
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2022

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

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

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

As of October 21, 2022, 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 (UNAUDITED)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Interest income:				
Loans	\$ 555	\$ 416	\$ 1,368	\$ 1,308
Securities	203	154	513	491
Trading securities	53	60	171	162
Short-term investments	266	24	403	57
Other	15	4	32	17
Total interest income	1,092	658	2,487	2,035
Interest expense:				
Deposits	343	60	536	210
Short-term borrowings	51	4	77	13
Long-term debt	144	70	301	230
Other	11	4	21	8
Total interest expense	549	138	935	461
Net interest income	543	520	1,552	1,574
Provision for credit losses	25	(81)	105	(537)
Net interest income after provision for credit losses	518	601	1,447	2,111
Other revenues:				
Credit card fees, net	10	—	37	23
Trust and investment management fees	39	26	99	81
Other fees and commissions	136	160	474	496
Trading revenue (expense)	163	(42)	296	1
Other securities gains, net	1	4	30	51
Servicing and other fees from HSBC affiliates	77	79	265	232
Gain (loss) on instruments designated at fair value and related derivatives	(29)	8	(4)	33
Gain on sale of branch disposal group, net	2	—	113	—
Other income (loss)	(45)	7	(127)	13
Total other revenues	354	242	1,183	930
Operating expenses:				
Salaries and employee benefits	137	151	429	509
Support services from HSBC affiliates	419	389	1,256	1,148
Occupancy expense, net	17	27	47	175
Other expenses	75	99	295	318
Total operating expenses	648	666	2,027	2,150
Income before income tax	224	177	603	891
Income tax expense	63	40	151	222
Net income	\$ 161	\$ 137	\$ 452	\$ 669

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

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS) (UNAUDITED)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Net income	\$ 161	\$ 137	\$ 452	\$ 669
Net change in unrealized gains (losses), net of tax:				
Investment securities	(611)	(86)	(2,228)	(664)
Fair value option liabilities attributable to our own credit spread	24	9	104	9
Derivatives designated as cash flow hedges	(80)	(7)	(294)	(28)
Pension and post-retirement benefit plans	—	—	—	1
Total other comprehensive income (loss)	<u>(667)</u>	<u>(84)</u>	<u>(2,418)</u>	<u>(682)</u>
Comprehensive income (loss)	<u>\$ (506)</u>	<u>\$ 53</u>	<u>\$ (1,966)</u>	<u>\$ (13)</u>

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

CONSOLIDATED BALANCE SHEET (UNAUDITED)

	September 30, 2022	December 31, 2021
	(in millions, except share data)	
<i>Assets⁽¹⁾</i>		
Cash and due from banks	\$ 944	\$ 954
Interest bearing deposits with banks	13,970	47,400
Federal funds sold and securities purchased under agreements to resell	29,825	10,514
Trading assets (includes \$1.2 billion and \$1.7 billion pledged to creditors at September 30, 2022 and December 31, 2021, respectively)	21,082	24,043
Securities available-for-sale (includes amortized cost of \$31.1 billion and \$35.4 billion at September 30, 2022 and December 31, 2021, respectively, an allowance for credit losses of nil and \$1 million at September 30, 2022 and December 31, 2021, respectively, and \$0.3 billion and \$2.4 billion pledged to creditors at September 30, 2022 and December 31, 2021, respectively)	28,082	35,298
Securities held-to-maturity, net of allowance for credit losses of nil and \$1 million at September 30, 2022 and December 31, 2021, respectively (fair value of \$6.2 billion and \$5.4 billion at September 30, 2022 and December 31, 2021, respectively)	6,656	5,203
Loans	61,775	55,864
Less – allowance for credit losses	551	447
Loans, net	<u>61,224</u>	<u>55,417</u>
Loans held for sale (includes \$166 million and \$48 million designated under fair value option at September 30, 2022 and December 31, 2021, respectively, and \$2,441 million related to branch disposal group held for sale at December 31, 2021)	576	4,217
Properties and equipment, net	49	40
Goodwill	458	458
Other branch related assets held for sale	—	249
Other assets, net of allowance for credit losses of \$1 million at both September 30, 2022 and December 31, 2021	6,474	5,439
Total assets	<u>\$ 169,340</u>	<u>\$ 189,232</u>
<i>Liabilities⁽¹⁾</i>		
Debt:		
Domestic deposits:		
Noninterest bearing	\$ 32,793	\$ 40,333
Interest bearing (includes \$1.8 billion and \$2.7 billion designated under fair value option at September 30, 2022 and December 31, 2021, respectively)	84,977	89,122
Foreign deposits - interest bearing	7,196	4,827
Deposits held for sale	—	8,750
Total deposits	<u>124,966</u>	<u>143,032</u>
Short-term borrowings	6,536	6,338
Long-term debt (includes \$7.0 billion and \$8.9 billion designated under fair value option at September 30, 2022 and December 31, 2021, respectively)	15,696	17,236
Total debt	<u>147,198</u>	<u>166,606</u>
Trading liabilities	4,840	3,023
Other branch related liabilities held for sale	—	152
Interest, taxes and other liabilities	3,269	2,411
Total liabilities	<u>155,307</u>	<u>172,192</u>
<i>Equity</i>		
Preferred stock (no par value; 40,999,000 shares authorized; 1,265 shares issued and outstanding at both September 30, 2022 and December 31, 2021)	1,265	1,265
Common equity:		
Common stock (\$5 par value; 150,000,000 shares authorized; 714 shares issued and outstanding at both September 30, 2022 and December 31, 2021)	—	—
Additional paid-in capital	13,739	14,742
Retained earnings	1,626	1,212
Accumulated other comprehensive loss	(2,597)	(179)
Total common equity	<u>12,768</u>	<u>15,775</u>
Total equity	<u>14,033</u>	<u>17,040</u>
Total liabilities and equity	<u>\$ 169,340</u>	<u>\$ 189,232</u>

⁽¹⁾ The following table summarizes assets and liabilities related to our consolidated variable interest entities ("VIEs") at September 30, 2022 and December 31, 2021. Assets and liabilities exclude intercompany balances that eliminate in consolidation. See Note 17, "Variable Interest Entities," for additional information.

	September 30, 2022	December 31, 2021
	(in millions)	
Assets		
Loans	\$ 127	\$ 46
Other assets	44	55
Total assets	<u>\$ 171</u>	<u>\$ 101</u>
Liabilities		
Interest, taxes and other liabilities	\$ 26	\$ 9
Total liabilities	<u>\$ 26</u>	<u>\$ 9</u>

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

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (UNAUDITED)

Three Months Ended September 30,	2022	2021
	(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	14,737	15,743
Return of capital to parent	(1,000)	—
Employee benefit plans	2	—
Balance at end of period	<u>13,739</u>	<u>15,743</u>
Retained earnings		
Balance at beginning of period	1,465	1,095
Net income	161	137
Balance at end of period	<u>1,626</u>	<u>1,232</u>
Accumulated other comprehensive income (loss)		
Balance at beginning of period	(1,930)	81
Other comprehensive loss, net of tax	(667)	(84)
Balance at end of period	<u>(2,597)</u>	<u>(3)</u>
Total common equity	<u>12,768</u>	<u>16,972</u>
Total equity	<u>\$ 14,033</u>	<u>\$ 18,237</u>
Nine Months Ended September 30,		
	2022	2021
	(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	14,742	15,746
Return of capital to parent	(1,000)	—
Employee benefit plans	(3)	(3)
Balance at end of period	<u>13,739</u>	<u>15,743</u>
Retained earnings		
Balance at beginning of period	1,212	601
Net income	452	669
Cash dividends declared on preferred stock	(38)	(38)
Balance at end of period	<u>1,626</u>	<u>1,232</u>
Accumulated other comprehensive income (loss)		
Balance at beginning of period	(179)	679
Other comprehensive loss, net of tax	(2,418)	(682)
Balance at end of period	<u>(2,597)</u>	<u>(3)</u>
Total common equity	<u>12,768</u>	<u>16,972</u>
Total equity	<u>\$ 14,033</u>	<u>\$ 18,237</u>

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

CONSOLIDATED STATEMENT OF CASH FLOWS (UNAUDITED)

Nine Months Ended September 30,

	2022	2021
	(in millions)	
<i>Cash flows from operating activities</i>		
Net income	\$ 452	\$ 669
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	104	206
Gain on sale of branch disposal group, net	(113)	—
Provision for credit losses	105	(537)
Net realized gains on securities available-for-sale	(30)	(51)
Net change in other assets and liabilities	(382)	1,475
Net change in loans held for sale:		
Originations and purchases of loans held for sale	(1,628)	(2,049)
Sales and collections of loans held for sale	1,615	2,204
Net change in trading assets and liabilities	4,778	2,572
Lower of amortized cost or fair value adjustments on loans held for sale	21	5
Loss (gain) on instruments designated at fair value and related derivatives	4	(33)
Net cash provided by operating activities	<u>4,926</u>	<u>4,461</u>
<i>Cash flows from investing activities</i>		
Net change in federal funds sold and securities purchased under agreements to resell	(19,311)	28,266
Securities available-for-sale:		
Purchases of securities available-for-sale	(4,185)	(14,444)
Proceeds from sales of securities available-for-sale	1,343	7,422
Proceeds from paydowns and maturities of securities available-for-sale	4,696	9,864
Securities held-to-maturity:		
Purchases of securities held-to-maturity	(2,714)	—
Proceeds from paydowns and maturities of securities held-to-maturity	1,249	3,094
Change in loans:		
Originations, net of collections	(5,675)	414
Loans sold to third parties	1,222	1,282
Net cash used for acquisitions of properties and equipment	(23)	(2)
Net outflow related to the sale of branch disposal group	(4,619)	—
Other, net	(19)	108
Net cash provided by (used in) investing activities	<u>(28,036)</u>	<u>36,004</u>
<i>Cash flows from financing activities</i>		
Net change in deposits	(10,767)	7,250
Debt:		
Net change in short-term borrowings	198	1,425
Issuance of long-term debt	3,791	6,861
Repayment of long-term debt	(2,569)	(8,402)
Return of capital to parent	(1,000)	—
Other decreases in capital surplus	(3)	(3)
Dividends paid	(38)	(38)
Net cash provided by (used in) financing activities	<u>(10,388)</u>	<u>7,093</u>
Net change in cash and due from banks and interest bearing deposits with banks	<u>(33,498)</u>	<u>47,558</u>
Cash and due from banks and interest bearing deposits with banks at beginning of period ⁽¹⁾	48,412	15,655
<i>Cash and due from banks and interest bearing deposits with banks at end of period⁽¹⁾</i>	<u>\$ 14,914</u>	<u>\$ 63,213</u>

⁽¹⁾ Included \$58 million of cash which was reported in other branch related assets held for sale on the consolidated balance sheet at December 31, 2021.

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 statement 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, 2021 (the "2021 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.

In August 2022, the Inflation Reduction Act of 2022 was signed into law, creating a 15 percent corporate alternative minimum tax ("CAMT") on profits of corporations based on average annual adjusted financial statement income effective for tax years beginning January 1, 2023. In assessing recoverability of deferred tax assets, we consider the impact of CAMT and any resulting credit carryforwards that are projected in future years.

2. Strategic Initiatives

As discussed in our 2021 Form 10-K, we previously announced a strategic plan to restructure our operations ("Restructuring Plan") in alignment with HSBC's global strategy, to refocus our wholesale operations to better serve our international corporate clients and restructure our retail operations to better meet the needs of globally mobile and affluent clients. Our Restructuring Plan also includes streamlining our functional and operations support model by removing duplication and reducing the size of our balance sheet to better align with the scope and scale of the U.S. opportunity. As discussed further in Note 3, "Branch Assets and Liabilities Held for Sale," during the second quarter of 2021, we made the decision to exit our mass market retail banking business, including the sale or closure of certain branches, and transferred certain assets and liabilities to held for sale. We expect to incur pre-tax charges in connection with this Restructuring Plan over the three-year period of 2020-2022 of approximately \$800-\$840 million (\$600-\$630 million after-tax). The following table presents a summary of the total pre-tax charges we currently expect to incur by reportable segment:

	Expected Charges in Connection with Restructuring Plan	
	Minimum	Maximum
	(in millions)	
Wealth and Personal Banking	\$ 148	\$ 154
Commercial Banking	16	18
Markets and Securities Services	80	82
Global Banking and Markets Other	14	16
Corporate Center ⁽¹⁾	542	570
Total	<u>\$ 800</u>	<u>\$ 840</u>

⁽¹⁾ Includes restructuring charges primarily related to lease impairment and other related costs, support service project costs and severance costs associated with certain centralized activities and functions.

During the first nine months of 2022, we continued to progress our Restructuring Plan, including simplification of our support service functions and investing in systems infrastructure and new technologies. In February 2022, we also completed the sale of the branch disposal group associated with the exit of our mass market retail banking business. During the three and nine months ended September 30, 2022, we recorded pre-tax charges in connection with our Restructuring Plan totaling \$41 million and \$113 million, respectively, compared with pre-tax charges totaling \$47 million and \$183 million during the three and nine months ended September 30, 2021, respectively. To date, we have recorded a total of \$682 million of pre-tax charges in connection with our Restructuring Plan. We currently expect our multi-year strategic plan to re-profile our business will be substantially completed by the end of 2022.

The following table summarizes the changes in the liability associated with our Restructuring Plan during the three and nine months ended September 30, 2022 and 2021:

	Severance and Other Employee Costs ⁽¹⁾	Lease Termination and Associated Costs ⁽²⁾	Other ⁽³⁾	Total
	(in millions)			
Three Months Ended September 30, 2022				
Restructuring liability at beginning of period	\$ 2	\$ 34	\$ —	\$ 36
Restructuring costs accrued during the period	4	3	5	12
Restructuring costs paid during the period	(2)	(11)	(5)	(18)
Restructuring liability at end of period	<u>\$ 4</u>	<u>\$ 26</u>	<u>\$ —</u>	<u>\$ 30</u>
Three Months Ended September 30, 2021				
Restructuring liability at beginning of period	\$ 6	\$ 46	\$ —	\$ 52
Restructuring costs accrued during the period	3	2	3	8
Restructuring costs paid during the period	(2)	(2)	(3)	(7)
Restructuring liability at end of period	<u>\$ 7</u>	<u>\$ 46</u>	<u>\$ —</u>	<u>\$ 53</u>

	Severance and Other Employee Costs ⁽¹⁾	Lease Termination and Associated Costs ⁽²⁾	Other ⁽³⁾	Total
	(in millions)			
Nine Months Ended September 30, 2022				
Restructuring liability at beginning of period	\$ 10	\$ 46	\$ —	\$ 56
Restructuring costs accrued during the period	8	3	23	34
Restructuring costs paid during the period	(14)	(23)	(23)	(60)
Restructuring liability at end of period	<u>\$ 4</u>	<u>\$ 26</u>	<u>\$ —</u>	<u>\$ 30</u>
Nine Months Ended September 30, 2021				
Restructuring liability at beginning of period	\$ 10	\$ 23	\$ —	\$ 33
Restructuring costs accrued during the period	8	32	9	49
Restructuring costs paid during the period	(11)	(9)	(9)	(29)
Restructuring liability at end of period	<u>\$ 7</u>	<u>\$ 46</u>	<u>\$ —</u>	<u>\$ 53</u>

⁽¹⁾ Severance and other employee costs are included in salaries and employee benefits in the consolidated statement of income. The majority of these costs were reported in the Wealth and Personal Banking business segment. Not included in these costs are allocated severance costs from HSBC Technology & Services ("HTSU") discussed further below.

⁽²⁾ Primarily includes real estate taxes, service charges and decommissioning costs. Lease termination and associated costs are included in occupancy expense, net in the consolidated statement of income and were reported in the Wealth and Personal Banking and the Corporate Center business segments.

⁽³⁾ Primarily includes professional fees and other staff costs, which are included in other expenses in the consolidated statement of income.

In addition to the restructuring costs reflected in the rollforward table above, during the three and nine months ended September 30, 2022, we recorded impairment charges of \$4 million and \$1 million, respectively, to write-down the lease right-of-use ("ROU") assets and leasehold improvement assets associated with certain office space that we determined we would exit.

During the second quarter of 2021, as part of our decision to exit our mass market retail banking business, we determined that we would exit approximately 30 branches. As a result, we recorded impairment charges during the second quarter of 2021 to write-off the assets associated with these branches, including \$29 million of lease ROU assets, \$18 million of leasehold improvement assets and \$3 million of equipment assets. During the three and nine months ended September 30, 2021, we also recorded impairment charges of \$4 million and \$9 million to write-down the lease ROU assets and leasehold improvement assets primarily associated with certain office space that we determined we would exit. Lease impairment charges are reflected in occupancy expense, net in the consolidated statement of income and were reported in the Wealth and Personal Banking and the Corporate Center business segments.

During the three and nine months ended September 30, 2021, we recorded \$22 million and \$32 million, respectively, of trading losses associated with the exit of certain derivative contracts as part of our Restructuring Plan. These losses are included in trading revenue (expense) in the consolidated statement of income and were reported in the Markets and Securities Services and the Corporate Center business segments.

Our Restructuring Plan also resulted in costs being allocated to us from HTSU, primarily support service project costs and severance costs, which are reflected in support services from HSBC affiliates in the consolidated statement of income. During the three and nine months ended September 30, 2022, we recorded \$25 million and \$78 million, respectively, of allocated costs from HTSU related to restructuring activities compared with \$13 million and \$43 million of allocated costs during the three and nine months ended September 30, 2021, respectively. These costs were reported in the Corporate Center business segment.

HSBC Group Restructuring Separate from the charges related to our Restructuring Plan as detailed above, during the three and nine months ended September 30, 2022, we also recorded \$36 million and \$78 million, respectively, of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities, primarily support service project costs and severance costs, compared with \$14 million and \$32 million of allocated costs during the three and nine months ended September 30, 2021, respectively. These costs are reflected in support services from HSBC affiliates in the consolidated statement of income and were reported in the Corporate Center business segment.

3. *Branch Assets and Liabilities Held for Sale*

In May 2021, as part of our Restructuring Plan we announced that we would take further actions to strategically reposition our Wealth and Personal Banking business to focus on the banking and wealth management needs of globally-connected affluent and high net worth clients through our Premier, Jade and Private Banking propositions and exit our mass market retail banking business, including our Personal and Advance propositions as well as retail business banking, and rebrand certain of our retail branches into international wealth centers to serve our Premier and Jade customers. In conjunction with the execution of this strategy, we had entered into definitive sale agreements with third parties to sell 90 of our retail branches along with substantially all residential mortgage, unsecured and retail business banking loans and deposits in our branch network not associated with our Premier, Jade and Private Banking customers. As a result of entering into these sale agreements, assets and liabilities related to the agreements were transferred to held for sale during the second quarter of 2021. Income before tax of this disposal group was not material during the nine months ended September 30, 2022 and 2021.

In February 2022, we completed the sale of the branch disposal group and recognized a gain on sale of \$111 million, net of transaction costs. The gain on sale was increased by \$2 million during the third quarter of 2022 reflecting transaction cost adjustments. Included in the sale was approximately \$2,148 million of loans, \$45 million of properties and equipment, \$16 million of cash, \$6,919 million of deposits, \$145 million of lease liabilities and \$6 million of other liabilities. Certain assets under management associated with our mass market retail banking operations which are managed by an affiliate were also transferred to one of the buyers. In addition, we have rebranded 22 of our retail branches into international wealth centers and the remaining branches not sold or rebranded have been closed.

Mass market retail banking loans not included in the transaction described above were also transferred to held for sale during the second quarter of 2021 as we did not intend to hold these loans for the foreseeable future. Certain of these loans have since been sold. See Note 8, "Loans Held for Sale," for additional details.

Releases of the allowance for credit losses on the loans transferred to held for sale discussed above resulted in a reduction to the provision for credit losses of approximately \$101 million (\$100 million of which related to consumer loans) during the second quarter of 2021. See Note 7, "Allowance for Credit Losses," for additional details.

4. Trading Assets and Liabilities

Trading assets and liabilities consisted of the following:

	September 30, 2022	December 31, 2021
	(in millions)	
Trading assets:		
U.S. Treasury	\$ 1,400	\$ 2,337
U.S. Government sponsored enterprises	368	432
Foreign bonds	4,645	167
Equity securities	6,569	15,795
Precious metals	4,760	3,907
Derivatives, net	3,340	1,405
Total trading assets	<u>\$ 21,082</u>	<u>\$ 24,043</u>
Trading liabilities:		
Securities sold, not yet purchased	\$ 1,499	\$ 1,103
Payables for precious metals	—	46
Derivatives, net	3,341	1,874
Total trading liabilities	<u>\$ 4,840</u>	<u>\$ 3,023</u>

At September 30, 2022 and December 31, 2021, the fair value of derivatives included in trading assets is net of \$4,920 million and \$1,419 million, respectively, relating to amounts recognized for the obligation to return cash collateral received under master netting agreements with derivative counterparties.

At September 30, 2022 and December 31, 2021, the fair value of derivatives included in trading liabilities is net of \$2,042 million and \$1,296 million, respectively, relating to amounts recognized for the right to reclaim cash collateral paid under master netting agreements with derivative counterparties.

See Note 10, "Derivative Financial Instruments," for further information on our trading derivatives and related collateral.

Dividend income on equity securities held for trading, which is recorded in interest income in the consolidated statement of income, totaled \$40 million and \$130 million during the three and nine months ended September 30, 2022, respectively, compared with \$44 million and \$108 million during the three and nine months ended September 30, 2021, respectively. Trading security positions are held as economic hedges of derivative products issued to our clients.

5. Securities

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

September 30, 2022	Amortized Cost	Allowance for Credit Losses	Unrealized Gains	Unrealized Losses	Fair Value
(in millions)					
Securities available-for-sale:					
U.S. Treasury	\$ 8,327	\$ —	\$ 37	\$ (250)	\$ 8,114
U.S. Government sponsored enterprises:					
Mortgage-backed securities	6,653	—	—	(1,061)	5,592
Collateralized mortgage obligations	1,581	—	—	(315)	1,266
Direct agency obligations	1,793	—	2	(66)	1,729
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	7,586	—	—	(781)	6,805
Collateralized mortgage obligations	3,260	—	—	(538)	2,722
Direct agency obligations	165	—	2	(4)	163
Asset-backed securities collateralized by:					
Home equity	16	—	—	(1)	15
Other	105	—	—	(13)	92
Foreign debt securities ⁽¹⁾	1,594	—	1	(11)	1,584
Total available-for-sale securities	<u>\$ 31,080</u>	<u>\$ —</u>	<u>\$ 42</u>	<u>\$ (3,040)</u>	<u>\$ 28,082</u>
Securities held-to-maturity:					
U.S. Government sponsored enterprises:					
Mortgage-backed securities	\$ 1,174	\$ —	\$ —	\$ (92)	\$ 1,082
Collateralized mortgage obligations	375	—	4	(19)	360
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	2,940	—	—	(213)	2,727
Collateralized mortgage obligations	2,160	—	—	(155)	2,005
Obligations of U.S. states and political subdivisions	6	—	—	—	6
Asset-backed securities collateralized by residential mortgages	1	—	—	—	1
Total held-to-maturity securities	<u>\$ 6,656</u>	<u>\$ —</u>	<u>\$ 4</u>	<u>\$ (479)</u>	<u>\$ 6,181</u>

December 31, 2021	Amortized Cost	Allowance for Credit Losses	Unrealized Gains	Unrealized Losses	Fair Value
	(in millions)				
Securities available-for-sale:					
U.S. Treasury	\$ 9,490	\$ —	\$ 144	\$ (72)	\$ 9,562
U.S. Government sponsored enterprises:					
Mortgage-backed securities	7,365	—	114	(115)	7,364
Collateralized mortgage obligations	1,787	—	8	(48)	1,747
Direct agency obligations	1,775	—	16	(4)	1,787
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	8,489	—	7	(66)	8,430
Collateralized mortgage obligations	3,730	—	7	(49)	3,688
Direct agency obligations	282	—	6	—	288
Asset-backed securities collateralized by:					
Home equity	20	(1)	—	—	19
Other	107	—	—	(6)	101
Foreign debt securities ⁽¹⁾	2,311	—	3	(2)	2,312
Total available-for-sale securities	<u>\$ 35,356</u>	<u>\$ (1)</u>	<u>\$ 305</u>	<u>\$ (362)</u>	<u>\$ 35,298</u>
Securities held-to-maturity:					
U.S. Government sponsored enterprises:					
Mortgage-backed securities	\$ 684	\$ —	\$ 21	\$ —	\$ 705
Collateralized mortgage obligations	492	—	26	—	518
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	1,104	—	24	—	1,128
Collateralized mortgage obligations	2,915	—	85	(1)	2,999
Obligations of U.S. states and political subdivisions	8	—	—	—	8
Asset-backed securities collateralized by residential mortgages	1	(1)	1	—	1
Total held-to-maturity securities	<u>\$ 5,204</u>	<u>\$ (1)</u>	<u>\$ 157</u>	<u>\$ (1)</u>	<u>\$ 5,359</u>

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

Securities Available-for-Sale The following provides additional information about our portfolio of securities available-for-sale:

Allowance for credit losses 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 available-for-sale in an unrealized loss position has suffered impairment due to credit factors. A debt security available-for-sale 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 due to credit factors.

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 recognized and the unrealized loss is recorded as a direct write-down of the security's amortized cost basis with an offsetting entry to earnings. If we do not intend to sell the debt security or believe we will not be required to sell the debt security before the recovery of its amortized cost basis, the impairment is assessed to determine if a credit loss component exists. We use a discounted cash flow method to determine the credit loss component. In the event a credit loss exists, an allowance for credit losses is recorded in earnings for the credit loss component of the impairment while the remaining portion of the impairment attributable to factors other than credit loss is recognized, net of tax, in other comprehensive income (loss). The amount of impairment recognized due to credit factors is limited to the excess of the amortized cost basis over the fair value of the security available-for-sale.

In determining whether a credit loss component exists, we consider a series of factors which include:

- The extent to which the fair value is less than the amortized cost basis;

- The credit protection features embedded within the instrument, which includes but is not limited to credit subordination positions, payment structure, overcollateralization, protective triggers and financial guarantees provided by third parties;
- Changes in the near term prospects of the issuer or the underlying collateral of a security such as changes in default rates, loss severities given default and significant changes in prepayment assumptions;
- The level of excess cash flows generated from the underlying collateral supporting the principal and interest payments of the debt securities; and
- Any adverse change to the credit conditions of the issuer, the monoline insurer or the security such as credit downgrades by external rating agencies or changes to internal ratings.

At September 30, 2022 and December 31, 2021, the allowance for credit losses on securities available-for-sale was nil and \$1 million, respectively.

Securities in an unrealized loss position for which no allowance for credit losses has been recognized The following table summarizes gross unrealized losses and related fair values for securities available-for-sale by major security type at September 30, 2022 and December 31, 2021 classified as to the length of time the losses have existed:

	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)						
At September 30, 2022						
U.S. Treasury	30	\$ (134)	\$ 4,877	15	\$ (116)	\$ 1,212
U.S. Government sponsored enterprises	245	(419)	3,665	67	(1,023)	4,384
U.S. Government agency issued or guaranteed	132	(914)	7,652	31	(409)	1,976
Asset-backed securities	4	(1)	15	3	(13)	92
Foreign debt securities	4	(4)	347	2	(7)	105
Securities available-for-sale	<u>415</u>	<u>\$ (1,472)</u>	<u>\$ 16,556</u>	<u>118</u>	<u>\$ (1,568)</u>	<u>\$ 7,769</u>
At December 31, 2021						
U.S. Treasury	11	\$ (28)	\$ 1,784	9	\$ (44)	\$ 856
U.S. Government sponsored enterprises	63	(155)	6,224	14	(12)	354
U.S. Government agency issued or guaranteed	59	(91)	8,972	15	(24)	769
Asset-backed securities	—	—	—	3	(6)	101
Foreign debt securities	8	(2)	1,188	—	—	—
Securities available-for-sale	<u>141</u>	<u>\$ (276)</u>	<u>\$ 18,168</u>	<u>41</u>	<u>\$ (86)</u>	<u>\$ 2,080</u>

Gross unrealized losses increased as compared with December 31, 2021 due primarily to increasing yields on U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed and U.S. Treasury securities.

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 allowance for credit losses. The decline in fair value may be caused by, among other things, the illiquidity of the market. We have reviewed the securities in an unrealized loss position for which no allowance for credit losses has been recognized in accordance with our accounting policies, discussed further above. At September 30, 2022, we do not consider any of these securities to be impaired due to credit factors 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 them until their individual maturities. However, impairments due to credit factors may occur in future periods if the credit quality of the securities deteriorates.

Securities Held-to-Maturity The following provides additional information about our portfolio of securities held-to-maturity:

Allowance for credit losses We exclude from our calculation of lifetime expected credit losses ("ECL") securities for which we expect that non-payment of the amortized cost basis will be zero ("Zero Expected Credit Loss Exception"). Due to the composition of our portfolio of securities held-to-maturity, substantially all of our portfolio qualifies for the Zero Expected Credit Loss Exception and has been excluded from our lifetime ECL calculation. At September 30, 2022 and December 31, 2021, the allowance for credit losses on securities held-to-maturity was nil and \$1 million, respectively.

At September 30, 2022 and December 31, 2021, none of our securities held-to-maturity were past due or in nonaccrual status.

Credit risk profile Securities are assigned a credit rating based on the estimated probability of default. The credit ratings are used as a credit quality indicator to monitor our securities held-to-maturity portfolio. We utilize Standard and Poor's ("S&P") as the primary source of our credit ratings. If S&P ratings are not available, ratings by Moody's and Fitch are used in that order. Investment grade includes securities with credit ratings of at least BBB- or above. At September 30, 2022 and December 31, 2021, all of our securities held-to-maturity were investment grade.

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 September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
(in millions)				
Gross realized gains	\$ 1	\$ 21	\$ 31	\$ 109
Gross realized losses	—	(17)	(1)	(58)
Net realized gains	<u>\$ 1</u>	<u>\$ 4</u>	<u>\$ 30</u>	<u>\$ 51</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 September 30, 2022 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 September 30, 2022, 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 September 30, 2022.

	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	\$ 249	2.00 %	\$ 3,859	1.51 %	\$ 1,286	1.54 %	\$ 2,933	2.71 %
U.S. Government sponsored enterprises	192	1.17	1,725	1.74	1,451	2.25	6,659	1.75
U.S. Government agency issued or guaranteed	—	—	21	.96	2	6.35	10,988	2.42
Asset-backed securities	—	—	—	—	105	4.17	16	2.94
Foreign debt securities	1,177	.29	417	1.30	—	—	—	—
Total amortized cost	<u>\$ 1,618</u>	.66 %	<u>\$ 6,022</u>	1.56 %	<u>\$ 2,844</u>	2.00 %	<u>\$ 20,596</u>	2.25 %
Total fair value	<u>\$ 1,616</u>		<u>\$ 5,855</u>		<u>\$ 2,696</u>		<u>\$ 17,915</u>	
Held-to-maturity:								
U.S. Government sponsored enterprises	\$ 14	2.84 %	\$ 92	2.34 %	\$ 855	3.14 %	\$ 588	3.38 %
U.S. Government agency issued or guaranteed	—	—	2	2.44	9	6.82	5,089	3.21
Obligations of U.S. states and political subdivisions	2	3.68	2	4.45	2	2.42	—	—
Asset-backed securities	—	—	—	—	—	—	1	7.68
Total amortized cost	<u>\$ 16</u>	2.95 %	<u>\$ 96</u>	2.39 %	<u>\$ 866</u>	3.18 %	<u>\$ 5,678</u>	3.23 %
Total fair value	<u>\$ 16</u>		<u>\$ 91</u>		<u>\$ 799</u>		<u>\$ 5,275</u>	

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

	September 30, 2022	December 31, 2021
(in millions)		
Equity securities carried at fair value	\$ 268	\$ 282
Equity securities without readily determinable fair values	15	16

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. During the nine months ended September 30, 2022, we determined that certain equity securities without readily determinable fair values were impaired and, as a result, we recorded an impairment loss of \$3 million as a component of other income (loss) in the consolidated statement of income compared with recording an impairment loss of \$3 million during the nine months ended September 30, 2021.

Also included in other assets were investments in Federal Home Loan Bank ("FHLB") stock and Federal Reserve Bank stock of \$95 million and \$528 million, respectively, at September 30, 2022 and \$110 million and \$558 million, respectively, at December 31, 2021.

6. Loans

Loans consisted of the following:

	September 30, 2022	December 31, 2021
	(in millions)	
Commercial loans:		
Real estate, including construction	\$ 8,395	\$ 8,234
Business and corporate banking	16,730	13,958
Global banking ⁽¹⁾	12,142	11,109
Other commercial:		
Affiliates ⁽²⁾	3,717	2,793
Other	3,483	3,702
Total other commercial	<u>7,200</u>	<u>6,495</u>
Total commercial	<u>44,467</u>	<u>39,796</u>
Consumer loans:		
Residential mortgages ⁽³⁾	16,691	15,469
Home equity mortgages ⁽³⁾	345	325
Credit cards	198	204
Other consumer	74	70
Total consumer	<u>17,308</u>	<u>16,068</u>
Total loans	<u>\$ 61,775</u>	<u>\$ 55,864</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⁾ See Note 14, "Related Party Transactions," for additional information regarding loans to HSBC affiliates.

⁽³⁾ Consumer mortgage loans at September 30, 2022 include certain loans that were transferred from held for sale to held for investment during the second quarter of 2022. See Note 8, "Loans Held for Sale," for additional information.

Net deferred origination costs totaled \$27 million and \$40 million at September 30, 2022 and December 31, 2021, respectively. At September 30, 2022 and December 31, 2021, we had a net unamortized premium (discount) on our loans of \$(9) million and \$5 million, respectively.

Aging Analysis of Past Due Loans The following table summarizes the past due status of our loans at September 30, 2022 and December 31, 2021. 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.

