USA's estimated NSFR exceeded 100 percent. A NSFR of 100 percent or more reflects an available stable funding balance from liabilities and capital over the next 12 months that is equal to or exceeds the required amount of funding for assets and off-balance sheet exposures. In April 2016, U.S. regulators issued for public comment a proposal to implement the NSFR in the United States, applicable to certain large banking organizations, including HSBC North America and HSBC Bank USA. At both March 31, 2019 and December 31, 2018, HSBC Bank USA's estimated NSFR, based on our current interpretation and understanding of the proposed U.S. NSFR rule, exceeded 100 percent.

Large BHCs and IHCs, such as HSBC North America, are also subject to additional liquidity requirements under the FRB's enhanced prudential standards issued pursuant to Section 165 of the Dodd-Frank Act. Under these enhanced prudential standards, IHCs are required to comply with various liquidity risk management standards and to maintain a liquidity buffer of unencumbered highly liquid assets based on the results of internal liquidity stress testing.

HSBC North America and HSBC Bank USA have adjusted their liquidity profiles to support compliance with these rules. HSBC North America and HSBC Bank USA may need to make further changes to their liquidity profiles to support compliance with any future rules.

Our liquidity risk management approach includes deposits, supplemented by wholesale borrowing to fund our balance sheet, and using security sales or secured borrowings for liquidity stress situations in our liquidity contingency plans. In addition, current regulatory initiatives require banks to retain a portfolio of HQLA. As such, we are maintaining a large portfolio of high quality sovereign and sovereign guaranteed securities.

Our ability to regularly attract wholesale funds at a competitive cost is enhanced by strong ratings from the major credit ratings agencies. The following table reflects the short and long-term credit ratings of HSBC USA and HSBC Bank USA at March 31, 2019:

	Moody's	S&P	Fitch
HSBC USA:			
Short-term borrowings.....	P-1	A-1	F1+
Long-term/senior debt	A2	A	AA-
HSBC Bank USA:			
Short-term borrowings.....	P-1	A-1+	F1+
Long-term/senior debt	Aa3⁽¹⁾	AA-	AA-

⁽¹⁾ Moody's long-term deposit rating for HSBC Bank USA was Aa2 at March 31, 2019.

Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices and legal matters, all of which could lead to adverse ratings actions.

Although we closely monitor and strive to manage factors influencing our credit ratings, there is no assurance that our credit ratings will not change in the future. At March 31, 2019, there were no pending actions in terms of changes to ratings on the debt of HSBC USA or HSBC Bank USA from any of the rating agencies.

Interest Rate Risk Management Various techniques are utilized to quantify and monitor risks associated with the repricing characteristics of our assets, liabilities and derivative contracts. See "Risk Management" in MD&A in our 2018 Form 10-K for a more complete discussion of our approach to interest rate risk.

Economic value of equity ("EVE") EVE represents the present value of the banking book cash flows that could be provided to our equity holder under a managed run-off scenario. An EVE sensitivity represents the change in EVE due to a defined movement in interest rates. We manage to an immediate parallel upward shock of 200 basis points and an immediate parallel downward shock of 200 basis points to the market implied interest rates. At both March 31, 2019 and December 31, 2018, our EVE remains higher than our book value of equity under the base case, up 200 basis points and down 200 basis points scenarios.

Net interest income simulation modeling techniques We utilize simulation modeling to monitor a number of interest rate scenarios for their impact on projected net interest income. These techniques simulate the impact on projected net interest income under various scenarios, such as rate shock scenarios, which assume immediate market rate movements by as much as 200 basis points, as well as scenarios in which rates gradually rise by as much as 200 basis point or fall by as much as 100 basis points, over a twelve month period. In the gradual scenarios, 25 percent of the interest rate movement occurs at the beginning of each quarter. The following table reflects the impact on our projected net interest income of the scenarios utilized by these modeling techniques:

