Goldman Sachs Bank USA and Subsidiaries

Unaudited Quarterly Report
for the period ended September 30, 2021

INDEX

PART I. Financial Statements and Supplementary Data (Unaudited)

Consolidated Statements of Earnings (Unaudited)

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Revenues				
Interest income	**$ 1,339**	$ 1,164	**$ 3,792**	$ 4,268
Interest expense	**337**	485	**1,043**	2,111
Net interest income	**1,002**	679	**2,749**	2,157
Gains and losses from financial assets and liabilities	**1,139**	685	**3,693**	2,383
Other revenues	**248**	117	**609**	249
Total non-interest revenues	**1,387**	802	**4,302**	2,632
Total net revenues	**2,389**	1,481	**7,051**	4,789
Provision for credit losses	**147**	76	**143**	1,791
Operating expenses				
Compensation and benefits	**292**	154	**1,418**	534
Service charges	**158**	126	**608**	372
Professional fees	**85**	63	**230**	192
Transaction based	**115**	56	**341**	176
Market development	**57**	22	**135**	124
Communications and technology	**73**	53	**195**	154
Depreciation and amortization	**27**	17	**80**	47
Other expenses	**188**	144	**540**	372
Total operating expenses	**995**	635	**3,547**	1,971
Pre-tax earnings	**1,247**	770	**3,361**	1,027
Provision for taxes	**325**	187	**833**	235
Net earnings	**$ 922**	$ 583	**$ 2,528**	$ 792

Consolidated Statements of Comprehensive Income (Unaudited)

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Net earnings	**$ 922**	$ 583	**$ 2,528**	$ 792
Other comprehensive income/(loss) adjustments, net of tax:				
Currency translation	**10**	3	**17**	7
Debt valuation adjustment	**8**	(30)	**14**	(33)
Available-for-sale securities	**(34)**	7	**(328)**	280
Other comprehensive income/(loss)	**(16)**	(20)	**(297)**	254
Comprehensive income	**$ 906**	$ 563	**$ 2,231**	$ 1,046

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

GOLDMAN SACHS BANK USA AND SUBSIDIARIES

Consolidated Balance Sheets
(Unaudited)

	As of	
$ in millions, except par value	**September 2021**	December 2020
Assets		
Cash	**$ 119,768**	$ 59,519
Collateralized agreements:		
Securities purchased under agreements to resell (at fair value)	**30,586**	22,245
Securities borrowed	**1,109**	767
Customer and other receivables (includes **$0** and $8 at fair value)	**44,616**	20,634
Trading assets (at fair value and includes **$8,139** and $9,355 pledged as collateral)	**51,120**	71,740
Investments (includes **$24,532** and $30,641 at fair value, and **$72** and $37 pledged as collateral)	**25,559**	31,663
Loans (net of allowance of **$2,212** and $2,523, and includes **$9,338** and $9,195 at fair value)	**111,542**	86,678
Other assets	**3,080**	2,437
Total assets	**$ 387,380**	$ 295,683
Liabilities and shareholder's equity		
Deposits (includes **$5,322** and $5,938 at fair value)	**$ 272,312**	$ 218,994
Collateralized financings:		
Securities sold under agreements to repurchase (at fair value)	**6,747**	3,023
Securities loaned	**1,412**	1,516
Other secured financings (includes **$2,004** and $118 at fair value)	**2,419**	636
Customer and other payables	**31,193**	14,162
Trading liabilities (at fair value)	**21,700**	13,096
Unsecured borrowings (includes **$501** and $1,336 at fair value)	**6,902**	7,780
Other liabilities	**4,492**	2,414
Total liabilities	**347,177**	261,621
Commitments, contingencies and guarantees		
Shareholder's equity		
Shareholder's equity (includes common stock, $100 par value; 80,000,000 shares authorized, issued and outstanding)	**40,203**	34,062
Total liabilities and shareholder's equity	**$ 387,380**	$ 295,683

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

Consolidated Statements of Changes in Shareholder's Equity (Unaudited)

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Shareholder's equity				
Beginning balance	**$ 38,415**	$ 30,569	**$ 34,062**	$ 29,332
Cumulative effect of change in accounting principle for current expected credit losses, net of tax	**–**	–	**–**	(412)
Opening balance of shareholder's equity of Goldman Sachs Bank Europe SE	**–**	–	**–**	831
Beginning balance, adjusted	**38,415**	30,569	**34,062**	29,751
Net earnings	**922**	583	**2,528**	792
Capital contributions from The Goldman Sachs Group, Inc.	**33,962**	48	**36,990**	383
Dividends paid to The Goldman Sachs Group, Inc.	**(33,080)**	–	**(33,080)**	–
Other comprehensive income/(loss)	**(16)**	(20)	**(297)**	254
Ending balance	**$ 40,203**	$ 31,180	**$ 40,203**	$ 31,180

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

Consolidated Statements of Cash Flows (Unaudited)

	Nine Months Ended September	
$ in millions	**2021**	2020
Cash flows from operating activities		
Net earnings	**$ 2,528**	$ 792
Adjustments to reconcile net earnings to net cash provided by/(used for) operating activities:		
Depreciation and amortization	**81**	47
Deferred income taxes	**(59)**	(237)
Share-based compensation	**117**	28
Provision for credit losses	**143**	1,791
Changes in operating assets and liabilities:		
Customer and other receivables and payables, net	**(6,951)**	(955)
Collateralized transactions (excluding other secured financings), net	**(5,063)**	(25,948)
Trading assets	**20,057**	13,591
Trading liabilities	**8,604**	1,566
Loans held for sale, net	**(3,517)**	2,066
Other, net	**2,312**	1,635
Net cash provided by/(used for) operating activities	**18,252**	(5,624)
Cash flows from investing activities		
Purchase of investments	**(11,010)**	(23,188)
Proceeds from sales and paydowns of investments	**16,762**	2,317
Loans (excluding loans held for sale), net	**(20,647)**	(8,066)
Net cash used for investing activities	**(14,895)**	(28,937)
Cash flows from financing activities		
Deposits, net	**53,672**	50,000
Unsecured short-term borrowings, net	**(1,139)**	25
Other secured financings (short-term), net	**100**	475
Proceeds from issuance of other secured financings (long-term)	**–**	185
Repayment of other secured financings (long-term), including the current portion	**–**	(500)
Proceeds from issuance of unsecured long-term borrowings	**2,364**	1,037
Repayment of unsecured long-term borrowings, including the current portion	**(1,046)**	(2,005)
Derivative contracts with a financing element, net	**(21)**	27
Capital contributions from The Goldman Sachs Group, Inc.	**36,042**	383
Dividends paid to The Goldman Sachs Group, Inc.	**(33,080)**	–
Net cash provided by financing activities	**56,892**	49,627
Net increase in cash	**60,249**	15,066
Cash, beginning balance	**59,519**	54,012
Cash, ending balance	**$ 119,768**	$ 69,078
Supplemental disclosures:		
Cash payments for interest	**$ 1,027**	$ 2,077
Cash payments for income taxes, net	**$ 133**	$ –

See Note 16 and Note 20 for information about non-cash activities.

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

Note 1.

Description of Business

Goldman Sachs Bank USA (GS Bank USA), together with its consolidated subsidiaries (collectively, the Bank), is a New York State-chartered bank and a member of the Federal Reserve System. The Bank is supervised and regulated by the Board of Governors of the Federal Reserve System (FRB), the New York State Department of Financial Services (NYDFS) and the Consumer Financial Protection Bureau (CFPB). As a member of the Federal Deposit Insurance Corporation (FDIC), GS Bank USA's deposits are insured by the FDIC up to the maximum amount provided by law. GS Bank USA is registered as a swap dealer with the U.S. Commodity Futures Trading Commission (CFTC). GS Bank USA is also a government securities dealer subject to the rules and regulations of the U.S. Department of the Treasury.