	Past Due		Total Past Due 30 Days or More	Current ⁽¹⁾	Total Loans
	30 - 89 Days	90+ Days			
(in millions)					
At September 30, 2022					
Commercial loans:					
Real estate, including construction	\$ 1	\$ 92	\$ 93	\$ 8,302	\$ 8,395
Business and corporate banking	74	22	96	16,634	16,730
Global banking	25	3	28	12,114	12,142
Other commercial	6	3	9	7,191	7,200
Total commercial	<u>106</u>	<u>120</u>	<u>226</u>	<u>44,241</u>	<u>44,467</u>
Consumer loans:					
Residential mortgages ⁽²⁾	176	95	271	16,420	16,691
Home equity mortgages ⁽²⁾	4	3	7	338	345
Credit cards	2	1	3	195	198
Other consumer	1	—	1	73	74
Total consumer	<u>183</u>	<u>99</u>	<u>282</u>	<u>17,026</u>	<u>17,308</u>
Total loans	<u>\$ 289</u>	<u>\$ 219</u>	<u>\$ 508</u>	<u>\$ 61,267</u>	<u>\$ 61,775</u>
At December 31, 2021					
Commercial loans:					
Real estate, including construction	\$ 38	\$ —	\$ 38	\$ 8,196	\$ 8,234
Business and corporate banking	112	17	129	13,829	13,958
Global banking	—	27	27	11,082	11,109
Other commercial	47	—	47	6,448	6,495
Total commercial	<u>197</u>	<u>44</u>	<u>241</u>	<u>39,555</u>	<u>39,796</u>
Consumer loans:					
Residential mortgages	138	63	201	15,268	15,469
Home equity mortgages	2	1	3	322	325
Credit cards	5	2	7	197	204
Other consumer	1	—	1	69	70
Total consumer	<u>146</u>	<u>66</u>	<u>212</u>	<u>15,856</u>	<u>16,068</u>
Total loans	<u>\$ 343</u>	<u>\$ 110</u>	<u>\$ 453</u>	<u>\$ 55,411</u>	<u>\$ 55,864</u>

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

⁽²⁾ Consumer mortgage past due loans at September 30, 2022 include certain loans that were transferred from held for sale to held for investment during the second quarter of 2022, which collectively included \$50 million of consumer mortgage loans which were past due 30 days or more at the time of transfer. See Note 8, "Loans Held for Sale," for additional information.

Nonperforming Loans Nonperforming loans, including nonaccrual loans and accruing loans contractually 90 days or more past due, consisted of the following:

	Nonaccrual Loans	Accruing Loans Contractually Past Due 90 Days or More	Nonaccrual Loans With No Allowance For Credit Losses
	(in millions)		
At September 30, 2022			
Commercial:			
Real estate, including construction	\$ 136	\$ —	\$ 61
Business and corporate banking	119	1	49
Global banking	87	—	73
Total commercial	<u>342</u>	<u>1</u>	<u>183</u>
Consumer:			
Residential mortgages ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾	199	—	71
Home equity mortgages ⁽¹⁾⁽²⁾⁽⁴⁾	7	—	5
Credit cards	—	1	—
Total consumer	<u>206</u>	<u>1</u>	<u>76</u>
Total nonperforming loans	<u>\$ 548</u>	<u>\$ 2</u>	<u>\$ 259</u>
At December 31, 2021			
Commercial:			
Real estate, including construction	\$ 140	\$ —	\$ 20
Business and corporate banking	134	1	69
Global banking	105	—	63
Total commercial	<u>379</u>	<u>1</u>	<u>152</u>
Consumer:			
Residential mortgages ⁽¹⁾⁽²⁾⁽³⁾	229	—	55
Home equity mortgages ⁽¹⁾⁽²⁾	9	—	4
Credit cards	—	2	—
Total consumer	<u>238</u>	<u>2</u>	<u>59</u>
Total nonperforming loans	<u>\$ 617</u>	<u>\$ 3</u>	<u>\$ 211</u>

⁽¹⁾ At September 30, 2022 and December 31, 2021, nonaccrual consumer mortgage loans include \$102 million and \$86 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 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.

⁽⁴⁾ Consumer mortgage nonperforming loans at September 30, 2022 include certain loans that were transferred from held for sale to held for investment during the second quarter of 2022, which collectively included \$63 million of consumer mortgage nonperforming loans at the time of transfer. See Note 8, "Loans Held for Sale," for additional information.

Interest income that was recorded on nonaccrual loans and included in interest income totaled \$3 million and \$8 million during the three and nine months ended September 30, 2022, respectively, compared with \$6 million and \$31 million during the three and nine months ended September 30, 2021, respectively.

Collateral-Dependent Loans Loans for which the repayment is expected to be provided substantially through the operation or sale of the collateral and the borrower is experiencing financial difficulty are considered to be collateral-dependent loans. Collateral can have a significant financial effect in mitigating our exposure to credit risk.

Collateral-dependent residential mortgage loans are carried at the lower of amortized cost or fair value of the collateral less costs to sell, with any excess in the carrying amount of the loan generally charged off at the time foreclosure is initiated or when settlement is reached with the borrower, but not to exceed the end of the month in which the account becomes six months contractually delinquent. Collateral values are based on broker price opinions or appraisals which are updated at least every 180 days less estimated costs to sell. During the quarterly period between updates, real estate price trends are reviewed on a

geographic basis and incorporated as necessary. At September 30, 2022 and December 31, 2021, we had collateral-dependent residential mortgage loans totaling \$248 million and \$214 million, respectively.

For collateral-dependent commercial loans, the allowance for expected credit losses is individually assessed based on the fair value of the collateral. Various types of collateral are used, including real estate, inventory, equipment, accounts receivable, securities and cash, among others. For commercial real estate loans, collateral values are generally based on appraisals which are updated based on management judgment under the specific circumstances on a case-by-case basis. In situations where an appraisal is not used, borrower-specific factors such as operating results, cash flows and debt service ratios are reviewed along with relevant market data of comparable properties in order to create a 10-year cash flow model to be discounted at appropriate rates to present value. The collateral value for securities is based on their quoted market prices or broker quotes. The collateral value for other financial assets is generally based on appraisals or is estimated using a discounted cash flow analysis. Commercial loan balances are charged off at the time all or a portion of the balance is deemed uncollectible. At September 30, 2022 and December 31, 2021, we had collateral-dependent commercial loans totaling \$241 million and \$347 million, respectively.

Troubled debt restructurings ("TDR Loans") 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. 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 the loan is upgraded, it is possible the loan will no longer be reported as a TDR Loan at the earliest one year after the restructuring. During the three and nine months ended September 30, 2022 and 2021, there were no commercial loans that met these criteria and were removed from TDR Loan classification.

The following table summarizes our TDR Loans at September 30, 2022 and December 31, 2021:

	September 30, 2022	December 31, 2021
	(in millions)	
Commercial loans:		
Business and corporate banking.....	\$ 112	\$ 38
Global banking.....	3	25
Total commercial ⁽¹⁾	<u>115</u>	<u>63</u>
Consumer loans:		
Residential mortgages ⁽²⁾⁽³⁾	137	125
Home equity mortgages ⁽²⁾⁽³⁾	12	9
Credit cards.....	2	3
Total consumer.....	<u>151</u>	<u>137</u>
Total TDR Loans ⁽⁴⁾	<u>\$ 266</u>	<u>\$ 200</u>

⁽¹⁾ Additional commitments to lend to commercial borrowers whose loans have been modified in TDR Loans totaled \$14 million and \$13 million at September 30, 2022 and December 31, 2021, respectively.

⁽²⁾ At September 30, 2022 and December 31, 2021, the carrying value of consumer mortgage TDR Loans includes \$101 million and \$104 million, respectively, of loans that are recorded at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽³⁾ Consumer mortgage TDR Loans at September 30, 2022 include certain loans that were transferred from held for sale to held for investment during the second quarter of 2022, which collectively included \$24 million of consumer mortgage TDR Loans at the time of transfer. See Note 8, "Loans Held for Sale," for additional information.

⁽⁴⁾ At September 30, 2022 and December 31, 2021, the carrying value of TDR Loans includes \$111 million and \$115 million, respectively, of loans which are classified as nonaccrual.

The following table presents information about loans which were modified during the three and nine months ended September 30, 2022 and 2021 and as a result of this action became classified as TDR Loans:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
(in millions)				
Commercial loans:				
Business and corporate banking	\$ —	\$ —	\$ 101	\$ 26
Global banking	—	—	—	15
Total commercial	<u>—</u>	<u>—</u>	<u>101</u>	<u>41</u>
Consumer loans:				
Residential mortgages	5	1	17	33
Home equity mortgages	—	—	2	1
Credit cards	—	—	3	1
Total consumer	<u>5</u>	<u>1</u>	<u>22</u>	<u>35</u>
Total	<u>\$ 5</u>	<u>\$ 1</u>	<u>\$ 123</u>	<u>\$ 76</u>

The weighted-average contractual rate reduction for consumer loans which became classified as TDR Loans during the three and nine months ended September 30, 2022 was 1.25 percent and 0.25 percent, respectively, compared with 3.13 percent and 2.08 percent during the three and nine months ended September 30, 2021, respectively. The weighted-average contractual rate reduction for commercial loans was not significant in either the number of loans or rate.

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 and nine months ended September 30, 2022 and 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
(in millions)				
Consumer loans:				
Residential mortgages	\$ —	\$ 1	\$ —	\$ 4
Total consumer	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ 4</u>

During the three and nine months ended September 30, 2022 and 2021, 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.

Commercial Loan Credit Quality Indicators The following credit quality indicators are utilized to monitor 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 facility grades are deemed to be criticized:

Special Mention - generally includes loans that are protected by collateral and/or the credit worthiness of the customer, but are potentially weak based upon economic or market circumstances which, if not checked or corrected, could weaken our credit position at some future date.

Substandard - includes loans that are inadequately protected by the underlying collateral and/or general credit worthiness of the customer. These loans present a distinct possibility that we will sustain some loss if the deficiencies are not corrected.

Doubtful - includes loans that have all the weaknesses exhibited by substandard loans, with the added characteristic that the weaknesses make collection or liquidation in full of the recorded loan highly improbable. However, although the possibility of loss is extremely high, certain factors exist which may strengthen the credit at some future date, and therefore the decision to charge-off the loan is deferred. Loans graded as doubtful are required to be placed in nonaccrual status.

The following table summarizes our criticized commercial loans, including a disaggregation of the loans by year of origination as of September 30, 2022 and December 31, 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Sep. 30, 2022
(in millions)									
Real estate, including construction:									
Special mention	\$ 205	\$ 616	\$ 22	\$ 212	\$ —	\$ 20	\$ —	\$ 3	\$ 1,078
Substandard	1	—	79	239	677	1,029	19	—	2,044
Doubtful	—	—	—	75	—	10	—	—	85
Total real estate, including construction	206	616	101	526	677	1,059	19	3	3,207
Business and corporate banking:									
Special mention	22	—	4	1	4	117	181	12	341
Substandard	32	70	26	12	8	163	479	1	791
Doubtful	—	—	27	—	15	1	22	4	69
Total business and corporate banking	54	70	57	13	27	281	682	17	1,201
Global banking:									
Special mention	53	—	—	—	—	8	221	—	282
Substandard	243	—	—	17	—	2	227	—	489
Doubtful	—	—	—	—	—	—	15	—	15
Total global banking	296	—	—	17	—	10	463	—	786
Other commercial:									
Substandard	—	—	—	—	—	3	8	—	11
Doubtful	11	—	—	—	—	—	—	—	11
Total other commercial	11	—	—	—	—	3	8	—	22
Total commercial:									
Special mention	280	616	26	213	4	145	402	15	1,701
Substandard	276	70	105	268	685	1,197	733	1	3,335
Doubtful	11	—	27	75	15	11	37	4	180
Total commercial	\$ 567	\$ 686	\$ 158	\$ 556	\$ 704	\$ 1,353	\$ 1,172	\$ 20	\$ 5,216

	2021	2020	2019	2018	2017	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2021
(in millions)									
Real estate, including construction:									
Special mention	\$ —	\$ —	\$ 350	\$ 487	\$ 90	\$ 259	\$ —	\$ —	\$ 1,186
Substandard	—	1	272	263	308	461	20	11	1,336
Doubtful	—	—	80	2	—	53	—	—	135
Total real estate, including construction	—	1	702	752	398	773	20	11	2,657
Business and corporate banking:									
Special mention	—	1	91	60	26	274	173	—	625
Substandard	—	18	36	9	3	226	424	8	724
Doubtful	—	—	—	20	—	28	16	—	64
Total business and corporate banking	—	19	127	89	29	528	613	8	1,413
Global banking:									
Special mention	8	—	—	—	—	8	47	—	63
Substandard	—	—	—	—	—	54	232	—	286
Doubtful	—	—	—	—	—	—	31	—	31
Total global banking	8	—	—	—	—	62	310	—	380
Other commercial:									
Special mention	—	—	—	—	—	7	—	—	7
Substandard	—	—	—	—	—	—	40	—	40
Total other commercial	—	—	—	—	—	7	40	—	47
Total commercial:									
Special mention	8	1	441	547	116	548	220	—	1,881
Substandard	—	19	308	272	311	741	716	19	2,386
Doubtful	—	—	80	22	—	81	47	—	230
Total commercial	\$ 8	\$ 20	\$ 829	\$ 841	\$ 427	\$ 1,370	\$ 983	\$ 19	\$ 4,497

Nonperforming The following table summarizes the nonperforming status of our commercial loan portfolio, including a disaggregation of the loans by year of origination as of September 30, 2022 and December 31, 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Sep. 30, 2022
(in millions)									
Real estate, including construction:									
Performing loans	\$ 1,271	\$ 909	\$ 629	\$ 1,857	\$ 1,825	\$ 1,720	\$ 44	\$ 4	\$ 8,259
Nonaccrual loans	—	—	—	119	—	17	—	—	136
Total real estate, including construction	1,271	909	629	1,976	1,825	1,737	44	4	8,395
Business and corporate banking:									
Performing loans	1,017	1,260	364	764	214	5,009	7,748	234	16,610
Nonaccrual loans	—	—	38	—	16	27	34	4	119
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total business and corporate banking	1,017	1,260	402	764	230	5,036	7,783	238	16,730
Global banking:									
Performing loans	2,175	454	427	150	129	4,448	4,272	—	12,055
Nonaccrual loans	9	—	—	—	—	33	45	—	87
Total global banking	2,184	454	427	150	129	4,481	4,317	—	12,142
Other commercial:									
Performing loans	119	306	602	410	176	1,032	4,555	—	7,200
Total other commercial	119	306	602	410	176	1,032	4,555	—	7,200
Total commercial:									
Performing loans	4,582	2,929	2,022	3,181	2,344	12,209	16,619	238	44,124
Nonaccrual loans	9	—	38	119	16	77	79	4	342
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total commercial	\$ 4,591	\$ 2,929	\$ 2,060	\$ 3,300	\$ 2,360	\$ 12,286	\$ 16,699	\$ 242	\$ 44,467

	2021	2020	2019	2018	2017	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2021
(in millions)									
Real estate, including construction:									
Performing loans	\$ 969	\$ 651	\$ 2,436	\$ 2,076	\$ 593	\$ 1,307	\$ 46	\$ 16	\$ 8,094
Nonaccrual loans	—	2	80	40	—	18	—	—	140
Total real estate, including construction	969	653	2,516	2,116	593	1,325	46	16	8,234
Business and corporate banking:									
Performing loans	1,630	709	594	190	187	4,756	5,540	217	13,823
Nonaccrual loans	—	4	14	30	51	1	34	—	134
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total business and corporate banking	1,630	713	608	220	238	4,757	5,575	217	13,958
Global banking:									
Performing loans	547	540	203	80	243	4,580	4,811	—	11,004
Nonaccrual loans	—	—	—	—	—	40	65	—	105
Total global banking	547	540	203	80	243	4,620	4,876	—	11,109
Other commercial:									
Performing loans	589	552	451	174	110	1,045	3,574	—	6,495
Total other commercial	589	552	451	174	110	1,045	3,574	—	6,495
Total commercial:									
Performing loans	3,735	2,452	3,684	2,520	1,133	11,688	13,971	233	39,416
Nonaccrual loans	—	6	94	70	51	59	99	—	379
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total commercial	<u>\$ 3,735</u>	<u>\$ 2,458</u>	<u>\$ 3,778</u>	<u>\$ 2,590</u>	<u>\$ 1,184</u>	<u>\$ 11,747</u>	<u>\$ 14,071</u>	<u>\$ 233</u>	<u>\$ 39,796</u>

Credit risk profile Commercial loans are assigned a credit rating based on the estimated probability of default. Investment grade includes loans with credit ratings of at least BBB- or above or the equivalent based on our internal credit rating system. The following table summarizes the credit risk profile of our commercial loan portfolio, including a disaggregation of the loans by year of origination as of September 30, 2022 and December 31, 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Sep. 30, 2022
(in millions)									
Real estate, including construction:									
Investment grade	\$ 79	\$ 45	\$ 305	\$ 496	\$ 805	\$ 296	\$ 12	\$ —	\$ 2,038
Non-investment grade	1,192	864	324	1,480	1,020	1,441	32	4	6,357
Total real estate, including construction	1,271	909	629	1,976	1,825	1,737	44	4	8,395
Business and corporate banking:									
Investment grade	517	704	149	416	57	2,634	3,883	45	8,405
Non-investment grade	500	556	253	348	173	2,402	3,900	193	8,325
Total business and corporate banking	1,017	1,260	402	764	230	5,036	7,783	238	16,730
Global banking:									
Investment grade	1,974	443	421	119	99	3,286	3,775	—	10,117
Non-investment grade	210	11	6	31	30	1,195	542	—	2,025
Total global banking	2,184	454	427	150	129	4,481	4,317	—	12,142
Other commercial:									
Investment grade	111	99	512	110	168	847	4,421	—	6,268
Non-investment grade	8	207	90	300	8	185	134	—	932
Total other commercial	119	306	602	410	176	1,032	4,555	—	7,200
Total commercial:									
Investment grade	2,681	1,291	1,387	1,141	1,129	7,063	12,091	45	26,828
Non-investment grade	1,910	1,638	673	2,159	1,231	5,223	4,608	197	17,639
Total commercial	\$ 4,591	\$ 2,929	\$ 2,060	\$ 3,300	\$ 2,360	\$ 12,286	\$ 16,699	\$ 242	\$ 44,467
(in millions)									
	2021	2020	2019	2018	2017	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2021
Real estate, including construction:									
Investment grade	\$ 1	\$ 361	\$ 491	\$ 772	\$ 57	\$ 248	\$ 12	\$ —	\$ 1,942
Non-investment grade	968	292	2,025	1,344	536	1,077	34	16	6,292
Total real estate, including construction	969	653	2,516	2,116	593	1,325	46	16	8,234
Business and corporate banking:									
Investment grade	881	254	240	52	43	2,122	2,498	55	6,145
Non-investment grade	749	459	368	168	195	2,635	3,077	162	7,813
Total business and corporate banking	1,630	713	608	220	238	4,757	5,575	217	13,958
Global banking:									
Investment grade	530	539	189	64	235	3,910	4,240	—	9,707
Non-investment grade	17	1	14	16	8	710	636	—	1,402
Total global banking	547	540	203	80	243	4,620	4,876	—	11,109
Other commercial:									
Investment grade	120	442	153	174	69	943	3,527	—	5,428
Non-investment grade	469	110	298	—	41	102	47	—	1,067
Total other commercial	589	552	451	174	110	1,045	3,574	—	6,495
Total commercial:									
Investment grade	1,532	1,596	1,073	1,062	404	7,223	10,277	55	23,222
Non-investment grade	2,203	862	2,705	1,528	780	4,524	3,794	178	16,574
Total commercial	\$ 3,735	\$ 2,458	\$ 3,778	\$ 2,590	\$ 1,184	\$ 11,747	\$ 14,071	\$ 233	\$ 39,796

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

Delinquency The following table summarizes dollars of two-months-and-over contractual delinquency for our consumer loan portfolio, including a disaggregation of the loans by year of origination as of September 30, 2022 and December 31, 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Total at Sep. 30, 2022
	(in millions)							
Residential mortgages ⁽¹⁾⁽²⁾	\$ 1	\$ 4	\$ 6	\$ 14	\$ 10	\$ 89	\$ —	\$ 124
Home equity mortgages ⁽¹⁾⁽²⁾	—	—	—	—	—	3	—	3
Credit cards	—	—	—	—	—	—	2	2
Other consumer	—	—	—	—	—	1	—	1
Total consumer	\$ 1	\$ 4	\$ 6	\$ 14	\$ 10	\$ 93	\$ 2	\$ 130
	(in millions)							
	2021	2020	2019	2018	2017	Prior	Revolving Loans	Total at Dec. 31, 2021
Residential mortgages ⁽¹⁾⁽²⁾	\$ 5	\$ 2	\$ 11	\$ 13	\$ 8	\$ 64	\$ —	\$ 103
Home equity mortgages ⁽¹⁾⁽²⁾	—	—	—	—	—	1	—	1
Credit cards	—	—	—	—	—	—	3	3
Total consumer	\$ 5	\$ 2	\$ 11	\$ 13	\$ 8	\$ 65	\$ 3	\$ 107

⁽¹⁾ At September 30, 2022 and December 31, 2021, consumer mortgage loan delinquency includes \$52 million and \$24 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽²⁾ At September 30, 2022 and December 31, 2021, consumer mortgage loans include \$18 million and \$87 million, respectively, of loans that were in the process of foreclosure.

Nonperforming The following table summarizes the nonperforming status of our consumer loan portfolio, including a disaggregation of the loans by year of origination as of September 30, 2022 and December 31, 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Total at Sep. 30, 2022
	(in millions)							
Residential mortgages:								
Performing loans	\$ 2,478	\$ 4,319	\$ 2,973	\$ 1,325	\$ 751	\$ 4,646	\$ —	\$ 16,492
Nonaccrual loans	—	9	9	17	17	147	—	199
Total residential mortgages	2,478	4,328	2,982	1,342	768	4,793	—	16,691
Home equity mortgages:								
Performing loans	33	13	30	32	17	213	—	338
Nonaccrual loans	—	—	—	—	—	7	—	7
Total home equity mortgages	33	13	30	32	17	220	—	345
Credit cards:								
Performing loans	—	—	—	—	—	—	197	197
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	1
Total credit cards	—	—	—	—	—	—	198	198
Other consumer:								
Performing loans	10	6	7	5	—	44	2	74
Total other consumer	10	6	7	5	—	44	2	74
Total consumer:								
Performing loans	2,521	4,338	3,010	1,362	768	4,903	199	17,101
Nonaccrual loans	—	9	9	17	17	154	—	206
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	1
Total consumer	\$ 2,521	\$ 4,347	\$ 3,019	\$ 1,379	\$ 785	\$ 5,057	\$ 200	\$ 17,308

	2021	2020	2019	2018	2017	Prior	Revolving Loans	Total at Dec. 31, 2021
(in millions)								
Residential mortgages:								
Performing loans	\$ 4,496	\$ 3,296	\$ 1,481	\$ 851	\$ 955	\$ 4,161	\$ —	\$ 15,240
Nonaccrual loans	2	9	15	21	14	168	—	229
Total residential mortgages	4,498	3,305	1,496	872	969	4,329	—	15,469
Home equity mortgages:								
Performing loans	15	30	30	18	17	206	—	316
Nonaccrual loans	—	—	—	—	—	9	—	9
Total home equity mortgages	15	30	30	18	17	215	—	325
Credit cards:								
Performing loans	—	—	—	—	—	—	202	202
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	2	2
Total credit cards	—	—	—	—	—	—	204	204
Other consumer:								
Performing loans	8	8	5	1	1	45	2	70
Total other consumer	8	8	5	1	1	45	2	70
Total consumer:								
Performing loans	4,519	3,334	1,516	870	973	4,412	204	15,828
Nonaccrual loans	2	9	15	21	14	177	—	238
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	2	2
Total consumer	<u>\$ 4,521</u>	<u>\$ 3,343</u>	<u>\$ 1,531</u>	<u>\$ 891</u>	<u>\$ 987</u>	<u>\$ 4,589</u>	<u>\$ 206</u>	<u>\$ 16,068</u>

Troubled debt restructurings The following table summarizes TDR Loans in our consumer loan portfolio, including a disaggregation of the loans by year of origination as of September 30, 2022 and December 31, 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Total at Sep. 30, 2022
(in millions)								
Residential mortgages	\$ —	\$ —	\$ 2	\$ 9	\$ 4	\$ 122	\$ —	\$ 137
Home equity mortgages	—	—	—	—	—	12	—	12
Credit cards	—	—	—	—	—	—	2	2
Total consumer	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2</u>	<u>\$ 9</u>	<u>\$ 4</u>	<u>\$ 134</u>	<u>\$ 2</u>	<u>\$ 151</u>
(in millions)								
Residential mortgages	\$ —	\$ 1	\$ 3	\$ 3	\$ —	\$ 118	\$ —	\$ 125
Home equity mortgages	—	—	—	—	—	9	—	9
Credit cards	—	—	—	—	—	—	3	3
Total consumer	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ 3</u>	<u>\$ 3</u>	<u>\$ —</u>	<u>\$ 127</u>	<u>\$ 3</u>	<u>\$ 137</u>

Concentration of Credit Risk At September 30, 2022 and December 31, 2021, our loan portfolios included interest-only residential mortgage and home equity mortgage loans totaling \$4,029 million and \$3,739 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.

7. Allowance for Credit Losses

We utilize a minimum of four forward-looking economic scenarios to calculate lifetime ECL when estimating the allowance for credit losses for in scope financial assets and the liability for off-balance sheet credit exposures. Three of the scenarios are termed the "Consensus Economic Scenarios" and represent a 'most likely outcome' (the "Central scenario") and two less likely 'outer' scenarios, referred to as the "Upside scenario" and the "Downside scenario." The fourth scenario, referred to as the "Alternative Downside scenario," is designed to consider severe downside risks with more extreme economic outcomes than those captured by the Consensus Economic Scenarios. Each scenario is assigned a weighting deemed appropriate for the estimation of lifetime ECL, with the majority of the weighting typically placed on the Central scenario. At management's discretion, changes may be made to the weighting assigned to the four scenarios or additional scenarios may be included in order to consider current economic conditions.

Updates to Economic Scenarios and Other Changes During the Nine Months Ended September 30, 2022 During the first half of 2022, in addition to the continued economic uncertainty caused by the coronavirus ("COVID-19") pandemic, the impacts of inflation and the Russia-Ukraine war, created further uncertainty about the future economic environment. As a result, in addition to updating our three Consensus Economic Scenarios and our Alternative Downside scenario, beginning in the first quarter of 2022, we developed and utilized a fifth scenario for estimating lifetime ECL, referred to as the "Alternative Downside 2 scenario," to reflect the possibility that the Russia-Ukraine war could last for a prolonged period. At June 30, 2022, each of the five scenarios were assigned weightings with the majority of the weighting placed on the Central scenario, the second most weighting placed on the Downside scenario, lower equal weights placed on the Alternative Downside and Alternative Downside 2 scenarios, and the lowest weighting placed on the Upside scenario. This weighting was deemed appropriate for the estimation of lifetime ECL at that time.

During the third quarter of 2022, uncertainties about the future economic environment, especially around inflation, energy prices and interest rates as well as the Russia-Ukraine war, remained elevated. However, as the prevailing range of economic forecasts adequately reflect these heightened economic uncertainties, management determined that the additional fifth scenario, the Alternative Downside 2 scenario, was no longer needed to reflect management's incremental downside view. As a result, we updated our Consensus Economic Scenarios and our Alternative Downside Scenario to reflect management's current view of forecasted economic conditions and utilized the four updated scenarios for estimating lifetime ECL at September 30, 2022. Each of the four scenarios were assigned weightings with the majority of the weighting placed on the Central scenario, the second most weighting placed on the Downside scenario, the third most weighting placed on the Alternative Downside scenario, and the lowest weighting placed on the Upside scenario. This weighting was deemed appropriate for the estimation of lifetime ECL under current conditions. The following discussion summarizes the Central, Upside, Downside and Alternative Downside scenarios at September 30, 2022. The economic assumptions described in this section have been formed specifically for the purpose of calculating ECL.

In the Central scenario, U.S. Gross Domestic Product ("GDP") grows modestly in 2022 and further decelerates in 2023, under the assumption that economic growth slows as impacts from prevailing economic risks, including those from high inflation and interest rates, start to impact consumer spending. With modest economic growth, the unemployment rate upticks, but remains near historic lows, while slowing demand for housing, combined with limited supply, continues to drive residential housing prices forward, albeit at a slower pace, and commercial real estate prices also continue to appreciate. In the financial markets, growth in financial asset prices remains modest, the Federal Reserve Board ("FRB") continues to tackle inflation by raising its policy rate aggressively, and the 10-year U.S. Treasury yield remains elevated.

In the Upside scenario, the economy is assumed to grow at a faster pace than in the Central scenario. As a result, the unemployment rate falls lower than in the Central scenario, and both commercial and residential real estate prices grow at faster rates than in the Central scenario. In this scenario, the equity price index climbs with strong momentum, and overall optimism allows the FRB to raise its policy rate faster than currently anticipated, which consequently drives the 10-year U.S. Treasury yield to a level that is higher than in the Central scenario.

In the Downside scenario, the economy enters into a recession, with the unemployment rate reversing its downward trend and remaining at a higher level. The residential housing market slowly loses its momentum due to weakness in the labor market, and the commercial real estate market suffers a heavier deceleration than the residential housing market. In this scenario, the equity price index goes through a moderate price correction by mid-2023, driven by an overall erosion of consumer and business sentiments, which also results in a lower 10-year U.S. Treasury yield than in the Central scenario, and the federal funds rate lowers once disinflation starts in the face of economic slowdown.

In the Alternative Downside scenario, the Russia-Ukraine war worsens significantly and persistent inflationary pressures accompanied by higher interest rates lead the U.S. economy into a deep recession in late 2022, followed by a very anemic recovery starting in mid-2024. An extended period of economic contraction keeps the unemployment rate at an elevated level, which pressures residential housing prices to depreciate substantially, while at the same time, contracting corporate activities

and rising unemployment pushes the commercial real estate market into a downturn. In this scenario, financial markets experience a major sell-off and volatility in the financial markets remains extremely high over the next year, widening corporate credit spreads substantially, and flight to safe haven assets pushes the 10-year U.S. Treasury yield lower.

The following table presents the forecasted key macroeconomic variables in our Central scenarios used for estimating lifetime ECL at September 30, 2022, June 30, 2022 and December 31, 2021:

	For the Quarter Ended		
	December 31, 2022	June 30, 2023	December 31, 2023
Unemployment rate (quarterly average):			
Forecast at September 30, 2022	3.7 %	4.0 %	4.1 %
Forecast at June 30, 2022	3.5	3.5	3.5
Forecast at December 31, 2021	4.0	3.8	3.7
GDP growth rate (year-over-year):			
Forecast at September 30, 2022	0.1	0.8	0.7
Forecast at June 30, 2022	1.5	1.8	2.0
Forecast at December 31, 2021	2.8	2.3	2.5

In addition to the updates to the economic scenarios, during the three months ended September 30, 2022, we decreased the management judgment allowance on our commercial loan portfolio for risk factors associated with higher risk industry exposures, supply chain disruptions and energy price uncertainty that are not fully captured in the models. As current economic forecasts more accurately reflect these risks and, therefore, they are adequately captured in the modeled results, we decreased the management judgment allowance associated with these risks. In the year-to-date period, we increased the management judgment allowance on our commercial loan portfolio for risk factors primarily associated with large loan exposures, which was partially offset by a decrease for risk factors primarily associated with supply chain disruptions. In the year-to-date period, we also increased the management judgment allowance on our consumer loan portfolio for risk factors associated with economic uncertainty, including inflation, that are not fully captured in the models.

While we believe that the assumptions used in our credit loss models are reasonable within the parameters for which the models have been built and calibrated to operate, the severe projections of macro-economic variables during the COVID-19 pandemic and subsequent recovery represent events outside the parameters for which the models have been built. As a result, adjustments to model outputs to reflect consideration of management judgment are used with stringent governance in place to ensure an appropriate lifetime ECL estimate.

The impacts of higher inflation, increased energy prices and rising interest rates as well as the continuing impacts of the Russia-Ukraine war and the COVID-19 pandemic on economic conditions will continue to evolve and impact our business and our allowance for credit losses in future periods, the extent of which remains uncertain. We will continue to monitor these situations closely and will continue to adapt our approach as necessary to reflect management's current view of forecasted economic conditions.

Allowance for Credit Losses / Liability for Off-Balance Sheet Credit Exposures The following table summarizes our allowance for credit losses and the liability for off-balance sheet credit exposures:

	September 30, 2022	December 31, 2021
	(in millions)	
Allowance for credit losses:		
Loans	\$ 551	\$ 447
Securities held-to-maturity ⁽¹⁾	—	1
Other financial assets measured at amortized cost ⁽²⁾	1	1
Securities available-for-sale ⁽¹⁾	—	1
Total allowance for credit losses	<u>\$ 552</u>	<u>\$ 450</u>
Liability for off-balance sheet credit exposures	\$ 100	\$ 103

⁽¹⁾ See Note 5, "Securities," for additional information regarding the allowance for credit losses associated with our security portfolios.

⁽²⁾ Primarily includes accrued interest receivables and customer acceptances.

The following table summarizes the changes in the allowance for credit losses on loans by product or line of business during the three and nine months ended September 30, 2022 and 2021:

	Commercial Loans				Consumer Loans				Total Loans
	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 September 30, 2022									
Allowance for credit losses – beginning of period	\$ 162	\$ 218	\$ 118	\$ 1	\$ 6	\$ 7	\$ 22	\$ —	\$ 534
Provision charged (credited) to income	27	(11)	2	—	2	(2)	(2)	—	16
Charge-offs	—	(2)	—	—	—	—	—	—	(2)
Recoveries	—	1	—	—	1	1	—	—	3
Net (charge-offs) recoveries	—	(1)	—	—	1	1	—	—	1
Allowance for credit losses – end of period	<u>\$ 189</u>	<u>\$ 206</u>	<u>\$ 120</u>	<u>\$ 1</u>	<u>\$ 9</u>	<u>\$ 6</u>	<u>\$ 20</u>	<u>\$ —</u>	<u>\$ 551</u>
Three Months Ended September 30, 2021									
Allowance for credit losses – beginning of period	\$ 117	\$ 284	\$ 131	\$ 6	\$ (6)	\$ 15	\$ —	\$ —	\$ 547
Provision charged (credited) to income ⁽¹⁾	(2)	(38)	(9)	(2)	(9)	(2)	(1)	(1)	(64)
Charge-offs ⁽¹⁾	—	(13)	—	—	—	(3)	—	—	(16)
Recoveries	—	1	—	—	4	1	1	1	8
Net (charge-offs) recoveries	—	(12)	—	—	4	(2)	1	1	(8)
Allowance for credit losses – end of period	<u>\$ 115</u>	<u>\$ 234</u>	<u>\$ 122</u>	<u>\$ 4</u>	<u>\$ (11)</u>	<u>\$ 11</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 475</u>
Nine Months Ended September 30, 2022									
Allowance for credit losses – beginning of period	\$ 73	\$ 243	\$ 100	\$ 4	\$ 8	\$ 5	\$ 14	\$ —	\$ 447
Provision charged (credited) to income	116	(29)	29	(3)	(3)	(1)	2	(1)	110
Charge-offs	—	(11)	(9)	—	(1)	(1)	—	—	(22)
Recoveries	—	3	—	—	5	3	4	1	16
Net (charge-offs) recoveries	—	(8)	(9)	—	4	2	4	1	(6)
Allowance for credit losses – end of period	<u>\$ 189</u>	<u>\$ 206</u>	<u>\$ 120</u>	<u>\$ 1</u>	<u>\$ 9</u>	<u>\$ 6</u>	<u>\$ 20</u>	<u>\$ —</u>	<u>\$ 551</u>
Nine Months Ended September 30, 2021									
Allowance for credit losses – beginning of period	\$ 145	\$ 375	\$ 287	\$ 7	\$ (9)	\$ 22	\$ 161	\$ 27	\$ 1,015
Provision charged (credited) to income ⁽¹⁾	(30)	(115)	(153)	(3)	(3)	(10)	(78)	(18)	(410)
Charge-offs ⁽¹⁾	—	(29)	(12)	—	(10)	(5)	(88)	(11)	(155)
Recoveries	—	3	—	—	11	4	5	2	25
Net (charge-offs) recoveries	—	(26)	(12)	—	1	(1)	(83)	(9)	(130)
Allowance for credit losses – end of period	<u>\$ 115</u>	<u>\$ 234</u>	<u>\$ 122</u>	<u>\$ 4</u>	<u>\$ (11)</u>	<u>\$ 11</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 475</u>

⁽¹⁾ For loans that are transferred to held for sale, the existing allowance for credit losses at the time of transfer is recognized as a charge-off to the extent fair value is less than amortized cost and attributable to credit. Any remaining allowance for credit losses is released as a reduction to the provision for credit losses.