	March 31, 2019		December 31, 2018	
	Amount	%	Amount	%
(dollars are in millions)				
Estimated increase (decrease) in projected net interest income (reflects projected rate movements on April 1, 2019 and January 1, 2019, respectively):				
Resulting from a gradual 100 basis point increase in the yield curve.....	\$ 103	4%	\$ 99	3%
Resulting from a gradual 100 basis point decrease in the yield curve.....	(179)	(6)	(121)	(4)
Resulting from a gradual 200 basis point increase in the yield curve.....	148	5	160	6
Other significant scenarios monitored (reflects projected rate movements on April 1, 2019 and January 1, 2019, respectively):				
Resulting from an immediate 50 basis point decrease in the yield curve.....	(143)	(5)	(112)	(4)
Resulting from an immediate 100 basis point increase in the yield curve.....	160	6	145	5
Resulting from an immediate 100 basis point decrease in the yield curve.....	(339)	(12)	(283)	(10)
Resulting from an immediate 200 basis point increase in the yield curve.....	252	9	245	8

The projections do not take into consideration possible complicating factors such as the effect of changes in interest rates on the credit quality, size and composition of the balance sheet. Therefore, although this provides a reasonable estimate of interest rate sensitivity, actual results will differ from these estimates, possibly by significant amounts.

Capital risk/sensitivity of other comprehensive loss Large movements of interest rates could directly affect some reported capital balances and ratios. The mark-to-market valuation of available-for-sale securities is recorded on a tax effected basis to accumulated other comprehensive loss. This valuation mark is included in two important accounting based capital ratios: common equity Tier 1 capital to risk-weighted assets and total equity to total assets. At March 31, 2019, we had an available-for-sale securities portfolio of approximately \$32,040 million with a negative mark-to-market adjustment of \$353 million. An increase of 25 basis points in interest rates of all maturities would lower the mark-to-market by approximately \$244 million to a net loss of \$597 million with the following results on our capital ratios:

	March 31, 2019		December 31, 2018	
	Actual	Proforma ⁽¹⁾	Actual	Proforma ⁽¹⁾
Common equity Tier 1 capital to risk-weighted assets.....	11.9%	11.8%	13.6%	13.5%
Total equity to total assets.....	10.1	10.0	11.9	11.8

⁽¹⁾ Proforma percentages reflect a 25 basis point increase in interest rates.

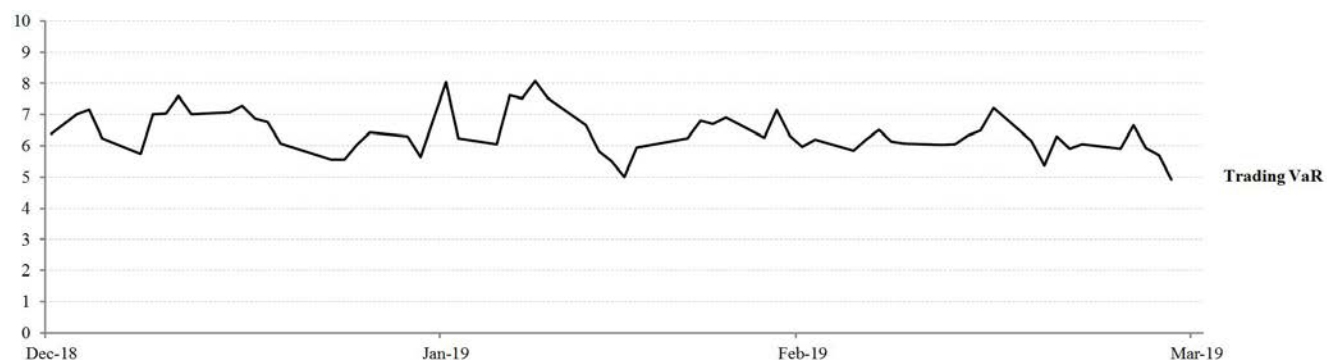
Market Risk Management Exposure to market risk is separated into two portfolios:

- *Trading portfolios* comprise positions arising from market-making and warehousing of client-derived positions.
- *Non-trading portfolios* comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities and financial investments classified as available-for-sale and held-to-maturity.

See "Risk Management" in MD&A in our 2018 Form 10-K for a more complete discussion of our approach to market risk.