GS Bank USA is a wholly-owned subsidiary of The Goldman Sachs Group, Inc. (Group Inc. and, collectively with its consolidated subsidiaries, GS Group). Group Inc. is a bank holding company under the U.S. Bank Holding Company Act of 1956 (BHC Act), a financial holding company under amendments to the BHC Act effected by the U.S. Gramm-Leach-Bliley Act of 1999, and is subject to supervision and examination by the FRB.

The Bank's principal office is located in New York, New York. GS Bank USA operates two domestic branches, which are located in Salt Lake City, Utah and Draper, Utah. Both branches are regulated by the Utah Department of Financial Institutions. GS Bank USA has a branch in London, United Kingdom, which is regulated by the Financial Conduct Authority and the Prudential Regulation Authority and, effective July 7, 2021, in Tokyo, Japan, which is regulated by the Japan Financial Services Agency. In addition, on July 1, 2021, GS Bank USA acquired Goldman Sachs Bank Europe SE (GSBE), an indirect wholly-owned bank subsidiary of Group Inc. headquartered in Frankfurt, Germany. GSBE is supervised by the European Central Bank (ECB) within the context of the European Single Supervisory Mechanism, the Federal Financial Supervisory Authority and Deutsche Bundesbank. GSBE has branches in Amsterdam, Copenhagen, Dublin, London, Luxembourg, Madrid, Milan, Paris, Stockholm and Warsaw that are also regulated by the relevant authorities in each jurisdiction.

The Bank is a financial services provider that engages in banking activities. The Bank is GS Group's primary lending entity, serving corporate and private bank clients, as well as U.S. consumers through the Bank's digital platform, *Marcus by Goldman Sachs* (Marcus), and by issuing credit cards. The Bank is also GS Group's primary deposit-taking entity. The Bank's depositors include private bank clients, U.S. consumers, clients of third-party broker-dealers, institutions, corporations and its affiliates. The Bank's consumer deposit-taking activities are conducted through Marcus. The Bank also provides transaction banking services to institutions, corporations and its affiliates. In addition, the Bank enters into interest rate, currency, credit and other derivatives, and transacts in certain related cash products, for the purpose of market making and risk management. GS Bank USA's acquisition of GSBE expanded the Bank's activities in the E.U. and introduced new business lines, such as underwriting and market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services.

Note 2.

Basis of Presentation

These consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP) and include the accounts of GS Bank USA and all other entities in which the Bank has a controlling financial interest. Intercompany transactions and balances have been eliminated.

These consolidated financial statements are unaudited and should be read in conjunction with the audited consolidated financial statements included in the Bank's Annual Report for the year ended December 31, 2020. References to the "2020 Annual Report" are to the Bank's Annual Report for the year ended December 31, 2020. Certain disclosures included in the annual financial statements have been condensed or omitted from these financial statements as they are not required for interim financial statements under U.S. GAAP.

In accordance with the reporting requirements for business combinations of entities under common control, prior period amounts are presented as if the acquisition of GSBE by GS Bank USA had occurred at the beginning of 2020. The audited consolidated financial statements included in the 2020 Annual Report were prepared prior to GS Bank USA's acquisition of GSBE and, accordingly, are not presented as if the acquisition of GSBE by GS Bank USA had occurred at the beginning of 2020.

These unaudited consolidated financial statements reflect all adjustments that are, in the opinion of management, necessary for a fair statement of the results for the interim periods presented. These adjustments are of a normal, recurring nature. Interim period operating results may not be indicative of the operating results for a full year.

All references to September 2021 and September 2020 refer to the Bank's periods ended, or the dates, as the context requires, September 30, 2021 and September 30, 2020, respectively. All references to December 2020 refer to the date December 31, 2020. Any reference to a future year refers to a year ending on December 31 of that year. Certain reclassifications have been made to previously reported amounts to conform to the current presentation.

In the fourth quarter of 2020, brokerage, clearing, exchange and distribution fees was renamed transaction based and additionally includes expenses resulting from completed transactions, which are directly related to client revenues. Such expenses were previously reported in other expenses. Expenses related to depreciation and amortization were previously reported in other expenses. Previously reported amounts have been conformed to the current presentation.

Note 3.

Significant Accounting Policies

The Bank's significant accounting policies include measuring the allowance for credit losses on loans and lending commitments accounted for at amortized cost, when and how to measure the fair value of assets and liabilities, and when to consolidate an entity. See Note 9 for policies on the allowance for credit losses, Note 4 for policies on fair value measurements, and below and Note 17 for policies on consolidation accounting. All other significant accounting policies are either described below or included in the following footnotes:

Fair Value Measurements	Note 4
Trading Assets and Liabilities	Note 5
Trading Cash Instruments	Note 6
Derivatives and Hedging Activities	Note 7
Investments	Note 8
Loans	Note 9
Fair Value Option	Note 10
Collateralized Agreements and Financings	Note 11
Other Assets	Note 12
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Variable Interest Entities	Note 17
Commitments, Contingencies and Guarantees	Note 18
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Transactions with Related Parties	Note 20
Interest Income and Interest Expense	Note 21
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Consolidation

The Bank consolidates entities in which the Bank has a controlling financial interest. The Bank determines whether it has a controlling financial interest in an entity by first evaluating whether the entity is a voting interest entity or a variable interest entity (VIE).

Voting Interest Entities. Voting interest entities are entities in which (i) the total equity investment at risk is sufficient to enable the entity to finance its activities independently and (ii) the equity holders have the power to direct the activities of the entity that most significantly impact its economic performance, the obligation to absorb the losses of the entity and the right to receive the residual returns of the entity. The usual condition for a controlling financial interest in a voting interest entity is ownership of a majority voting interest. If the Bank has a controlling majority voting interest in a voting interest entity, the entity is consolidated.

Variable Interest Entities. A VIE is an entity that lacks one or more of the characteristics of a voting interest entity. The Bank has a controlling financial interest in a VIE when the Bank has a variable interest or interests that provide it with (i) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE. See Note 17 for further information about VIEs.

Use of Estimates

Preparation of these consolidated financial statements requires management to make certain estimates and assumptions, the most important of which relate to the allowance for credit losses on loans and lending commitments accounted for at amortized cost, fair value measurements, discretionary compensation accruals, provisions for losses that may arise from litigation and regulatory proceedings (including governmental investigations), and provisions for losses that may arise from tax audits. These estimates and assumptions are based on the best available information but actual results could be materially different.

Revenue Recognition

Financial Assets and Liabilities at Fair Value. Trading assets and liabilities and certain investments are carried at fair value either under the fair value option or in accordance with other U.S. GAAP. In addition, the Bank has elected to account for certain of its loans and other financial assets and liabilities at fair value by electing the fair value option. The fair value of a financial instrument is the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial assets are marked to bid prices and financial liabilities are marked to offer prices. Fair value measurements do not include transaction costs. Fair value gains or losses are included in gains and losses from financial assets and liabilities. See Note 4 for further information about fair value measurements. In addition, the Bank recognizes income related to the syndication of loans and lending commitments and other fees from affiliates in gains and losses from financial assets and liabilities.

Transfers of Financial Assets

Transfers of financial assets are accounted for as sales when the Bank has relinquished control over the assets transferred. For transfers of financial assets accounted for as sales, any gains or losses are recognized in gains and losses from financial assets and liabilities. Assets or liabilities that arise from the Bank's continuing involvement with transferred financial assets are initially recognized at fair value. For transfers of financial assets that are not accounted for as sales, the assets are generally included in trading assets or loans and the transfer is accounted for as a collateralized financing, with the related interest expense recognized over the life of the transaction. See Note 11 for further information about transfers of financial assets accounted for as collateralized financings and Note 16 for further information about transfers of financial assets accounted for as sales.