During the second quarter of 2021, we made the decision to exit our mass market retail banking business which resulted in the transfer of certain loans to held for sale. As a result of transferring these loans to held for sale, we recognized \$56 million of the existing allowance for credit losses on consumer loans as charge-offs, primarily related to non-performing credit cards, and released \$100 million of the existing allowance for credit losses on consumer loans as reductions to the provision for credit losses, primarily related to credit cards. The existing commercial allowance for credit losses on the retail business banking loan portfolio transferred to held for sale was not material. See Note 3, "Branch Assets and Liabilities Held for Sale."

During the third quarter of 2021, we transferred certain commercial real estate loans to held for sale and, as a result, we released \$24 million of the existing allowance for credit losses as a reduction to the provision for credit losses.

The following table summarizes the changes in the liability for off-balance sheet credit exposures during the three and nine months ended September 30, 2022 and 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Balance at beginning of period	\$ 89	\$ 128	\$ 103	\$ 237
Provision charged (credited) to income	11	(18)	(3)	(127)
Balance at end of period	<u>\$ 100</u>	<u>\$ 110</u>	<u>\$ 100</u>	<u>\$ 110</u>

Accrued Interest Receivables The following table summarizes accrued interest receivables associated with financial assets carried at amortized cost and securities available-for-sale along with the related allowance for credit losses, which are reported net in other assets on the consolidated balance sheet. These accrued interest receivables are excluded from the amortized cost basis disclosures presented elsewhere in these financial statements, including Note 5, "Securities," and Note 6, "Loans."

	September 30, 2022	December 31, 2021
	(in millions)	
Accrued interest receivables:		
Loans	\$ 173	\$ 109
Securities held-to-maturity	19	13
Other financial assets measured at amortized cost	25	1
Securities available-for-sale	79	82
Total accrued interest receivables	<u>296</u>	<u>205</u>
Allowance for credit losses	—	1
Accrued interest receivables, net	<u>\$ 296</u>	<u>\$ 204</u>

During the three and nine months ended September 30, 2022, we charged-off accrued interest receivables by reversing interest income for loans of nil and \$1 million, respectively, compared with \$1 million and \$3 million during the three and nine months ended September 30, 2021, respectively.

8. Loans Held for Sale

Loans held for sale consisted of the following:

	September 30, 2022	December 31, 2021
	(in millions)	
Commercial loans:		
Business and corporate banking	\$ 30	\$ 123
Global banking	444	338
Total commercial	<u>474</u>	<u>461</u>
Consumer loans:		
Residential mortgages	7	3,082
Home equity mortgages	—	275
Credit cards	8	195
Other consumer	87	204
Total consumer	<u>102</u>	<u>3,756</u>
Total loans held for sale	<u>\$ 576</u>	<u>\$ 4,217</u>

Commercial Loans Commercial loans held for sale 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 \$145 million and \$23 million at September 30, 2022 and December 31, 2021, respectively. See Note 11, "Fair Value Option," for additional information.

During the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain retail business banking loans with a carrying value at the time of sale of \$37 million. See Note 3, "Branch Assets and Liabilities Held for Sale," for additional information.

Also included in commercial loans held for sale are certain other loans that we no longer intend to hold for investment and were transferred to held for sale which totaled \$329 million and \$359 million at September 30, 2022 and December 31, 2021, respectively. During the three and nine months ended September 30, 2022, we recorded \$13 million and \$10 million, respectively, of lower of amortized cost or fair value adjustments associated with the write-down of these commercial loans held for sale as a component of other income (loss) in the consolidated statement of income compared with reversing \$1 million and recording \$4 million, respectively, of lower of amortized cost or fair value adjustments during the three and nine months ended September 30, 2021.

In addition, during the three and nine months ended September 30, 2022, we sold certain global banking loans and unfunded commitments to third parties in order to reduce risk-weighted assets as part of our Restructuring Plan. These global banking loans had a carrying value at the time of sale of nil and \$44 million, respectively, and we recognized losses on sale of \$18 million and \$21 million, respectively. The losses on sale are reflected as a component of other income (loss) in the consolidated statement of income.

Consumer Loans As discussed above, during the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain consumer loans with a carrying value at the time of sale which collectively totaled \$2,102 million, including \$1,665 million of residential mortgages, \$185 million of home equity mortgages, \$168 million of credit cards and \$84 million of other consumer loans. See Note 3, "Branch Assets and Liabilities Held for Sale," for additional information.

In addition to the branch disposal group discussed above, during the first quarter of 2022, we sold a portfolio of consumer loans to a third party consisting primarily of certain non-performing mortgage loans and government-backed mortgage loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. These mortgage loans had a carrying value at the time of sale which collectively totaled \$904 million, including \$865 million of residential mortgages and \$39 million of home equity mortgages, and we recognized a loss on sale of \$35 million, largely reflecting changes in the final terms of the sale. The loss on sale is reflected as a component of other income (loss) in the consolidated statement of income.

Subsequent to completion of the sales discussed above, during the second quarter of 2022, the remaining mass market residential mortgage and home equity mortgage loans not sold, with a carrying value which collectively totaled \$538 million, were transferred back to held for investment as we now intend to hold these loans as a run-off portfolio for the foreseeable future.

At September 30, 2022, additional consumer loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan remained in loans held for sale, including \$8 million of credit cards and \$87 million of other consumer loans (of which \$21 million are student loans that we have previously elected to designate under the fair value option and are therefore carried at fair value). During the three and nine months ended September 30, 2022, we recorded \$3 million and \$11 million, respectively, of lower of amortized cost or fair value adjustments associated with the write-down of these consumer loans held for sale as a component of other income (loss) in the consolidated statement of income compared with recording \$1 million of lower of amortized cost or fair value adjustments during both the three and nine months ended September 30, 2021.

In addition, residential mortgage loans held for sale includes agency-eligible conforming 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 consolidated statement of income.

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 residential mortgage loans which are originated and 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, was gains of nil and \$7 million during the three and nine months ended September 30, 2022, respectively, compared with losses of \$1 million and \$2 million during the three and nine months ended September 30, 2021, respectively.

Valuation Allowances Excluding the 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 \$16 million and \$7 million at September 30, 2022 and December 31, 2021, respectively. The valuation allowance on commercial loans held for sale was \$13 million and \$5 million at September 30, 2022 and December 31, 2021, respectively.

9. Goodwill

Goodwill was \$458 million at both September 30, 2022 and December 31, 2021. Goodwill for these periods reflects accumulated impairment losses of \$1,819 million, which were recognized in prior periods. During the third quarter of 2022, there were no events or changes in circumstances to indicate that it is more likely than not the fair value of our Commercial Banking reporting unit has been reduced below its carrying amount.

10. 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 following table. 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 following table.

	September 30, 2022		December 31, 2021	
	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
	(in millions)			
Derivatives accounted for as fair value hedges⁽¹⁾				
Interest rate contracts - bilateral OTC ⁽²⁾	\$ 224	\$ 14	\$ —	\$ 5
Derivatives accounted for as cash flow hedges⁽¹⁾				
Foreign exchange contracts - bilateral OTC ⁽²⁾	51	—	29	—
Interest rate contracts - bilateral OTC ⁽²⁾	—	2	—	2
Total derivatives accounted for as hedges	275	16	29	7
Trading derivatives not accounted for as hedges⁽³⁾				
Exchange-traded ⁽²⁾	15	10	8	10
OTC-cleared ⁽²⁾	56	—	37	—
Bilateral OTC ⁽²⁾	1,993	1,594	1,756	1,877
Interest rate contracts	2,064	1,604	1,801	1,887
Exchange-traded ⁽²⁾	—	1	—	—
Bilateral OTC ⁽²⁾	25,852	24,799	11,321	11,125
Foreign exchange contracts	25,852	24,800	11,321	11,125
Exchange-traded ⁽²⁾	—	45	—	—
Bilateral OTC ⁽²⁾	1,699	319	588	1,240
Equity contracts	1,699	364	588	1,240
Exchange-traded ⁽²⁾	6	—	4	—
Bilateral OTC ⁽²⁾	1,451	1,549	936	779
Precious metals contracts	1,457	1,549	940	779
OTC-cleared ⁽²⁾	5	—	—	—
Bilateral OTC ⁽²⁾	111	31	28	25
Credit contracts	116	31	28	25
Other non-qualifying derivatives not accounted for as hedges⁽¹⁾				
Interest rate contracts - bilateral OTC ⁽²⁾	—	94	47	5
Foreign exchange contracts - bilateral OTC ⁽²⁾	—	—	—	1
Equity contracts - bilateral OTC ⁽²⁾	326	923	1,470	121
OTC-cleared ⁽²⁾	—	1	—	19
Bilateral OTC ⁽²⁾	3	33	—	38
Credit contracts	3	34	—	57
Other contracts - bilateral OTC⁽²⁾⁽⁴⁾	5	34	5	38
Total derivatives	31,797	29,449	16,229	15,285
Less: Gross amounts of receivable / payable subject to enforceable master netting agreements⁽⁵⁾⁽⁷⁾	23,255	23,255	11,991	11,991
Less: Gross amounts of cash collateral received / posted subject to enforceable master netting agreements⁽⁶⁾⁽⁷⁾	4,919	2,674	2,797	1,296
Net amounts of derivative assets / liabilities presented in the balance sheet	3,623	3,520	1,441	1,998
Less: Gross amounts of financial instrument collateral received / posted subject to enforceable master netting agreements but not offset in the consolidated balance sheet	399	38	179	194
Net amounts of derivative assets / liabilities	\$ 3,224	\$ 3,482	\$ 1,262	\$ 1,804

⁽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 and credit 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.

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 deposits and 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 September 30, 2022 and December 31, 2021, 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 September 30, 2022				
Securities available-for-sale ("AFS")	\$ 15,130	\$ (1,840)	\$ 353	\$ (1,487)
Deposits	1,443	(161)	104	(57)
Long-term debt	5,987	(632)	120	(512)
At December 31, 2021				
Securities AFS	7,919	(72)	1,010	938
Deposits	1,598	(27)	125	98
Long-term debt	5,587	(61)	148	87

⁽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 and the hedged items in fair value hedges and their location on the consolidated statement of income:

	Location of Gain (Loss) Recognized in Income	Gain (Loss) on Derivatives	Gain (Loss) on Hedged Items
(in millions)			
Three Months Ended September 30, 2022			
Interest rate contracts / Securities AFS	Net interest income	\$ 846	\$ (741)
Interest rate contracts / Deposits	Net interest income	(53)	30
Interest rate contracts / Long-term debt	Net interest income	(203)	157
Total		<u>\$ 590</u>	<u>\$ (554)</u>
Three Months Ended September 30, 2021			
Interest rate contracts / Securities AFS	Net interest income	\$ 29	\$ (4)
Interest rate contracts / Deposits	Net interest income	(3)	(13)
Interest rate contracts / Long-term debt	Net interest income	2	(17)
Total		<u>\$ 28</u>	<u>\$ (34)</u>
Nine Months Ended September 30, 2022			
Interest rate contracts / Securities AFS	Net interest income	\$ 2,253	\$ (2,062)
Interest rate contracts / Deposits	Net interest income	(138)	84
Interest rate contracts / Long-term debt	Net interest income	(529)	452
Total		<u>\$ 1,586</u>	<u>\$ (1,526)</u>
Nine Months Ended September 30, 2021			
Interest rate contracts / Securities AFS	Net interest income	\$ 221	\$ (144)
Interest rate contracts / Deposits	Net interest income	(35)	(5)
Interest rate contracts / Long-term debt	Net interest income	(12)	(28)
Total		<u>\$ 174</u>	<u>\$ (177)</u>

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 September 30, 2022, active cash flow hedge relationships extend or mature through September 2034. During the three and nine months ended September 30, 2022, respectively, \$2 million and \$4 million of losses related to discontinued cash flow hedge relationships were amortized to earnings from AOCI compared with gains of \$6 million and \$9 million during the three and nine months ended September 30, 2021, respectively. During the next twelve months, we expect to amortize \$136 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 location on the consolidated statement of income:

	Gain (Loss) Recognized in AOCI on Derivatives		Location of Gain (Loss) Reclassified from AOCI into Income	Gain (Loss) Reclassified From AOCI into Income	
	2022	2021		2022	2021
(in millions)					
Three Months Ended September 30,					
Foreign exchange contracts	\$ (1)	\$ —	Net interest income	\$ —	\$ —
Interest rate contracts	(107)	(3)	Net interest income	(2)	6
Total	<u>\$ (108)</u>	<u>\$ (3)</u>		<u>\$ (2)</u>	<u>\$ 6</u>
Nine Months Ended September 30,					
Foreign exchange contracts	\$ (1)	\$ (1)	Net interest income	\$ —	\$ —
Interest rate contracts	(390)	(27)	Net interest income	(4)	9
Total	<u>\$ (391)</u>	<u>\$ (28)</u>		<u>\$ (4)</u>	<u>\$ 9</u>

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 (expense). 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 (expense).

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 residential mortgage loans which are originated and 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 8, "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 location on the consolidated statement of income:

		Gain (Loss) Recognized in Income on Derivatives			
		Three Months Ended September 30,		Nine Months Ended September 30,	
Location of Gain (Loss) Recognized in Income on Derivatives		2022	2021	2022	2021
(in millions)					
Interest rate contracts	Trading revenue (expense)	\$ (45)	\$ 45	\$ 331	\$ 197
Foreign exchange contracts	Trading revenue (expense)	153	(56)	269	112
Equity contracts	Trading revenue (expense)	340	(20)	3,018	(1,000)
Precious metals contracts	Trading revenue (expense)	(11)	74	30	115
Credit contracts	Trading revenue (expense)	72	(70)	135	101
Total		<u>\$ 509</u>	<u>\$ (27)</u>	<u>\$ 3,783</u>	<u>\$ (475)</u>

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

		Gain (Loss) Recognized in Income on Derivatives			
		Three Months Ended September 30,		Nine Months Ended September 30,	
Location of Gain (Loss) Recognized in Income on Derivatives		2022	2021	2022	2021
(in millions)					
Interest rate contracts	Gain (loss) on instruments designated at fair value and related derivatives	\$ (103)	\$ (8)	\$ (318)	\$ (62)
Interest rate contracts	Other income (loss)	—	(1)	7	(2)
Foreign exchange contracts	Gain (loss) on instruments designated at fair value and related derivatives	—	—	1	—
Equity contracts	Gain (loss) on instruments designated at fair value and related derivatives	(293)	(62)	(1,507)	810
Credit contracts	Other income (loss)	(3)	(5)	7	(17)
Other contracts ⁽¹⁾	Other income (loss)	4	3	(27)	—
Total		<u>\$ (395)</u>	<u>\$ (73)</u>	<u>\$ (1,837)</u>	<u>\$ 729</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 September 30, 2022 was \$707 million, for which we had posted collateral of \$488 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, 2021 was \$361 million, for which we had posted collateral of \$172 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	\$	20	\$	82

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

	September 30, 2022	December 31, 2021
	(in millions)	
Interest rate:		
Futures and forwards	\$ 28,309	\$ 44,686
Swaps	170,998	177,876
Options written	7,153	10,842
Options purchased	7,052	12,688
Total interest rate	<u>213,512</u>	<u>246,092</u>
Foreign exchange:		
Swaps, futures and forwards	1,079,910	974,725
Options written	38,904	28,577
Options purchased	38,906	28,678
Spot	50,866	31,319
Total foreign exchange	<u>1,208,586</u>	<u>1,063,299</u>
Commodities, equities and precious metals:		
Swaps, futures and forwards	70,629	60,054
Options written	1,684	5,873
Options purchased	9,336	11,800
Total commodities, equities and precious metals	<u>81,649</u>	<u>77,727</u>
Credit derivatives	14,182	7,023
Other contracts ⁽¹⁾	977	1,204
Total	<u>\$ 1,518,906</u>	<u>\$ 1,395,345</u>

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

11. 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"). 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 student loans, 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.

Loans Held For Sale 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. We also previously elected to apply FVO accounting to certain student loans (which were subsequently transferred to held for sale during 2021). These elections allow 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. Because a substantial majority of the loans elected for the fair value option are floating-rate commercial loans, 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 September 30, 2022 and December 31, 2021, no loans for which the fair value option has been elected were 90 days or more past due or in nonaccrual status.

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. Excluding the fair value movement attributable to our own credit spread, the components of gain (loss) in the consolidated statement of income 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. Excluding the fair value movement attributable to our own credit spread, the components of gain (loss) in the consolidated statement of income 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 September 30, 2022			
Student loans held for sale	\$ 21	\$ 23	\$ (2)
Commercial loans held for sale	145	158	(13)
Fixed rate long-term debt	678	741	(63)
Hybrid instruments:			
Structured deposits	1,762	1,744	18
Structured notes	6,323	7,072	(749)
At December 31, 2021			
Student loans held for sale	\$ 25	\$ 28	\$ (3)
Commercial loans held for sale	23	23	—
Fixed rate long-term debt	945	741	204
Hybrid instruments:			
Structured deposits	2,749	2,465	284
Structured notes	7,997	6,834	1,163

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 for the three and nine months ended September 30, 2022 and 2021:

	Loans Held for Sale	Long-Term Debt	Hybrid Instruments	Total
	(in millions)			
Three Months Ended September 30, 2022				
Interest rate and other components ⁽¹⁾	\$ —	\$ 57	\$ 324	\$ 381
Credit risk component ⁽²⁾⁽³⁾	(14)	—	—	(14)
Total mark-to-market on financial instruments designated at fair value	(14)	57	324	367
Mark-to-market on related derivatives	—	(65)	(337)	(402)
Net realized gain on related long-term debt derivatives	—	6	—	6
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ (14)</u>	<u>\$ (2)</u>	<u>\$ (13)</u>	<u>\$ (29)</u>
Three Months Ended September 30, 2021				
Interest rate and other components ⁽¹⁾	\$ —	\$ 16	\$ 62	\$ 78
Credit risk component ⁽²⁾	—	—	—	—
Total mark-to-market on financial instruments designated at fair value	—	16	62	78
Mark-to-market on related derivatives	—	(19)	(61)	(80)
Net realized gain on related long-term debt derivatives	—	10	—	10
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ —</u>	<u>\$ 7</u>	<u>\$ 1</u>	<u>\$ 8</u>
Nine Months Ended September 30, 2022				
Interest rate and other components ⁽¹⁾	\$ —	\$ 196	\$ 1,673	\$ 1,869
Credit risk component ⁽²⁾⁽³⁾	(49)	—	—	(49)
Total mark-to-market on financial instruments designated at fair value	(49)	196	1,673	1,820
Mark-to-market on related derivatives	—	(220)	(1,627)	(1,847)
Net realized gain on related long-term debt derivatives	—	23	—	23
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ (49)</u>	<u>\$ (1)</u>	<u>\$ 46</u>	<u>\$ (4)</u>
Nine Months Ended September 30, 2021				
Interest rate and other components ⁽¹⁾	\$ —	\$ 75	\$ (791)	\$ (716)
Credit risk component ⁽²⁾	1	—	—	1
Total mark-to-market on financial instruments designated at fair value	1	75	(791)	(715)
Mark-to-market on related derivatives	—	(85)	804	719
Net realized gain on related long-term debt derivatives	—	29	—	29
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ 1</u>	<u>\$ 19</u>	<u>\$ 13</u>	<u>\$ 33</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).

⁽³⁾ During the three and nine months ended September 30, 2022, the losses in the credit risk component for loans held for sale was attributable to the widening of credit spreads associated with certain commercial loans which were impacted by the weakening of market conditions.

12. 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 September 30,	2022	2021
	(in millions)	
Unrealized gains (losses) on investment securities:		
Balance at beginning of period	\$ (1,682)	\$ 172
Other comprehensive income (loss) for period:		
Net unrealized losses arising during period, net of tax of \$(196) million and \$(27) million, respectively	(609)	(86)
Reclassification adjustment for gains realized in net income, net of tax of less than \$(1) million and \$(1) million, respectively ⁽¹⁾	(1)	(3)
Reversal of provision for credit losses realized in net income, net of tax of less than \$(1) million and nil, respectively ⁽²⁾	(2)	—
Amortization of net unrealized losses on securities transferred from available-for-sale to held-to-maturity realized in net income, net of tax of less than \$1 million and \$1 million, respectively ⁽³⁾	1	3
Total other comprehensive loss for period	<u>(611)</u>	<u>(86)</u>
Balance at end of period	<u>(2,293)</u>	<u>86</u>
Unrealized gains (losses) on fair value option liabilities attributable to our own credit spread:		
Balance at beginning of period	107	15
Other comprehensive income (loss) for period:		
Net unrealized gains arising during period, net of tax of \$8 million and \$3 million, respectively	24	9
Total other comprehensive income for period	<u>24</u>	<u>9</u>
Balance at end of period	<u>131</u>	<u>24</u>
Unrealized gains (losses) on derivatives designated as cash flow hedges:		
Balance at beginning of period	(352)	(100)
Other comprehensive income (loss) for period:		
Net unrealized losses arising during period, net of tax of \$(27) million and \$(1) million, respectively	(81)	(2)
Reclassification adjustment for (gains) losses realized in net income, net of tax of less than \$1 million and \$(1) million, respectively ⁽⁴⁾	1	(5)
Total other comprehensive loss for period	<u>(80)</u>	<u>(7)</u>
Balance at end of period	<u>(432)</u>	<u>(107)</u>
Pension and postretirement benefit liability:		
Balance at beginning and end of period	<u>(3)</u>	<u>(6)</u>
Total accumulated other comprehensive loss at end of period	<u>\$ (2,597)</u>	<u>\$ (3)</u>

Nine Months Ended September 30,	2022	2021
	(in millions)	
Unrealized gains (losses) on investment securities:		
Balance at beginning of period	\$ (65)	\$ 750
Other comprehensive income (loss) for period:		
Net unrealized losses arising during period, net of tax of \$(705) million and \$(201) million, respectively	(2,211)	(636)
Reclassification adjustment for gains realized in net income, net of tax of \$(7) million and \$(12) million, respectively ⁽¹⁾	(23)	(39)
Reversal of provision for credit losses realized in net income, net of tax of less than \$(1) million and nil, respectively ⁽²⁾	(1)	—
Amortization of net unrealized losses on securities transferred from available-for-sale to held-to-maturity realized in net income, net of tax of \$2 million and \$3 million, respectively ⁽³⁾	7	11
Total other comprehensive loss for period	<u>(2,228)</u>	<u>(664)</u>
Balance at end of period	<u>(2,293)</u>	<u>86</u>
Unrealized gains (losses) on fair value option liabilities attributable to our own credit spread:		
Balance at beginning of period	27	15
Other comprehensive income (loss) for period:		
Net unrealized gains arising during period, net of tax of \$33 million and \$3 million, respectively	104	9
Total other comprehensive income for period	<u>104</u>	<u>9</u>
Balance at end of period	<u>131</u>	<u>24</u>
Unrealized gains (losses) on derivatives designated as cash flow hedges:		
Balance at beginning of period	(138)	(79)
Other comprehensive income (loss) for period:		
Net unrealized losses arising during period, net of tax of \$(94) million and \$(7) million, respectively	(297)	(21)
Reclassification adjustment for (gains) losses realized in net income, net of tax of \$1 million and \$(2) million, respectively ⁽⁴⁾	3	(7)
Total other comprehensive loss for period	<u>(294)</u>	<u>(28)</u>
Balance at end of period	<u>(432)</u>	<u>(107)</u>
Pension and postretirement benefit liability:		
Balance at beginning of period	(3)	(7)
Other comprehensive income (loss) for period:		
Change in unfunded pension and postretirement liability, net of tax of nil and less than \$1 million, respectively	—	1
Total other comprehensive income for period	<u>—</u>	<u>1</u>
Balance at end of period	<u>(3)</u>	<u>(6)</u>
Total accumulated other comprehensive loss at end of period	<u><u>\$ (2,597)</u></u>	<u><u>\$ (3)</u></u>

⁽¹⁾ Amount reclassified to net income is included in other securities gains, net in our consolidated statement of income.

⁽²⁾ Changes in the allowance for credit losses on securities available-for-sale are included in the provision for credit losses in our consolidated statement of income.

⁽³⁾ Amount amortized to net income is included in interest income in our consolidated statement of income. 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 is included in net interest income in our consolidated statement of income.

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 and nine months ended September 30, 2022 and 2021. See Note 23, "Fee Income from Contracts with Customers," in our 2021 Form 10-K for a description of the various types of fee-based activities and how revenue associated with these activities is recognized. There have been no significant changes in these activities since December 31, 2021.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Credit card fees, net	\$ 10	\$ —	\$ 37	\$ 23
Trust and investment management fees	39	26	99	81
Other fees and commissions:				
Account services	67	73	204	216
Credit facilities	59	76	230	248
Other fees	10	11	40	32
Total other fees and commissions	136	160	474	496
Servicing and other fees from HSBC affiliates	77	79	265	232
Insurance ⁽¹⁾	1	2	3	5
Total fee income from contracts with customers	263	267	878	837
Other non-fee revenue (expense)	91	(25)	305	93
Total other revenues ⁽²⁾	\$ 354	\$ 242	\$ 1,183	\$ 930

⁽¹⁾ Included within other income (loss) in the consolidated statement of income.

⁽²⁾ 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 We recognized interchange fees of \$24 million and \$78 million during the three and nine months ended September 30, 2022, respectively, compared with \$24 million and \$68 million during the three and nine months ended September 30, 2021, respectively. Credit card rewards program costs totaled \$16 million and \$46 million during the three and nine months ended September 30, 2022, respectively, compared with \$26 million and \$50 million during the three and nine months ended September 30, 2021, respectively.

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 was \$3 million and \$4 million at September 30, 2022 and December 31, 2021, respectively. We expect to recognize this revenue over a remaining period of one year or less.

Other than trust and investment management fees as discussed in our 2021 Form 10-K, 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 (together with its subsidiaries, "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 present related party balances and the income (expense) generated by related party transactions:

	September 30, 2022	December 31, 2021
	(in millions)	
Assets:		
Cash and due from banks	\$ 211	\$ 300
Interest bearing deposits with banks	241	59
Securities purchased under agreements to resell ⁽¹⁾	43	594
Trading assets	257	119
Loans	3,717	2,793
Other ⁽²⁾	398	401
Total assets	<u>\$ 4,867</u>	<u>\$ 4,266</u>
Liabilities:		
Deposits	\$ 14,962	\$ 9,137
Trading liabilities	74	130
Short-term borrowings	1,252	309
Long-term debt	5,511	5,511
Other ⁽²⁾	292	277
Total liabilities	<u>\$ 22,091</u>	<u>\$ 15,364</u>

⁽¹⁾ Reflects purchases of securities under which other HSBC affiliates have agreed to repurchase.

⁽²⁾ Other assets and other liabilities primarily consist of derivative balances associated with hedging activities and other miscellaneous account receivables and payables.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Income (Expense):				
Interest income	\$ 36	\$ 6	\$ 58	\$ 20
Interest expense	(79)	(52)	(191)	(185)
Net interest expense	(43)	(46)	(133)	(165)
Trading revenue (expense)	1,320	(1,116)	3,925	(2,106)
Servicing and other fees from HSBC affiliates:				
HSBC Bank plc	43	44	151	124
HSBC Markets (USA) Inc. ("HMUS")	15	22	57	70
Other HSBC affiliates	19	13	57	38
Total servicing and other fees from HSBC affiliates	77	79	265	232
Gain (loss) on instruments designated at fair value and related derivatives	(337)	(62)	(1,627)	803
Support services from HSBC affiliates:				
HTSU	(244)	(242)	(748)	(754)
HMUS	(46)	(26)	(129)	(72)
Other HSBC affiliates	(129)	(121)	(379)	(322)
Total support services from HSBC affiliates	(419)	(389)	(1,256)	(1,148)
Rental income from HSBC affiliates, net ⁽¹⁾	10	12	29	32
Stock based compensation expense ⁽²⁾	(3)	(1)	(10)	(12)

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

⁽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. 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 22, "Pension and Other Postretirement Benefits," in our 2021 Form 10-K.

Funding Arrangements with HSBC Affiliates:

We use HSBC affiliates to fund a portion of our borrowing and liquidity needs. At both September 30, 2022 and December 31, 2021, long-term debt with affiliates reflected \$5.5 billion of borrowings from HSBC North America. The outstanding balances include \$2.0 billion of fixed-rate senior debt which matures in June 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 June 2030.

We have a \$4.0 billion uncommitted line of credit with HSBC North America. The available borrowing capacity under this facility is fungible between HSBC USA, HSBC Securities (USA) Inc. ("HSI") and HSBC North America, but total borrowings cannot collectively exceed \$4.0 billion at any time. We had no outstanding borrowing under this credit facility at either September 30, 2022 or December 31, 2021.

We have also incurred short-term borrowings with certain affiliates. In addition, certain affiliates have placed deposits with us.

Lending and Derivative Related Arrangements Extended to HSBC Affiliates:

At September 30, 2022 and December 31, 2021, we had the following loan balances outstanding with HSBC affiliates:

	September 30, 2022	December 31, 2021
	(in millions)	
HMUS and subsidiaries	\$ 2,435	\$ 1,576
HSBC North America	1,250	1,000
Other short-term affiliate lending	32	217
Total loans	<u>\$ 3,717</u>	<u>\$ 2,793</u>

HMUS and subsidiaries We have extended loans and lines of credit, some of them uncommitted, to HMUS and its subsidiaries in the amount of \$12.0 billion and \$11.9 billion at September 30, 2022 and December 31, 2021, respectively, of which \$2.4

billion and \$1.6 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 North America Under the \$4.0 billion uncommitted fungible line of credit with HSBC North America as discussed above, there was \$1.3 billion and \$1.0 billion outstanding at September 30, 2022 and December 31, 2021, respectively. The outstanding balance includes \$250 million that matures in the fourth quarter of 2022 and \$1.0 billion that matures in the first quarter of 2023.

We have extended lines of credit to various other HSBC affiliates totaling \$3.7 billion which did not have any outstanding balances at either September 30, 2022 or December 31, 2021.

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 September 30, 2022 and December 31, 2021, there were \$32 million and \$217 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 \$881.8 billion and \$753.2 billion at September 30, 2022 and December 31, 2021, 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 \$262 million and \$127 million at September 30, 2022 and December 31, 2021, respectively. We account 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 24, "Related Party Transactions," in our 2021 Form 10-K. There have been no significant changes in these activities since December 31, 2021.

Other Transactions with HSBC Affiliates:

At both September 30, 2022 and December 31, 2021, we had \$1,265 million of non-cumulative preferred stock issued and outstanding to HSBC North America. See Note 19, "Preferred Stock," in our 2021 Form 10-K for additional details.

During the third quarter of 2022, we paid a distribution on our common stock of \$1.0 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 distinct businesses, which are aligned with HSBC's global business strategy: Wealth and Personal Banking ("WPB"), Commercial Banking ("CMB"), and Global Banking and Markets ("GBM"). These businesses and a Corporate Center ("CC") serve as our reportable segments with the exception of GBM. Our GBM business is comprised of three distinct operating segments: Global Banking ("GB"), Markets and Securities Services ("MSS"), and Global Banking and Markets Other ("GBM Other"), which are separately reported as discussed further below, effective as of the fourth quarter of 2021 for all periods presented.

The following table summarizes the impact of this change on reported segment profit (loss) before tax, total assets and total deposits as of and for the three and nine months ended September 30, 2021:

	As Previously Reported	After Reporting Changes
	(in millions)	
Segment profit (loss) before tax during the three months ended September 30, 2021:		
GBM	\$ 103	NSR
GB	NSR	\$ 108
MSS	NSR	14
GBM Other	NSR	(19)
Segment profit (loss) before tax during the nine months ended September 30, 2021:		
GBM	\$ 449	NSR
GB	NSR	\$ 420
MSS	NSR	50
GBM Other	NSR	(21)
Segment total assets at September 30, 2021:		
GBM	\$ 102,543	NSR
GB	NSR	\$ 10,301
MSS	NSR	41,193
GBM Other ⁽¹⁾	NSR	51,049
Segment total deposits at September 30, 2021:		
GBM	\$ 52,130	NSR
GB	NSR	\$ 49,465
MSS	NSR	1,719
GBM Other	NSR	946

NSR Not Separately Reported

⁽¹⁾ Includes assets allocated from Markets Treasury.

There have been no changes in the basis of our segmentation as compared with the presentation in our 2021 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 to one centralized unit in Markets Treasury. Markets Treasury income statement and balance sheet results are allocated to each of the global businesses based upon tangible equity levels and levels of any surplus liabilities.

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. 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 2021 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 25, "Business Segments," in our 2021 Form 10-K. There have been no significant changes since December 31, 2021 in the differences between U.S. GAAP and the Group Reporting Basis impacting our results.