Value at Risk ("VaR") VaR is a technique for estimating potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into market risk management and calculated for all trading positions regardless of how we capitalize them. In addition, we calculate VaR for non-trading portfolios to have a complete picture of risk. VAR measures are calculated to a 99 percent confidence level and use a one-day holding period.

Trading Portfolios Trading VaR generates from the Global Markets unit of the GB&M business segment. Portfolios are mainly comprised of foreign exchange products, interest rate swaps, credit default swaps and precious metals (i.e., gold, silver, platinum) in both North America and emerging markets.

Daily VaR (trading portfolios), 99 percent 1 day (in millions):

The following table summarizes our trading VaR for the three months ended March 31, 2019:

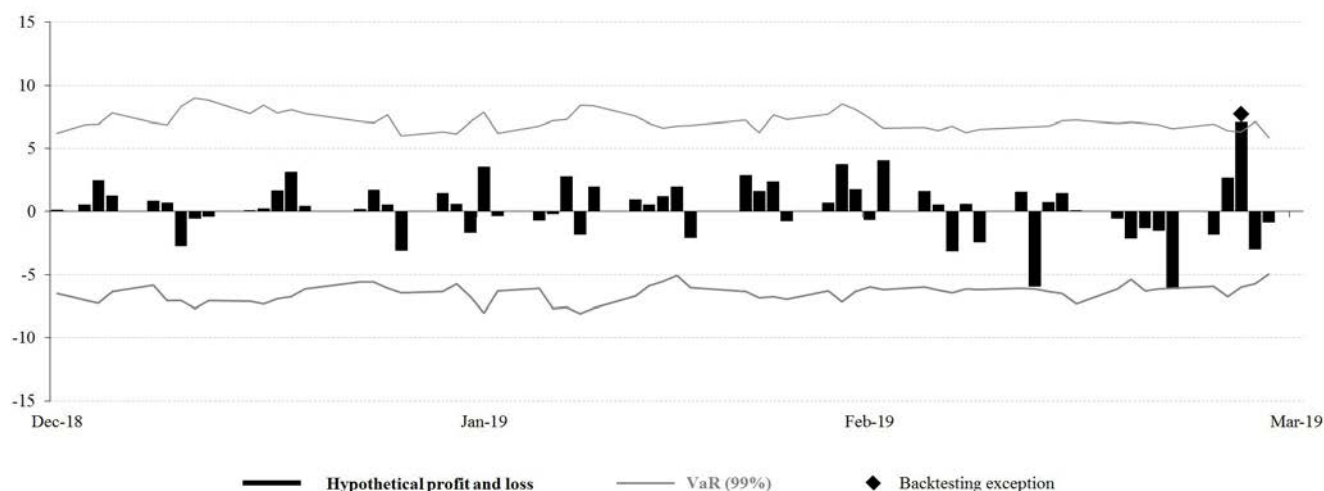
	Foreign exchange and commodity	Interest rate	Credit Spread	Portfolio diversification ⁽¹⁾	Total ⁽²⁾
(in millions)					
At March 31, 2019	\$ 3	\$ 5	\$ 1	\$ (4)	\$ 5
Three Months Ended March 31, 2019					
Average	2	7	1	(4)	6
Maximum	4	8	1		8
Minimum	1	5	1		5
At December 31, 2018	\$ 2	\$ 6	\$ 1	\$ (3)	\$ 6

⁽¹⁾ Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types, for example, foreign exchange, interest rate and credit spread, together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occur on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.

⁽²⁾ The total VaR is non-additive across risk types due to diversification effects. For presentation purposes, portfolio diversification of the VaR for trading portfolios includes VaR-based risk-not-in-VaR.

Back-testing We routinely validate the accuracy of our VaR models by back-testing them against hypothetical profit and loss that excludes non-modeled items such as fees, commissions and revenues of intra-day transactions from the actual reported profit and loss. We would expect, on average, to see two or three profits and two or three losses in excess of VaR at the 99 percent confident level over a one-year period. The actual number of profits or losses in excess of VaR over this period can therefore be used to gauge how well the models are performing. To ensure a conservative approach to calculating our risk exposures, it is important to note that profits in excess of VaR are only considered when back-testing the accuracy of models and are not used for capital purposes.