Cash

Cash included cash and due from banks of $1.46 billion as of September 2021 and $1.77 billion as of December 2020. Cash also included interest-bearing deposits of $118.30 billion as of September 2021 and $57.75 billion as of December 2020. See Note 20 for further information about cash deposited with an affiliate.

The Bank segregates cash for regulatory and other purposes related to client activity. Cash segregated for regulatory and other purposes was $1.03 billion as of September 2021 and $813 million as of December 2020.

Customer and Other Receivables

Customer and other receivables included receivables from customers and counterparties of $22.91 billion as of September 2021 and $8.78 billion as of December 2020, and receivables from brokers, dealers and clearing organizations of $21.71 billion as of September 2021 and $11.85 billion as of December 2020. Such receivables primarily consist of receivables resulting from unsettled transactions and collateral posted in connection with certain derivative transactions.

Customer and other receivables are accounted for at amortized cost net of any allowance for credit losses, which generally approximates fair value. As these receivables are not accounted for at fair value, they are not included in the Bank's fair value hierarchy in Notes 4 through 10. Had these receivables been included in the Bank's fair value hierarchy, substantially all would have been classified in level 2 as of both September 2021 and December 2020. Interest on customer and other receivables is recognized over the life of the transaction and included in interest income.

Customer and Other Payables

Customer and other payables included payables to customers and counterparties of $18.04 billion as of September 2021 and $10.43 billion as of December 2020, and payables to brokers, dealers and clearing organizations of $13.15 billion as of September 2021 and $3.73 billion as of December 2020. Such payables primarily consist of payables resulting from unsettled transactions and collateral received in connection with certain derivative transactions. Customer and other payables are accounted for at cost plus accrued interest, which generally approximates fair value. As these payables are not accounted for at fair value, they are not included in the Bank's fair value hierarchy in Notes 4 through 10. Had these payables been included in the Bank's fair value hierarchy, substantially all would have been classified in level 2 as of both September 2021 and December 2020. Interest on customer and other payables is recognized over the life of the transaction and included in interest expense.

Offsetting Assets and Liabilities

To reduce credit exposures on derivatives and securities financing transactions, the Bank may enter into master netting agreements or similar arrangements (collectively, netting agreements) with counterparties that permit it to offset receivables and payables with such counterparties. A netting agreement is a contract with a counterparty that permits net settlement of multiple transactions with that counterparty, including upon the exercise of termination rights by a non-defaulting party. Upon exercise of such termination rights, all transactions governed by the netting agreement are terminated and a net settlement amount is calculated. In addition, the Bank receives and posts cash and securities collateral with respect to its derivatives and securities financing transactions, subject to the terms of the related credit support agreements or similar arrangements (collectively, credit support agreements). An enforceable credit support agreement grants the non-defaulting party exercising termination rights the right to liquidate the collateral and apply the proceeds to any amounts owed. In order to assess enforceability of the Bank's right of setoff under netting and credit support agreements, the Bank evaluates various factors, including applicable bankruptcy laws, local statutes and regulatory provisions in the jurisdiction of the parties to the agreement.

Derivatives are reported on a net-by-counterparty basis (i.e., the net payable or receivable for derivative assets and liabilities for a given counterparty) in the consolidated balance sheets when a legal right of setoff exists under an enforceable netting agreement. Securities purchased under agreements to resell (resale agreements) and securities sold under agreements to repurchase (repurchase agreements) and securities borrowed and loaned transactions with the same term and currency are presented on a net-by-counterparty basis in the consolidated balance sheets when such transactions meet certain settlement criteria and are subject to netting agreements.

In the consolidated balance sheets, derivatives are reported net of cash collateral received and posted under enforceable credit support agreements, when transacted under an enforceable netting agreement. In the consolidated balance sheets, resale and repurchase agreements, and securities borrowed and loaned are not reported net of the related cash and securities received or posted as collateral. Certain other receivables and payables with affiliates that meet the criteria of offsetting are reported on a net basis in the consolidated balance sheets. See Note 11 for further information about collateral received and pledged, including rights to deliver or repledge collateral. See Notes 7 and 11 for further information about offsetting assets and liabilities.

Foreign Currency Translation

Assets and liabilities denominated in non-U.S. currencies are translated at rates of exchange prevailing on the date of the consolidated balance sheets and revenues and expenses are translated at average rates of exchange for the period. Foreign currency remeasurement gains or losses on transactions in nonfunctional currencies are recognized in earnings. Gains or losses on translation of the financial statements of GSBE, whose functional currency is the Euro, are included, net of hedges and taxes, in the consolidated statements of comprehensive income.

Recent Accounting Developments

Measurement of Credit Losses on Financial Instruments (ASC 326). In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments — Credit Losses (Topic 326) — Measurement of Credit Losses on Financial Instruments." This ASU amends several aspects of the measurement of credit losses on certain financial instruments, including replacing the existing incurred credit loss model and other models with the Current Expected Credit Losses (CECL) model and amending certain aspects of accounting for purchased financial assets with deterioration in credit quality since origination.

The Bank adopted this ASU in January 2020 under a modified retrospective approach. As a result of adopting this ASU, the Bank's allowance for credit losses on financial assets and commitments that are measured at amortized cost reflects management's estimate of credit losses over the remaining expected life of such assets. Expected credit losses for newly recognized financial assets and commitments, as well as changes to expected credit losses during the period, are recognized in earnings. These expected credit losses are measured based on historical experience, current conditions and forecasts that affect the collectability of the reported amount.

The cumulative effect of measuring the allowance under CECL as a result of adopting this ASU as of January 1, 2020 was an increase in the allowance for credit losses of $548 million. The increase in the allowance is driven by the fact that the allowance under CECL covers expected credit losses over the full expected life of the loan portfolios and also takes into account forecasts of expected future economic conditions. The cumulative effect of adopting this ASU was a decrease to retained earnings of $412 million (net of tax).

Facilitation of the Effects of Reference Rate Reform on Financial Reporting (ASC 848). In March 2020, the FASB issued ASU No. 2020-04, "Reference Rate Reform – Facilitation of the Effects of Reference Rate Reform on Financial Reporting." This ASU provides optional relief from applying generally accepted accounting principles to contracts, hedging relationships and other transactions affected by reference rate reform. In addition, in January 2021 the FASB issued ASU No. 2021-01, "Reference Rate Reform – Scope," which clarified the scope of ASC 848 relating to contract modifications. The Bank adopted these ASUs upon issuance and elected to apply the relief available to certain modified derivatives. The adoption of these ASUs did not have a material impact on the Bank's consolidated financial statements.

Note 4.

Fair Value Measurements

The fair value of a financial instrument is the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial assets are marked to bid prices and financial liabilities are marked to offer prices. Fair value measurements do not include transaction costs. The Bank measures certain financial assets and liabilities as a portfolio (i.e., based on its net exposure to market and/or credit risks).

The best evidence of fair value is a quoted price in an active market. If quoted prices in active markets are not available, fair value is determined by reference to prices for similar instruments, quoted prices or recent transactions in less active markets, or internally developed models that primarily use market-based or independently sourced inputs, including, but not limited to, interest rates, volatilities, equity or debt prices, foreign exchange rates, commodity prices, credit spreads and funding spreads (i.e., the spread or difference between the interest rate at which a borrower could finance a given financial instrument relative to a benchmark interest rate).