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
	GBM						Total			
	WPB	CMB	GB	MSS	GBM Other	CC				
	(in millions)									
Three Months Ended September 30, 2022										
Net interest income (expense)....	\$ 211	\$ 253	\$ 137	\$ (35)	\$ (3)	\$ (4)	\$ 559	\$ 2	\$ (18)	\$ 543
Other operating income	62	65	52	146	17	2	344	(23)	33	354
Total operating income (expense).....	273	318	189	111	14	(2)	903	(21)	15	897
Expected credit losses / provision for credit losses	(19)	(17)	37	—	(1)	—	—	25	—	25
	292	335	152	111	15	(2)	903	(46)	15	872
Operating expenses	187	142	116	67	20	94	626	7	15	648
Profit (loss) before income tax	<u>\$ 105</u>	<u>\$ 193</u>	<u>\$ 36</u>	<u>\$ 44</u>	<u>\$ (5)</u>	<u>\$ (96)</u>	<u>\$ 277</u>	<u>\$ (53)</u>	<u>\$ —</u>	<u>\$ 224</u>
Three Months Ended September 30, 2021										
Net interest income (expense)....	\$ 202	\$ 200	\$ 75	\$ 11	\$ (12)	\$ (1)	\$ 475	\$ 4	\$ 41	\$ 520
Other operating income (expense).....	57	70	96	69	19	(38)	273	4	(35)	242
Total operating income (expense).....	259	270	171	80	7	(39)	748	8	6	762
Expected credit losses / provision for credit losses	(35)	24	(31)	—	—	—	(42)	(39)	—	(81)
	294	246	202	80	7	(39)	790	47	6	843
Operating expenses	279	134	94	66	26	55	654	6	6	666
Profit (loss) before income tax	<u>\$ 15</u>	<u>\$ 112</u>	<u>\$ 108</u>	<u>\$ 14</u>	<u>\$ (19)</u>	<u>\$ (94)</u>	<u>\$ 136</u>	<u>\$ 41</u>	<u>\$ —</u>	<u>\$ 177</u>
Nine Months Ended September 30, 2022										
Net interest income (expense)....	\$ 565	\$ 658	\$ 321	\$ (19)	\$ (4)	\$ (17)	\$ 1,504	\$ 3	\$ 45	\$ 1,552
Other operating income	257	221	306	388	67	10	1,249	(54)	(12)	1,183
Total operating income (expense).....	822	879	627	369	63	(7)	2,753	(51)	33	2,735
Expected credit losses / provision for credit losses	(21)	10	32	—	—	—	21	84	—	105
	843	869	595	369	63	(7)	2,732	(135)	33	2,630
Operating expenses	626	432	348	216	65	275	1,962	32	33	2,027
Profit (loss) before income tax	<u>\$ 217</u>	<u>\$ 437</u>	<u>\$ 247</u>	<u>\$ 153</u>	<u>\$ (2)</u>	<u>\$ (282)</u>	<u>\$ 770</u>	<u>\$ (167)</u>	<u>\$ —</u>	<u>\$ 603</u>
Balances at end of period:										
Total assets	\$ 42,954	\$ 51,555	\$ 11,845	\$ 52,044	\$ 39,494	\$ 2,296	\$ 200,188	\$ (30,848)	\$ —	\$ 169,340
Total loans, net	22,435	25,816	11,147	125	701	—	60,224	(1,148)	2,148	61,224
Goodwill	—	358	—	—	—	—	358	100	—	458
Total deposits	34,549	39,460	43,475	1,153	1,990	—	120,627	(4,927)	9,266	124,966

Group Reporting Basis Consolidated Amounts										
GBM							Total	Group Reporting Basis Adjustments ⁽¹⁾	Group Reporting Basis Reclassifications ⁽²⁾	U.S. GAAP Consolidated Totals
WPB	CMB	GB	MSS	GBM Other	CC	(in millions)				
Nine Months Ended September 30, 2021										
Net interest income (expense)....	\$ 616	\$ 580	\$ 237	\$ 36	\$ (18)	\$ (3)	\$ 1,448	\$ 17	\$ 109	\$ 1,574
Other operating income (expense).....	215	208	314	226	73	(9)	1,027	(2)	(95)	930
Total operating income (expense).....	831	788	551	262	55	(12)	2,475	15	14	2,504
Expected credit losses / provision for credit losses.....	(36)	(26)	(153)	—	(1)	—	(216)	(321)	—	(537)
	867	814	704	262	56	(12)	2,691	336	14	3,041
Operating expenses.....	921	437	284	212	77	157	2,088	48	14	2,150
Profit (loss) before income tax...	\$ (54)	\$ 377	\$ 420	\$ 50	\$ (21)	\$ (169)	\$ 603	\$ 288	\$ —	\$ 891
Balances at end of period:										
Total assets.....	\$ 69,021	\$ 46,226	\$ 10,301	\$ 41,193	\$ 51,049	\$ 1,611	\$ 219,401	\$ (18,251)	\$ —	\$ 201,150
Total loans, net.....	22,046	20,998	10,063	151	1,076	—	54,334	(1,549)	2,266	55,051
Goodwill.....	—	358	—	—	—	—	358	100	—	458
Total deposits.....	39,762	45,239	49,465	1,719	946	—	137,131	(3,668)	18,905	152,368

⁽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.

We are subject to regulatory capital rules issued by U.S. banking regulators including Basel III (the "Basel III rule"). A bank or bank holding company's failure to meet minimum capital requirements can result in certain mandatory actions and possibly additional discretionary actions by its regulators. 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 September 30, 2022 and December 31, 2021:

	September 30, 2022			December 31, 2021		
	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	\$ 14,892	4.5 % ⁽²⁾	14.0 %	\$ 15,341	4.5 % ⁽²⁾	15.1 %
HSBC Bank USA	17,334	6.5	16.6	17,665	6.5	17.6
Tier 1 capital ratio:						
HSBC USA	16,157	6.0	15.2	16,606	6.0	16.3
HSBC Bank USA	19,834	8.0	19.0	20,165	8.0	20.1
Total capital ratio:						
HSBC USA	18,471	10.0	17.3	18,821	10.0	18.5
HSBC Bank USA	21,915	10.0	21.0	22,157	10.0	22.1
Tier 1 leverage ratio:						
HSBC USA	16,157	4.0 ⁽²⁾	9.5	16,606	4.0 ⁽²⁾	8.5
HSBC Bank USA	19,834	5.0	11.9	20,165	5.0	10.5
Risk-weighted assets: ⁽³⁾						
HSBC USA	106,582			101,827		
HSBC Bank USA	104,294			100,363		
Adjusted quarterly average assets: ⁽⁴⁾						
HSBC USA	169,575			194,469		
HSBC Bank USA	166,258			192,521		

⁽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 maintain capital equal to or in excess of 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 minimums.

⁽³⁾ Calculated using the Standardized Approach.

⁽⁴⁾ Represents the Tier 1 leverage ratio denominator which reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital.

In response to the COVID-19 pandemic, the federal banking agencies issued a final rule that provided the option to transition in the regulatory capital impacts of the current expected credit loss accounting standard over a five-year period. In 2020, HSBC North America and HSBC Bank USA elected the five-year transition option and, as a result, our capital ratios were being reported in accordance with the transition rules in the final rule. However, as of December 31, 2021, there was no remaining impact to regulatory capital under the transition rules and, therefore, there are no amounts being phased into regulatory capital in subsequent periods.

During the third quarter of 2022, HSBC USA received a common stock return of capital of \$1.0 billion from its subsidiary, HSBC Bank USA, and paid a distribution on its common stock of \$1.0 billion from surplus capital to its parent, HSBC North America.

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 September 30, 2022 and December 31, 2021 which are consolidated on our balance sheet. Assets and liabilities exclude intercompany balances that eliminate in consolidation.

	September 30, 2022		December 31, 2021	
	Consolidated Assets	Consolidated Liabilities	Consolidated Assets	Consolidated Liabilities
(in millions)				
Low income housing limited liability partnership:				
Other assets	\$ 40	\$ —	\$ 54	\$ —
Interest, taxes and other liabilities	—	21	—	7
Subtotal	<u>40</u>	<u>21</u>	<u>54</u>	<u>7</u>
Venture debt financing entity:				
Loans	127	—	46	—
Other assets	4	—	1	—
Interest, taxes and other liabilities	—	5	—	2
Subtotal	<u>131</u>	<u>5</u>	<u>47</u>	<u>2</u>
Total	<u>\$ 171</u>	<u>\$ 26</u>	<u>\$ 101</u>	<u>\$ 9</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 was mandatorily redeemable. 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 were the primary beneficiary of the LLP due to the nature of our continuing involvement and, as a result, we consolidated the LLP and reported the equity interest issued to the third party investor in long-term debt 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. In 2019, the equity interest issued to the third party investor was redeemed.

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.

Venture debt financing entity HSBC USA has organized and provided equity financing to HSBC Ventures USA Inc. ("HSBC Ventures"), an entity designed to provide debt financing to venture capital-backed companies generally in the form of term or revolving loans, or loan commitments. Given the generally early stage and development of the companies, the loans are typically collateralized by all of the company's assets and intellectual property, or by specific items such as receivables or equipment. The loan terms may, at times, also include warrants for company stock granting HSBC Ventures a share of the financial returns in case of a positive realization event. HSBC USA also provides debt financing to HSBC Ventures in the form of loans on an as-needed basis. HSBC Ventures is a VIE because it does not have sufficient equity investment at risk to finance its activities. As the sole investor, HSBC USA is considered to be the primary beneficiary because it has the obligation to absorb losses and the right to receive benefits that could be potentially significant to HSBC Ventures. As a result, we consolidate HSBC Ventures and report the third party loans and warrants, if any, on our consolidated balance sheet.

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 involvement in these VIEs, at September 30, 2022 and December 31, 2021:

	Total Assets Held by Unconsolidated VIEs	Carrying Value of Variable Interests Held Reported as		Maximum Exposure to Loss
		Assets	Liabilities	
(in millions)				
At September 30, 2022				
Limited partnership investments	\$ 6,966	\$ 818	\$ 386	\$ 818
Asset-backed financing SPE	777	616	—	616
Total	<u>\$ 7,743</u>	<u>\$ 1,434</u>	<u>\$ 386</u>	<u>\$ 1,434</u>
At December 31, 2021				
Limited partnership investments	\$ 6,700	\$ 825	\$ 407	\$ 825
Asset-backed financing SPE	1,033	873	—	873
Total	<u>\$ 7,733</u>	<u>\$ 1,698</u>	<u>\$ 407</u>	<u>\$ 1,698</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.

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 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 as well as any outstanding funding commitments extended to the partnerships.

Asset-backed financing SPE During 2021, we sold a portfolio of commercial real estate loans and provided a loan to the third-party buyer sponsored SPE for a portion of the purchase price. The SPE is an asset-backed financing entity that issued residual beneficial interests to third-party investors. The loan we provided to the SPE is senior to the residual beneficial interests and is secured by the commercial real estate loans held by the SPE. Cash flows from the commercial real estate loans will be used first to settle the interest and principal payments of the loan, with any excess cash flows attributable to the residual interest holders. The SPE is a VIE in which we have a variable interest through our ownership of the loan, which is an arm's-length transaction. We do not have the power to direct the activities that most significantly impact the VIE's economic performance. In addition, the VIE is designed such that the residual interest holders absorb any expected loss and/or benefit that could be potentially significant to the VIE and, therefore, we are not the primary beneficiary. The maximum exposure to loss shown in the table above represents our recorded investment in the loan without consideration of any recovery benefits from the value of the commercial real estate loans.

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 4, "Trading Assets and Liabilities," Note 5, "Securities," and Note 19, "Fair Value Measurements," and, therefore, are not disclosed in this note to avoid redundancy.

In addition to the above, we have established and manage money market funds and non-money market mutual funds to provide customers with investment opportunities. As fund manager, we may be entitled to receive management fees based on the assets under management. We do not consolidate the 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.

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 September 30, 2022 and December 31, 2021. Following the table is a description of the various arrangements.

	September 30, 2022		December 31, 2021	
	Carrying Value	Notional / Maximum Exposure to Loss	Carrying Value	Notional / Maximum Exposure to Loss
	(in millions)			
Credit derivatives ⁽¹⁾⁽²⁾	\$ (34)	\$ 3,402	\$ 7	\$ 2,174
Financial standby letters of credit, net of participations ⁽³⁾⁽⁴⁾	—	5,670	—	5,339
Performance standby letters of credit, net of participations ⁽³⁾⁽⁴⁾	—	3,202	—	2,961
Total	<u>\$ (34)</u>	<u>\$ 12,274</u>	<u>\$ 7</u>	<u>\$ 10,474</u>

⁽¹⁾ Includes \$2,078 million and \$1,591 million of notional issued for the benefit of HSBC affiliates at September 30, 2022 and December 31, 2021, 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 \$1,995 million and \$1,969 million of both financial and performance standby letters of credit issued for the benefit of HSBC affiliates at September 30, 2022 and December 31, 2021, 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 September 30, 2022 and December 31, 2021:

	September 30, 2022		December 31, 2021	
	Carrying / Fair Value	Notional	Carrying / Fair Value	Notional
	(in millions)			
Sell-protection credit derivative positions	\$ (34)	\$ 3,402	\$ 7	\$ 2,174
Buy-protection credit derivative positions	121	10,780	(62)	4,849
Net position ⁽¹⁾	\$ 87	\$ 7,378	\$ (55)	\$ 2,675

⁽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 \$50 million and \$51 million at September 30, 2022 and December 31, 2021, respectively. Also included in other liabilities is an allowance for credit losses on unfunded standby letters of credit of \$15 million and \$14 million at September 30, 2022 and December 31, 2021, 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 September 30, 2022 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	1.6	\$ 920	\$ 569	\$ 1,489
Index credit derivatives	6.7	573	1,340	1,913
Subtotal		1,493	1,909	3,402
Standby Letters of Credit ⁽²⁾	1.0	6,618	2,254	8,872
Total		\$ 8,111	\$ 4,163	\$ 12,274

⁽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 30, "Litigation and Regulatory Matters," in our 2021 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.

In 2016 and 2017, we sold substantially all of our 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 \$34 million and \$38 million at September 30, 2022 and December 31, 2021, respectively. The swap agreements we entered into with the purchaser require 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. We have 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). In the second quarter of 2022, we recorded a loss of \$31 million related to an increase in the expected timing of the final resolution of the related litigation and, to a lesser extent, a change in the Visa Class B Share conversion rate. See Note 10, "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 12, "Leases," in our 2021 Form 10-K for a full discussion of our leases, including a maturity analysis of our operating lease liabilities. During the second quarter of 2022, we entered into a new 20-year operating lease agreement to relocate our U.S. headquarters to 66 Hudson Boulevard, New York, New York. The lease contains certain renewal and termination options and is expected to commence in the first quarter of 2024. We currently expect to record a lease ROU asset and a corresponding operating lease liability of approximately \$230 million upon commencement of the lease.

Mortgage Loan Repurchase Obligations We originate and sell mortgage loans to third parties and provide various representations and warranties related to, 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.

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 were immaterial at September 30, 2022 and December 31, 2021.

Our estimated repurchase liability for obligations arising from the breach of representations and warranties associated with mortgage loans sold was \$12 million and \$3 million at September 30, 2022 and December 31, 2021, respectively. Our repurchase liability 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 \$30 million at September 30, 2022. This estimated range of reasonably possible losses was determined primarily 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 30, "Litigation and Regulatory Matters," in our 2021 Form 10-K for additional discussion of related exposure. The outstanding principal balance on these loans was approximately \$2.5 billion and \$2.7 billion at September 30, 2022 and December 31, 2021, respectively.

Pledged Assets

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

	September 30, 2022	December 31, 2021
	(in millions)	
Interest bearing deposits with banks ⁽¹⁾	\$ 1,213	\$ 563
Trading assets ⁽²⁾	1,188	1,773
Securities available-for-sale ⁽³⁾	3,287	7,618
Securities held-to-maturity ⁽³⁾	390	599
Loans ⁽⁴⁾	17,026	17,777
Other assets ⁽⁵⁾	2,224	1,211
Total	\$ 25,328	\$ 29,541

⁽¹⁾ Represents gross amount of cash on deposit with banks primarily related to derivative collateral-support agreements, of which a majority has been netted against derivative liabilities on the consolidated balance sheet.

⁽²⁾ Trading assets are primarily pledged against liabilities associated with repurchase agreements.

⁽³⁾ 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.

⁽⁴⁾ Loans are primarily residential mortgage loans pledged against current and potential borrowings from the FHLB and the Federal Reserve Bank of New York.

⁽⁵⁾ Represents gross amount of cash on deposit with non-banks primarily related to derivative collateral support agreements, of which a majority has been netted against derivative liabilities on the consolidated balance sheet.

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 \$261 million and \$2,410 million at September 30, 2022 and December 31, 2021, respectively. The fair value of trading assets that could be sold or repledged was \$1,160 million and \$1,749 million at September 30, 2022 and December 31, 2021, respectively.

The fair value of collateral we accepted under security resale agreements but was not reported on the consolidated balance sheet was \$35,419 million and \$12,848 million at September 30, 2022 and December 31, 2021, respectively. Of this collateral, \$35,044 million and \$12,848 million could be sold or repledged at September 30, 2022 and December 31, 2021, respectively, of which \$4,342 million and \$538 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 September 30, 2022 and December 31, 2021:

	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 September 30, 2022						
Assets:						
Securities purchased under resale agreements ...	\$ 35,749	\$ 5,924	\$ 29,825	\$ 29,611	\$ —	\$ 214
Liabilities:						
Securities sold under repurchase agreements	\$ 5,924	\$ 5,924	\$ —	\$ —	\$ —	\$ —
At December 31, 2021						
Assets:						
Securities purchased under resale agreements ...	\$ 12,871	\$ 2,357	\$ 10,514	\$ 10,464	\$ 50	\$ —
Liabilities:						
Securities sold under repurchase agreements	\$ 4,672	\$ 2,357	\$ 2,315	\$ 2,315	\$ —	\$ —

⁽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 September 30, 2022 and December 31, 2021:

	Overnight and Continuous	Up to 30 Days	31 to 90 Days	91 Days to One Year	Greater Than One Year	Total
At September 30, 2022						
U.S. Treasury, U.S. Government sponsored and U.S. Government agency securities	\$ 848	\$ 2,741	\$ 1,050	\$ 1,285	\$ —	\$ 5,924
At December 31, 2021						
U.S. Treasury, U.S. Government sponsored and U.S. Government agency securities	\$ —	\$ 3,442	\$ 1,151	\$ 79	\$ —	\$ 4,672

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 guidance 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 unsecured funding spreads. 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 September 30, 2022 and December 31, 2021, 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.

September 30, 2022	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting ⁽⁶⁾	Net Balance
	(in millions)					
Assets:						
Trading assets, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	\$ 1,400	\$ 368	\$ —	\$ 1,768	\$ —	\$ 1,768
Debt securities issued by foreign entities	4,276	369	—	4,645	—	4,645
Equity securities	6,569	—	—	6,569	—	6,569
Precious metals trading	—	4,760	—	4,760	—	4,760
Derivatives: ⁽¹⁾						
Interest rate contracts	15	2,271	2	2,288	—	2,288
Foreign exchange contracts	—	25,903	—	25,903	—	25,903
Equity contracts	—	1,925	100	2,025	—	2,025
Precious metals contracts	6	1,451	—	1,457	—	1,457
Credit contracts	—	119	—	119	—	119
Other contracts ⁽²⁾	—	—	5	5	—	5
Derivatives netting	—	—	—	—	(28,174)	(28,174)
Total derivatives	21	31,669	107	31,797	(28,174)	3,623
Securities available-for-sale: ⁽³⁾						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	9,001	17,390	—	26,391	—	26,391
Asset-backed securities:						
Home equity	—	—	15	15	—	15
Other	—	—	92	92	—	92
Debt securities issued by foreign entities	1,479	105	—	1,584	—	1,584
Loans held for sale ⁽⁴⁾	—	166	—	166	—	166
Other assets:						
Mortgage servicing rights	—	—	23	23	—	23
Equity securities	—	127	—	127	—	127
Equity securities measured at net asset value ⁽⁵⁾	—	—	—	141	—	141
Total assets	\$ 22,746	\$ 54,954	\$ 237	\$ 78,078	\$ (28,174)	\$ 49,904
Liabilities:						
Domestic deposits ⁽⁴⁾	\$ —	\$ 1,384	\$ 378	\$ 1,762	\$ —	\$ 1,762
Trading liabilities, excluding derivatives	1,499	—	—	1,499	—	1,499
Derivatives: ⁽¹⁾						
Interest rate contracts	10	1,697	7	1,714	—	1,714
Foreign exchange contracts	1	24,799	—	24,800	—	24,800
Equity contracts	45	796	446	1,287	—	1,287
Precious metals contracts	—	1,549	—	1,549	—	1,549
Credit contracts	—	65	—	65	—	65
Other contracts ⁽²⁾	—	—	34	34	—	34
Derivatives netting	—	—	—	—	(25,929)	(25,929)
Total derivatives	56	28,906	487	29,449	(25,929)	3,520
Long-term debt ⁽⁴⁾	—	4,685	2,316	7,001	—	7,001
Total liabilities	\$ 1,555	\$ 34,975	\$ 3,181	\$ 39,711	\$ (25,929)	\$ 13,782

December 31, 2021	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting ⁽⁶⁾	Net Balance
	(in millions)					
Assets:						
Trading assets, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	\$ 2,337	\$ 432	\$ —	\$ 2,769	\$ —	\$ 2,769
Debt securities issued by foreign entities	134	33	—	167	—	167
Equity securities	15,795	—	—	15,795	—	15,795
Precious metals trading	—	3,907	—	3,907	—	3,907
Derivatives: ⁽¹⁾						
Interest rate contracts	8	1,839	1	1,848	—	1,848
Foreign exchange contracts	—	11,350	—	11,350	—	11,350
Equity contracts	—	1,845	213	2,058	—	2,058
Precious metals contracts	4	936	—	940	—	940
Credit contracts	—	28	—	28	—	28
Other contracts ⁽²⁾	—	—	5	5	—	5
Derivatives netting	—	—	—	—	(14,788)	(14,788)
Total derivatives	12	15,998	219	16,229	(14,788)	1,441
Securities available-for-sale: ⁽³⁾						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	10,817	22,049	—	32,866	—	32,866
Asset-backed securities:						
Home equity	—	—	19	19	—	19
Other	—	—	101	101	—	101
Debt securities issued by foreign entities	2,201	111	—	2,312	—	2,312
Loans held for sale ⁽⁴⁾	—	48	—	48	—	48
Other assets:						
Mortgage servicing rights	—	—	16	16	—	16
Equity securities	—	144	—	144	—	144
Equity securities measured at net asset value ⁽⁵⁾	—	—	—	138	—	138
Total assets	<u>\$ 31,296</u>	<u>\$ 42,722</u>	<u>\$ 355</u>	<u>\$ 74,511</u>	<u>\$ (14,788)</u>	<u>\$ 59,723</u>
Liabilities:						
Domestic deposits ⁽⁴⁾	\$ —	\$ 2,214	\$ 535	\$ 2,749	\$ —	\$ 2,749
Trading liabilities, excluding derivatives	1,103	46	—	1,149	—	1,149
Derivatives: ⁽¹⁾						
Interest rate contracts	10	1,888	1	1,899	—	1,899
Foreign exchange contracts	—	11,124	2	11,126	—	11,126
Equity contracts	—	1,194	167	1,361	—	1,361
Precious metals contracts	—	779	—	779	—	779
Credit contracts	—	80	2	82	—	82
Other contracts ⁽²⁾	—	—	38	38	—	38
Derivatives netting	—	—	—	—	(13,287)	(13,287)
Total derivatives	10	15,065	210	15,285	(13,287)	1,998
Long-term debt ⁽⁴⁾	—	7,089	1,853	8,942	—	8,942
Total liabilities	<u>\$ 1,113</u>	<u>\$ 24,414</u>	<u>\$ 2,598</u>	<u>\$ 28,125</u>	<u>\$ (13,287)</u>	<u>\$ 14,838</u>

⁽¹⁾ Includes trading derivative assets of \$3,340 million and \$1,405 million and trading derivative liabilities of \$3,341 million and \$1,874 million at September 30, 2022 and December 31, 2021, respectively, as well as derivatives held for hedging and commitments accounted for as derivatives. See Note 10, "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.

⁽²⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

⁽³⁾ Securities available-for-sale are recorded at fair value through other comprehensive income (loss). Changes in the allowance for credit losses on securities available-for-sale are recorded through net income.

⁽⁴⁾ See Note 11, "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.

⁽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 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 and nine months ended September 30, 2022 and 2021. 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							Current Period Unrealized Gains (Losses) Still Held Included in			
	Jul. 1, 2022	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Sep. 30, 2022	Earnings	Other Compre- hensive Income (Loss)
(in millions)											
Assets:											
Derivatives, net: ⁽¹⁾											
Interest rate contracts.....	\$ (4)	\$ (1)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (5)	\$ (1)	\$ —
Equity contracts ...	(282)	(69)	—	—	—	13	(17)	9	(346)	(63)	—
Credit contracts ...	(1)	1	—	—	—	—	—	—	—	1	—
Other contracts ⁽²⁾ ..	(47)	4	—	—	—	14	—	—	(29)	—	—
Asset-backed securities available-for- sale ⁽³⁾	113	—	(5)	—	—	(1)	—	—	107	—	(5)
Mortgage servicing rights ⁽⁴⁾	22	—	—	—	1	—	—	—	23	—	—
Total assets.....	<u>\$ (199)</u>	<u>\$ (65)</u>	<u>\$ (5)</u>	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ 26</u>	<u>\$ (17)</u>	<u>\$ 9</u>	<u>\$ (250)</u>	<u>\$ (63)</u>	<u>\$ (5)</u>
Liabilities:											
Domestic deposits ⁽⁵⁾	\$ (500)	\$ 17	\$ —	\$ —	\$ —	\$ 104	\$ (26)	\$ 27	\$ (378)	\$ 13	\$ —
Long-term debt ⁽⁵⁾	(2,093)	72	—	—	(367)	118	(135)	89	(2,316)	76	—
Total liabilities.....	<u>\$ (2,593)</u>	<u>\$ 89</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (367)</u>	<u>\$ 222</u>	<u>\$ (161)</u>	<u>\$ 116</u>	<u>\$ (2,694)</u>	<u>\$ 89</u>	<u>\$ —</u>

	Total Realized / Unrealized Gains (Losses) Included in							Current Period Unrealized Gains (Losses) Still Held Included in			
	Jan. 1, 2022	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Sep. 30, 2022	Earnings	Other Compre- hensive Income (Loss)
(in millions)											
Assets:											
Derivatives, net: ⁽¹⁾											
Interest rate contracts.....	\$ —	\$ (2)	\$ —	\$ —	\$ —	\$ —	\$ (3)	\$ —	\$ (5)	\$ (2)	\$ —
Foreign exchange contracts.....	(2)	2	—	—	—	—	—	—	—	—	—
Equity contracts ...	46	(410)	—	—	—	(39)	5	52	(346)	(345)	—
Credit contracts ...	(2)	2	—	—	—	—	—	—	—	2	—
Other contracts ⁽²⁾ ..	(33)	(27)	—	—	—	31	—	—	(29)	—	—
Asset-backed securities available-for- sale ⁽³⁾	120	—	(9)	—	—	(4)	—	—	107	—	(9)
Mortgage servicing rights ⁽⁴⁾	16	4	—	—	3	—	—	—	23	2	—
Total assets	<u>\$ 145</u>	<u>\$ (431)</u>	<u>\$ (9)</u>	<u>\$ —</u>	<u>\$ 3</u>	<u>\$ (12)</u>	<u>\$ 2</u>	<u>\$ 52</u>	<u>\$ (250)</u>	<u>\$ (343)</u>	<u>\$ (9)</u>
Liabilities:											
Domestic deposits ⁽⁵⁾	\$ (535)	\$ 62	\$ 1	\$ —	\$ —	\$ 220	\$ (156)	\$ 30	\$ (378)	\$ 46	\$ 1
Long-term debt ⁽⁵⁾	(1,853)	425	16	—	(1,025)	318	(372)	175	(2,316)	369	16
Total liabilities	<u>\$ (2,388)</u>	<u>\$ 487</u>	<u>\$ 17</u>	<u>\$ —</u>	<u>\$ (1,025)</u>	<u>\$ 538</u>	<u>\$ (528)</u>	<u>\$ 205</u>	<u>\$ (2,694)</u>	<u>\$ 415</u>	<u>\$ 17</u>

	Total Realized / Unrealized Gains (Losses) Included in								Current Period Unrealized Gains (Losses) Still Held Included in			
	Jul. 1, 2021	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Sep. 30, 2021	Earnings	Other Compre- hensive Income (Loss)	
(in millions)												
Assets:												
Derivatives, net: ⁽¹⁾												
Interest rate contracts.....	\$ 8	\$ (8)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Foreign exchange contracts.....	(1)	—	—	—	—	—	—	—	(1)	—	—	—
Equity contracts ...	(13)	(91)	—	—	—	256	(38)	—	114	(2)	—	—
Credit contracts ...	46	(49)	—	—	—	1	—	—	(2)	—	—	—
Other contracts ⁽²⁾ ..	(48)	3	—	—	—	6	—	—	(39)	—	—	—
Asset-backed securities available-for- sale ⁽³⁾	126	—	(2)	—	—	(3)	—	—	121	—	(2)	—
Mortgage servicing rights ⁽⁴⁾	12	1	—	—	1	—	—	—	14	1	—	—
Total assets.....	<u>\$ 130</u>	<u>\$ (144)</u>	<u>\$ (2)</u>	<u>\$ —</u>	<u>\$ 1</u>	<u>\$ 260</u>	<u>\$ (38)</u>	<u>\$ —</u>	<u>\$ 207</u>	<u>\$ (1)</u>	<u>\$ (2)</u>	<u>\$ —</u>
Liabilities:												
Domestic deposits ⁽⁵⁾	\$ (593)	\$ 9	\$ 1	\$ —	\$ —	\$ 58	\$ —	\$ 9	\$ (516)	\$ 6	\$ 1	\$ —
Long-term debt ⁽⁵⁾	(919)	33	—	—	(660)	54	(9)	18	(1,483)	34	—	—
Total liabilities.....	<u>\$ (1,512)</u>	<u>\$ 42</u>	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ (660)</u>	<u>\$ 112</u>	<u>\$ (9)</u>	<u>\$ 27</u>	<u>\$ (1,999)</u>	<u>\$ 40</u>	<u>\$ 1</u>	<u>\$ —</u>

	Total Realized / Unrealized Gains (Losses) Included in								Current Period Unrealized Gains (Losses) Still Held Included in		
	Jan. 1, 2021	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Sep. 30, 2021	Earnings	Other Compre- hensive Income (Loss)
(in millions)											
Assets:											
Trading assets, excluding derivatives: ⁽⁶⁾											
Residential mortgage asset- backed securities	\$ 15	\$ 9	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (24)	\$ —	\$ —	\$ —
Derivatives, net: ⁽¹⁾											
Interest rate contracts	34	(34)	—	—	—	—	—	—	—	(5)	—
Foreign exchange contracts	9	(10)	—	—	—	—	—	—	(1)	(11)	—
Equity contracts ..	119	(230)	—	—	—	283	(30)	(28)	114	22	—
Credit contracts ...	63	(65)	—	—	—	—	—	—	(2)	(2)	—
Other contracts ⁽²⁾ ..	(59)	—	—	—	—	20	—	—	(39)	—	—
Asset-backed securities available-for- sale ⁽³⁾											
	131	—	(3)	—	—	(7)	—	—	121	—	(3)
Mortgage servicing rights ⁽⁴⁾											
	7	—	—	—	7	—	—	—	14	—	—
Total assets	<u>\$ 319</u>	<u>\$ (330)</u>	<u>\$ (3)</u>	<u>\$ —</u>	<u>\$ 7</u>	<u>\$ 296</u>	<u>\$ (30)</u>	<u>\$ (52)</u>	<u>\$ 207</u>	<u>\$ 4</u>	<u>\$ (3)</u>
Liabilities:											
Domestic deposits ⁽⁵⁾ \$	(646)	\$ 1	\$ 2	\$ —	\$ —	\$ 146	\$ (109)	\$ 90	\$ (516)	\$ 3	\$ 2
Long-term debt ⁽⁵⁾	(448)	10	(1)	—	(1,201)	177	(45)	25	(1,483)	14	(1)
Total liabilities	<u>\$ (1,094)</u>	<u>\$ 11</u>	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ (1,201)</u>	<u>\$ 323</u>	<u>\$ (154)</u>	<u>\$ 115</u>	<u>\$ (1,999)</u>	<u>\$ 17</u>	<u>\$ 1</u>

⁽¹⁾ Level 3 net derivatives included derivative assets of \$107 million and derivative liabilities of \$487 million at September 30, 2022 and derivative assets of \$319 million and derivative liabilities of \$247 million at September 30, 2021. Gains (losses) on derivatives, net are predominantly included in trading revenue (expense) and gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income.

⁽²⁾ 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.

⁽³⁾ Realized gains (losses) on securities available-for-sale are included in other securities gains, net in the consolidated statement of income. Changes in the allowance for credit losses on securities available-for-sale are included in the provision for credit losses in the consolidated statement of income. Unrealized gains (losses) on securities available-for-sale are included in other comprehensive income (loss).

⁽⁴⁾ Gains (losses) on mortgage servicing rights are included in other income (loss) in the consolidated statement of income.

⁽⁵⁾ 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.

⁽⁶⁾ Gains (losses) on trading assets, excluding derivatives are included in trading revenue (expense) in the consolidated statement of income.

Significant Unobservable Inputs for Recurring Fair Value Measurements

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 September 30, 2022 and December 31, 2021:

September 30, 2022

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Interest rate derivative contracts.....	\$ (5)	Market comparable adjusted for probability to fund and, where applicable, option pricing model	Probability to fund for rate lock commitments	58% - 99%	87%
			Interest rate yield curve	9%	N/A
Equity derivative contracts ⁽²⁾ ..	\$ (346)	Option pricing model	Equity / Equity Index volatility	8% - 90%	44%
			Equity / Equity and Equity / Index correlation	45% - 99%	86%
			Equity forward price	\$72 - \$5,039	\$1,249
Other derivative contracts	\$ (29)	Discounted cash flows	Conversion rate	1.6 times	N/A
			Expected duration	1.3 years	N/A
Asset-backed securities available-for-sale	\$ 107	Discounted cash flows	Market assumptions related to yields for comparable instruments	2% - 3%	2%
Mortgage servicing rights	\$ 23	Discounted cash flows	Constant prepayment rates	6% - 13%	6%
			Discount rate	8% - 12%	9%
			Estimated annualized costs to service	\$72 - \$76 per account	\$74 per account
Domestic deposits (structured deposits) ⁽²⁾⁽³⁾	\$ (378)	Option adjusted discounted cash flows	Equity / Equity Index volatility	8% - 27%	17%
			Equity / Equity and Equity / Index correlation	49% - 89%	63%
Long-term debt (structured notes) ⁽²⁾⁽³⁾	\$ (2,316)	Option adjusted discounted cash flows	Equity / Equity Index volatility	8% - 55%	32%
			Equity / Equity and Equity / Index correlation	45% - 99%	86%
			Credit default swap spreads	1,222bps	N/A

December 31, 2021

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Interest rate derivative contracts.....	\$ —	Market comparable adjusted for probability to fund and, where applicable, option pricing model	Probability to fund for rate lock commitments	36% - 99%	83%
			Interest rate yield curve	8%	N/A
Foreign exchange derivative contracts ⁽²⁾	\$ (2)	Option pricing model	Implied volatility of currency pairs	0% - 9%	6%
			Cross-currency basis	(86)bps	N/A
Equity derivative contracts ⁽²⁾	\$ 46	Option pricing model	Equity / Equity Index volatility	8% - 85%	40%
			Equity / Equity and Equity / Index correlation	44% - 98%	81%
			Equity dividend yields and forward price	(4)% - 1%	0%
Credit derivative contracts.....	\$ (2)	Option pricing model and, where applicable, discounted cash flows	Credit default swap spreads	76bps - 325bps	234bps
Other derivative contracts.....	\$ (33)	Discounted cash flows	Conversion rate	1.6 times	N/A
			Expected duration	1.0 year	N/A
Asset-backed securities available-for-sale.....	\$ 120	Discounted cash flows	Market assumptions related to yields for comparable instruments	3% - 4%	3%
Mortgage servicing rights.....	\$ 16	Discounted cash flows	Constant prepayment rates	10% - 16%	12%
			Discount rate	8% - 13%	8%
			Estimated annualized costs to service	\$72 - \$85 per account	\$75 per account
Domestic deposits (structured deposits) ⁽²⁾⁽³⁾	\$ (535)	Option adjusted discounted cash flows	Equity / Equity Index volatility	8% - 21%	15%
			Equity / Equity and Equity / Index correlation	49% - 85%	62%
Long-term debt (structured notes) ⁽²⁾⁽³⁾	\$ (1,853)	Option adjusted discounted cash flows	Implied volatility of currency pairs	0% - 9%	6%
			Equity / Equity Index volatility	8% - 71%	31%
			Equity / Equity and Equity / Index correlation	44% - 98%	82%
			Credit default swap spreads	798bps	N/A

⁽¹⁾ For foreign exchange derivatives, equity derivatives, credit derivatives, structured deposits and structured notes, weighted averages are calculated based on the fair value of the instruments. For all remaining instrument types, weighted averages are calculated based on the notional value of the instruments.