During the first quarter of 2019, we experienced one back-testing exception. The profit exception occurred in March and was mainly driven by precious metal future and spot price movements. There was no evidence of model errors or control failures.

Back-testing of trading VaR against our hypothetical profit and loss (in millions):

Non-trading Portfolios Non-trading VaR predominantly relates to Balance Sheet Management and represents the potential negative changes in the investment portfolio market value (which includes available-for-sale and held-to-maturity assets) and associated hedges. Our investment portfolio holdings are mainly comprised of U.S. Treasury, U.S. Government agency mortgage-backed and U.S. Government sponsored mortgage-backed securities. Our non-trading VaR exposure is driven by interest rates and agency spread volatility.

The following table summarizes our non-trading VaR for the three months ended March 31, 2019:

	Interest rate	Credit Spread	Portfolio diversification ⁽¹⁾	Total ⁽¹⁾
	(in millions)			
At March 31, 2019	\$ 29	\$ 20	\$ (11)	\$ 38
Three Months Ended March 31, 2019				
Average	23	21	(8)	36
Maximum	35	22		39
Minimum	21	18		33
At December 31, 2018	\$ 22	\$ 18	\$ (6)	\$ 34

⁽¹⁾ Refer to the Trading VaR table above for additional information.

Non-trading VaR also includes the interest rate risk of non-trading financial assets and liabilities held by the global businesses and transfer priced into Balance Sheet Management which has the mandate to centrally manage and hedge it. For a broader discussion on how interest rate risk is managed, please refer to the "Risk Management - Interest Rate Risk Management" section in MD&A in our 2018 Form 10-K.

CONSOLIDATED AVERAGE BALANCES AND INTEREST RATES

The following table summarizes the quarter-to-date average daily balances of the principal components of assets, liabilities and equity together with their respective interest amounts and rates earned or paid. Net interest margin is calculated by dividing net interest income by the average interest earning assets from which interest income is earned. Loan interest for the three months ended March 31, 2019 and 2018 included fees of \$17 million and \$18 million respectively.

Three Months Ended March 31,	2019			2018		
	Average Balance	Interest	Rate	Average Balance	Interest	Rate
	(dollars are in millions)					
Assets:						
Interest bearing deposits with banks	\$ 17,115	\$ 114	2.70%	\$ 27,091	\$ 110	1.65%
Federal funds sold and securities purchased under resale agreements.....	6,250	62	4.02	7,615	48	2.56
Trading securities	18,832	63	1.36	12,774	49	1.56
Securities	45,995	304	2.68	44,516	253	2.30
Loans:						
Commercial	50,036	522	4.23	48,283	414	3.48
Consumer:						
Residential mortgages	17,448	157	3.65	17,338	147	3.44
Home equity mortgages.....	959	12	5.07	1,162	12	4.19
Credit cards.....	1,020	19	7.55	735	18	9.93
Other consumer	276	6	8.82	400	7	7.10
Total consumer	19,703	194	3.99	19,635	184	3.80
Total loans	69,739	716	4.16	67,918	598	3.57
Other	2,889	18	2.53	3,916	16	1.66
Total interest earning assets.....	\$ 160,820	\$ 1,277	3.22%	\$ 163,830	\$ 1,074	2.66%
Allowance for credit losses	(540)			(653)		
Cash and due from banks	1,299			795		
Other assets.....	13,305			21,170		
Total assets	\$ 174,884			\$ 185,142		
Liabilities and Equity						
Domestic deposits:						
Savings deposits	\$ 46,504	\$ 102	.89%	\$ 50,310	\$ 71	.57%
Time deposits.....	23,626	170	2.92	22,472	113	2.04
Other interest bearing deposits	10,125	51	2.04	11,066	30	1.10
Foreign deposits:						
Foreign banks deposits	4,128	7	.69	4,710	5	.43
Other interest bearing deposits	763	3	1.59	1,292	2	.63
Deposits held for sale	4	—	.59	368	1	.62
Total interest bearing deposits.....	85,150	333	1.59	90,218	222	1.00
Short-term borrowings	7,612	62	3.30	6,510	33	2.06
Long-term debt	31,401	312	4.03	33,501	257	3.11
Total interest bearing deposits and debt	124,163	707	2.31	130,229	512	1.59
Tax liabilities and other	1,156	8	2.81	1,826	10	2.22
Total interest bearing liabilities	\$ 125,319	\$ 715	2.31%	\$ 132,055	\$ 522	1.60%
Net interest income/Interest rate spread		\$ 562	.91%		\$ 552	1.06%
Noninterest bearing deposits	23,636			27,192		
Other liabilities	6,444			5,904		
Total equity	19,485			19,991		
Total liabilities and equity	\$ 174,884			\$ 185,142		
Net interest margin on average earning assets			1.42%			1.37%
Net interest income to average total assets.....			1.30%			1.21%