U.S. GAAP has a three-level hierarchy for disclosure of fair value measurements. This hierarchy prioritizes inputs to the valuation techniques used to measure fair value, giving the highest priority to level 1 inputs and the lowest priority to level 3 inputs. A financial instrument's level in this hierarchy is based on the lowest level of input that is significant to its fair value measurement. In evaluating the significance of a valuation input, the Bank considers, among other factors, a portfolio's net risk exposure to that input. The fair value hierarchy is as follows:

Level 1. Inputs are unadjusted quoted prices in active markets to which the Bank had access at the measurement date for identical, unrestricted assets or liabilities.

Level 2. Inputs to valuation techniques are observable, either directly or indirectly.

Level 3. One or more inputs to valuation techniques are significant and unobservable.

The fair values for substantially all of the Bank's financial assets and the majority of the Bank's financial liabilities are based on observable prices and inputs and are classified in levels 1 and 2 of the fair value hierarchy. Certain level 2 and level 3 financial assets and liabilities may require valuation adjustments that a market participant would require to arrive at fair value for factors, such as counterparty and the Bank or its affiliates' credit quality, funding risk, transfer restrictions, liquidity and bid/offer spreads. Valuation adjustments are generally based on market evidence.

The valuation techniques and nature of significant inputs used to determine the fair value of the Bank's financial instruments are described below. See Notes 5 through 10 for further information about significant unobservable inputs used to value level 3 financial instruments.

Valuation Techniques and Significant Inputs for Trading Cash Instruments, Investments and Loans

Level 1. Level 1 instruments include U.S. government obligations, most non-U.S. government obligations, certain agency obligations and actively traded listed equities. These instruments are valued using quoted prices for identical unrestricted instruments in active markets. The Bank defines active markets for equity instruments based on the average daily trading volume both in absolute terms and relative to the market capitalization for the instrument. The Bank defines active markets for debt instruments based on both the average daily trading volume and the number of days with trading activity.

Level 2. Level 2 instruments include certain non-U.S. government obligations, most agency obligations, substantially all loans and securities backed by real estate, most corporate debt instruments, money market instruments, other debt obligations and certain equity securities.

Valuations of level 2 instruments can be verified to quoted prices, recent trading activity for identical or similar instruments, broker or dealer quotations or alternative pricing sources with reasonable levels of price transparency. Consideration is given to the nature of the quotations (e.g., indicative or executable) and the relationship of recent market activity to the prices provided from alternative pricing sources.

Valuation adjustments are typically made to level 2 instruments (i) if the instrument is subject to transfer restrictions and/or (ii) for other premiums and liquidity discounts that a market participant would require to arrive at fair value. Valuation adjustments are generally based on market evidence.

Level 3. Level 3 instruments have one or more significant valuation inputs that are not observable. Absent evidence to the contrary, level 3 instruments are initially valued at transaction price, which is considered to be the best initial estimate of fair value. Subsequently, the Bank uses other methodologies to determine fair value, which vary based on the type of instrument. Valuation inputs and assumptions are changed when corroborated by substantive observable evidence, including values realized on sales.

Valuation techniques of level 3 instruments vary by instrument, but are generally based on discounted cash flow techniques. The valuation techniques and the nature of significant inputs used to determine the fair values of each type of level 3 instrument are described below:

Loans and Securities Backed by Commercial Real Estate

Loans and securities backed by commercial real estate are directly or indirectly collateralized by a single property or a portfolio of properties, and may include tranches of varying levels of subordination. Significant inputs are generally determined based on relative value analyses and include:

- Market yields implied by transactions of similar or related assets and/or current levels and changes in market indices, such as the CMBX (an index that tracks the performance of commercial mortgage bonds);
- Transaction prices in both the underlying collateral and instruments with the same or similar underlying collateral; and
- Timing of expected future cash flows (duration) which, in certain cases, may incorporate the impact of any loan forbearances and other unobservable inputs (e.g., prepayment speeds).

Corporate Debt Instruments

Corporate debt instruments includes corporate loans and debt securities. Significant inputs for corporate debt instruments are generally determined based on relative value analyses, which incorporate comparisons both to prices of credit default swaps that reference the same or similar underlying instrument or entity and to other debt instruments for the same or similar issuer for which observable prices or broker quotations are available. Significant inputs include:

- Market yields implied by transactions of similar or related assets and/or current levels and trends of market indices, such as the CDX (an index that tracks the performance of corporate credit);
- Current performance and recovery assumptions and, where the Bank uses credit default swaps to value the related cash instrument, the cost of borrowing the underlying reference obligation; and
- Duration.

Equity Securities

Equity investments made as part of the Bank's Community Reinvestment Act (CRA) activities are included in equity securities. Recent third-party completed or pending transactions (e.g., merger proposals, debt restructurings, tender offers) are considered the best evidence for any change in fair value. When these are not available, the following valuation methodologies are used, as appropriate:

- Industry multiples and public comparables;
- Transactions in similar instruments; and
- Discounted cash flow techniques.

The Bank also considers changes in the outlook for the relevant industry and financial performance of the issuer as compared to projected performance. Significant inputs include discount rates and capitalization rates.

Valuation Techniques and Significant Inputs for Derivatives

The Bank's level 2 and level 3 derivatives are valued using derivative pricing models (e.g., discounted cash flow models, correlation models and models that incorporate option pricing methodologies, such as Monte Carlo simulations). Price transparency of derivatives can generally be characterized by product type, as described below.

- **Interest Rate.** In general, the key inputs used to value interest rate derivatives are transparent, even for most long-dated contracts. Interest rate swaps and options denominated in the currencies of leading industrialized nations are characterized by high trading volumes and tight bid/offer spreads. Interest rate derivatives that reference indices, such as an inflation index, or the shape of the yield curve (e.g., 10-year swap rate vs. 2-year swap rate) are more complex, but the key inputs are generally observable.
- **Currency.** Prices for currency derivatives based on the exchange rates of leading industrialized nations, including those with longer tenors, are generally transparent. The primary difference between the price transparency of developed and emerging market currency derivatives is that emerging markets tend to be only observable for contracts with shorter tenors.
- **Credit.** Price transparency for credit default swaps, including both single names and baskets of credits, varies by market and underlying reference entity or obligation. Credit default swaps that reference indices, large corporates and major sovereigns generally exhibit the most price transparency. For credit default swaps with other underliers, price transparency varies based on credit rating, the cost of borrowing the underlying reference obligations, and the availability of the underlying reference obligations for delivery upon the default of the issuer. Credit default swaps that reference loans, asset-backed securities and emerging market debt instruments tend to have less price transparency than those that reference corporate bonds. In addition, more complex credit derivatives, such as those sensitive to the correlation between two or more underlying reference obligations, generally have less price transparency.
- **Commodity.** Commodity derivatives include transactions referenced to energy (e.g., oil and natural gas) and metals (e.g., precious and base). Price transparency varies based on the underlying commodity, delivery location, tenor and product quality (e.g., diesel fuel compared to unleaded gasoline). In general, price transparency for commodity derivatives is greater for contracts with shorter tenors and contracts that are more closely aligned with major and/or benchmark commodity indices.
- **Equity.** Price transparency for equity derivatives varies by market and underlier. Options on indices and the common stock of corporates included in major equity indices exhibit the most price transparency. Equity derivatives generally have observable market prices, except for contracts with long tenors or reference prices that differ significantly from current market prices. More complex equity derivatives, such as those sensitive to the correlation between two or more individual stocks, generally have less price transparency.

Liquidity is essential to observability of all product types. If transaction volumes decline, previously transparent prices and other inputs may become unobservable. Conversely, even highly structured products may at times have trading volumes large enough to provide observability of prices and other inputs.