⁽²⁾ We are the client-facing entity and, except for structured notes and deposits with embedded credit derivative features, 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 risk neutral in substantially all of the structured notes and deposits. The corresponding intra-group derivatives are presented as equity derivatives and foreign exchange derivatives in the table.

⁽³⁾ Structured deposits and structured notes contain embedded derivative features whose fair value measurements contain significant Level 3 inputs. See equity derivatives and credit derivatives below for a discussion of the uncertainty of Level 3 inputs related to structured deposits and structured notes.

N/A Not Applicable

Uncertainty of Level 3 Inputs to Fair Value Measurements

Interest rate derivatives - For mortgage rate lock commitments, the fair value measurement is affected by the probability of executing and funding the mortgage. An increase (decrease) in the likelihood of a mortgage being executed would have resulted in a lower (higher) fair value measurement of the interest rate derivative. For certain other interest rate derivatives, the interest rates for longer dated tenors were not observable. An increase (decrease) in the interest rate would have resulted in a higher (lower) fair value measurement of the derivative depending on if we receive or pay the floating rate.

Equity derivatives - The fair value measurement of a structured equity derivative is primarily affected by the implied volatility of the underlying equity price. 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 and are 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. For a derivative referenced to a basket of equities, the fair value measurement is also affected by the correlation of the referenced equities. Correlation measures the relative change in values among two or more variables (i.e., equity pair), which can be positively or negatively correlated. A majority of the

correlations are not observable, but are derived based on historical data. A significant increase (decrease) in the correlation of the referenced variables would have resulted in a higher (lower) fair value of a long position in the derivative contract.

Foreign exchange derivatives - For certain foreign exchange derivatives, the cross-currency basis for longer dated tenors were not observable. An increase (decrease) in the cross-currency basis would have resulted in a higher (lower) fair value measurement of the derivative depending on if we receive or pay the floating rate plus the basis spread.

Credit derivatives - The fair value measurement of certain credit derivatives is primarily affected by the credit spreads of credit default swap contracts. A significant increase (decrease) in the credit spreads would have resulted in a lower (higher) fair value measurement of the credit derivative.

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.

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 lower (higher) fair value measurement of the securities.

Mortgage servicing rights - The fair value measurement of mortgage servicing rights is primarily affected by the estimated prepayment rates of the mortgage loans and the discount rates. An increase (decrease) in either of these inputs would have resulted in a lower (higher) fair value measurement of the mortgage servicing rights.

Significant Transfers Into and Out of Level 3 Measurements During the three and nine months ended September 30, 2022, we transferred \$27 million and \$30 million, respectively, of domestic deposits and \$89 million and \$175 million, respectively, 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 nine months ended September 30, 2022, we also transferred \$52 million of equity derivatives from Level 3 to Level 2 as the inputs used to value these contracts have become more observable. During the three and nine months ended September 30, 2022, we transferred \$26 million and \$156 million, respectively, of domestic deposits and \$135 million and \$372 million, respectively, of long-term debt, which we elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying inputs that resulted in the embedded derivative being unobservable.

During the three and nine months ended September 30, 2021, we transferred \$9 million and \$90 million, respectively, of domestic deposits and \$18 million and \$25 million, respectively, 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 second quarter of 2021, we also transferred \$24 million of residential mortgage asset-backed securities and \$27 million of equity derivatives from Level 3 to Level 2 as the inputs used to value these securities and derivative contracts have become more observable. During the three and nine months ended September 30, 2021, we transferred nil and \$109 million, respectively, of domestic deposits and \$9 million and \$45 million, respectively, of long-term debt, which we elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying inputs that resulted in the embedded derivative being unobservable. Additionally, during the third quarter of 2021, we transferred \$38 million of equity derivatives from Level 2 to Level 3 as the inputs used to value these contracts have become less observable.

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, (b) impaired loans or assets that are written down to fair value based on the valuation of underlying collateral during the period and (c) lease ROU assets or leasehold improvement assets that were written down 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 September 30, 2022 and December 31, 2021. The gains (losses) during the three and nine months ended September 30, 2022 and 2021 are also included.

	Non-Recurring Fair Value Measurements at September 30, 2022				Total Gains (Losses) For the Three Months Ended September 30, 2022	Total Gains (Losses) For the Nine Months Ended September 30, 2022
	Level 1	Level 2	Level 3	Total		
	(in millions)					
Consumer loans held for sale ⁽¹⁾	\$ —	\$ 5	\$ 9	\$ 14	\$ (3)	\$ (11)
Consumer loans ⁽²⁾	—	115	—	115	1	4
Commercial loans held for sale ⁽³⁾	—	132	—	132	(13)	(10)
Commercial loans ⁽⁴⁾	—	—	134	134	3	3
Leases ⁽⁵⁾	—	—	—	—	(4)	(1)
Total assets at fair value on a non-recurring basis	<u>\$ —</u>	<u>\$ 252</u>	<u>\$ 143</u>	<u>\$ 395</u>	<u>\$ (16)</u>	<u>\$ (15)</u>
	Non-Recurring Fair Value Measurements at December 31, 2021				Total Gains (Losses) For the Three Months Ended September 30, 2021	Total Gains (Losses) For the Nine Months Ended September 30, 2021
	Level 1	Level 2	Level 3	Total		
	(in millions)					
Consumer loans held for sale ⁽¹⁾	\$ —	\$ 24	\$ 1,742	\$ 1,766	\$ (1)	\$ (1)
Consumer loans ⁽²⁾	—	102	—	102	2	8
Commercial loans held for sale ⁽³⁾	—	75	68	143	—	(12)
Commercial loans ⁽⁴⁾	—	—	186	186	(12)	57
Leases ⁽⁵⁾	—	—	5	5	(4)	(59)
Total assets at fair value on a non-recurring basis	<u>\$ —</u>	<u>\$ 201</u>	<u>\$ 2,001</u>	<u>\$ 2,202</u>	<u>\$ (15)</u>	<u>\$ (7)</u>

⁽¹⁾ At September 30, 2022 and December 31, 2021, the fair value of the loans held for sale was below cost. During 2021, certain consumer loans were transferred to held for sale for which significant inputs in estimating fair value were unobservable.

⁽²⁾ Represents residential mortgage loans held for investment whose carrying amount was adjusted during the period based on the fair value of the underlying collateral.

⁽³⁾ At September 30, 2022 and December 31, 2021, the fair value of the loans held for sale was below cost. During the second quarter of 2021, certain commercial loans were transferred to held for sale for which significant inputs in estimating fair value were unobservable.

⁽⁴⁾ Certain commercial loans are individually assessed for impairment. 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.

⁽⁵⁾ During the three and nine months ended September 30, 2022, we wrote down the lease ROU assets and leasehold improvement assets associated with certain office space that we determined we would exit. During the second quarter of 2021, we determined that we would exit certain branches and, as a result, the lease ROU assets, leasehold improvement assets and equipment assets associated with these branches were written off. During the three and nine months ended September 30, 2021, we also wrote down the lease ROU assets and leasehold improvement assets primarily associated with certain office space that we determined we would exit. In addition, during the fourth quarter of 2021, we transferred one of our owned office space properties to held for sale and, as a result, its carrying amount was written down to an estimated fair value of \$5 million.

Significant Unobservable Inputs for Non-Recurring Fair Value Measurements

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 September 30, 2022 and December 31, 2021:

At September 30, 2022

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Consumer loans held for sale	\$ 9	Market comparables and internal assumptions	Adjusted market price	8% - 66%	38%
Commercial loans	134	Valuation of third party appraisal on underlying collateral	Loss severity rates	7% - 60%	21%

At December 31, 2021

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Consumer loans held for sale	\$ 1,742	Market comparables and internal assumptions	Adjusted market price	10% - 100%	98%
Commercial loans held for sale	68	Market comparables and internal assumptions	Adjusted market price	94%	N/A
Commercial loans	186	Valuation of third party appraisal on underlying collateral	Loss severity rates	2% - 76%	23%

⁽¹⁾ Weighted average is calculated based on the carrying value of the loans.

N/A Not Applicable

Valuation Techniques

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

Consumer loans held for sale – Consumer loans held for sale are recorded at the lower of amortized cost or fair value. The fair value of consumer loans held for sale is estimated 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 estimated 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. For consumer loans transferred to held for sale during 2021, the fair value measurement processes use significant unobservable inputs to adjust market prices which are specific to the characteristics of the various loan portfolios.

Consumer loans held for sale designated under FVO – We previously elected to apply FVO accounting to certain student loans (which were subsequently transferred to held for sale during 2021). The fair value of these loans is based on observed market prices of instruments with similar characteristics.

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 of commercial loans held for sale is estimated 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 or take into account underlying collateral values. For certain commercial loans transferred to held for sale during the second quarter of 2021, the fair value measurement process used significant unobservable inputs to adjust market prices which are specific to the characteristics of the loan portfolio.

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 loans individually assessed for impairment – 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 – 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.
- Foreign debt securities (government and corporate) - Government securities transact in an active market and therefore 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 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 primary 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 \$27 million and \$29 million at September 30, 2022 and December 31, 2021, respectively.

The following tables provide additional information relating to our available-for-sale asset-backed securities at September 30, 2022:

Rating of Securities: ⁽¹⁾	Collateral Type:	Level 3 (in millions)
AAA - A	Home equity - Alt A	\$ 15
BBB - B	Other	92
		<u>\$ 107</u>

⁽¹⁾ We utilize 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.

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 correlations of the referenced variables and volatilities of embedded options. These estimates are susceptible to significant change in future periods as market conditions change.

We typically use the risk-free rate/overnight indexed swap 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 an unsecured market funding

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.

Mortgage servicing rights - Mortgage servicing rights are recorded at fair value. The fair value for the mortgage servicing rights is determined based on a single rate path cash flow analysis approach which involves discounting servicing cash flows under static interest rate projections at risk-adjusted rates. The valuation model also incorporates our best estimates of the prepayment speed of the mortgage loans, current cost to service and discount rates which are unobservable.

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, 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 September 30, 2022 and December 31, 2021, and their classification within the fair value hierarchy:

September 30, 2022	Carrying Value	Fair Value	Level 1	Level 2	Level 3
(in millions)					
Financial assets:					
Short-term financial assets, net of allowance for credit losses	\$ 14,966	\$ 14,966	\$ 944	\$ 13,970	\$ 52
Federal funds sold and securities purchased under agreements to resell	29,825	29,825	—	29,825	—
Securities held-to-maturity, net of allowance for credit losses	6,656	6,181	—	6,181	—
Commercial loans, net of allowance for credit losses	43,951	43,835	—	—	43,835
Commercial loans held for sale	329	329	—	329	—
Consumer loans, net of allowance for credit losses	17,273	15,815	—	—	15,815
Consumer loans held for sale	81	81	—	7	74
Financial liabilities:					
Short-term financial liabilities	\$ 6,589	\$ 6,589	\$ —	\$ 6,536	\$ 53
Deposits	123,204	123,180	—	123,180	—
Long-term debt	8,695	9,259	—	9,259	—
December 31, 2021	Carrying Value	Fair Value	Level 1	Level 2	Level 3
(in millions)					
Financial assets:					
Short-term financial assets, net of allowance for credit losses	\$ 48,404	\$ 48,404	\$ 954	\$ 47,400	\$ 50
Federal funds sold and securities purchased under agreements to resell	10,514	10,514	—	10,514	—
Securities held-to-maturity, net of allowance for credit losses	5,203	5,359	—	5,359	—
Commercial loans, net of allowance for credit losses	39,376	39,862	—	—	39,862
Commercial loans held for sale	438	443	—	359	84
Consumer loans, net of allowance for credit losses	16,041	15,672	—	—	15,672
Consumer loans held for sale	3,731	3,809	—	77	3,732
Financial liabilities:					
Short-term financial liabilities	\$ 6,389	\$ 6,389	\$ —	\$ 6,338	\$ 51
Deposits	131,533	131,533	—	131,533	—
Deposits held for sale	8,750	8,750	—	8,750	—
Long-term debt	8,294	8,861	—	8,861	—

Lending-related commitments - The fair value of loan commitments, revolving credit facilities and standby letters of credit are not included in the above 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 \$150 million and \$151 million at September 30, 2022 and December 31, 2021, respectively.

20. *Litigation and Regulatory Matters*

The following supplements, and should be read together with, the disclosure in Note 30, "Litigation and Regulatory Matters," in our 2021 Form 10-K and in Note 20, "Litigation and Regulatory Matters," in our Form 10-Q for the three-month period ended March 31, 2022 (the "2022 First Quarter Form 10-Q") and the six-month period ended June 30, 2022 (the "2022 Second Quarter Form 10-Q"). Only those matters with significant updates and new matters since our disclosure in our 2021 Form 10-K, our 2022 First Quarter Form 10-Q and our 2022 Second Quarter Form 10-Q are reported herein.

In addition to the matters described below and in our 2021 Form 10-K, our 2022 First Quarter Form 10-Q and our 2022 Second Quarter Form 10-Q, 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. Some of our exposure may be offset by applicable insurance coverage. We do not consider the possible availability of insurance coverage in determining the amounts of any accruals (although we record the amount of related insurance recoveries that are deemed probable up to the amount of the accrual).

For the legal matters disclosed below, including litigation and governmental and regulatory matters, as well as for the legal matters disclosed in Note 30, "Litigation and Regulatory Matters," in our 2021 Form 10-K and in Note 20, "Litigation and Regulatory Matters," in our 2022 First Quarter Form 10-Q and our 2022 Second Quarter Form 10-Q, 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 \$150 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 30, "Litigation and Regulatory Matters," in our 2021 Form 10-K and in Note 20, "Litigation and Regulatory Matters," in our 2022 First Quarter Form 10-Q and our 2022 Second Quarter Form 10-Q, 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 Matters

Nypl v. JPMorgan Chase, et al. The defendants filed a motion for summary judgment in September 2022.

Precious Metals Fix Matters

In re London Silver Fixing, Ltd. Antitrust Litigation (Silver Fix Litigation) The defendants filed a consolidated motion for judgment on the pleadings in September 2022.

Anti-Terrorism Act Cases

Dana Bernhardt et al. v. HSBC Holdings plc, et al. In September 2022, the U.S. Court of Appeals for the D.C. Circuit ("D.C. Circuit") affirmed the lower court's decision granting the defendants' motion to dismiss. Plaintiffs filed a petition for *en banc* review by the D. C. Circuit in October 2022.

21. New Accounting Pronouncements

The following are new accounting pronouncements issued by the Financial Accounting Standards Board which will be adopted in future periods:

Accounting Standards Update	Summary of Guidance	Financial Statement Impact
Troubled Debt Restructurings and Vintage Disclosures <i>Issued March 2022</i>	<ul style="list-style-type: none"> Eliminates the accounting guidance for TDR Loans by creditors, while enhancing disclosure requirements for certain loan payment modifications by creditors made to borrowers experiencing financial difficulty. Requires new disclosure of current-period gross charge-offs by year of origination for loans. Should be applied prospectively, with the exception of the guidance related to the recognition and measurement of TDR Loans which may 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. 	<ul style="list-style-type: none"> Effective for all annual and interim periods beginning January 1, 2023. While early adoption is permitted, we currently do not expect to elect early adoption. The adoption of this guidance is not expected to have a material impact on our financial position or results of operations.

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. All discussions related to strategy, including the matters discussed under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations - Executive Overview" and discussions of those matters elsewhere in this Form 10-Q are forward-looking statements. These matters or statements will relate to our future structure, operations, strategy, 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:

- the impact of the coronavirus ("COVID-19") pandemic, including the emergence of new variants;
- our ability to effectively implement and deliver on our business strategies, and the effect implementation of our business strategy may have on our financial results, operations and relationships with our customers, regulators, employees and other stakeholders;
- 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, inflation, supply chain issues, a decline in housing prices, the availability of credit and liquidity, unemployment levels, 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;
- compliance with the Chinese National Security Law and the Hong Kong Autonomy Act, which may impact, among other things, individuals or entities with which we are able to conduct business;
- 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 new administration;
- 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 a consent order 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 successfully implement changes to our operational practices as needed and/or required from time to time;
- damage to our reputation;
- the ability to attract or retain key employees, including foreign workers, and customers;
- 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, outbreaks of contagious disease, acts of war, terrorist attacks, or essential utility outages;
- risks associated with Environmental, Social and Governance ("ESG") matters such as climate change and anti-trust and human rights violations;
- 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;
- changes in Financial Accounting Standards Board 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;
- 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, such as the Secured Overnight Financing Rate ("SOFR");
- 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;
- 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, 2021 (the "2021 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 Holdings Inc. ("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 U.S. economic activity slowed during the first nine months of 2022 reflecting the impacts of significantly higher inflation and rising interest rates as well as repercussions from the Russia-Ukraine war alongside continued economic impacts from the COVID-19 pandemic which have resulted in supply chain disruptions and increased energy prices. After contracting during the first two quarters of the year, U.S. Gross Domestic Product ("GDP") is currently forecast to grow in the third quarter of 2022, while the personal consumption expenditures price index is currently forecast to increase to an annual rate of 6.3 percent in September 2022, well above the FRB's target inflation rate. The FRB increased short-term interest rates by a total of 300 basis points during the first nine months of 2022 and has indicated that it will increase short-term interest rates further during the fourth quarter of 2022 in order to fight inflation.

These conditions have created significant uncertainty about the future economic environment which will continue to evolve and impact our business in future periods. While our credit risk exposure to Russia continues to be immaterial at September 30, 2022, it is difficult to anticipate the full effect of sanctions announced to date on our business and on our customers. Concerns over interest rate levels, energy prices, domestic and global policy issues, trade policy in the U.S. and geopolitical events, as well as the implications of those events on the markets in general, further add to the global uncertainty. There is also a risk that interest rate increases to fight inflation could lead to a recession. Interest rate levels and energy prices, 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 2022 and beyond.

Performance, Developments and Trends We continue to progress our strategic plan to restructure our operations ("Restructuring Plan") as discussed further in Note 2, "Strategic Initiatives," in the accompanying consolidated financial statements. We currently expect our multi-year strategic plan to re-profile our business will be substantially completed by the end of 2022.

As previously announced, in February 2022, we completed the sale of the branch disposal group associated with the exit of our mass market retail banking business to third parties and recognized a gain on sale of \$111 million, net of transaction costs. The gain on sale was increased by \$2 million during the third quarter of 2022 reflecting transaction cost adjustments. See Note 3, "Branch Assets and Liabilities Held for Sale," in the accompanying consolidated financial statements for additional information.

In addition to the branch disposal group discussed above, during the first quarter of 2022, we sold a portfolio of consumer loans consisting primarily of certain non-performing mortgage loans and government-backed mortgage loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. These mortgage loans had a carrying value of \$904 million, including \$865 million of residential mortgages and \$39 million of home equity mortgages, and we recognized a loss on sale of \$35 million, largely reflecting changes in the final terms of the sale.

The following tables set forth selected financial metrics of HUSI for the three and nine months ended September 30, 2022 and 2021 and at September 30, 2022 and December 31, 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(dollars are in millions)			
Net income	\$ 161	\$ 137	\$ 452	\$ 669
Rate of return on average:				
Total assets4 %	.3 %	.3 %	.5 %
Common equity	4.6 %	3.2	3.8	5.0
Tangible common equity ⁽¹⁾	4.8	3.3	3.9	5.1
Total equity	4.2	3.0	3.8	4.9
Net interest margin	1.36	1.13	1.26	1.15
Efficiency ratio	72.2	87.4	74.1	85.9
Commercial net charge-off ratio ⁽²⁾01	.12	.05	.13
Consumer net charge-off ratio ⁽²⁾	(.05)	(.10)	(.09)	.66

⁽¹⁾ The following table provides a reconciliation of average common equity to average tangible common equity:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Common equity	\$ 13,879	\$ 17,063	\$ 14,634	\$ 16,938
Less: Goodwill	458	458	458	458
Less: Intangible assets - purchased credit card relationships	—	4	—	6
Tangible common equity	<u>\$ 13,421</u>	<u>\$ 16,601</u>	<u>\$ 14,176</u>	<u>\$ 16,474</u>

⁽²⁾ Excludes loans held for sale.

	September 30, 2022	December 31, 2021
Additional Select Ratios:		
Allowance as a percent of loans ⁽¹⁾89 %	.80 %
Commercial allowance as a percent of loans ⁽¹⁾	1.16	1.06
Consumer allowance as a percent of loans ⁽¹⁾20	.17
Loans to deposits ratio ⁽²⁾	49.45	41.69
Common equity Tier 1 capital to risk-weighted assets	14.0	15.1
Tier 1 capital to risk-weighted assets	15.2	16.3
Total capital to risk-weighted assets	17.3	18.5
Tier 1 leverage ratio	9.5	8.5
Total equity to total assets	8.3	9.0

⁽¹⁾ Excludes loans held for sale.

⁽²⁾ Represents period end loans, net of allowance for loan losses, as a percentage of total deposits.

Net income was \$161 million and \$452 million during the three and nine months ended September 30, 2022, respectively, compared with \$137 million and \$669 million during the three and nine months ended September 30, 2021, respectively. Income before income tax was \$224 million and \$603 million during the three and nine months ended September 30, 2022, respectively, compared with \$177 million and \$891 million during the three and nine months ended September 30, 2021, respectively. The increase in income before income tax during the three months ended September 30, 2022 was due primarily to higher other revenues driven by higher trading revenue and, to a lesser extent, higher net interest income and lower operating expenses. These increases in the three-month period were partially offset by a higher provision for credit losses.

In the year-to-date period, income before income tax decreased due primarily to a higher provision for credit losses which reflected a loss provision in the current year period driven by the weakening of economic conditions compared with a release in credit loss reserves in the prior year period driven by improved economic conditions and, to a lesser extent, the impact of our decision to exit our mass market retail banking business which resulted in a release of credit loss reserves and a reduction to the provision for credit losses of approximately \$101 million during the second quarter of 2021. Also contributing to the decrease in the year-to-date period was lower net interest income as interest expense on deposits and interest bearing liabilities grew faster than interest income on loans and interest bearing assets. These decreases in the year-to-date period were partially offset by higher other revenues driven by higher trading revenue and the gain on sale of the branch disposal group as discussed above as well as lower operating expenses.

Our reported results in all periods were impacted by certain items management believes to be significant, which affect 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 these significant items for all periods presented:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Income before income tax, as reported	\$ 224	\$ 177	\$ 603	\$ 891
Costs to achieve ⁽¹⁾	95	61	247	215
Gain on sale of branch disposal group, net	(2)	—	(113)	—
Loss related to Visa Inc. Class B common shares previously sold ⁽²⁾	—	—	31	—
Adjusted performance ⁽³⁾	<u>\$ 317</u>	<u>\$ 238</u>	<u>\$ 768</u>	<u>\$ 1,106</u>

⁽¹⁾ Reflects costs related to the delivery of our Restructuring Plan. Costs to achieve primarily consists of lease impairment and other related costs, severance costs, allocated costs from HSBC Technology & Services ("HTSU"), and in the prior year periods, trading losses associated with the exit of certain derivative contracts. See Note 2, "Strategic Initiatives," in the accompanying consolidated financial statements for a more detailed discussion of these costs. The expense during the three and nine months ended September 30, 2022 also includes \$36 million and \$78 million, respectively, of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities as well as losses of \$18 million and \$21 million, respectively, on the sales of certain global banking loans and, in the year-to-date period, a loss of \$35 million on the sale of a portfolio of consumer mortgage loans. The expense during the three and nine months ended September 30, 2021 also includes \$14 million and \$32 million, respectively, of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities.

⁽²⁾ Reflects a loss on the swap agreements we entered into to retain the litigation risk associated with the Visa Inc. ("Visa") Class B common shares ("Class B Shares") we sold to a third party in 2016 and 2017. The loss recorded in the second quarter of 2022 related to an increase in the expected timing of the final resolution of the related litigation and, to a lesser extent, a change in the Visa Class B Share conversion rate. See Note 18, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," in the accompanying consolidated financial statements for additional information.

⁽³⁾ Represents a non-U.S. GAAP financial measure.

Excluding the impact of the items in the table above, our adjusted performance during the three and nine months ended September 30, 2022 increased \$79 million and decreased \$338 million, respectively, compared with the prior year periods. The increase in the three-month period was due primarily to higher other revenues driven by higher trading revenue and, to a lesser extent, lower operating expenses and higher net interest income. These increases in the three-month period were partially offset by a higher provision for credit losses. In the year-to-date period, the decrease was due primarily to a higher provision for credit losses as discussed above and, to a lesser extent, lower net interest income. These decreases in the year-to-date period were partially offset by higher other revenues driven by higher trading revenue as well as 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.

London Interbank Offered Rate ("LIBOR") Transition Regulators and central banks in various national jurisdictions continue to actively work to help transition from interbank offered rates to acceptable alternative rates, such as the Secured Overnight Financing Rate ("SOFR") recommended by the Alternative Reference Rates Committee convened by the FRB. In March 2022, the Adjustable Interest Rate Act ("LIBOR Act") was signed into law in order to provide a federal solution for replacing USD LIBOR with a SOFR-based rate in certain legacy LIBOR-based contracts. Under the LIBOR Act, the FRB is required to issue a regulation identifying which version of SOFR will apply. This federal legislation is expected to facilitate the transition of certain of our legacy LIBOR-based contracts which do not specify a replacement rate or contain an adequate fallback mechanism.

We continue to actively participate in HSBC's global transition program with the objective of facilitating an orderly transition of all products, processes, models and curves, as well as all legacy LIBOR-based contracts, onto replacement rates. The current focus of our client transition efforts is on those remaining contracts that will be impacted by USD LIBOR tenors ceasing or becoming non-representative immediately after June 30, 2023. Such contracts outstanding at September 30, 2022 included contracts for non-derivative financial assets with a carrying value of approximately \$19.9 billion, primarily consisting of USD LIBOR-based loans, contracts for non-derivative financial liabilities with a carrying value of approximately \$1.1 billion, primarily consisting of USD LIBOR-based long-term debt (\$1.0 billion of which is already set to transition to SOFR as of July 1, 2023), and contracts for USD LIBOR-based derivatives with a notional value of approximately \$21.3 billion. The substantial majority of our outstanding USD LIBOR-based derivative contracts adhere to and are covered by the International Swaps and Derivatives Association fallback protocol.

The ability of HUSI and its clients to transition legacy contracts onto replacement rates is dependent on the availability of products that reference replacement rates, including SOFR, and on our customers being ready and able to adapt their own

processes and systems to accommodate the replacement products. Market and industry use of SOFR has increased and we remain committed to completing the transition of outstanding contracts throughout the remainder of 2022 and into the first half of 2023. We continue to engage with industry participants, the official sector and our clients to support an orderly transition and the mitigation of the risks resulting from the transition. For further discussion of our LIBOR transition program and the associated risks, see "Executive Overview" in MD&A in our 2021 Form 10-K.

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. 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 September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
	(in millions)			
Profit before tax – U.S. GAAP basis	\$ 224	\$ 177	\$ 603	\$ 891
Adjustments:				
Expected credit losses	28	(41)	102	(229)
Other long-lived assets	—	10	23	49
Loans held for sale	18	(2)	24	(106)
Renewable energy tax credit investments	6	4	19	13
Pension and other postretirement benefit costs	3	(4)	—	(9)
Other	(2)	(8)	(1)	(6)
Profit before tax – Group Reporting Basis	<u>\$ 277</u>	<u>\$ 136</u>	<u>\$ 770</u>	<u>\$ 603</u>

The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 25, "Business Segments," in our 2021 Form 10-K. There have been no significant changes since December 31, 2021 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 three and nine months ended September 30, 2022, expected credit losses were higher under U.S. GAAP than under the Group Reporting Basis. Under the Group Reporting Basis, a majority of our loans are considered to be in "stage 1" (which requires a 12-month expected credit losses estimate), while under U.S. GAAP such loans require a lifetime expected credit losses ("ECL") estimate. Primarily as a result of the different requirements, loss provisions driven by the weakening of economic conditions, which resulted in a worsening of economic forecasts, and, in the year-to-date period, higher provisions associated with loan growth and maturity extensions were more pronounced under U.S. GAAP. In addition, during the third quarter of 2022, we released credit reserves under the Group Reporting Basis related to a decline in unused credit card lines reflecting completion of the temporary servicing agreement we entered into associated with the sale of a portfolio of mass market retail credit cards during the fourth quarter of 2021. Under U.S. GAAP, unused credit card lines are considered unconditionally cancellable and are not reserved for.

During the three and nine months ended September 30, 2021, expected credit losses were lower under U.S. GAAP than under the Group Reporting Basis. Primarily as a result of the different requirements related to stage 1 loans discussed above, releases in credit reserves driven by improved economic conditions, which resulted in improved economic forecasts as well as client paydowns, were more pronounced under U.S. GAAP.

During the nine months ended September 30, 2022 and 2021, amortization expense for long-lived assets was higher under U.S. GAAP. During the third quarter of 2020, we recorded an impairment charge under the Group Reporting Basis related to the write-off of all the capitalized software and a portion of the leasehold improvements primarily associated with our Wealth and Personal Banking business segment, while under U.S. GAAP, no impairment charge was required. Consequently, the carrying amounts for capitalized software and leasehold improvements are higher under U.S. GAAP than under the Group Reporting Basis and, as a result, corresponding amortization expense is higher under U.S. GAAP. In addition, during the second quarter of

2021, we determined we would exit certain branches as part of our Restructuring Plan and, as a result, we recorded an impairment charge of \$18 million under U.S. GAAP to write-off the leasehold improvements associated with these branches. These leasehold improvements were previously written-off under the Group Reporting Basis as discussed above. Higher expense under U.S. GAAP was partially offset by the impairment of newly completed leasehold improvements in our Wealth and Personal Banking business segment under the Group Reporting Basis, while under U.S. GAAP they are capitalized and amortized.

During the nine months ended September 30, 2022, loans held for sale in the table above reflects a higher gain on loan sales under the Group Reporting Basis than under U.S. GAAP, which includes the gain on sale of the branch disposal group. The higher gain under the Group Reporting Basis was due primarily to the releases of credit loss reserves previously recorded on the loans under U.S. GAAP when they were transferred to held for sale in 2021. Also contributing to the higher gain under the Group Reporting Basis was the higher carrying amount of leasehold improvements associated with the sold branches under U.S. GAAP at the time of sale. These leasehold improvements were previously determined to be impaired and written-off under the Group Reporting Basis as discussed above. In addition, during the three and nine months ended September 30, 2022, we recorded lower of amortized cost or fair value adjustments on loans held for sale under U.S. GAAP, while under the Group Reporting Basis loans held for sale continue to be accounted for and credit losses continue to be measured in accordance with IFRS 9, "Financial Instruments," with any gain or loss recorded at the time of sale.

During the nine months ended September 30, 2021, we transferred certain loans to held for sale which under U.S. GAAP requires the loans to be carried at the lower of amortized cost or fair value which resulted in a release of credit loss reserves on the loans. Under the Group Reporting Basis, loans held for sale continue to be accounted for and credit losses continue to be measured in accordance with IFRS 9 with any gain or loss recorded at the time of sale. In addition, a portion of the loans transferred under U.S. GAAP did not meet the more stringent criteria for held for sale classification under the Group Reporting Basis.

Balance Sheet Review

The following table provides balance sheet totals at September 30, 2022 and increases (decreases) since December 31, 2021:

	September 30, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Period end assets:			
Short-term investments	\$ 44,739	\$ (14,129)	(24.0)%
Loans, net	61,224	5,807	10.5
Loans held for sale	576	(3,641)	(86.3)
Trading assets	21,082	(2,961)	(12.3)
Securities	34,738	(5,763)	(14.2)
All other assets	6,981	795	12.9
	<u>\$ 169,340</u>	<u>\$ (19,892)</u>	<u>(10.5)%</u>
Period end liabilities and equity:			
Total deposits	\$ 124,966	\$ (18,066)	(12.6)%
Trading liabilities	4,840	1,817	60.1
Short-term borrowings	6,536	198	3.1
Long-term debt	15,696	(1,540)	(8.9)
Interest, taxes and other liabilities	3,269	706	27.5
Total equity	14,033	(3,007)	(17.6)
	<u>\$ 169,340</u>	<u>\$ (19,892)</u>	<u>(10.5)%</u>

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 decreased compared with December 31, 2021 due primarily to lower deposits and higher loans as discussed in detail below as well as completion of the sale of the branch disposal group during the first quarter of 2022 which resulted in a net cash payment to the buyers. These

decreases were partially offset by net sales, paydowns and maturities of securities available-for-sale as well as lower trading security positions.

Loans, Net The following table summarizes our loan balances at September 30, 2022 and increases (decreases) since December 31, 2021:

	September 30, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Real estate, including construction	\$ 8,395	\$ 161	2.0 %
Business and corporate banking	16,730	2,772	19.9
Global banking ⁽¹⁾	12,142	1,033	9.3
Other commercial ⁽²⁾	7,200	705	10.9
Total commercial	44,467	4,671	11.7
Consumer loans:			
Residential mortgages	16,691	1,222	7.9
Home equity mortgages	345	20	6.2
Credit cards	198	(6)	(2.9)
Other consumer	74	4	5.7
Total consumer	17,308	1,240	7.7
Total loans	61,775	5,911	10.6
Allowance for credit losses ⁽³⁾	551	104	23.3
Loans, net	\$ 61,224	\$ 5,807	10.5 %

⁽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 \$3,717 million and \$2,793 million at September 30, 2022 and December 31, 2021, respectively.

⁽³⁾ See "Credit Quality" in this MD&A for a discussion of trends in our allowance for credit losses on loans.