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Information required by this Item is included within Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations in the Risk Management section under the captions "Interest Rate Risk Management" and "Market Risk Management."

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures We maintain a system of disclosure controls and procedures designed to ensure that information required to be disclosed by HSBC USA in the reports we file or submit under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported on a timely basis. Our Board of Directors, operating through its Audit Committee, which is composed entirely of independent non-executive directors, provides oversight to our financial reporting process.

We conducted an evaluation, with the participation of the Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report so as to alert them in a timely fashion to material information required to be disclosed in reports we file under the Exchange Act.

Changes in Internal Control over Financial Reporting There has been no change in our internal control over financial reporting that occurred during the quarter ended March 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II
Item 1. Legal Proceedings

See Note 20, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements for our legal proceedings disclosure, which is incorporated herein by reference.

Item 5. Other Information

Disclosures pursuant to Section 13(r) of the Securities Exchange Act Section 13(r) of the Securities Exchange Act requires each issuer registered with the SEC to disclose in its annual or quarterly reports whether it or any of its affiliates have knowingly engaged in specified activities or transactions with persons or entities targeted by U.S. sanctions programs relating to Iran, terrorism, or the proliferation of weapons of mass destruction, even if those activities are not prohibited by U.S. law and are conducted outside the U.S. by non-U.S. affiliates in compliance with local laws and regulations.

To comply with this requirement, HSBC has requested relevant information from its affiliates globally. During the period covered by this Form 10-Q, HUSI did not engage in activities or transactions requiring disclosure pursuant to Section 13(r) other than those activities related to frozen accounts and transactions permitted under relevant U.S. sanction programs described under "Frozen Accounts and Transactions" below. The following activities conducted by our affiliates are disclosed in response to Section 13(r):

Legacy contractual obligations related to guarantees Between 1996 and 2007, the HSBC Group provided guarantees to a number of its non-Iranian customers in Europe and the Middle East for various business activities in Iran. In a number of cases, the HSBC Group issued counter indemnities in support of guarantees issued by Iranian banks as the Iranian beneficiaries of the guarantees required that they be backed directly by Iranian banks. The Iranian banks to which the HSBC Group provided counter indemnities included Bank Tejarat, Bank Mellī, and the Bank of Industry and Mine.

There was no measurable gross revenue in the first quarter of 2019 under those guarantees and counter indemnities. The HSBC Group does not allocate direct costs to fees and commissions and, therefore, has not disclosed a separate net profit measure. The HSBC Group is seeking to cancel all relevant guarantees and counter indemnities, and does not currently intend to provide any new guarantees or counter indemnities involving Iran. None were cancelled in the first quarter of 2019 and approximately 16 remain outstanding.

Other relationships with Iranian banks Activity related to U.S.-sanctioned Iranian banks not covered elsewhere in this disclosure includes the following:

- The HSBC Group acts as the trustee and administrator for a pension scheme involving eight employees of a U.S.-sanctioned Iranian bank in Hong Kong. Under the rules of this scheme, the HSBC Group accepts contributions from the Iranian bank each month and allocates the funds into the pension accounts of the Iranian bank's employees. The HSBC Group runs and operates this pension scheme in accordance with Hong Kong laws and regulations. Estimated gross revenue, which includes fees and/or commissions, generated by this pension scheme during the first quarter of 2019 was approximately \$298.

For the Iranian bank related-activity discussed above, the HSBC Group does not allocate direct costs to fees and commissions and, therefore, has not disclosed a separate net profit measure.