Level 1. Level 1 derivatives include short-term contracts for future delivery of securities when the underlying security is a level 1 instrument, and exchange-traded derivatives if they are actively traded and are valued at their quoted market price.

Level 2. Level 2 derivatives include over-the-counter (OTC) derivatives for which all significant valuation inputs are corroborated by market evidence and exchange-traded derivatives that are not actively traded and/or that are valued using models that calibrate to market-clearing levels of OTC derivatives.

The selection of a particular model to value a derivative depends on the contractual terms of and specific risks inherent in the instrument, as well as the availability of pricing information in the market. For derivatives that trade in liquid markets, model selection does not involve significant management judgment because outputs of models can be calibrated to market-clearing levels.

Valuation models require a variety of inputs, such as contractual terms, market prices, yield curves, discount rates (including those derived from interest rates on collateral received and posted as specified in credit support agreements for collateralized derivatives), credit curves, measures of volatility, prepayment rates, loss severity rates and correlations of such inputs. Significant inputs to the valuations of level 2 derivatives can be verified to market transactions, broker or dealer quotations or other alternative pricing sources with reasonable levels of price transparency. Consideration is given to the nature of the quotations (e.g., indicative or executable) and the relationship of recent market activity to the prices provided from alternative pricing sources.

Level 3. Level 3 derivatives are valued using models which utilize observable level 1 and/or level 2 inputs, as well as unobservable level 3 inputs. The significant unobservable inputs used to value the Bank's level 3 derivatives are described below.

- For level 3 interest rate and currency derivatives, significant unobservable inputs include correlations of certain currencies and interest rates (e.g., the correlation between Euro inflation and Euro interest rates) and specific interest rate and currency volatilities.
- For level 3 credit derivatives, significant unobservable inputs include illiquid credit spreads, which are unique to specific reference obligations and reference entities.
- For level 3 equity derivatives, significant unobservable inputs generally include correlation inputs, such as the correlation of the price performance of two or more individual stocks or the correlation of the price performance for a basket of stocks to another asset class.

Subsequent to the initial valuation of a level 3 derivative, the Bank updates the level 1 and level 2 inputs to reflect observable market changes and any resulting gains and losses are classified in level 3. Level 3 inputs are changed when corroborated by evidence, such as similar market transactions, third-party pricing services and/or broker or dealer quotations or other empirical market data. In circumstances where the Bank cannot verify the model value by reference to market transactions, it is possible that a different valuation model could produce a materially different estimate of fair value. See Note 7 for further information about significant unobservable inputs used in the valuation of level 3 derivatives.

Valuation Adjustments. Valuation adjustments are integral to determining the fair value of derivative portfolios and are used to adjust the mid-market valuations produced by derivative pricing models to the exit price valuation. These adjustments incorporate bid/offer spreads, the cost of liquidity, and credit and funding valuation adjustments, which account for the credit and funding risk inherent in the uncollateralized portion of derivative portfolios. The Bank also makes funding valuation adjustments to collateralized derivatives where the terms of the agreement do not permit the Bank to deliver or repledge collateral received. Market-based inputs are generally used when calibrating valuation adjustments to market-clearing levels.

In addition, for derivatives that include significant unobservable inputs, the Bank makes model or exit price adjustments to account for the valuation uncertainty present in the transaction.

Valuation Techniques and Significant Inputs for Other Financial Instruments at Fair Value

In addition to trading cash instruments, derivatives, and certain investments and loans, the Bank accounts for certain of its other financial assets and liabilities at fair value under the fair value option. Such instruments include resale and repurchase agreements; certain customer and other receivables; certain time deposits, including structured certificates of deposit, which are hybrid financial instruments; most other secured financings, including advances from the Federal Home Loan Bank of New York (FHLB); and certain unsecured borrowings, substantially all of which are hybrid financial instruments. These instruments are generally valued based on discounted cash flow techniques, which incorporate inputs with reasonable levels of price transparency, and are generally classified in level 2 because the inputs are observable. Valuation adjustments may be made for liquidity and for counterparty and the Bank's credit quality. The significant inputs used to value the Bank's other financial instruments are described below.

Resale and Repurchase Agreements. The significant inputs to the valuation of resale and repurchase agreements are funding spreads, the amount and timing of expected future cash flows and interest rates.

Deposits. The significant inputs to the valuation of time deposits are interest rates and the amount and timing of future cash flows. The inputs used to value the embedded derivative component of hybrid financial instruments are consistent with the inputs used to value the Bank's other derivative instruments described above. See Note 7 for further information about derivatives and Note 13 for further information about deposits.

Other Secured Financings. The significant inputs to the valuation of other secured financings are the amount and timing of expected future cash flows, interest rates, funding spreads and the fair value of the collateral delivered by the Bank (determined using the amount and timing of expected future cash flows, market prices, market yields and recovery assumptions). See Note 11 for further information about other secured financings.

Unsecured Borrowings. The significant inputs to the valuation of unsecured borrowings are the amount and timing of expected future cash flows and interest rates. The inputs used to value the embedded derivative component of hybrid financial instruments are consistent with the inputs used to value the Bank's other derivative instruments described above. See Note 7 for further information about derivatives and Note 14 for further information about borrowings.

Financial Assets and Liabilities at Fair Value

The table below presents financial assets and liabilities carried at fair value.

	As of	
	September	December
$ in millions	**2021**	2020
Total level 1 financial assets	**$ 50,109**	$ 70,066
Total level 2 financial assets	**96,414**	98,267
Total level 3 financial assets	**2,614**	2,657
Investments in funds at NAV	**19**	18
Counterparty and cash collateral netting	**(33,580)**	(37,179)
Total financial assets at fair value	**$ 115,576**	$ 133,829
Total assets	**$ 387,380**	$ 295,683
Total level 3 financial assets divided by:		
Total assets	**0.7%**	0.9%
Total financial assets at fair value	**2.3%**	2.0%
Total level 1 financial liabilities	**$ 11,823**	$ 4,176
Total level 2 financial liabilities	**52,684**	47,857
Total level 3 financial liabilities	**5,395**	5,921
Counterparty and cash collateral netting	**(33,628)**	(34,443)
Total financial liabilities at fair value	**$ 36,274**	$ 23,511
Total liabilities	**$ 347,177**	$ 261,621
Total level 3 financial liabilities divided by:		
Total liabilities	**1.6%**	2.3%
Total financial liabilities at fair value	**14.9%**	25.2%

In the table above:

- Counterparty netting among positions classified in the same level is included in that level.
- Counterparty and cash collateral netting represents the impact on derivatives of netting across levels.

The table below presents a summary of level 3 financial assets.

	As of		
	September	June	December
$ in millions	**2021**	2021	2020
Trading assets:			
Trading cash instruments	**$ 77**	$ 124	$ 80
Derivatives	**2,238**	2,071	1,910
Investments	**32**	72	66
Loans	**267**	383	601
Total	**$ 2,614**	$ 2,650	$ 2,657

Level 3 financial assets as of September 2021 decreased compared with June 2021 and December 2020, primarily reflecting a decrease in level 3 loans, trading cash instruments and investments, partially offset by an increase in level 3 derivatives. See Notes 5 through 10 for further information about level 3 financial assets (including information about unrealized gains and losses related to level 3 financial assets and transfers in and out of level 3).

Note 5.

Trading Assets and Liabilities

Trading assets and liabilities include trading cash instruments and derivatives held in connection with the Bank's market-making or risk management activities. These assets and liabilities are carried at fair value either under the fair value option or in accordance with other U.S. GAAP, and the related fair value gains and losses are generally recognized in the consolidated statements of earnings.