Commercial loans increased compared with December 31, 2021 driven by new business activity as we continued to apply a disciplined lending approach to grow the business and, to a lesser extent, higher loans to affiliates. The increase in commercial non-affiliate loans was primarily in the software, commercial services, real estate, retailing and banking industries, partially offset by a decline in the consumer services industry.

Consumer loans increased compared with December 31, 2021 due to growth in residential mortgage loans as well as the transfer of certain residential mortgage and home equity mortgage loans from held for sale to held for investment during the second quarter of 2022 with a carrying value which collectively totaled \$538 million as discussed further below.

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⁾			
	September 30, 2022		December 31, 2021	
	First Lien	Second Lien	First Lien	Second Lien
LTV < 80%	99.3 %	98.0 %	98.5 %	99.3 %
80% ≤ LTV < 90%	.7	2.0	1.4	.6
90% ≤ LTV < 100%	—	—	.1	.1
LTV ≥ 100%	—	—	—	—
Average LTV for portfolio	48.2	41.3	51.5	44.6

⁽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 Price 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 June 30, 2022 and September 30, 2021, respectively.

Loans Held for Sale The following table summarizes loans held for sale at September 30, 2022 and increases (decreases) since December 31, 2021:

	September 30, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Business and corporate banking	\$ 30	\$ (93)	(75.6)%
Global banking	444	106	31.4
Total commercial	<u>474</u>	<u>13</u>	<u>2.8</u>
Consumer loans:			
Residential mortgages	7	(3,075)	(99.8)
Home equity mortgages	—	(275)	(100.0)
Credit cards	8	(187)	(95.9)
Other consumer	87	(117)	(57.4)
Total consumer	<u>102</u>	<u>(3,654)</u>	<u>(97.3)</u>
Total loans held for sale	<u>\$ 576</u>	<u>\$ (3,641)</u>	<u>(86.3)%</u>

Commercial loans held for sale increased compared with December 31, 2021. Commercial loans held for sale 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 \$145 million and \$23 million at September 30, 2022 and December 31, 2021, respectively. Balances will fluctuate from period to period depending on the volume and level of activity.

During the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain retail business banking loans with a carrying value at the time of sale of \$37 million. See Note 3, "Branch Assets and Liabilities Held for Sale," for additional information.

Also included in commercial loans held for sale are certain other loans that we no longer intend to hold for investment and were transferred to held for sale which totaled \$329 million and \$359 million at September 30, 2022 and December 31, 2021, respectively. The decrease compared with December 31, 2021 was due to loan sales.

In addition, during the three and nine months ended September 30, 2022, we sold certain global banking loans and unfunded commitments to third parties in order to reduce risk-weighted assets as part of our Restructuring Plan. These global banking loans had a carrying value at the time of sale of nil and \$44 million, respectively, and we recognized losses on sale of \$18 million and \$21 million, respectively.

Consumer loans held for sale decreased compared with December 31, 2021. As discussed above, during the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain consumer loans with a carrying value which collectively totaled \$2,102 million, including \$1,665 million of residential mortgages, \$185 million of home equity mortgages, \$168 million of credit cards and \$84 million of other consumer loans. See Note 3, "Branch Assets and Liabilities Held for Sale," for additional information.

In addition to the branch disposal group discussed above, during the first quarter of 2022, we sold a portfolio of consumer loans to a third party consisting primarily of certain non-performing mortgage loans and government-backed mortgage loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. These mortgage loans had a carrying value which collectively totaled \$904 million, including \$865 million of residential mortgages and \$39 million of home equity mortgages, and we recognized a loss on sale of \$35 million, largely reflecting changes in the final terms of the sale.

Subsequent to completion of the sales discussed above, during the second quarter of 2022, the remaining mass market residential mortgage and home equity mortgage loans not sold, with a carrying value which collectively totaled \$538 million, were transferred back to held for investment as we now intend to hold these loans as a run-off portfolio for the foreseeable future.

At September 30, 2022, additional consumer loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan remained in loans held for sale, including \$8 million of credit cards and \$87 million of other consumer loans (of which \$21 million are student loans that we have previously elected to designate under the fair value option and are therefore carried at fair value).

In addition, residential mortgage loans held for sale includes agency-eligible conforming 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.

Excluding the 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 \$16 million and \$7 million at September 30, 2022 and December 31, 2021, respectively. The valuation allowance on commercial loans held for sale was \$13 million and \$5 million at September 30, 2022 and December 31, 2021, respectively.

Trading Assets and Liabilities The following table summarizes trading assets and liabilities at September 30, 2022 and increases (decreases) since December 31, 2021:

	September 30, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Trading assets:			
Securities ⁽¹⁾	\$ 12,982	\$ (5,749)	(30.7)%
Precious metals	4,760	853	21.8
Derivatives, net	3,340	1,935	*
	<u>\$ 21,082</u>	<u>\$ (2,961)</u>	<u>(12.3)%</u>
Trading liabilities:			
Securities sold, not yet purchased	\$ 1,499	\$ 396	35.9 %
Payables for precious metals	—	(46)	(100.0)
Derivatives, net	3,341	1,467	78.3
	<u>\$ 4,840</u>	<u>\$ 1,817</u>	<u>60.1 %</u>

* Percentage change is greater than 100 percent.

⁽¹⁾ See Note 4, "Trading Assets and Liabilities," in the accompanying consolidated financial statements for a breakout of trading securities by category.

Trading securities balances were lower compared with December 31, 2021 due primarily to a decrease in equity positions, partially offset by an increase in foreign sovereign 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. Balances of securities sold, not yet purchased were higher compared with December 31, 2021 driven by an increase 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, 2021 due primarily to an increase in our own gold inventory position, partially offset by lower spot prices for most metals. Payables for precious metals were lower compared with December 31, 2021 reflecting a decline in borrowing of platinum 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 and liability balances both increased compared with December 31, 2021 mainly from market movements which resulted in higher valuations of foreign exchange, commodity and credit derivatives. Market movements on equity and interest rate derivatives were mixed, resulting in higher derivative asset valuations, but lower derivative liability valuations.

Securities Securities include securities available-for-sale and securities held-to-maturity, net. Securities balances were lower compared with December 31, 2021 driven by unfavorable market valuations due to increasing yields as well as net sales, paydowns and maturities as part of our continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes. The decline in securities balances was primarily in U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed and U.S. Treasury securities.

All Other Assets All other assets include, among other items, properties and equipment, net, goodwill and other branch related assets held for sale. All other assets were higher compared with December 31, 2021 due primarily to increases in deferred tax

assets, cash collateral posted, derivative balances associated with hedging activities and outstanding settlement balances related to security sales. These increases were partially offset by completion of the sale of other branch related assets held for sale during the first quarter of 2022.

Deposits The following table summarizes deposit balances by major depositor categories at September 30, 2022 and increases (decreases) since December 31, 2021:

	September 30, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Individuals, partnerships and corporations	\$ 105,770	\$ (13,514)	(11.3)%
Domestic and foreign banks	15,954	3,079	23.9
U.S. government and states and political subdivisions	130	(167)	(56.2)
Foreign governments and official institutions	3,112	1,286	70.4
Deposits held for sale ⁽¹⁾	—	(8,750)	(100.0)
Total deposits	<u>\$ 124,966</u>	<u>\$ (18,066)</u>	<u>(12.6)%</u>

⁽¹⁾ Represented deposits associated with the exit of our mass market retail banking business as part of our Restructuring Plan.

Total deposits decreased compared with December 31, 2021 due primarily to lower demand and savings deposits driven by the attrition of balances our clients had previously built up during the COVID-19 pandemic and clients deploying cash to their businesses, as well as completion of the sale of the branch disposal group during the first quarter of 2022. These decreases were partially offset by increased deposits from affiliates and higher time deposits.

Short-Term Borrowings Short-term borrowings were modestly higher compared with December 31, 2021 as increases in commercial paper outstanding, short-term borrowings from affiliates and federal funds purchased were largely offset by a decline in securities sold under repurchase agreements.

Long-Term Debt Long-term debt decreased compared with December 31, 2021 as the impact of debt issuances was more than offset by debt retirements and fair value movements on fair value option debt. Debt issuances during the three and nine months ended September 30, 2022 totaled \$948 million and \$3,793 million, respectively, of which \$1 million and \$103 million, respectively, was issued by HSBC Bank USA.

Incremental issuances from our shelf registration statement with the SEC totaled \$3,690 million of senior debt during the nine months ended September 30, 2022, which included \$1,000 million of senior notes that were issued by HSBC USA in May as well as \$2,690 million of structured notes. Total long-term debt outstanding under this shelf was \$8,621 million and \$7,346 million at September 30, 2022 and December 31, 2021, respectively.

Incremental issuances from the HSBC Bank USA Global Bank Note Program totaled \$103 million during the nine months ended September 30, 2022. Total debt outstanding under this program was \$1,929 million and \$1,966 million at September 30, 2022 and December 31, 2021, respectively.

Borrowings from the Federal Home Loan Bank ("FHLB") totaled \$1,000 million at both September 30, 2022 and December 31, 2021.

Interest, Taxes and Other Liabilities Interest, taxes and other liabilities include, among other items, other branch related liabilities held for sale. Interest, taxes and other liabilities were higher compared with December 31, 2021 due primarily to an increase in outstanding settlement balances related to security purchases and higher margin requirements related to futures trading. These increases were partially offset by completion of the sale of other branch related liabilities held for sale during the first quarter of 2022.

Total Equity Total equity decreased compared with December 31, 2021 due primarily to unfavorable market valuations on securities available-for-sale as discussed above which resulted in unrealized losses recorded in accumulated other comprehensive loss. In addition, during the third quarter of 2022, we paid a distribution on our common stock of \$1.0 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 September 30,	2022	2022 Compared with 2021 Increase (Decrease)		2021
		Volume	Rate	
(dollars are in millions)				
Interest income:				
Short-term investments	\$ 266	\$ (10)	\$ 252	\$ 24
Trading securities	53	(10)	3	60
Securities	203	(19)	68	154
Commercial loans	420	38	132	250
Consumer loans	135	(23)	(8)	166
Other	15	—	11	4
Total interest income	<u>1,092</u>	<u>(24)</u>	<u>458</u>	<u>658</u>
Interest expense:				
Deposits	343	(11)	294	60
Short-term borrowings	51	1	46	4
Long-term debt	144	(12)	86	70
Tax liabilities and other	11	2	5	4
Total interest expense	<u>549</u>	<u>(20)</u>	<u>431</u>	<u>138</u>
Net interest income	<u>\$ 543</u>	<u>\$ (4)</u>	<u>\$ 27</u>	<u>\$ 520</u>
Yield on total interest earning assets	2.74 %			1.43 %
Cost of total interest bearing liabilities	1.91			.41
Interest rate spread83			1.02
Benefit from net non-interest paying funds ⁽¹⁾53			.11
Net interest margin on average earning assets	<u>1.36 %</u>			<u>1.13 %</u>

Nine Months Ended September 30,	2022	2022 Compared with 2021 Increase (Decrease)		2021
		Volume	Rate	
(dollars are in millions)				
Interest income:				
Short-term investments	\$ 403	\$ (10)	\$ 356	\$ 57
Trading securities	171	(43)	52	162
Securities	513	(64)	86	491
Commercial loans	967	61	99	807
Consumer loans	401	(63)	(37)	501
Other	32	(1)	16	17
Total interest income	<u>2,487</u>	<u>(120)</u>	<u>572</u>	<u>2,035</u>
Interest expense:				
Deposits	536	(35)	361	210
Short-term borrowings	77	5	59	13
Long-term debt	301	(42)	113	230
Tax liabilities and other	21	4	9	8
Total interest expense	<u>935</u>	<u>(68)</u>	<u>542</u>	<u>461</u>
Net interest income	<u>\$1,552</u>	<u>\$ (52)</u>	<u>\$ 30</u>	<u>\$ 1,574</u>
Yield on total interest earning assets	2.02 %			1.49 %
Cost of total interest bearing liabilities	1.06			.46
Interest rate spread	.96			1.03
Benefit from net non-interest paying funds ⁽¹⁾	.30			.12
Net interest margin on average earning assets	<u>1.26 %</u>			<u>1.15 %</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 during the three months ended September 30, 2022 due primarily to higher interest income from short-term investments, commercial loans and securities driven by higher yields and higher commercial loan average balances. The increase in the three-month period was partially offset by higher interest expense from interest bearing liabilities driven by higher rates paid as well as lower interest income from consumer loans driven by lower average balances and lower yields. In the year-to-date period, net interest income decreased due primarily to higher interest expense from interest bearing liabilities driven by higher rates paid as well as lower interest income from consumer loans driven by lower average balances and lower yields. The decrease in the year-to-date period was partially offset by higher interest income from short-term investments, commercial loans and securities driven by higher yields and higher commercial loan average balances.

Short-term investments Interest income increased during the three and nine months ended September 30, 2022 due to higher yields reflecting the impact of higher market rates, partially offset by lower average balances.

Trading securities Interest income decreased during the three months ended September 30, 2022 due to lower average balances driven by a decline in equity positions, partially offset by increases in foreign sovereign and U.S. Treasury positions. In the year-to-date period, interest income increased due to higher yields reflecting the impact of higher market rates and a shift in mix to higher yielding equity positions, partially offset by lower average balances. Lower average balances in the year-to-date period were driven by declines in foreign sovereign and U.S. Treasury positions, partially offset by an increase in equity positions. 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 was higher during the three and nine months ended September 30, 2022 due to higher yields reflecting the impact of higher market rates, partially offset by lower average balances. Lower average balances were driven by declines in U.S. Treasury, U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed and foreign sovereign securities.

Commercial loans Interest income increased during the three and nine months ended September 30, 2022 due to higher yields reflecting the impact of higher market rates on variable rate loans and higher average balances driven by new business activity.

Consumer loans Interest income decreased during the three and nine months ended September 30, 2022 due primarily to the impact of loan sales which resulted in lower average balances, lower yields on credit cards and a lower mix of higher yielding credit card receivables.

Other Higher interest income during the three and nine months ended September 30, 2022 was due to higher yields reflecting the impact of higher market rates on cash collateral posted and FHLB stock.

Deposits Interest expense increased during the three and nine months ended September 30, 2022 due to higher rates paid reflecting the impact of higher market rates, partially offset by lower average balances. Lower average balances were due primarily to lower demand and savings deposits driven by the attrition of balances our clients had previously built up during the COVID-19 pandemic and clients deploying cash to their businesses, as well as completion of the sale of the branch disposal group during the first quarter of 2022. Also contributing to lower average balances was a decline in deposits from affiliates and, in the year-to-date period, a decline in time deposits.

Short-term borrowings Higher interest expense during the three and nine months ended September 30, 2022 was due primarily to higher rates paid reflecting the impact of higher market rates.

Long-term debt Interest expense increased during the three and nine months ended September 30, 2022 due to higher rates paid reflecting the impact of higher market rates on variable rate borrowings and newly issued debt, partially offset by lower average borrowings.

Tax liabilities and other Interest expense increased during the three and nine months ended September 30, 2022 due primarily to higher rates paid on securities sold, not yet repurchased reflecting the impact of higher market rates.

Provision for Credit Losses The following table summarizes the components of the provision for credit losses:

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Loans:				
Commercial loans:				
Real estate, including construction	\$ 27	\$ (2)	\$ 29	*
Business and corporate banking	(11)	(38)	27	71.1
Global banking	2	(9)	11	*
Other commercial	—	(2)	2	100.0
Total commercial loans	<u>18</u>	<u>(51)</u>	<u>69</u>	<u>*</u>
Consumer loans:				
Residential mortgages	2	(9)	11	*
Home equity mortgages	(2)	(2)	—	—
Credit cards	(2)	(1)	(1)	(100.0)
Other consumer	—	(1)	1	100.0
Total consumer loans	<u>(2)</u>	<u>(13)</u>	<u>11</u>	<u>84.6</u>
Total loans	<u>16</u>	<u>(64)</u>	<u>80</u>	<u>*</u>
Securities held-to-maturity	—	—	—	—
Other financial assets measured at amortized cost	—	1	(1)	(100.0)
Securities available-for-sale	(2)	—	(2)	*
Off-balance sheet credit exposures	11	(18)	29	*
Total provision for credit losses	<u>\$ 25</u>	<u>\$ (81)</u>	<u>\$ 106</u>	<u>*</u>

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Loans:				
Commercial loans:				
Real estate, including construction	\$ 116	\$ (30)	\$ 146	*
Business and corporate banking	(29)	(115)	86	74.8
Global banking	29	(153)	182	*
Other commercial	(3)	(3)	—	—
Total commercial loans	<u>113</u>	<u>(301)</u>	<u>414</u>	<u>*</u>
Consumer loans:				
Residential mortgages	(3)	(3)	—	—
Home equity mortgages	(1)	(10)	9	90.0
Credit cards	2	(78)	80	*
Other consumer	(1)	(18)	17	94.4
Total consumer loans	<u>(3)</u>	<u>(109)</u>	<u>106</u>	<u>97.2</u>
Total loans	<u>110</u>	<u>(410)</u>	<u>520</u>	<u>*</u>
Securities held-to-maturity	(1)	—	(1)	*
Other financial assets measured at amortized cost	—	—	—	—
Securities available-for-sale	(1)	—	(1)	*
Off-balance sheet credit exposures	(3)	(127)	124	97.6
Total provision for credit losses	<u>\$ 105</u>	<u>\$ (537)</u>	<u>\$ 642</u>	<u>*</u>

* Percentage change is greater than 100 percent.

Our provision for credit losses increased \$106 million and \$642 million during the three and nine months ended September 30, 2022, respectively, due to a higher provision for credit losses on both our commercial and consumer loan portfolios as well as a higher provision for credit losses on off-balance sheet credit exposures.

The provision for credit losses on our commercial loan portfolio increased \$69 million and \$414 million during the three and nine months ended September 30, 2022, respectively, reflecting loss provisions compared with releases in credit loss reserves in the prior year periods. The loss provisions in the current year periods were driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients. Also contributing to the loss provision in the current year-to-date period were higher provisions associated with loan growth and maturity extensions as well as an increase in credit reserves for risk factors associated with large loan exposures. The loss provisions in the current year periods were partially offset by declines in credit reserves for risk factors associated with supply chain disruptions and, in the three-month period, higher risk industry exposures and energy price uncertainty. As current economic forecasts more accurately reflect these risks and, therefore, they are adequately captured in the modeled results, we decreased the management judgment allowance associated with these risks. In the prior year periods, the releases in credit reserves were driven by improved economic conditions which resulted in improved economic forecasts and a decline in credit reserves for risk factors associated with higher risk client exposures and, in the year-to-date period, improvements in the credit condition of certain clients and a decline in credit reserves for risk factors associated with economic uncertainty. Also contributing to the releases in the prior year periods were client paydowns and loan sales, including the transfer of certain commercial real estate loans to held for sale during the third quarter of 2021 which resulted in a release of credit loss reserves and a reduction to the provision for credit losses of approximately \$24 million, including a release of credit reserves for risk factors associated with higher risk industry exposures.

The provision for credit losses on our consumer loan portfolio increased \$11 million and \$106 million during the three and nine months ended September 30, 2022, respectively, due primarily to releases in credit loss reserves in the prior year periods driven by improved economic conditions which resulted in improved economic forecasts and a decline in credit reserves for risk factors associated with economic uncertainty. Also contributing to the release in the prior year-to-date period was our decision to exit our mass market retail banking business which resulted in a release of credit loss reserves and a reduction to the provision for credit losses of approximately \$100 million during the second quarter of 2021, including declines in credit reserves for risk factors associated with economic uncertainty and forbearance accounts. In the current year three-month period, a modest release in credit loss reserves was driven by the impact of net recoveries and a decline in credit reserves for risk

factors associated with economic uncertainty. In the current year-to-date period, a modest release in credit loss reserves was driven by the impact of net recoveries, which was partially offset by an increase in credit reserves for risk factors associated with economic uncertainty.

The provision for credit losses on off-balance sheet credit exposures increased \$29 million during the three months ended September 30, 2022 reflecting a loss provision in the current year period resulting from the weakening of economic conditions compared with a release in credit loss reserves in the prior year period resulting from improved economic conditions. In the year-to-date period, the provision for credit losses on off-balance sheet credit exposures increased \$124 million reflecting a lower release in credit loss reserves. The modest release in credit reserves in the current year period resulted from improvements in the credit condition of certain clients, partially offset by the weakening of economic conditions while the release in the prior year period resulted from improved economic conditions.

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 September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Credit card fees, net	\$ 10	\$ —	\$ 10	*
Trust and investment management fees	39	26	13	50.0
Other fees and commissions	136	160	(24)	(15.0)
Trading revenue (expense)	163	(42)	205	*
Other securities gains, net	1	4	(3)	(75.0)
Servicing and other fees from HSBC affiliates	77	79	(2)	(2.5)
Gain (loss) on instruments designated at fair value and related derivatives	(29)	8	(37)	*
Gain on sale of branch disposal group, net	2	—	2	*
Other income (loss):				
Valuation of loans held for sale	(15)	—	(15)	*
Residential mortgage banking revenue (expense)	(2)	3	(5)	*
Insurance	1	2	(1)	(50.0)
Miscellaneous income (loss)	(29)	2	(31)	*
Total other income (loss)	(45)	7	(52)	*
Total other revenues	\$ 354	\$ 242	\$ 112	46.3 %

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Credit card fees, net	\$ 37	\$ 23	\$ 14	60.9 %
Trust and investment management fees	99	81	18	22.2
Other fees and commissions	474	496	(22)	(4.4)
Trading revenue (expense)	296	1	295	*
Other securities gains, net	30	51	(21)	(41.2)
Servicing and other fees from HSBC affiliates	265	232	33	14.2
Gain (loss) on instruments designated at fair value and related derivatives	(4)	33	(37)	*
Gain on sale of branch disposal group, net	113	—	113	*
Other income (loss):				
Valuation of loans held for sale	(21)	(5)	(16)	*
Residential mortgage banking revenue (expense)	2	20	(18)	(90.0)
Insurance	3	5	(2)	(40.0)
Miscellaneous income (loss)	(111)	(7)	(104)	*
Total other income (loss)	(127)	13	(140)	*
Total other revenues	\$ 1,183	\$ 930	\$ 253	27.2 %

* Percentage change is greater than 100 percent.

Credit card fees, net Credit card fees, net increased during the three months ended September 30, 2022 due primarily to a lower cost estimate associated with our retail credit card rewards program. In the year-to-date period, credit card fees, net increased due primarily to higher interchange fees driven by higher fees from commercial credit cards reflecting higher client spending, partially offset by lower fees from retail credit cards reflecting the impact of loans sales. Also contributing to the increase in credit card fees, net in the year-to-date period was a lower cost estimate associated with our retail credit card rewards program.

Trust and investment management fees Trust and investment management fees increased during the three and nine months ended September 30, 2022 due to higher fees from liquidity funds driven by lower fee waivers reflecting the impact of higher market interest rates and higher average liquidity assets under management. This increase was partially offset by lower fees from fixed income funds driven by unfavorable market performance.

Other fees and commissions Other fees and commissions decreased during the three and nine months ended September 30, 2022 due primarily to lower fees from loan commitments, wire transfers and loan syndication reflecting lower business activity compared with the prior year periods. These decreases were partially offset by higher loan servicing fees reflecting the temporary servicing agreement we entered into associated with the sale of a portfolio of mass market retail credit cards during the fourth quarter of 2021. 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 (expense) Trading revenue (expense) is generated by participation in the foreign exchange, precious metals, rates, credit and equities markets. The following table presents trading revenue (expense) by business activity. Not included in the table below is the impact of net interest income associated with trading securities which is an integral part of trading activities' overall performance. Certain derivatives, such as total return swaps, are economically hedged by holding the underlying interest bearing referenced assets. Net interest income related to trading activities is recorded in net interest income in the consolidated statement of income. Trading revenue related to the mortgage banking business is included as a component of other income (loss).

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Business Activities:				
Foreign Exchange	\$ 76	\$ 49	\$ 27	55.1 %
Metals	37	11	26	*
Debt Markets	(2)	(1)	(1)	(100.0)
Securities Financing	24	(42)	66	*
Markets Treasury	31	1	30	*
Legacy structured credit products	—	(31)	31	100.0
Other trading ⁽¹⁾	(3)	(29)	26	89.7
Total trading revenue (expense)	<u>\$ 163</u>	<u>\$ (42)</u>	<u>\$ 205</u>	<u>*</u>

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Business Activities:				
Foreign Exchange	\$ 179	\$ 145	\$ 34	23.4 %
Metals	81	39	42	*
Debt Markets	(5)	—	(5)	*
Securities Financing	(29)	(119)	90	75.6
Markets Treasury	72	7	65	*
Legacy structured credit products	1	(28)	29	*
Other trading ⁽¹⁾	(3)	(43)	40	93.0
Total trading revenue (expense)	<u>\$ 296</u>	<u>\$ 1</u>	<u>\$ 295</u>	<u>*</u>

* Percentage change is greater than 100 percent.

⁽¹⁾ Includes trading revenue related to Global Banking and Equities. During the three and nine months ended September 30, 2021, other trading revenue also included \$22 million and \$32 million, respectively, of trading losses associated with the exit of certain derivative contracts as part of our Restructuring Plan.

Trading revenue (expense) increased during the three and nine months ended September 30, 2022 due primarily to higher revenue in Securities Financing due to improved revenue from swaps in prime brokerage, higher revenue in Markets Treasury due to the improved performance of economic hedge positions used to manage interest rate risk and the non-recurrence of losses in the prior year periods, including losses in Other trading associated with the exit of certain derivative contracts as part of our Restructuring Plan and a loss of approximately \$31 million in legacy structured credit products reflecting the unwind of our remaining business activities. Also contributing to the increase in trading revenue (expense) was higher revenue in Metals and Foreign Exchange as market volatility resulted in increased trading opportunities.

Other securities gains, net We maintain securities portfolios as part of our balance sheet diversification and risk management strategies. During the three and nine months ended September 30, 2022, we sold \$341 million and \$1,343 million, respectively, of primarily U.S. Treasury, U.S. Government agency mortgage-backed and U.S. Government sponsored mortgage-backed securities compared with \$1,252 million and \$7,422 million during the prior year periods as part of a continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes. Other securities gains, net decreased during the three and nine months ended September 30, 2022 reflecting the impact of lower sales activity. The gross realized gains and losses from sales of securities, which are included as a component of other securities gains, net above, are summarized in Note 5, "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 September 30, 2022 due to lower cost reimbursements associated with shared services performed on behalf of other HSBC affiliates, partially offset by higher sales commissions from HSBC Bank plc. In the year-to-date period, servicing and other fees from HSBC affiliates increased due primarily to higher performance fees associated with trading activity booked on the balance sheet of HSBC Bank plc and higher sales commissions from HSBC Bank plc, partially offset by lower cost reimbursements associated with shared services performed on behalf of other HSBC affiliates.

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 student loans, 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 assets and liabilities for which fair value option accounting has been elected. Gain (loss) on instruments designated at fair value and related derivatives decreased during the three and nine months ended September 30, 2022 attributable to valuation losses in the current year periods on certain commercial loans which were impacted by the weakening of economic conditions as well as unfavorable movements related to the economic hedging of interest rate risk within our own debt. While movements related to the economic hedging of interest rate and other risks within our hybrid instruments were unfavorable and contributed to the decrease in the three-month period, they were favorable in the year-to-date period. See Note 11, "Fair Value Option," in the accompanying consolidated financial statements for additional information including a breakout of these amounts by individual component.

Gain on sale of branch disposal group, net During the first quarter of 2022, we completed the sale of the branch disposal group associated with the exit of our mass market retail banking business to third parties and recognized a gain on sale of \$111 million, net of transaction costs. The gain on sale was increased by \$2 million during the third quarter of 2022 reflecting transaction cost adjustments. See Note 3, "Branch Assets and Liabilities Held for Sale," in the accompanying consolidated financial statements for additional information.

Other income (loss) Other income (loss) was lower during the three and nine months ended September 30, 2022 due to higher losses on sales of commercial loans, higher valuation losses on loans held for sale, higher losses associated with bank owned life insurance, unfavorable fair value adjustments on equity investments and lower residential mortgage banking revenue driven by lower gains on sales of residential mortgage loans. Also contributing to the decrease in the year-to-date period, was a loss of \$31 million recorded during the second quarter of 2022 on the swap agreements entered into in conjunction with the sales of Visa Class B Shares primarily related to an increase in the expected timing of the final resolution of the related litigation and a loss of \$35 million recorded during the first quarter of 2022 on the sale of a portfolio of consumer mortgage loans. These decreases in the year-to-date period were partially offset by higher income associated with credit default swap protection which largely reflects the hedging of a few client relationships.

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Salaries and employee benefits	\$ 137	\$ 151	\$ (14)	(9.3)%
Support services from HSBC affiliates:				
Fees paid to HTSU	244	242	2	.8
Fees paid to HSBC Markets (USA) Inc. ("HMUS")	46	26	20	76.9
Fees paid to other HSBC affiliates	129	121	8	6.6
Total support services from HSBC affiliates	419	389	30	7.7
Occupancy expense, net	17	27	(10)	(37.0)
Other expenses:				
Equipment and software	25	25	—	—
Marketing	6	11	(5)	(45.5)
Outside services	15	17	(2)	(11.8)
Professional fees	16	16	—	—
Federal Deposit Insurance Corporation ("FDIC") assessment fees	12	15	(3)	(20.0)
Miscellaneous	1	15	(14)	(93.3)
Total other expenses	75	99	(24)	(24.2)
Total operating expenses	\$ 648	\$ 666	\$ (18)	(2.7)%
Personnel - average number	2,412	3,641		
Efficiency ratio	72.2 %	87.4 %		
(dollars are in millions)				
Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
Salaries and employee benefits	\$ 429	\$ 509	\$ (80)	(15.7)%
Support services from HSBC affiliates:				
Fees paid to HTSU	748	754	(6)	(.8)
Fees paid to HMUS	129	72	57	79.2
Fees paid to other HSBC affiliates	379	322	57	17.7
Total support services from HSBC affiliates	1,256	1,148	108	9.4
Occupancy expense, net	47	175	(128)	(73.1)
Other expenses:				
Equipment and software	75	81	(6)	(7.4)
Marketing	20	29	(9)	(31.0)
Outside services	50	52	(2)	(3.8)
Professional fees	90	58	32	55.2
FDIC assessment fees	39	48	(9)	(18.8)
Miscellaneous	21	50	(29)	(58.0)
Total other expenses	295	318	(23)	(7.2)
Total operating expenses	\$2,027	\$ 2,150	\$ (123)	(5.7)%
Personnel - average number	2,654	3,791		
Efficiency ratio	74.1 %	85.9 %		

Salaries and employee benefits Salaries and employee benefits expense decreased during the three and nine months ended September 30, 2022 due primarily to lower salaries expense driven by staff reductions related to our Restructuring Plan, including completion of the sale of the branch disposal group during the first quarter of 2022, and, to a lesser extent, the impact

of certain wholesale operations staff which were transferred from HSBC Bank USA to HTSU support services during the first quarter of 2022. Also contributing to the decrease in the year-to-date period was lower incentive compensation expense.

Support services from HSBC affiliates Servicing and other fees from HSBC affiliates increased during the three and nine months ended September 30, 2022 due primarily to higher allocated restructuring related costs from HTSU and other HSBC affiliates. During the three and nine months ended September 30, 2022, we recorded \$61 million and \$156 million, respectively, of allocated restructuring related costs from HTSU and other HSBC affiliates, primarily support service project costs and severance costs, compared with \$27 million and \$75 million of allocated costs during the prior year periods. Also contributing to the increase were higher cost allocations from HMUS associated with Global Banking activities reflecting the impacts of higher staff costs and an updated service level agreement as well as higher costs associated with our investments in systems infrastructure and new technologies. In addition, the increase reflects higher expense due to the transfer of certain wholesale operations staff from HSBC Bank USA to HTSU support services as discussed above. These increases were partially offset by lower cost allocations from our support service functions driven by the execution of our Restructuring Plan. A summary of the services received from various HSBC affiliates is included in Note 14, "Related Party Transactions," in the accompanying consolidated financial statements.

Occupancy expense, net Occupancy expense, net was lower during the three and nine months ended September 30, 2022 due primarily to lower operating lease costs and depreciation expense driven by the execution of our Restructuring Plan and, in the year-to-date period, lower lease impairment and other related costs related to the exit of certain branches and office space as part of our Restructuring Plan. During the nine months ended September 20, 2022, we recorded \$4 million of lease impairment and other related costs compared with \$88 million of lease impairment and other related costs in the prior year-to-date period.

Other expenses Other expenses decreased during the three and nine months ended September 30, 2022 due primarily to higher levels of expense capitalization related to internally developed software as well as declines in marketing expense, deposit insurance assessment fees and, in the year-to-date period, equipment costs. These decreases in the year-to-date period were partially offset by higher professional fees driven by higher attorney's fees.

Efficiency ratio Our efficiency ratio improved during the three and nine months ended September 30, 2022 due to higher other revenues driven by higher trading revenue and, in the year-to-date period, the gain on sale of the branch disposal group as discussed above. Also contributing to the improvement were lower operating expenses, including lower lease impairment and other related costs in the year-to-date period as discussed above. While net interest income was higher and contributed to the improvement in the three-month period, it was lower in the year-to-date period.

Income tax expense The following table summarizes our effective tax rate based on the provision for income taxes attributable to pretax income:

Three Months Ended September 30,	2022	2021
	(dollars are in millions)	
Income before income tax	\$ 224	\$ 177
Income tax expense	63	40
Effective tax rate	28.1 %	22.6 %
<hr/>		
Nine Months Ended September 30,	2022	2021
	(dollars are in millions)	
Income before income tax	\$ 603	\$ 891
Income tax expense	151	222
Effective tax rate	25.0 %	24.9 %

During the three months ended September 30, 2022, income tax expense increased driven by higher pretax income, while the effective tax rate increased resulting primarily from lower expected investment tax credits. In the year-to-date period, income tax expense decreased driven by lower pretax income, while the change in the effective tax rate was relatively flat.

Management evaluated the need for a valuation allowance against deferred tax assets at September 30, 2022 and it was determined that a valuation allowance was not required at this time.

In August 2022, the Inflation Reduction Act of 2022 (the "IRA") was signed into law, creating a 15 percent corporate alternative minimum tax on profits of corporations based on average annual adjusted financial statement income effective for tax years beginning January 1, 2023. We do not anticipate a material impact on our financial position or results of operations from the IRA.

Segment Results – Group Reporting Basis

We have distinct businesses, which are aligned with HSBC's global business strategy: Wealth and Personal Banking ("WPB"), Commercial Banking ("CMB"), and Global Banking and Markets ("GBM"). These businesses and a Corporate Center ("CC") serve as our reportable segments with the exception of GBM. Our GBM business is comprised of three distinct operating segments: Global Banking ("GB"), Markets and Securities Services ("MSS"), and Global Banking and Markets Other ("GBM Other"), which are separately reported as discussed further below, effective as of the fourth quarter of 2021 for all periods presented.