The HSBC Group has been holding a safe custody box for the Central Bank of Iran. For a number of years, the box has not been accessed by the Central Bank of Iran and no fees have been charged to the Central Bank of Iran.

The HSBC Group currently intends to continue to wind down the activity discussed in this section, to the extent legally permissible, and not enter into any new such activity.

Frozen accounts and transactions The HSBC Group and HSBC Bank USA (a subsidiary of HUSI) maintain several accounts that are frozen as a result of relevant sanctions programs, and safekeeping boxes and other similar custodial relationships, for which no activity, except as licensed or otherwise authorized, took place during the first quarter of 2019. There was no measurable gross revenue or net profit to the HSBC Group during the first quarter of 2019 relating to these frozen accounts.

Item 6. Exhibits

- 3(i) Articles of Incorporation and amendments and supplements thereto (incorporated by reference to Exhibit 3(a) to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 1999, Exhibit 3 to HSBC USA Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2000, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed April 4, 2005, Exhibit 3.3 to HSBC USA Inc.'s Current Report on Form 8-K filed April 4, 2005, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed October 14, 2005, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed May 22, 2006 and Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed on May 31, 2016).
- 3(ii) Bylaws of HSBC USA Inc., as Amended and Restated effective July 24, 2018 (incorporated by reference to Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed July 26, 2018).
- 31 Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32 Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS XBRL Instance Document⁽¹⁾
- 101.SCH XBRL Taxonomy Extension Schema Document⁽¹⁾
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document⁽¹⁾
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document⁽¹⁾
- 101.LAB XBRL Taxonomy Extension Label Linkbase Document⁽¹⁾
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document⁽¹⁾

⁽¹⁾ Pursuant to Rule 405 of Regulation S-T, includes the following financial information included in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, formatted in eXtensible Business Reporting Language ("XBRL") interactive data files: (i) the Consolidated Statement of Income (Loss) for the three months ended March 31, 2019 and 2018, (ii) the Consolidated Statement of Comprehensive Income (Loss) for the three months ended March 31, 2019 and 2018, (iii) the Consolidated Balance Sheet at March 31, 2019 and December 31, 2018, (iv) the Consolidated Statement of Changes in Equity for the three months ended March 31, 2019 and 2018, (v) the Consolidated Statement of Cash Flows for the three months ended March 31, 2019 and 2018, and (vi) the Notes to Consolidated Financial Statements.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, HSBC USA Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

HSBC USA INC.

By: /s/ GERARD MATTIA

Gerard Mattia

Senior Executive Vice President and
Interim Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

Certification of Chief Executive Officer

I, Patrick J. Burke, certify that:

1. I have reviewed this report on Form 10-Q of HSBC USA Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 3, 2019

/s/ PATRICK J. BURKE

Patrick J. Burke

Chairman of the Board, President
and Chief Executive Officer

Certification of Chief Financial Officer

I, Gerard Mattia, certify that:

1. I have reviewed this report on Form 10-Q of HSBC USA Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 3, 2019

/s/ GERARD MATTIA

Gerard Mattia

Senior Executive Vice President and
Interim Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

**Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

The certification set forth below is being submitted in connection with the HSBC USA Inc. (the “Company”) Quarterly Report on Form 10-Q for the period ending March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”) for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Patrick J. Burke, certify that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of HSBC USA Inc.

Date: May 3, 2019

/s/ PATRICK J. BURKE

Patrick J. Burke
Chairman of the Board, President
and Chief Executive Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by HSBC USA Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

The signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to HSBC USA Inc. and will be retained by HSBC USA Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

**Certification pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

The certification set forth below is being submitted in connection with the HSBC USA Inc. (the “Company”) Quarterly Report on Form 10-Q for the period ending March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”) for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Gerard Mattia, certify that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of HSBC USA Inc.

Date: May 3, 2019

/s/ GERARD MATTIA

Gerard Mattia

Senior Executive Vice President and
Interim Chief Financial Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by HSBC USA Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

The signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to HSBC USA Inc. and will be retained by HSBC USA Inc. and furnished to the Securities and Exchange Commission or its staff upon request.