The table below presents a summary of trading assets and liabilities.

$ in millions	Trading Assets	Trading Liabilities
As of September 2021		
Trading cash instruments	**$ 37,765**	**$ 13,226**
Derivatives	**13,355**	**8,474**
Total	**$ 51,120**	**$ 21,700**
As of December 2020		
Trading cash instruments	$ 55,553	$ 4,868
Derivatives	16,187	8,228
Total	$ 71,740	$ 13,096

See Note 6 for further information about trading cash instruments and Note 7 for further information about derivatives.

Gains and Losses from Financial Assets and Liabilities

The table below presents gains and losses from financial assets and liabilities by major product type.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Interest rates	**$ (1,137)**	$ 776	**$ (1,170)**	$ 1,601
Currencies	**1,357**	(438)	**2,287**	(1,019)
Credit	**534**	320	**2,089**	1,867
Equities	**368**	23	**453**	(71)
Commodities	**17**	4	**34**	5
Total	**$ 1,139**	$ 685	**$ 3,693**	$ 2,383

In the table above:

- Gains/(losses) include both realized and unrealized gains and losses. Gains/(losses) exclude related interest income and interest expense. See Note 21 for further information about interest income and interest expense.
- Gains and losses are primarily related to the Bank's financial assets and liabilities, including both derivative and non-derivative financial instruments, and the syndication of loans and lending commitments. Gains/(losses) are not representative of the manner in which the Bank manages its business activities because many of the Bank's market-making, lending and other activities utilize financial instruments across various product types. Accordingly, gains or losses in one product type frequently offset gains or losses in other product types. For example, certain of the Bank's interest rate derivatives are sensitive to changes in foreign currency exchange rates and may be economically hedged with foreign currency contracts.

Note 6.

Trading Cash Instruments

Trading cash instruments consists of instruments held in connection with the Bank's market-making or risk management activities. These instruments are carried at fair value and the related fair value gains and losses are recognized in the consolidated statements of earnings.

Fair Value of Trading Cash Instruments by Level

The table below presents trading cash instruments by level within the fair value hierarchy.

$ in millions	Level 1	Level 2	Level 3	Total
As of September 2021				
Assets				
Government and agency obligations:				
U.S.	**$ 20,295**	**$ 638**	**$ –**	**$ 20,933**
Non-U.S.	**4,577**	**461**	**14**	**5,052**
Loans and securities backed by:				
Commercial real estate	**–**	**302**	**–**	**302**
Residential real estate	**–**	**6,357**	**–**	**6,357**
Corporate debt instruments	**–**	**2,961**	**63**	**3,024**
Other debt obligations	**–**	**312**	**–**	**312**
Equity securities	**780**	**–**	**–**	**780**
Commodities	**–**	**1,005**	**–**	**1,005**
Total	**$ 25,652**	**$ 12,036**	**$ 77**	**$ 37,765**
Liabilities				
Government and agency obligations:				
U.S.	**$ (10,342)**	**$ –**	**$ –**	**$ (10,342)**
Non-U.S.	**(1,362)**	**(58)**	**–**	**(1,420)**
Loans and securities backed by residential real estate	**–**	**(9)**	**–**	**(9)**
Corporate debt instruments	**–**	**(1,319)**	**(42)**	**(1,361)**
Equity securities	**(94)**	**–**	**–**	**(94)**
Total	**$ (11,798)**	**$ (1,386)**	**$ (42)**	**$ (13,226)**
As of December 2020				
Assets				
Government and agency obligations:				
U.S.	$ 38,737	$ 8,928	$ –	$ 47,665
Non-U.S.	404	40	–	444
Loans and securities backed by:				
Commercial real estate	–	442	–	442
Residential real estate	–	3,845	–	3,845
Corporate debt instruments	–	2,045	80	2,125
Other debt obligations	–	421	–	421
Equity securities	610	1	–	611
Total	$ 39,751	$ 15,722	$ 80	$ 55,553
Liabilities				
Government and agency obligations:				
U.S.	$ (2,903)	$ –	$ –	$ (2,903)
Non-U.S.	(932)	(59)	–	(991)
Corporate debt instruments	–	(698)	(25)	(723)
Equity securities	(250)	–	(1)	(251)
Total	$ (4,085)	$ (757)	$ (26)	$ (4,868)

In the table above:

- Trading cash instrument assets are shown as positive amounts and trading cash instrument liabilities are shown as negative amounts.
- Corporate debt instruments includes corporate loans and debt securities.
- Other debt obligations includes other asset-backed securities and money market instruments.
- Equity securities includes public equities and exchange-traded funds.

See Note 4 for an overview of the Bank's fair value measurement policies and the valuation techniques and significant inputs used to determine the fair value of trading cash instruments. See Note 7 for information about hedging activities for precious metals included in commodities and accounted for at the lower of cost or net realizable value. These precious metals are designated in a fair value hedging relationship, and therefore their carrying value equals fair value.

Significant Unobservable Inputs

Significant unobservable inputs used to value the Bank's level 3 trading cash instruments are not material.

Level 3 Rollforward

The table below presents a summary of the changes in fair value for level 3 trading cash instruments.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Total trading cash instrument assets				
Beginning balance	**$ 124**	$ 16	**$ 80**	$ 95
Net realized gains/(losses)	**–**	1	**2**	1
Net unrealized gains/(losses)	**–**	3	**–**	(5)
Purchases	**34**	26	**73**	39
Sales	**(9)**	(1)	**(63)**	(9)
Settlements	**(6)**	(2)	**(6)**	(16)
Transfers into level 3	**24**	9	**1**	–
Transfers out of level 3	**(90)**	(2)	**(10)**	(55)
Ending balance	**$ 77**	$ 50	**$ 77**	$ 50
Total trading cash instrument liabilities				
Beginning balance	**$ (35)**	$ (45)	**$ (26)**	$ (8)
Net realized gains/(losses)	**–**	8	**1**	–
Net unrealized gains/(losses)	**2**	(6)	**8**	(7)
Purchases	**3**	2	**1**	8
Sales	**(23)**	(6)	**(34)**	(54)
Settlements	**–**	6	**5**	4
Transfers into level 3	**(11)**	(15)	**(3)**	–
Transfers out of level 3	**22**	–	**6**	1
Ending balance	**$ (42)**	$ (56)	**$ (42)**	$ (56)

In the table above:

- Changes in fair value are presented for all trading cash instruments that are classified in level 3 as of the end of the period.
- Net unrealized gains/(losses) relates to trading cash instruments that were still held at period-end.
- Transfers between levels of the fair value hierarchy are reported at the beginning of the reporting period in which they occur. If a trading cash instrument was transferred to level 3 during a reporting period, its entire gain or loss for the period is classified in level 3.
- For level 3 trading cash instrument assets, increases are shown as positive amounts, while decreases are shown as negative amounts. For level 3 trading cash instrument liabilities, increases are shown as negative amounts, while decreases are shown as positive amounts.
- Level 3 trading cash instruments are frequently economically hedged with level 1 and level 2 trading cash instruments and/or level 2 or level 3 derivatives. Accordingly, gains or losses that are classified in level 3 can be partially offset by gains or losses attributable to level 1 or level 2 trading cash instruments and/or level 2 or level 3 derivatives. As a result, gains or losses included in the level 3 rollforward below do not necessarily represent the overall impact on the Bank's results of operations, liquidity or capital resources.