See Note 15, "Business Segments," in the accompanying consolidated financial statements for a table that summarizes the impact of this change on reported segment profit (loss) before tax, total assets and total deposits as of and for the three and nine months ended September 30, 2021. There have been no changes in the basis of our segmentation as compared with the presentation in our 2021 Form 10-K. See Item 1, "Business," in our 2021 Form 10-K for a description of our segments, including a discussion of the main business activities of the segments and a summary of their products and services.

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 to one centralized unit in Markets Treasury. Markets Treasury income statement and balance sheet results are allocated to each of the global businesses based upon tangible equity levels and levels of any surplus liabilities.

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 IFRSs as issued by the IASB. 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 2021 Form 10-K.

The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 25, "Business Segments," in our 2021 Form 10-K. There have been no significant changes since December 31, 2021 in the differences between U.S. GAAP and the Group Reporting Basis impacting our results.

Wealth and Personal Banking The following table summarizes the Group Reporting Basis results for our WPB segment:

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 211	\$ 202	\$ 9	4.5 %
Other operating income	62	57	5	8.8
Total operating income ⁽¹⁾	273	259	14	5.4
Expected credit losses	(19)	(35)	16	45.7
Net operating income	292	294	(2)	(.7)
Operating expenses	187	279	(92)	(33.0)
Profit before tax	\$ 105	\$ 15	\$ 90	*

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 565	\$ 616	\$ (51)	(8.3)%
Other operating income	257	215	42	19.5
Total operating income ⁽¹⁾	822	831	(9)	(1.1)
Expected credit losses	(21)	(36)	15	41.7
Net operating income	843	867	(24)	(2.8)
Operating expenses	626	921	(295)	(32.0)
Profit (loss) before tax	\$ 217	\$ (54)	\$ 271	*

* Percentage change is greater than 100 percent.

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Retail banking current accounts, savings and deposits	\$ 121	\$ 102	\$ 19	18.6 %
Retail banking mortgages, credit cards and other personal lending	42	70	(28)	(40.0)
Wealth and asset management products	27	20	7	35.0
Private banking	59	46	13	28.3
Retail business banking and other ⁽²⁾	24	21	3	14.3
Total operating income	\$ 273	\$ 259	\$ 14	5.4 %

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Retail banking current accounts, savings and deposits	\$ 305	\$ 318	\$ (13)	(4.1)%
Retail banking mortgages, credit cards and other personal lending	157	235	(78)	(33.2)
Wealth and asset management products	68	59	9	15.3
Private banking	163	137	26	19.0
Retail business banking and other ⁽²⁾	129	82	47	57.3
Total operating income	\$ 822	\$ 831	\$ (9)	(1.1)%

(2) Includes cost reimbursements associated with activities performed on behalf of other HSBC affiliates and allocated Markets Treasury revenue. During the three and nine months ended September 30, 2022, retail business banking and other also reflects gains of \$2 million and \$151 million, respectively, on the sale of the branch disposal group associated with the exit of our mass market retail banking business as well as a loss on the sale of a portfolio of consumer mortgage loans in the year-to-date period as discussed below.

Our WPB segment reported a higher profit before tax during the three months ended September 30, 2022 due primarily to lower operating expenses, partially offset by higher expected credit losses. In the year-to-date period, our WPB segment reported a profit before tax compared with a loss before tax in the prior year period due to lower operating expenses and higher other operating income driven by completion of the sale of the branch disposal group associated with the exit of our mass market retail banking business which resulted in a gain of \$151 million in the current year-to-date period. These improvements in the year-to-date period were partially offset by lower net interest income and higher expected credit losses.

Net interest income increased during the three months ended September 30, 2022 due primarily to the favorable impact of higher market rates. This increase was partially offset by the impact of loan sales and completion of the sale of the branch disposal group during the first quarter of 2022, which resulted in lower average loan and deposit balances and lower spreads, as well as the unfavorable impact of lower deposits driven by the attrition of balances our customers had previously built up during the COVID-19 pandemic. In the year-to-date period, net interest income decreased as the favorable impact of higher market rates was more than offset by the impact of loan sales and completion of the sale of the branch disposal group as well as the unfavorable impact of lower deposits driven by attrition as discussed above.

Excluding the gain on sale of the branch disposal group as discussed above, other operating income was relatively flat during the three months ended September 30, 2022 and decreased in the year-to-date period. The decrease in the year-to-date period was due primarily to a loss of \$55 million recorded during the first quarter of 2022 on the sale of a portfolio of consumer mortgage loans and a loss of \$31 million recorded during the second quarter of 2022 on the swap agreements entered into in conjunction with the sales of Visa Class B Shares primarily related to an increase in the expected timing of the final resolution

of the related litigation. Also contributing to the decrease in the year-to-date period was lower residential mortgage banking revenue driven by unfavorable fair value adjustments on residential mortgage loans held for trading as well as lower allocated Markets Treasury revenue, which were partially offset by higher investment management fees driven by lower liquidity fee waivers reflecting the impact of higher market interest rates and higher average assets under management. In the three-month period, higher investment management fees and higher credit card fees due primarily to a lower cost estimate associated with our credit card rewards program were largely offset by lower residential mortgage banking revenue and lower allocated Markets Treasury revenue.

Expected credit losses increased during the three and nine months ended September 30, 2022 reflecting lower releases in credit loss reserves. The releases in credit reserves in the current year periods were due primarily to a decline in unused credit card lines reflecting completion of the temporary servicing agreement we entered into associated with the sale of a portfolio of mass market retail credit cards during the fourth quarter of 2021. In the prior year periods, the releases in credit reserves were due to improved economic conditions which resulted in improved economic forecasts and lower loss estimates for risk factors associated with economic uncertainty as well as declines in credit card balances.

Operating expenses decreased during the three and nine months ended September 30, 2022 driven by the execution of our Restructuring Plan, including completion of the sale of the branch disposal group during the first quarter of 2022, which resulted in declines in staff costs, operating lease costs, marketing expense and cost allocations from our technology and support service functions. Also contributing to the decrease were lower deposit insurance assessment fees and, in the year-to-date period, lower lease impairment and other related costs primarily related to the exit of certain branches as part of our Restructuring Plan. During the nine months ended September 30, 2022, we recorded \$10 million of lease impairment and other related costs compared with \$67 million of lease impairment and other related costs in the prior year-to-date period.

Client Assets The following table provides information regarding private banking client assets during the nine months ended September 30, 2022 and 2021:

Nine Months Ended September 30,	2022	2021
	(in millions)	
Client assets at beginning of period	\$ 66,181	\$ 44,104
Net new money (outflows)	(5,681)	10,403
Value change	(7,675)	2,767
Client assets at end of period	<u>\$ 52,825</u>	<u>\$ 57,274</u>

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Net interest income	\$ 253	\$ 200	\$ 53	26.5 %
Other operating income	65	70	(5)	(7.1)
Total operating income ⁽¹⁾	318	270	48	17.8
Expected credit losses	(17)	24	(41)	*
Net operating income	335	246	89	36.2
Operating expenses	142	134	8	6.0
Profit before tax	<u>\$ 193</u>	<u>\$ 112</u>	<u>\$ 81</u>	<u>72.3 %</u>

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Net interest income	\$ 658	\$ 580	\$ 78	13.4 %
Other operating income	221	208	13	6.3
Total operating income ⁽¹⁾	879	788	91	11.5
Expected credit losses	10	(26)	36	*
Net operating income	869	814	55	6.8
Operating expenses	432	437	(5)	(1.1)
Profit before tax	<u>\$ 437</u>	<u>\$ 377</u>	<u>\$ 60</u>	<u>15.9 %</u>

* 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 September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Lending and Transaction Management	\$ 114	\$ 121	\$ (7)	(5.8)%
Global Liquidity and Cash Management ("GLCM")	137	102	35	34.3
Global Trade and Receivables Finance ("GTRF")	19	15	4	26.7
Investment banking products and other ⁽²⁾	48	32	16	50.0
Total operating income	<u>\$ 318</u>	<u>\$ 270</u>	<u>\$ 48</u>	<u>17.8 %</u>

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Lending and Transaction Management	\$ 333	\$ 338	\$ (5)	(1.5)%
GLCM	359	301	58	19.3
GTRF	58	45	13	28.9
Investment banking products and other ⁽²⁾	129	104	25	24.0
Total operating income	<u>\$ 879</u>	<u>\$ 788</u>	<u>\$ 91</u>	<u>11.5 %</u>

(2) Includes allocated Markets Treasury revenue.

Our CMB segment reported a higher profit before tax during the three months ended September 30, 2022 due to higher net interest income and lower expected credit losses. In the year-to-date period, our CMB segment reported a higher profit before tax due primarily to higher net interest income and higher other operating income, partially offset by higher expected credit losses.

Net interest income increased during the three and nine months ended September 30, 2022 due to higher deposit spreads reflecting the impacts of higher market rates and higher average loan balances, partially offset by lower deposit balances driven by the attrition of balances our clients had previously built up during the COVID-19 pandemic.

Other operating income decreased during the three months ended September 30, 2022 due primarily to lower syndication fees. In the year-to-date period, other operating income increased due primarily to higher fees from account services, letters of credit and interchange.

Expected credit losses were lower during the three months ended September 30, 2022 reflecting a release in credit loss reserves compared with a loss provision in the prior year period. The release in credit reserves in the current year period was due primarily to a lower loss estimate for risk factors associated with higher risk industry exposures, partially offset by the weakening of economic conditions which resulted in a worsening of economic forecasts. The loss provision in the prior year period was driven by a higher loss estimate for risk factors associated with real estate industry loan exposures, partially offset by improved economic conditions which resulted in improved economic forecasts. In the year-to-date period, expected credit losses increased reflecting a loss provision compared with a release in credit loss reserves in the prior year-to-date period. The loss provision in the current year-to-date period was driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients as well as higher provisions associated with loan growth. The loss provision in the current year-to-date period was partially offset by a lower loss estimate for risk factors associated with higher risk industry exposures. The release in credit reserves in the prior year-to-date period was driven by improved economic conditions which resulted in improved economic forecasts as well as client paydowns, partially offset by a higher loss estimate for risk factors associated with real estate industry loan exposures.

Operating expenses increased during the three months ended September 30, 2022 due primarily to higher cost allocations from our technology and support service functions. In the year-to-date period, operating expenses decreased due primarily to lower incentive compensation expense and lower branch network costs, partially offset by higher cost allocations from our technology and support service functions.

Global Banking and Markets Our GBM business is comprised of three reportable operating segments:

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 137	\$ 75	\$ 62	82.7 %
Other operating income	52	96	(44)	(45.8)
Total operating income ⁽¹⁾	189	171	18	10.5
Expected credit losses	37	(31)	68	*
Net operating income	152	202	(50)	(24.8)
Operating expenses	116	94	22	23.4
Profit before tax	\$ 36	\$ 108	\$ (72)	(66.7)%

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Net interest income	\$ 321	\$ 237	\$ 84	35.4 %
Other operating income	306	314	(8)	(2.5)
Total operating income ⁽¹⁾	627	551	76	13.8
Expected credit losses	32	(153)	185	*
Net operating income	595	704	(109)	(15.5)
Operating expenses	348	284	64	22.5
Profit before tax	\$ 247	\$ 420	\$ (173)	(41.2)%

* 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 segment. For purposes of the discussion below the table, total operating income is referred to as revenue.

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
GLCM	\$ 135	\$ 91	\$ 44	48.4 %
Capital Markets	36	33	3	9.1
Credit and Lending	20	24	(4)	(16.7)
GTRF	15	12	3	25.0
GB Other ⁽²⁾	(17)	11	(28)	*
Total operating income	\$ 189	\$ 171	\$ 18	10.5 %

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
GLCM	\$ 344	\$ 269	\$ 75	27.9 %
Capital Markets	130	164	(34)	(20.7)
Credit and Lending	56	68	(12)	(17.6)
GTRF	40	37	3	8.1
GB Other ⁽²⁾	57	13	44	*
Total operating income	\$ 627	\$ 551	\$ 76	13.8 %

⁽²⁾ Includes net interest income on capital held in the business and not assigned to products as well as revenue associated with credit default swap protection, certain credit-linked structured notes and loan sales.

Our GB segment reported a lower profit before tax during the three and nine months ended September 30, 2022 due to higher expected credit losses, higher operating expenses and lower other operating income, partially offset by higher net interest income.

Revenue increased during the three and nine months ended September 30, 2022 due primarily to higher revenue in GLCM driven by higher net interest income reflecting the impact of higher market rates as well as higher account service fees. The increase in revenue in the three-month period was partially offset by lower revenue in GB Other due primarily to losses in the current year period, including losses on loan sales and a valuation loss on certain credit-linked structured notes. In the year-to-date period, revenue was higher in GB Other, which was partially offset by lower revenue in Capital Markets and Credit and Lending. Higher revenue in GB Other in the year-to-date period was driven by a valuation gain on certain credit-linked structured notes in the current year period and higher income associated with credit default swap protection which largely reflects the hedging of a few client relationships, partially offset by losses on loan sales in the current year period. Lower Capital Markets revenue in the year-to-date period was due primarily to valuation losses on certain loans in the current year period, lower fees from loan syndication and the non-recurrence of revenue associated with the collection of nonaccrual loans in the prior year period. Lower revenue in Credit and Lending in the year-to-date period was due primarily to lower fees from loan commitments and the non-recurrence of revenue associated with the collection of nonaccrual loans in the prior year period, partially offset by higher net interest income from improved spreads.

Expected credit losses increased during the three and nine months ended September 30, 2022 reflecting loss provisions compared with releases in credit loss reserves in the prior year periods. The loss provisions in the current year periods were driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients. In the prior year periods, the releases in credit reserves were driven by improved economic conditions which resulted in improved economic forecasts, lower loss estimates for risk factors associated with oil and gas industry loan exposures and, in the year-to-date period, improvements in the credit condition of certain clients. Client paydowns and loan sales also contributed to the releases in the prior year-to-date period.

Operating expenses increased during the three and nine months ended September 30, 2022 due primarily to higher cost allocations from our technology and support service functions, including higher cost allocations from HMUS reflecting the impacts of higher staff costs and an updated service level agreement.

Markets and Securities Services The following table summarizes the Group Reporting Basis results for our MSS segment:

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(in millions)				
Net interest income (expense)	\$ (35)	\$ 11	\$ (46)	*
Other operating income	146	69	77	*
Total operating income ⁽¹⁾	111	80	31	38.8
Expected credit losses	—	—	—	—
Net operating income	111	80	31	38.8
Operating expenses	67	66	1	1.5
Profit before tax	\$ 44	\$ 14	\$ 30	*
(in millions)				
Nine Months Ended September 30,				
	2022	2021	Amount	%
Net interest income (expense)	\$ (19)	\$ 36	\$ (55)	*
Other operating income	388	226	162	71.7
Total operating income ⁽¹⁾	369	262	107	40.8
Expected credit losses	—	—	—	—
Net operating income	369	262	107	40.8
Operating expenses	216	212	4	1.9
Profit before tax	\$ 153	\$ 50	\$ 103	*

* Percentage change is greater than 100 percent.

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Foreign Exchange and Metals	\$ 87	\$ 47	\$ 40	85.1 %
Debt Markets	3	1	2	*
Securities Financing	12	10	2	20.0
Equities	8	20	(12)	(60.0)
Securities Services	7	6	1	16.7
MSS Other ⁽²⁾	(1)	1	(2)	*
Credit and funding valuation adjustments	(5)	(5)	—	—
Total MSS	<u>\$ 111</u>	<u>\$ 80</u>	<u>\$ 31</u>	<u>38.8 %</u>

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(dollars are in millions)				
Foreign Exchange and Metals	\$ 243	\$ 181	\$ 62	34.3 %
Debt Markets	5	(2)	7	*
Securities Financing	44	25	19	76.0
Equities	51	36	15	41.7
Securities Services	21	19	2	10.5
MSS Other ⁽²⁾	(1)	(9)	8	88.9
Credit and funding valuation adjustments	6	12	(6)	(50.0)
Total MSS	<u>\$ 369</u>	<u>\$ 262</u>	<u>\$ 107</u>	<u>40.8 %</u>

(2) Includes revenue associated with the exit of certain derivative contracts as part of our Restructuring Plan, including trading losses of nil and \$10 million recorded during the three and nine months ended September 30, 2021, respectively.

Our MSS segment reported a higher profit before tax during the three and nine months ended September 30, 2022 due to higher other operating income, partially offset by lower net interest income.

Revenue increased during the three and nine months ended September 30, 2022 due primarily to higher revenue in Foreign Exchange and Metals and, in the year-to-date period, Securities Financing, Equities and MSS Other. Higher revenue in Foreign Exchange and Metals was due to market volatility which resulted in increased trading opportunities. Higher revenue in Securities Financing in the year-to-date period was due to increased business activity and improved yields. Higher Equities revenue in the year-to-date period was driven by higher performance fees associated with trading activity booked on the balance sheet of HSBC Bank plc. Higher revenue in MSS Other in the year-to-date period was driven by the non-recurrence of trading losses in the prior year period associated with the exit of certain derivative contracts as part of our Restructuring Plan. The increase in the three-month period was partially offset by lower revenue in Equities from cash equities products due to lower client volumes.

Operating expenses increased modestly during the three and nine months ended September 30, 2022 as higher cost allocations from our technology and support service functions and, in the three-month period, higher incentive compensation expense, were largely offset by lower staff costs.

Global Banking and Markets Other The following table summarizes the Group Reporting Basis results for our GBM Other segment. For purposes of the discussion below the table, total operating income is referred to as revenue.

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
(in millions)				
Net interest expense	\$ (3)	\$ (12)	\$ 9	75.0 %
Other operating income	17	19	(2)	(10.5)
Total operating income	<u>14</u>	<u>7</u>	<u>7</u>	<u>100.0</u>
Expected credit losses	<u>(1)</u>	<u>—</u>	<u>(1)</u>	<u>*</u>
Net operating income	<u>15</u>	<u>7</u>	<u>8</u>	<u>*</u>
Operating expenses	<u>20</u>	<u>26</u>	<u>(6)</u>	<u>(23.1)</u>
Loss before tax	<u>\$ (5)</u>	<u>\$ (19)</u>	<u>\$ 14</u>	<u>73.7 %</u>

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(in millions)			
Net interest expense	\$ (4)	\$ (18)	\$ 14	77.8 %
Other operating income	67	73	(6)	(8.2)
Total operating income	63	55	8	14.5
Expected credit losses	—	(1)	1	100.0
Net operating income	63	56	7	12.5
Operating expenses	65	77	(12)	(15.6)
Loss before tax	\$ (2)	\$ (21)	\$ 19	90.5 %

* Percentage change is greater than 100 percent.

Our GBM Other segment reported a lower loss before tax during the three and nine months ended September 30, 2022 due to lower operating expenses driven by lower administrative expenses and lower cost allocations from our support service functions as well as higher revenue driven by lower liquidity charges, partially offset by lower allocated Markets Treasury revenue.

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Net interest expense	\$ (4)	\$ (1)	\$ (3)	*
Other operating income (expense)	2	(38)	40	*
Total operating income (expense) ⁽¹⁾	(2)	(39)	37	94.9
Expected credit losses	—	—	—	—
Net operating income (expense)	(2)	(39)	37	94.9
Operating expenses	94	55	39	70.9
Loss before tax	\$ (96)	\$ (94)	\$ (2)	(2.1)%

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Net interest expense	\$ (17)	\$ (3)	\$ (14)	*
Other operating income (expense)	10	(9)	19	*
Total operating income (expense) ⁽¹⁾	(7)	(12)	5	41.7
Expected credit losses	—	—	—	—
Net operating income (expense)	(7)	(12)	5	41.7
Operating expenses	275	157	118	75.2
Loss before tax	\$ (282)	\$ (169)	\$ (113)	(66.9)%

* Percentage change is greater than 100 percent.

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

Three Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
	(dollars are in millions)			
Legacy structured credit products	\$ —	\$ (31)	\$ 31	100.0 %
Other ⁽²⁾	(2)	(8)	6	75.0
Total operating income	\$ (2)	\$ (39)	\$ 37	94.9 %

Nine Months Ended September 30,	2022	2021	Increase (Decrease)	
			Amount	%
			(dollars are in millions)	
Legacy structured credit products	\$ 1	\$ (28)	\$ 29	*
Other ⁽²⁾	(8)	16	(24)	*
Total operating income	<u>\$ (7)</u>	<u>\$ (12)</u>	<u>\$ 5</u>	<u>41.7 %</u>

⁽²⁾ Includes a trading loss of \$22 million recorded in the third quarter of 2021 associated with the exit of certain derivative contracts as part of our Restructuring Plan.

Our CC segment loss before tax was relatively flat during the three months ended September 30, 2022 as higher operating expenses and higher interest expense were largely offset by higher other operating income. In the year-to-date period, our CC segment reported a higher loss before tax due to higher operating expenses and higher interest expense, partially offset by higher other operating income.

Net interest expense increased during the three and nine months ended September 30, 2022 reflecting higher retained liquidity charges.

Other operating income improved during the three and nine months ended September 30, 2022 due primarily to the non-recurrence of losses recorded during the third quarter of 2021, including a loss of approximately \$31 million in legacy structured credit products reflecting the unwind of our remaining business activities and a trading loss of \$22 million associated with the exit of certain derivative contracts as part of our Restructuring Plan. These increases were partially offset by unfavorable movements related to the economic hedging of interest rate risk within our own debt and unfavorable fair value adjustments on equity investments.

Operating expenses increased during the three and nine months ended September 30, 2022 due primarily to higher allocated restructuring related costs from HTSU and other HSBC affiliates, primarily support service project costs and severance costs, as well as higher costs associated with our investments in systems infrastructure and new technologies. Also contributing to the increase in the year-to-date period were higher professional fees driven by higher attorney's fees. These increases were partially offset by higher levels of expense capitalization related to internally developed software and, in the year-to-date period, lower lease impairment and other related costs primarily associated with the exit of certain office space. During the nine months ended September 20, 2022, we recorded \$5 million of lease impairment and other related costs compared with \$14 million of lease impairment and other related costs recorded in the prior year-to-date period.

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 United States and, on a limited basis, internationally.

Allowance for Credit Losses / Liability for Off-Balance Sheet Credit Exposures Our accounting policies and methodologies related to the allowance for credit losses and liability for off-balance sheet credit exposures are presented under the caption "Critical Accounting Estimates" in MD&A and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in our 2021 Form 10-K. Our approach toward credit risk management is summarized under the caption "Risk Management" in MD&A in our 2021 Form 10-K. There have been no significant revisions to our policies or methodologies during the first nine months of 2022.

The following table summarizes our allowance for credit losses and the liability for off-balance sheet credit exposures:

	September 30, 2022	June 30, 2022	December 31, 2021
	(in millions)		
Allowance for credit losses:			
Loans:			
Commercial loans	\$ 516	\$ 499	\$ 420
Consumer loans	35	35	27
Total loans	<u>551</u>	<u>534</u>	<u>447</u>
Securities held-to-maturity	—	—	1
Other financial assets measured at amortized cost ⁽¹⁾	1	1	1
Securities available-for-sale	—	2	1
Total allowance for credit losses	<u>\$ 552</u>	<u>\$ 537</u>	<u>\$ 450</u>
Liability for off-balance sheet credit exposures	\$ 100	\$ 89	\$ 103

⁽¹⁾ Primarily includes accrued interest receivables and customer acceptances.

The total allowance for credit losses at September 30, 2022 increased \$15 million or 3 percent as compared with June 30, 2022 and increased \$102 million or 23 percent as compared with December 31, 2021 due primarily to a higher loss estimate on our commercial loan portfolio and, as compared with December 31, 2021, our consumer loan portfolio.

Our commercial allowance for credit losses at September 30, 2022 increased \$17 million or 3 percent as compared with June 30, 2022 and increased \$96 million or 23 percent as compared with December 31, 2021 driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients. Also contributing to the increase as compared with December 31, 2021 were higher loss estimates associated with loan growth and maturity extensions as well as an increase in credit reserves for risk factors associated with large loan exposures. These increases were partially offset by declines in credit reserves for risk factors associated with supply chain disruptions and, as compared with June 30, 2022, higher risk industry exposures and energy price uncertainty. As current economic forecasts more accurately reflect these risks and, therefore, they are adequately captured in the modeled results, we decreased the management judgment allowance associated with these risks. The increase as compared with December 31, 2021 was also partially offset by charge-offs.

Our consumer allowance for credit losses at September 30, 2022 was flat as compared with June 30, 2022. As compared with December 31, 2021, our consumer allowance for credit losses increased \$8 million or 30 percent due primarily to an increase in credit reserves for risk factors associated with economic uncertainty.

The liability for off-balance sheet credit exposures at September 30, 2022 increased \$11 million or 12 percent as compared with June 30, 2022 resulting from the weakening of economic conditions. As compared with December 31, 2021, the liability for off-balance sheet credit exposures decreased \$3 million or 3 percent resulting from improvements in the credit condition of certain clients, partially offset by the weakening of economic conditions.

Analysis of the Allowance for Credit Losses on Loans

The following table presents the allowance for credit losses on loans by major loan categories:

	% of Loans to Total Loans		% of Loans to Total Loans		% of Loans to Total Loans	
	Amount		Amount		Amount	
	September 30, 2022		June 30, 2022		December 31, 2021	
(dollars are in millions)						
Commercial:						
Real estate, including construction	\$ 189	13.6 %	\$ 162	14.2 %	\$ 73	14.7 %
Business and corporate banking	206	27.1	218	26.1	243	25.0
Global banking	120	19.7	118	21.0	100	19.9
Other commercial	1	11.6	1	11.0	4	11.6
Total commercial	<u>516</u>	<u>72.0</u>	<u>499</u>	<u>72.3</u>	<u>420</u>	<u>71.2</u>
Consumer:						
Residential mortgages	9	27.0	6	26.7	8	27.7
Home equity mortgages	6	.6	7	.6	5	.6
Credit cards	20	.3	22	.3	14	.4
Other consumer	—	.1	—	.1	—	.1
Total consumer	<u>35</u>	<u>28.0</u>	<u>35</u>	<u>27.7</u>	<u>27</u>	<u>28.8</u>
Total	<u>\$ 551</u>	<u>100.0 %</u>	<u>\$ 534</u>	<u>100.0 %</u>	<u>\$ 447</u>	<u>100.0 %</u>

The following table sets forth key ratios for the allowance for credit losses on loans:

	September 30, 2022	June 30, 2022	December 31, 2021
Ratio of Allowance for credit losses to:			
Loans: ⁽¹⁾			
Commercial:			
Non-affiliates	1.27 %	1.21 %	1.14 %
Affiliates	—	—	—
Total commercial	1.16	1.12	1.06
Consumer:			
Residential mortgages	.05	.04	.05
Home equity mortgages	1.74	1.99	1.54
Credit cards	10.10	10.78	6.86
Other consumer	—	—	—
Total consumer	.20	.20	.17
Total loans	.89	.86	.80
Nonperforming loans: ⁽¹⁾⁽²⁾			
Commercial	150 %	161 %	111 %
Consumer	17	17	11
Total nonperforming loans	100	103	72

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

⁽²⁾ 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 7, "Allowance for Credit Losses," in the accompanying consolidated financial statements for a rollforward of credit losses by loan categories for the three and nine months ended September 30, 2022 and 2021.

The allowance for credit losses on loans as a percentage of total loans held for investment at September 30, 2022 increased as compared with June 30, 2022 due to the increase in our commercial allowance for credit losses for the reasons discussed above. As compared with December 31, 2021, the allowance for credit losses on loans as a percentage of total loans held for

investments increased as the increase in our allowance for credit losses for the reasons discussed above outpaced an increase in total loans held for investment.

The allowance for credit losses on loans as a percentage of nonperforming loans held for investment at September 30, 2022 decreased as compared with June 30, 2022 as an increase in nonperforming loans as discussed further below in our commercial loan portfolio outpaced the increase in our allowance for credit losses for the reasons discussed above. As compared with December 31, 2021, the allowance for credit losses on loans as a percentage of nonperforming loans held for investment increased due to the increase in our allowance for credit losses for the reasons discussed above and a decrease in nonperforming loans as discussed further below in both our consumer and commercial loan portfolios.

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

	September 30, 2022		June 30, 2022		December 31, 2021	
	Delinquent Loans	Delinquency Ratio	Delinquent Loans	Delinquency Ratio	Delinquent Loans	Delinquency Ratio
(dollars are in millions)						
Commercial.....	\$ 182	.41 %	\$ 128	.29 %	\$ 112	.28 %
Consumer:						
Residential mortgages ⁽¹⁾⁽²⁾	124	.74	110	.67	103	.67
Home equity mortgages ⁽¹⁾⁽²⁾	3	.87	3	.85	1	.31
Credit cards.....	2	1.01	2	.98	3	1.47
Other consumer.....	1	1.35	—	2.80	—	—
Total consumer.....	130	.75	115	.67	107	.67
Total.....	\$ 312	.51	\$ 243	.39	\$ 219	.39

⁽¹⁾ At September 30, 2022, June 30, 2022 and December 31, 2021, consumer mortgage loan delinquency includes \$52 million, \$46 million and \$24 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less costs to sell.

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

	September 30, 2022		June 30, 2022		December 31, 2021	
	Delinquent Loans	Delinquency Ratio	Delinquent Loan	Delinquency Ratio	Delinquent Loans	Delinquency Ratio
(dollars are in millions)						
Interest-only loans.....	\$ 7	.18 %	\$ 4	.10 %	\$ 3	.07 %
ARM loans.....	68	.54	62	.50	67	.56

Our two-months-and-over contractual delinquency ratio increased 12 basis points compared with both June 30, 2022 and December 31, 2021 due to higher dollars of delinquency in both our commercial and consumer loan portfolios. The increase in the ratio as compared with December 31, 2021 was partially offset by higher outstanding loan balances.

Our commercial loan two-months-and-over contractual delinquency ratio increased 12 basis points compared with June 30, 2022 and 13 basis points compared with December 31, 2021 due to higher dollars of delinquency driven primarily by two corporate banking loans and a global banking loan which became 60 days past due and, as compared with December 31, 2021, a commercial real estate loan which became 60 days past due. The increase in the ratio was partially offset by collections and, as compared with December 31, 2021, higher outstanding loan balances.

Our consumer loan two-months-and-over contractual delinquency ratio increased 8 basis points compared with both June 30, 2022 and December 31, 2021 due primarily to higher dollars of delinquency in residential mortgages driven by the weakening of economic conditions and, as compared with December 31, 2021, the impact of transferring certain loans from held for sale to held for investment during the second quarter of 2022, which collectively included \$44 million of delinquent consumer mortgage loans. The increase in the ratio as compared December 31, 2022 was partially offset by the sale of certain nonperforming mortgage loans during the first quarter of 2022 as well as higher outstanding loan balances.

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

	Three Months Ended September 30,						Nine Months Ended September 30,					
	2022			2021			2022			2021		
	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio
(dollars are in millions)												
Commercial:												
Real estate, including construction.....	\$ —	\$ 8,566	— %	\$ —	\$ 9,424	— %	\$ —	\$ 8,383	— %	\$ —	\$ 9,871	— %
Business and corporate banking ..	1	16,594	.02	12	12,618	.38	8	15,760	.07	26	13,014	.27
Global banking	—	12,675	—	—	11,208	—	9	12,004	.10	12	12,145	.13
Other commercial	—	7,173	—	—	6,147	—	—	7,049	—	—	5,261	—
Total commercial.....	1	45,008	.01	12	39,397	.12	17	43,196	.05	38	40,291	.13
Consumer:												
Residential mortgages	(1)	16,583	(.02)	(4)	16,138	(.10)	(4)	15,991	(.03)	(1)	17,390	(.01)
Home equity mortgages.....	(1)	348	(1.15)	2	376	2.13	(2)	326	(.92)	1	556	.18
Credit cards	—	195	—	(1)	—	15.88	(4)	187	(2.67)	83	593	18.71
Other consumer	—	53	—	(1)	113	(3.54)	(1)	54	(1.85)	9	216	5.56
Total consumer.....	(2)	17,179	(.05)	(4)	16,627	(.10)	(11)	16,558	(.09)	92	18,755	.66
Total	\$ (1)	\$62,187	(.01)	\$ 8	\$56,024	.06	\$ 6	\$59,754	.01	\$ 130	\$59,046	.29

Our net charge-off ratio decreased 7 basis points during the three months ended September 30, 2022 due primarily to a lower level of net charge-offs in our commercial loan portfolio driven by the sale of two corporate banking loans in the prior year period. Also contributing to the decrease in the ratio were higher average loan balances primarily in our commercial loan portfolio.

In the year-to-date period, our net charge-off ratio decreased 28 basis points due primarily to a lower level of net charge-offs in our consumer loan portfolio driven by the non-recurrence of \$56 million of charge-offs recorded during the second quarter of 2021 on certain loans that were transferred to held for sale as well as lower charge-offs in credit cards reflecting the impact of lower balances due to loan sales. Also contributing to the decrease in the ratio was a lower level of net charge-offs in our commercial loan portfolio driven by lower charge-offs associated with loan sales.

Nonperforming Loans The following table summarizes nonperforming loans, including nonaccrual loans and accruing loans contractually 90 days or more past due, as well as nonperforming loans as a percentage of total loans, excluding loans held for sale ("nonperforming ratio"):

	September 30, 2022		June 30, 2022		December 31, 2021	
	Nonperforming Loans ⁽¹⁾	Nonperforming Ratio	Nonperforming Loans ⁽¹⁾	Nonperforming Ratio	Nonperforming Loans ⁽¹⁾	Nonperforming Ratio
(dollars are in millions)						
Commercial	\$ 343	.77 %	\$ 309	.69 %	\$ 380	.95 %
Consumer:						
Residential mortgages ⁽²⁾⁽³⁾⁽⁴⁾ ..	199	1.19	198	1.20	229	1.48
Home equity mortgages ⁽²⁾⁽³⁾ ..	7	2.03	9	2.56	9	2.77
Credit cards	1	.51	1	.49	2	.98
Total consumer	207	1.20	208	1.22	240	1.49
Total	\$ 550	.89	\$ 517	.84	\$ 620	1.11
Other real estate owned ⁽⁵⁾	\$ 2		\$ 3		\$ 2	

⁽¹⁾ See Note 6, "Loans," in the accompanying consolidated financial statements for a breakout of nonaccrual loans and accruing loans contractually 90 days or more past due. At September 30, 2022, June 30, 2022 and December 31, 2021, total nonperforming loans include \$2 million, \$2 million and \$3 million, respectively, of accruing loans contractually 90 days or more past due.

⁽²⁾ At September 30, 2022, June 30, 2022 and December 31, 2021, nonperforming consumer mortgage loans include \$102 million, \$95 million and \$86 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽³⁾ Nonperforming 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.

⁽⁴⁾ Nonperforming 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.

⁽⁵⁾ Includes \$1 million or less of commercial other real estate owned at September 30, 2022, June 30, 2022 and December 31, 2021.

Our nonperforming loans ratio increased 5 basis points compared with June 30, 2022 due to higher nonperforming loans in our commercial loan portfolio. As compared with December 31, 2021, our nonperforming loans ratio decreased 22 basis points due to lower nonperforming loans in both our commercial and consumer loan portfolios as well as higher outstanding loan balances.

Our commercial nonperforming loans ratio increased 8 basis points compared with June 30, 2022 due to higher nonperforming loans driven primarily by the downgrade of a commercial real estate loan, partially offset by paydowns. As compared with December 31, 2021, our commercial nonperforming loans ratio decreased 18 basis points as the impact of higher nonperforming loans in the third quarter was more than offset by the paydown of a commercial real estate loan in the first quarter and loan sales. Also contributing to the decrease in the ratio as compared with December 31, 2021 were higher outstanding loan balances.

Our consumer nonperforming loans ratio was relatively flat compared with June 30, 2022 and decreased 29 basis points compared with December 31, 2021. The decrease in the ratio as compared with December 31, 2021 was due to lower nonperforming loans as the impact of transferring certain loans from held for sale to held for investment in the second quarter of 2022, which collectively included \$63 million of consumer mortgage nonperforming loans, was more than offset by the sale of certain non-performing mortgage loans and customers who were previously on forbearance relief returning to accrual status during the first quarter of 2022. Also contributing to the decrease in the ratio as compared with December 31, 2021 were higher outstanding loan balances.

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 2021 Form 10-K.

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.

Commercial Credit Exposure Our commercial credit exposure is diversified across a broad range of industries. Commercial loans outstanding, excluding loans held for sale, and unused commercial commitments by industry are presented in the table below:

	September 30, 2022		December 31, 2021	
	Commercial Utilized	Unused Commercial Commitments	Commercial Utilized	Unused Commercial Commitments
	(in millions)			
Diversified financials	\$ 9,531	\$ 12,062	\$ 9,177	\$ 13,128
Real estate	6,606	1,891	5,937	2,289
Commercial and professional services	2,946	5,861	2,093	5,234
Retailing	2,811	5,526	2,209	5,127
Consumer services	2,622	3,255	3,454	3,367
Software and services	2,378	4,267	1,009	3,354
Capital goods	2,042	5,650	1,833	6,140
Consumer durables and apparel	2,034	2,852	1,515	2,889
Technology hardware and equipment	1,395	6,164	1,032	7,179
Chemicals	1,225	4,587	1,491	3,575
Utilities	983	873	956	1,286
Energy	954	4,467	1,155	5,852
Health care equipment and services	901	2,453	785	2,359
Food, beverage and tobacco	883	2,636	787	2,968
Food and staples retailing	616	1,534	522	2,003
Banks	554	519	35	421
Pharmaceuticals, biotechnology and life science	480	3,324	476	3,471
Metals and mining	465	473	432	676
Transportation	436	733	581	436
Paper and forest products	349	597	235	491
Total commercial credit exposure in top 20 industries ⁽¹⁾	40,211	69,724	35,714	72,245
All other industries	539	12,965	1,289	12,451
Total commercial credit exposure ⁽²⁾	<u>\$ 40,750</u>	<u>\$ 82,689</u>	<u>\$ 37,003</u>	<u>\$ 84,696</u>

⁽¹⁾ Based on utilization at September 30, 2022.

⁽²⁾ Excludes commercial credit exposures with affiliates.

Geographic Concentrations The following table reflects regional exposure at September 30, 2022 and December 31, 2021 for our real estate secured loan portfolios, excluding loans held for sale:

	Commercial Real Estate, including Construction Loans	Residential Mortgages and Home Equity Mortgages
September 30, 2022		
New York State	25.6 %	31.8 %
California	16.7	43.9
North Central United States	10.6	0.9
North Eastern United States, excluding New York State	4.1	7.8
Southern United States	35.8	10.0
Western United States, excluding California	7.2	5.6
Total	<u>100.0 %</u>	<u>100.0 %</u>
December 31, 2021		
New York State	27.5 %	32.3 %
California	18.1	43.6
North Central United States	5.8	1.0
North Eastern United States, excluding New York State	5.0	7.9
Southern United States	34.7	9.8
Western United States, excluding California	8.9	5.4
Total	<u>100.0 %</u>	<u>100.0 %</u>

Residential Mortgage Loans 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.
- 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, excluding mortgages held for sale, at September 30, 2022 and December 31, 2021. Each category is not mutually exclusive and loans may appear in more than one category below.

	September 30, 2022	December 31, 2021
	(in millions)	
Interest-only residential mortgage and home equity mortgage loans	\$ 4,029	\$ 3,739
ARM loans ⁽¹⁾	12,587	11,852

⁽¹⁾ During the remainder of 2022 and during 2023, approximately \$53 million and \$437 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, excluding mortgages held for sale, at September 30, 2022 and December 31, 2021:

	September 30, 2022	December 31, 2021
	(in millions)	
Closed end:		
First lien	\$ 16,691	\$ 15,469
Second lien	17	18
Revolving ⁽¹⁾	328	307
Total	<u>\$ 17,036</u>	<u>\$ 15,794</u>

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

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.

	September 30, 2022	December 31, 2021
	(in millions)	
Risk associated with derivative contracts:		
Total credit risk exposure	\$ 17,243	\$ 11,896
Less: collateral held against exposure	5,794	3,894
Net credit risk exposure	<u>\$ 11,449</u>	<u>\$ 8,002</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 in both the short- and long-term 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 and funding 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 \$13,970 million and \$47,400 million at September 30, 2022 and December 31, 2021, respectively, of which \$13,642 million and \$47,259 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 \$29,825 million and \$10,514 million at September 30, 2022 and December 31, 2021, 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 \$12,982 million and \$18,731 million at September 30, 2022 and December 31, 2021, 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 \$34,738 million and \$40,501 million at September 30, 2022 and December 31, 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

Short-Term Borrowings totaled \$6,536 million and \$6,338 million at September 30, 2022 and December 31, 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on short-term borrowing trends.

Deposits totaled \$124,966 million and \$143,032 million at September 30, 2022 and December 31, 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on deposit trends.

Long-Term Debt decreased to \$15,696 million at September 30, 2022 from \$17,236 million at December 31, 2021. The following table presents the maturities of long-term debt at September 30, 2022:

	(in millions)
2022	\$ 531
2023	1,789
2024	3,320
2025	4,420
2026	500
Thereafter	5,136
Total	<u>\$ 15,696</u>

The following table summarizes issuances and retirements of long-term debt during the nine months ended September 30, 2022 and 2021:

Nine Months Ended September 30,	2022	2021
	(in millions)	
Long-term debt issued	\$ 3,793	\$ 6,861
Long-term debt repaid	<u>(2,569)</u>	(8,402)
Net long-term debt issued (repaid)	<u>\$ 1,224</u>	<u>\$ (1,541)</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 nine months ended September 30, 2022.

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 2022, 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 \$20,000 million at December 31, 2021 to \$15,000 million, of which \$6,379 million was available at September 30, 2022. HSBC Bank USA has a \$40,000 million Global Bank Note Program that provides for the issuance of subordinated and senior notes, of which \$11,980 million was available at September 30, 2022.

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 September 30, 2022, long-term debt included \$1,000 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 \$13,619 million.

Preferred Equity See Note 19, "Preferred Stock," in our 2021 Form 10-K for information regarding all outstanding preferred share issues.

Common Equity During the third quarter of 2022, HSBC USA received a common stock return of capital of \$1.0 billion from its subsidiary, HSBC Bank USA, and paid a distribution on its common stock of \$1.0 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 and Tier 1 capital to adjusted quarterly average assets (i.e., the "Tier 1 leverage ratio"). 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 September 30, 2022 and December 31, 2021:

	September 30, 2022	December 31, 2021
Common equity Tier 1 capital to risk-weighted assets	14.0 %	15.1 %
Tier 1 capital to risk-weighted assets	15.2	16.3
Total capital to risk-weighted assets	17.3	18.5
Tier 1 leverage ratio ⁽¹⁾	9.5	8.5

⁽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.

In response to the COVID-19 pandemic, the federal banking agencies issued a final rule that provided the option to transition in the regulatory capital impacts of the current expected credit loss accounting standard over a five-year period. In 2020, HSBC North America and HSBC Bank USA elected the five-year transition option and, as a result, our capital ratios were being reported in accordance with the transition rules in the final rule. However, as of December 31, 2021, there was no remaining impact to regulatory capital under the transition rules and, therefore, there are no amounts being phased into regulatory capital in subsequent periods.

We manage 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"). The Basel III rule establishes minimum capital ratios and overall capital adequacy standards for banks and bank holding companies ("BHCs"). HSBC North America, HSBC USA and HSBC Bank USA each calculate their risk-based capital requirements for credit risk under the Standardized Approach in the Basel III rule. In 2019, the FRB and the other federal banking agencies jointly finalized rules to implement the Economic Growth, Regulatory Relief and Consumer Protection Act that tailor the application of the enhanced prudential standards for large BHC and foreign banking organizations (the "Tailoring Rules"). The Tailoring Rules assign each BHC and IHC with \$50 billion or more in total U.S. assets into one of five classifications (Categories I through IV, and 'other firms') based on its size and four risk-based indicators. As of January 1, 2022, HSBC North America met the criteria to be re-classified as a Category IV firm and, as a result of this classification change, HSBC North America and HSBC Bank USA are no longer subject to the supplementary leverage ratio or the countercyclical capital buffer. Prior to January 1, 2022, HSBC North America and HSBC Bank USA were subject to Category III standards. For additional discussion of the Basel III rule requirements, including required minimum capital ratios, as well as further discussion of the Tailoring Rules, Category IV standards and other related regulatory developments and their expected impact see Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in our 2021 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 certain U.S. top-tier BHCs and IHCs, including HSBC North America, to comply with the FRB's capital plan rule and CCAR program, as well as the supervisory stress tests conducted by the FRB. The stress tests are forward looking exercises to assess the impact of hypothetical macroeconomic baseline and severely adverse scenarios provided by the FRB on the financial condition and capital adequacy of a CCAR firm over a nine quarter planning horizon. As a result of its re-classification as a Category IV firm, HSBC North America is no longer subject to company-run stress testing and related disclosure requirements. Category IV firms are subject to supervisory stress testing on an every-other-year basis, although they may opt into such testing in an "off year" in order to recalibrate their stress capital buffer based on their most recent supervisory stress test. The FRB continues to supervise Category IV firms on an ongoing basis, including evaluation of the capital adequacy and capital planning processes during off-cycle years. For further discussion of capital planning and stress testing, including detail regarding the FRB's supervisory assessment as part of the CCAR process, see Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in our 2021 Form 10-K.

HSBC North America submitted its 2022 CCAR capital plan in April 2022. In June 2022, the FRB publicly disclosed its supervisory stress test results for all CCAR firms, including HSBC North America. 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. Capital planning and stress testing for HSBC North America may impact our future capital and liquidity.

While BHC regulatory capital compliance is generally performed at the HSBC North America level, and also separately for HSBC Bank USA, as a BHC 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.

2022 Funding Strategy Our current estimate for funding needs and sources for 2022 are summarized in the following table:

	Actual January 1 through September 30, 2022	Estimated October 1 through December 31, 2022	Estimated Full Year 2022
(in billions)			
Increase (decrease) in funding needs:			
Net change in loans	\$ 2	\$ 1	\$ 3
Net change in short-term investments and securities	(20)	(6)	(26)
Net change in trading and other assets	(2)	1	(1)
Total funding needs	<u>\$ (20)</u>	<u>\$ (4)</u>	<u>\$ (24)</u>
Increase (decrease) in funding sources:			
Net change in deposits	\$ (18)	\$ (3)	\$ (21)
Net change in trading and other short-term liabilities	—	(2)	(2)
Net change in long-term debt	(2)	1	(1)
Total funding sources	<u>\$ (20)</u>	<u>\$ (4)</u>	<u>\$ (24)</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 conforming residential mortgage loans 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 2021 Form 10-K.

See "Risk Management" in this MD&A for further discussion relating to our liquidity contingency plans and our approach to liquidity and funding risk management.

Off-Balance Sheet Arrangements 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 commitments to extend credit and, in certain cases, guarantees.

Commitments to extend credit include arrangements whereby we are contractually obligated to extend credit in the form of loans, participations in loans or similar transactions. At September 30, 2022 and December 31, 2021, we had commitments to extend credit totaling \$87.9 billion and \$94.1 billion, respectively, comprised primarily of commercial commitments and, to a lesser extent, consumer commitments. Commercial commitments comprise primarily those related to secured and unsecured loans and lines of credit. Consumer commitments comprise 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. For a summary of guarantees, including standby letters of credit and certain credit derivative transactions, as well as the contractual amounts outstanding at September 30, 2022 and December 31, 2021, see Note 18, "Guarantee Arrangements, Pledged Asset and Repurchase Agreements," in the accompanying consolidated financial statements.

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. 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.

Our off-balance sheet arrangements also include transactions with unconsolidated variable interest entities ("VIEs"). See Note 17, "Variable Interest Entities," in the accompanying consolidated financial statements for a summary of these unconsolidated VIEs.

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, non-exchange-traded derivative contracts, asset-backed securities, obligations of U.S. states and political subdivisions, corporate debt securities, certain foreign government-backed debt, preferred securities, securities purchased and sold under resale and repurchase agreements, precious metals, certain loans held for sale, certain student loans, 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 September 30, 2022 and December 31, 2021, our Level 3 measurements included the following: certain structured deposits and structured notes for which the embedded derivatives have significant unobservable inputs (e.g., volatility or default correlations), certain asset-backed securities, individually assessed commercial loans, mortgage servicing rights, derivatives with certain inputs which are unobservable, certain credit default swaps, certain loans held for sale and 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. 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 September 30, 2022 and December 31, 2021:

	September 30, 2022	December 31, 2021
	(dollars are in millions)	
Level 3 assets ⁽¹⁾⁽²⁾	\$ 380	\$ 2,356
Total assets measured at fair value ⁽¹⁾⁽³⁾	78,473	76,713
Level 3 liabilities ⁽¹⁾	3,181	2,598
Total liabilities measured at fair value ⁽¹⁾	39,711	28,125
Level 3 assets as a percent of total assets measured at fair value	0.5 %	3.1 %
Level 3 liabilities as a percent of total liabilities measured at fair value	8.0 %	9.2 %

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

⁽²⁾ Includes \$237 million of recurring Level 3 assets and \$143 million of non-recurring Level 3 assets at September 30, 2022. Includes \$355 million of recurring Level 3 assets and \$2,001 million of non-recurring Level 3 assets at December 31, 2021.

⁽³⁾ Includes \$78,078 million of assets measured on a recurring basis and \$395 million of assets measured on a non-recurring basis at September 30, 2022. Includes \$74,511 million of assets measured on a recurring basis and \$2,202 million of assets measured on a non-recurring basis at December 31, 2021.

Significant Changes in Fair Value for Level 3 Assets and Liabilities During the first quarter of 2022, we sold certain loans which were transferred to held for sale during 2021 and were Level 3 assets measured at fair value on a non-recurring basis. See Note 8, "Loans Held for Sale," in the accompany 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 and nine months ended September 30, 2022 and 2021 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 \$22 million or a decrease of the overall fair value measurement of approximately \$48 million at September 30, 2022. The effect of changes in significant unobservable input parameters are primarily driven by the uncertainty in determining the fair value of certain credit-linked structured notes and swap agreements entered into in conjunction with the sales of Visa Class B Shares.

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 identifying, assessing, managing and reporting the risks we accept and incur in our activities.

Our Board of Directors has the ultimate responsibility for effective oversight of risk management. It is advised on risk matters by the Risk Committee of the Board of Directors, notably 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.

Our material risks 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;
- *Treasury risk* is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including pension risk. Treasury risk also includes the risk to our earnings due to changes in market interest rates;
- *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;
- *Resilience risk* is the risk that we are unable to provide critical services to our customers, affiliates and counterparties as a result of sustained and significant operational disruption;
- *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, which as a consequence incur fines and penalties and suffer damage to our business;
- *Financial crime risk* is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity, including money laundering, fraud, bribery and corruption, tax evasion, sanctions breaches, and terrorist and proliferation financing;
- *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; and
- *Model risk* is the potential for adverse consequences from business decisions informed by models, which can be exacerbated by errors in methodology, design or the way they are used.

In the course of our regular risk management activities, we use models to help quantify the risk we are taking. We believe that the assumptions used in these models are reasonable within the parameters for which the models have been built and calibrated to operate, but events may unfold differently than what is assumed in the models. Consequently, actual results may differ significantly from model projections. The severe projections of macroeconomic variables during the COVID-19 pandemic and subsequent recovery represent events outside the parameters for which the models have been built. As a result, adjustments to model outputs to reflect consideration of management judgment are used with stringent governance in place to ensure appropriate results. Where models do not require adjustments, enhanced model monitoring confirms models are performing as intended.

See "Risk Management" in MD&A in our 2021 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, 2021.

Credit Risk Management Credit risk is managed through a robust risk identification and control framework which outlines clear and consistent policies, principles and guidance for risk managers. Credit risk is monitored using various internal risk management measures and within limits approved by individuals within a framework of delegated authorities. Our credit risk management procedures are designed for all stages of economic and financial cycles, including challenging periods of market volatility and economic uncertainty. During the first nine months of 2022, the impacts of the Russia-Ukraine war and the COVID-19 pandemic continued to create significant uncertainty about the future economic environment. While our credit risk exposure to Russia continues to be immaterial at September 30, 2022, the impact of the war on general economic conditions, especially inflation, has been immense and continues to evolve and, therefore, the impact on our customers remains uncertain. We continue to monitor the performance of our material commercial loans as conditions evolve and take necessary credit

actions where warranted. See "Risk Management" in MD&A in our 2021 Form 10-K for a more complete discussion of our approach to credit risk.

Treasury Risk Management We continuously monitor our capital ratios and the impact of market events on our liquidity positions and will continue to adapt our frameworks as necessary to reflect market events and the evolving regulatory landscape and view as to best practices. See "Risk Management" in MD&A in our 2021 Form 10-K for a more complete discussion of our approach to treasury risk.

Capital risk See "Liquidity and Capital Resources" in this MD&A for a discussion of our approach to capital risk management, including our capital ratios and regulatory capital requirements.

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

As of January 1, 2022, HSBC North America met the criteria to be re-classified as a Category IV firm and, as a result of this classification change, HSBC North America and HSBC Bank USA are subject to a further reduced U.S. liquidity coverage ratio ("LCR") and net stable funding ratio ("NSFR") requirement of 70 percent so long as HSBC North America's weighted short-term wholesale funding equals or exceeds \$50 billion. HSBC North America and HSBC Bank USA elected to report subject to the reduced U.S. LCR and NSFR requirement of 70 percent beginning April 1, 2022, whereas they were previously subject to the requirement of 85 percent applicable under Category III standards.

HSBC North America and HSBC Bank USA are subject to the U.S. LCR rule, which 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, and are required to report their LCR to U.S. regulators on a daily basis. Under the Tailoring Rules, a 70 percent LCR requirement applies to Category IV firms with weighted short-term wholesale funding that equals or exceeds \$50 billion and their depository institution subsidiaries. As a result, a LCR of 100 percent or higher reflects an unencumbered HQLA balance that is equal to or exceeds 70 percent of a Category IV firm's 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. During the nine months ended September 30, 2022, HSBC Bank USA's LCR remained above the 100 percent minimum requirement. Beginning in the third quarter of 2022, we removed the United Kingdom ("U.K.") Prudential Regulatory Authority ("PRA") based LCR from our reporting as we no longer employ that ratio as part of our approach towards liquidity risk management.

HSBC North America and HSBC Bank USA are also subject to the U.S. NSFR rule, which is a longer term liquidity measure with a 12-month time horizon to ensure a sustainable maturity structure of assets and liabilities. Under the Tailoring Rules, a 70 percent NSFR requirement applies to Category IV firms with weighted short-term wholesale funding that equals or exceeds \$50 billion and their depository institution subsidiaries. As a result, 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 70 percent of a Category IV firm's required amount of funding for assets and off-balance sheet exposures. At both September 30, 2022 and December 31, 2021, HSBC Bank USA's NSFR exceeded 100 percent. In addition, the U.K. PRA based NSFR took effect on January 1, 2022. At both September 30, 2022 and December 31, 2021, HSBC USA's NSFR under the U.K. PRA NSFR rule exceeded 100 percent. The ratio at December 31, 2021 was estimated based on our interpretation and understanding of the Basel Committee NSFR guidance at that time. Under the U.K. PRA NSFR rule, 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.

As a Category IV firm, HSBC North America remains subject to liquidity stress testing and related liquidity buffer and liquidity risk management requirements. HSBC North America and HSBC Bank USA have liquidity profiles to support compliance with these rules and may need to make changes to their liquidity profiles to support compliance with any future rules.

Our liquidity and funding 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, regulations 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 September 30, 2022:

	Moody's	S&P	Fitch
HSBC USA:			
Short-term borrowings	P-1	A-2	F1+
Long-term/senior debt	A1	A-	A+
HSBC Bank USA:			
Short-term borrowings	P-1	A-1	F1+
Long-term/senior debt	Aa3	A+	AA-

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 September 30, 2022, none of the ratings on the debt of HSBC USA or HSBC Bank USA from any of the rating agencies were under review for potential downgrade.

See "Liquidity and Capital Resources" in this MD&A for further discussion of our liquidity position, including additional information regarding our outstanding borrowings, the remaining availability of our debt issuance programs and our funding strategy.

Interest rate risk 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 2021 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 September 30, 2022 and December 31, 2021, our EVE remained within risk limits for the up 200 and down 200 basis point interest rate shock 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 100 basis points, as well as scenarios in which rates gradually rise or fall by 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:

	September 30, 2022		December 31, 2021	
	Amount	%	Amount	%
(dollars are in millions)				
Estimated increase (decrease) in projected net interest income (reflects projected rate movements on October 1, 2022 and January 1, 2022, respectively):				
Resulting from a gradual 100 basis point increase in the yield curve	\$ 95	3 %	\$ 225	9 %
Resulting from a gradual 100 basis point decrease in the yield curve	(85)	(3)	(130)	(5)
Other significant scenarios monitored (reflects projected rate movements on October 1, 2022 and January 1, 2022, respectively):				
Resulting from an immediate 100 basis point increase in the yield curve	155	5	308	13
Resulting from an immediate 100 basis point decrease in the yield curve	(152)	(5)	(334)	(14)

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.

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.

We apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures to optimize return on risk while maintaining a market profile consistent with our established risk appetite. See "Risk Management" in MD&A in our 2021 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 primarily from the MSS segment of GBM. Portfolios comprise mainly foreign exchange products, precious metals (i.e., gold, silver, platinum) and credit default swaps.

The following graph summarizes daily VaR for our trading portfolios at a 99 percent confidence level (in millions):



The following table summarizes our trading VaR for the nine months ended September 30, 2022 and at December 31, 2021:

	Credit Spread	Foreign Exchange and Commodity	Interest Rate	Portfolio Diversification ⁽¹⁾	Total ⁽²⁾
	(in millions)				
At September 30, 2022	\$ 1	\$ 2	\$ 4	\$ (3)	\$ 4
Nine Months Ended September 30, 2022					
Average	1	3	3	(2)	5
Maximum	7	9	7		9
Minimum	—	1	2		2
At December 31, 2021	\$ 5	\$ 3	\$ 5	\$ (4)	\$ 9

⁽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, under stable market conditions, to see two or three losses in excess of VaR at the 99 percent confidence level over a one-year period. However, in periods of unstable market conditions, we could see an increase in the number of back-testing exceptions.

During the nine months ended September 30, 2022, we experienced seven loss back-testing exceptions. Six loss exceptions in the second quarter and one loss exception in the third quarter were due primarily to significant increases in market volatility driven by substantial volatility in interest rates and metals arising from inflationary pressures, changes in the FRB's stance on interest rate hikes and geopolitical conditions.

Performance of the VaR model was in line with expectations given observed market movements. During the period, market risk exposures and actual reported losses remained within the entity's risk limits.

Non-trading portfolios Non-trading VaR predominantly relates to Markets Treasury 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 comprise mainly 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 nine months ended September 30, 2022 and at December 31, 2021:

	Credit Spread	Interest Rate	Portfolio Diversification ⁽¹⁾	Total ⁽²⁾
	(in millions)			
At September 30, 2022	\$ 36	\$ 76	\$ (29)	\$ 83
Nine Months Ended September 30, 2022				
Average	52	60	(33)	79
Maximum	75	116		127
Minimum	36	40		58
At December 31, 2021	\$ 62	\$ 84	\$ (34)	\$ 112

⁽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 Markets Treasury which has the mandate to centrally manage and hedge it. See "Treasury Risk Management" above for a broader discussion on how interest rate risk is managed.

CONSOLIDATED AVERAGE BALANCES AND INTEREST RATES

The following table summarizes the quarter-to-date and year-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 and nine months ended September 30, 2022 included fees of \$9 million and \$31 million, respectively, compared with fees of \$20 million and \$68 million during the three and nine months ended September 30, 2021, respectively.

Three Months Ended September 30,	2022			2021		
	Average Balance	Interest	Rate	Average Balance	Interest	Rate
(dollars are in millions)						
Assets:						
Interest bearing deposits with banks	\$ 37,936	\$ 216	2.26 %	\$ 60,700	\$ 23	.15 %
Federal funds sold and securities purchased under resale agreements	4,599	50	4.31	865	1	.46
Trading securities	14,057	53	1.50	16,752	60	1.42
Securities	36,372	203	2.21	41,097	154	1.49
Loans:						
Commercial	45,372	420	3.67	39,864	250	2.49
Consumer:						
Residential mortgages	16,634	123	2.93	18,580	135	2.88
Home equity mortgages	348	4	4.56	638	5	3.11
Credit cards	204	5	9.72	793	22	11.01
Other consumer	149	3	7.99	269	4	5.90
Total consumer	17,335	135	3.09	20,280	166	3.25
Total loans	62,707	555	3.51	60,144	416	2.74
Other	2,644	15	2.25	2,376	4	.67
Total interest earning assets	\$ 158,315	\$ 1,092	2.74 %	\$ 181,934	\$ 658	1.43 %
Allowance for credit losses	(541)			(535)		
Cash and due from banks	950			1,117		
Other assets	11,325			12,684		
Total assets	\$ 170,049			\$ 195,200		
Liabilities and Equity:						
Domestic deposits:						
Savings deposits	\$ 53,014	\$ 116	.87 %	\$ 63,116	\$ 23	.14 %
Time deposits	11,519	84	2.89	10,810	18	.66
Other interest bearing deposits	20,429	123	2.39	19,197	15	.31
Foreign deposits	5,916	20	1.34	6,133	—	.03
Deposits held for sale	—	—	—	8,046	4	.22
Total interest bearing deposits	90,878	343	1.50	107,302	60	.22
Short-term borrowings:						
Securities sold under repurchase agreements	973	24	9.79	1,145	—	.10
Commercial paper	4,516	26	2.28	3,281	3	.36
Other short-term borrowings	265	1	1.50	266	1	1.49
Total short-term borrowings	5,754	51	3.52	4,692	4	.34
Long-term debt	16,381	144	3.49	19,282	70	1.44
Total interest bearing debt	113,013	538	1.89	131,276	134	.40
Tax liabilities and other	1,442	11	3.03	1,013	4	1.57
Total interest bearing liabilities	\$ 114,455	\$ 549	1.90 %	\$ 132,289	\$ 138	.41 %
Net interest income/Interest rate spread		\$ 543	.83 %		\$ 520	1.02 %
Noninterest bearing deposits	33,327			38,288		
Other liabilities	7,123			6,295		
Total equity	15,144			18,328		
Total liabilities and equity	\$ 170,049			\$ 195,200		
Net interest margin on average earning assets			1.36 %			1.13 %

Nine Months Ended September 30,	2022			2021		
	Average Balance	Interest	Rate	Average Balance	Interest	Rate
	(dollars are in millions)					
Assets:						
Interest bearing deposits with banks	\$ 45,289	\$ 338	1.00 %	\$ 48,003	\$ 45	.13 %
Federal funds sold and securities purchased under resale agreements	3,461	65	2.51	9,820	12	.16
Trading securities	14,368	171	1.59	18,759	162	1.15
Securities	37,736	513	1.82	42,942	491	1.53
Loans:						
Commercial	43,573	967	2.97	40,626	807	2.66
Consumer:						
Residential mortgages	16,912	367	2.90	18,565	408	2.94
Home equity mortgages	401	10	3.33	675	14	2.77
Credit cards	235	15	8.53	892	64	9.59
Other consumer	171	9	7.04	282	15	7.11
Total consumer	17,719	401	3.03	20,414	501	3.28
Total loans	61,292	1,368	2.98	61,040	1,308	2.86
Other	2,424	32	1.77	2,640	17	.86
Total interest earning assets	\$ 164,570	\$ 2,487	2.02 %	\$ 183,204	\$ 2,035	1.49 %
Allowance for credit losses	(486)			(773)		
Cash and due from banks	954			1,217		
Other assets	10,770			13,266		
Total assets	\$ 175,808			\$ 196,914		
Liabilities and Equity:						
Domestic deposits:						
Savings deposits	\$ 56,634	\$ 177	.42 %	\$ 66,090	\$ 82	.17 %
Time deposits	9,958	148	1.99	13,735	76	.74
Other interest bearing deposits	20,350	183	1.20	20,939	45	.29
Foreign deposits	6,096	26	.57	5,996	1	.03
Deposits held for sale	1,298	2	.21	3,636	6	.22
Total interest bearing deposits	94,336	536	.76	110,396	210	.25
Short-term borrowings:						
Securities sold under repurchase agreements	1,814	33	2.43	1,495	1	.09
Commercial paper	4,159	42	1.35	3,127	9	.38
Other short-term borrowings	271	2	.99	252	3	1.59
Total short-term borrowings	6,244	77	1.65	4,874	13	.36
Long-term debt	16,172	301	2.49	19,322	230	1.59
Total interest bearing debt	116,752	914	1.05	134,592	453	.45
Tax liabilities and other	1,152	21	2.44	852	8	1.26
Total interest bearing liabilities	\$ 117,904	\$ 935	1.06 %	\$ 135,444	\$ 461	.46 %
Net interest income/Interest rate spread		\$ 1,552	.96 %		\$ 1,574	1.03 %
Noninterest bearing deposits	36,410			37,213		
Other liabilities	5,594			6,054		
Total equity	15,900			18,203		
Total liabilities and equity	\$ 175,808			\$ 196,914		
Net interest margin on average earning assets			1.26 %			1.15 %

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 "Treasury Risk Management - Interest Rate Risk" 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 ("CEO") and Chief Financial Officer ("CFO"), of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of the end of the period covered by this report. Based upon that evaluation, the CEO and CFO 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 September 30, 2022 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. sanctions 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 involving 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 Melli, and the Bank of Industry and Mine.

There was no measurable gross revenue in the third quarter of 2022 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. No guarantees were cancelled in the third quarter of 2022, and approximately 14 remain outstanding.

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

The HSBC Group acts as the trustee and administrator for a pension scheme involving eight employees of a U.S.-sanctioned Iranian bank in Asia. 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 applicable laws and regulations. Estimated gross revenue, which includes fees and/or commissions, generated by this pension scheme during the third quarter of 2022, was approximately \$595.

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 above activities, to the extent legally permissible, and not enter into any new such activity.

Activity related to U.S. Executive Order 13224 During the third quarter of 2022, the HSBC Group processed one small local currency domestic payment on behalf of a customer in Europe to a U.K.-registered charity that is designated under Executive Order 13224, but that is not sanctioned by the U.K., European Union, or the United Nations Security Council.

During the third quarter of 2022, the HSBC Group engaged in one domestic payment to the beneficial owner of an entity customer in Asia as part of the customer exit process. The HSBC Group entity customer and its beneficial owner were designated under Executive Order 13224 in the third quarter of 2021, and the entity customer account was restricted at that time.

For these activities, there was no measurable gross revenue or net profit to the HSBC Group during the third quarter of 2022.

Other activity The HSBC Group has two non-Iranian customers in the Middle East that, during the third quarter of 2022, made local currency domestic payments for medical treatment or reimbursement of medical treatment to a hospital located outside Iran that is owned by the Government of Iran. The HSBC Group processed these payments from its customers to the hospital.

The HSBC Group has four customers in the Middle East that, during the third quarter of 2022, received local currency domestic checks from an insurance company outside Iran that is owned by the Government of Iran. The HSBC Group processed these checks from the insurance company to its customers.

The HSBC Group has an individual customer in Asia who was employed as a clerk for the local Iranian Consulate. During the third quarter of 2022, the HSBC Group engaged in local currency domestic check transactions for its customer, including the receipt of local currency domestic salary check payments from the local consulate remitted by a bank owned by the Government of Iran. The customer is no longer employed by the consulate and has confirmed all payroll with the Iranian consulate has been settled.

For these activities, there was no measurable gross revenue or net profit to the HSBC Group during the third quarter of 2022.

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 third quarter of 2022. There was no measurable gross revenue or net profit to the HSBC Group during the third quarter of 2022 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 20, 2022 \(incorporated by reference to Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed July 21, 2022\).](#)
- 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 The instance document does not appear in the interactive data file because its XBRL tags are embedded within the Inline XBRL document⁽¹⁾
- 101.SCH Inline XBRL Taxonomy Extension Schema Document⁽¹⁾
- 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document⁽¹⁾
- 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document⁽¹⁾
- 101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document⁽¹⁾
- 101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document⁽¹⁾
- 104 Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

⁽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 September 30, 2022, formatted in Inline eXtensible Business Reporting Language ("Inline XBRL"): (i) the Consolidated Statement of Income for the three and nine months ended September 30, 2022 and 2021, (ii) the Consolidated Statement of Comprehensive Income (Loss) for the three and nine months ended September 30, 2022 and 2021, (iii) the Consolidated Balance Sheet at September 30, 2022 and December 31, 2021, (iv) the Consolidated Statement of Changes in Equity for the three and nine months ended September 30, 2022 and 2021, (v) the Consolidated Statement of Cash Flows for the nine months ended September 30, 2022 and 2021, 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.

Date: October 25, 2022

HSBC USA INC.

By: /s/ KAVITA MAHTANI

Kavita Mahtani

Senior Executive Vice President and
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, Michael Roberts, 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: October 25, 2022

/s/ MICHAEL ROBERTS

Michael Roberts

Chairman of the Board, President
and Chief Executive Officer

Certification of Chief Financial Officer

I, Kavita Mahtani, 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: October 25, 2022

/s/ KAVITA MAHTANI

Kavita Mahtani
Senior Executive Vice President and
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 September 30, 2022 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, Michael Roberts, 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: October 25, 2022

/s/ MICHAEL ROBERTS

Michael Roberts
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 September 30, 2022 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, Kavita Mahtani, 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: October 25, 2022

/s/ KAVITA MAHTANI

Kavita Mahtani

Senior Executive Vice President and
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.