The table below presents information, by product type, for assets included in the summary table above.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Non-U.S. government and agency obligations				
Beginning balance	**$ 4**	$ –	**$ –**	$ –
Net unrealized gains/(losses)	**1**	–	**–**	–
Purchases	**11**	–	**14**	–
Sales	**(2)**	–	**–**	–
Ending balance	**$ 14**	$ –	**$ 14**	$ –
Loans and securities backed by residential real estate				
Beginning balance	**$ –**	$ –	**$ –**	$ 68
Settlements	**–**	–	**–**	(16)
Transfers out of level 3	**–**	–	**–**	(52)
Ending balance	**$ –**	$ –	**$ –**	$ –
Corporate debt instruments				
Beginning balance	**$ 120**	$ 16	**$ 80**	$ 27
Net realized gains/(losses)	**–**	1	**2**	1
Net unrealized gains/(losses)	**(1)**	3	**–**	(5)
Purchases	**23**	26	**59**	39
Sales	**(7)**	(1)	**(63)**	(9)
Settlements	**(6)**	(2)	**(6)**	–
Transfers into level 3	**24**	9	**1**	–
Transfers out of level 3	**(90)**	(2)	**(10)**	(3)
Ending balance	**$ 63**	$ 50	**$ 63**	$ 50

Level 3 Rollforward Commentary

Three Months Ended September 2021. There were no net realized and unrealized gains or losses on level 3 trading cash instrument assets for the three months ended September 2021.

The drivers of transfers into level 3 trading cash instrument assets during the three months ended September 2021 were not material.

Transfers out of level 3 trading cash instrument assets during the three months ended September 2021 reflected transfers of certain corporate debt instruments to level 2 (principally due to increased price transparency as a result of market evidence, including market transactions in these instruments).

Nine Months Ended September 2021. The net realized gains on level 3 trading cash instrument assets of $2 million for the nine months ended September 2021 were reported in gains and losses from financial assets and liabilities.

There were no net unrealized gains/(losses) on level 3 trading cash instrument assets for the nine months ended September 2021.

The drivers of both transfers into and out of level 3 trading cash instrument assets during the nine months ended September 2021 were not material.

Three Months Ended September 2020. The net realized and unrealized gains on level 3 trading cash instrument assets of $4 million (reflecting $1 million of net realized gains and $3 million of net unrealized gains) for the three months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The drivers of the net unrealized gains on level 3 trading cash instrument assets for the three months ended September 2020 were not material.

The drivers of both transfers into and out of level 3 trading cash instrument assets during the three months ended September 2020 were not material.

Nine Months Ended September 2020. The net realized and unrealized losses on level 3 trading cash instrument assets of $4 million (reflecting $1 million of net realized gains and $5 million of net unrealized losses) for the nine months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The drivers of the net unrealized losses on level 3 trading cash instrument assets for the nine months ended September 2020 were not material.

There were no transfers into level 3 trading cash instrument assets during the nine months ended September 2020.

Transfers out of level 3 trading cash instrument assets during the nine months ended September 2020 primarily reflected transfers of certain loans backed by residential real estate to level 2 (in each case, principally due to increased price transparency as a result of market evidence, including market transactions in these instruments).

Note 7.

Derivatives and Hedging Activities

Derivative Activities

Derivatives are instruments that derive their value from underlying asset prices, indices, reference rates and other inputs, or a combination of these factors. Derivatives may be traded on an exchange (exchange-traded) or they may be privately negotiated contracts, which are usually referred to as OTC derivatives. Certain of the Bank's OTC derivatives are cleared and settled through central clearing counterparties (OTC-cleared), while others are bilateral contracts between two counterparties (bilateral OTC).

Market Making. As a market maker, the Bank enters into derivative transactions to provide liquidity to clients and to facilitate the transfer and hedging of their risks. In this role, the Bank typically acts as principal and is required to commit capital to provide execution, and maintains market-making positions in response to, or in anticipation of, client demand.

Risk Management. The Bank also enters into derivatives to actively manage risk exposures that arise from its market-making and financing activities. The Bank's holdings and exposures are hedged, in many cases, on either a portfolio or risk-specific basis, as opposed to an instrument-by-instrument basis. In addition, the Bank may enter into derivatives designated as hedges under U.S. GAAP. These derivatives are used to manage interest rate exposure of certain deposits and borrowings and the price risk of certain commodities.

The Bank enters into various types of derivatives, including:

- **Futures and Forwards.** Contracts that commit counterparties to purchase or sell financial instruments or currencies in the future.
- **Swaps.** Contracts that require counterparties to exchange cash flows, such as currency or interest payment streams. The amounts exchanged are based on the specific terms of the contract with reference to specified rates, financial instruments, currencies or indices.
- **Options.** Contracts in which the option purchaser has the right, but not the obligation, to purchase from or sell to the option writer financial instruments or currencies within a defined time period for a specified price.

Derivatives are reported on a net-by-counterparty basis (i.e., the net payable or receivable for derivative assets and liabilities for a given counterparty) when a legal right of setoff exists under an enforceable netting agreement (counterparty netting). Derivatives are accounted for at fair value, net of cash collateral received or posted under enforceable credit support agreements (cash collateral netting). Derivative assets are included in trading assets and derivative liabilities are included in trading liabilities. Realized and unrealized gains and losses on derivatives not designated as hedges are included in gains and losses from financial assets and liabilities in the consolidated statements of earnings.

The tables below present the gross fair value and the notional amounts of derivative contracts by major product type, the amounts of netting in the consolidated balance sheets, as well as collateral posted and received under enforceable credit support agreements that do not meet the criteria for netting under U.S. GAAP.

	As of September 2021		As of December 2020	
$ in millions	**Derivative Assets**	**Derivative Liabilities**	Derivative Assets	Derivative Liabilities
Not accounted for as hedges				
Exchange-traded	**$ 158**	**$ 300**	$ 288	$ 404
OTC-cleared	**2,831**	**2,216**	1,665	1,171
Bilateral OTC	**572,760**	**570,574**	794,904	787,145
Total interest rates	**575,749**	**573,090**	796,857	788,720
OTC-cleared	**16**	**1**	18	64
Bilateral OTC	**76,514**	**74,460**	96,332	93,846
Total currencies	**76,530**	**74,461**	96,350	93,910
OTC-cleared	**1,042**	**1,104**	795	804
Bilateral OTC	**7,982**	**8,813**	4,682	5,402
Total credit	**9,024**	**9,917**	5,477	6,206
Exchange-traded	**213**	**459**	98	143
Bilateral OTC	**3,039**	**1,896**	2,857	1,991
Total equities	**3,252**	**2,355**	2,955	2,134
Commodities – bilateral OTC	**3,045**	**3,062**	526	524
Subtotal	**667,600**	**662,885**	902,165	891,494
Accounted for as hedges				
Interest rates – bilateral OTC	**12**	**–**	24	–
Currencies – bilateral OTC	**106**	**–**	–	–
Subtotal	**118**	**–**	24	–
Total gross fair value	**$ 667,718**	**$ 662,885**	$ 902,189	$ 891,494
Offset in the consolidated balance sheets				
OTC-cleared	**$ (2,463)**	**$ (2,463)**	$ (1,860)	$ (1,860)
Bilateral OTC	**(619,914)**	**(619,914)**	(848,264)	(848,264)
Counterparty netting	**(622,377)**	**(622,377)**	(850,124)	(850,124)
OTC-cleared	**(376)**	**(70)**	(570)	(104)
Bilateral OTC	**(31,610)**	**(31,964)**	(35,308)	(33,038)
Cash collateral netting	**(31,986)**	**(32,034)**	(35,878)	(33,142)
Total amounts offset	**$(654,363)**	**$ (654,411)**	$(886,002)	$(883,266)
Included in the consolidated balance sheets				
Exchange-traded	**$ 371**	**$ 759**	$ 386	$ 547
OTC-cleared	**1,050**	**788**	48	75
Bilateral OTC	**11,934**	**6,927**	15,753	7,606
Total	**$ 13,355**	**$ 8,474**	$ 16,187	$ 8,228
Not offset in the consolidated balance sheets				
Cash collateral	**$ (816)**	**$ (557)**	$ (458)	$ (552)
Securities collateral	**(3,009)**	**(1,114)**	(3,352)	(1,473)
Total	**$ 9,530**	**$ 6,803**	$ 12,377	$ 6,203

	Notional Amounts as of	
$ in millions	**September 2021**	December 2020
Not accounted for as hedges		
Exchange-traded	**$ 2,532,132**	$ 3,408,510
OTC-cleared	**8,544,130**	6,792,581
Bilateral OTC	**30,088,402**	26,402,772
Total interest rates	**41,164,664**	36,603,863
Exchange-traded	**437**	439
OTC-cleared	**137,572**	112,661
Bilateral OTC	**7,079,138**	6,138,474
Total currencies	**7,217,147**	6,251,574
OTC-cleared	**42,384**	37,461
Bilateral OTC	**456,299**	257,038
Total credit	**498,683**	294,499
Exchange-traded	**24,407**	7,811
Bilateral OTC	**94,507**	74,809
Total equities	**118,914**	82,620
Commodities – bilateral OTC	**36,953**	17,959
Subtotal	**49,036,361**	43,250,515
Accounted for as hedges		
OTC-cleared	**15,772**	17,361
Bilateral OTC	**597**	679
Total interest rates	**16,369**	18,040
Currencies – bilateral OTC	**8,392**	–
Commodities – exchange-traded	**986**	–
Subtotal	**25,747**	18,040
Total notional amounts	**$ 49,062,108**	$ 43,268,555

In the tables above:

- Gross fair values exclude the effects of both counterparty netting and collateral, and therefore are not representative of the Bank's exposure.
- Where the Bank has received or posted collateral under credit support agreements, but has not yet determined such agreements are enforceable, the related collateral has not been netted.
- Notional amounts, which represent the sum of gross long and short derivative contracts, provide an indication of the volume of the Bank's derivative activity and do not represent anticipated losses.
- Total gross fair value of derivatives included derivative assets of \$2.99 billion as of September 2021 and \$2.88 billion as of December 2020, and derivative liabilities of \$2.70 billion as of September 2021 and \$2.09 billion as of December 2020, which are not subject to an enforceable netting agreement or are subject to a netting agreement that the Bank has not yet determined to be enforceable.

Fair Value of Derivatives by Level

The table below presents derivatives on a gross basis by level and product type, as well as the impact of netting.

$ in millions	Level 1	Level 2	Level 3	Total
As of September 2021				
Assets				
Interest rates	**$ –**	**$ 575,174**	**$ 587**	**$ 575,761**
Currencies	**–**	**76,263**	**373**	**76,636**
Credit	**–**	**7,812**	**1,212**	**9,024**
Equities	**25**	**2,385**	**842**	**3,252**
Commodities	**–**	**2,989**	**56**	**3,045**
Gross fair value	**25**	**664,623**	**3,070**	**667,718**
Counterparty netting in levels	**–**	**(619,951)**	**(832)**	**(620,783)**
Subtotal	**$ 25**	**$ 44,672**	**$ 2,238**	**$ 46,935**
Cross-level counterparty netting				**(1,594)**
Cash collateral netting				**(31,986)**
Net fair value				**$ 13,355**
Liabilities				
Interest rates	**$ –**	**$ (572,423)**	**$ (667)**	**$ (573,090)**
Currencies	**–**	**(74,261)**	**(200)**	**(74,461)**
Credit	**–**	**(8,673)**	**(1,244)**	**(9,917)**
Equities	**(25)**	**(2,050)**	**(280)**	**(2,355)**
Commodities	**–**	**(3,008)**	**(54)**	**(3,062)**
Gross fair value	**(25)**	**(660,415)**	**(2,445)**	**(662,885)**
Counterparty netting in levels	**–**	**619,951**	**832**	**620,783**
Subtotal	**$ (25)**	**$ (40,464)**	**$ (1,613)**	**$ (42,102)**
Cross-level counterparty netting				**1,594**
Cash collateral netting				**32,034**
Net fair value				**$ (8,474)**
As of December 2020				
Assets				
Interest rates	$ 188	$ 796,202	$ 491	$ 796,881
Currencies	–	96,157	193	96,350
Credit	–	4,300	1,177	5,477
Equities	–	2,353	602	2,955
Commodities	–	516	10	526
Gross fair value	188	899,528	2,473	902,189
Counterparty netting in levels	(98)	(848,162)	(563)	(848,823)
Subtotal	$ 90	$ 51,366	$ 1,910	$ 53,366
Cross-level counterparty netting				(1,301)
Cash collateral netting				(35,878)
Net fair value				$ 16,187
Liabilities				
Interest rates	$ (189)	$ (787,948)	$ (583)	$ (788,720)
Currencies	–	(93,654)	(256)	(93,910)
Credit	–	(4,961)	(1,245)	(6,206)
Equities	–	(2,130)	(4)	(2,134)
Commodities	–	(516)	(8)	(524)
Gross fair value	(189)	(889,209)	(2,096)	(891,494)
Counterparty netting in levels	98	848,162	563	848,823
Subtotal	$ (91)	$ (41,047)	$ (1,533)	$ (42,671)
Cross-level counterparty netting				1,301
Cash collateral netting				33,142
Net fair value				$ (8,228)

In the table above:

- Gross fair values exclude the effects of both counterparty netting and collateral netting, and therefore are not representative of the Bank's exposure.
- Counterparty netting is reflected in each level to the extent that receivable and payable balances are netted within the same level and is included in counterparty netting in levels. Where the counterparty netting is across levels, the netting is included in cross-level counterparty netting.
- Derivative assets are shown as positive amounts and derivative liabilities are shown as negative amounts.

See Note 4 for an overview of the Bank's fair value measurement policies and the valuation techniques and significant inputs used to determine the fair value of derivatives.

Significant Unobservable Inputs

The table below presents the amount of level 3 derivative assets (liabilities), and ranges, averages and medians of significant unobservable inputs used to value level 3 derivatives.

	As of September 2021		As of December 2020	
$ in millions	Amount or Range	Average/ Median	Amount or Range	Average/ Median
Interest rates, net	**$(80)**		$(92)	
Correlation	**60% to 81%**	**69%/67%**	60% to 81%	69%/67%
Volatility (bps)	**31 to 150**	**80/55**	31 to 150	80/55
Currencies, net	**$173**		$(63)	
Correlation	**28% to 70%**	**48%/46%**	28% to 70%	48%/46%
Credit, net	**$(32)**		$(68)	
Credit spreads (bps)	**2 to 568**	**131/105**	7 to 866	172/100
Equities, net	**$562**		$598	
Correlation	**20% to 98%**	**79%/87%**	10% to 99%	63%/81%

Level 3 commodities, net were not material as of both September 2021 and December 2020, and therefore are not included in the table above.

In the table above:

- Derivative assets are shown as positive amounts and derivative liabilities are shown as negative amounts.
- Ranges represent the significant unobservable inputs that were used in the valuation of each type of derivative.
- Averages represent the arithmetic average of the inputs and are not weighted by the relative fair value or notional amount of the respective financial instruments. An average greater than the median indicates that the majority of inputs are below the average. For example, the difference between the average and the median for credit spreads indicates that the majority of the inputs fall in the lower end of the range.
- The ranges, averages and medians of these inputs are not representative of the appropriate inputs to use when calculating the fair value of any one derivative. For example, the highest correlation for interest rate derivatives is appropriate for valuing a specific interest rate derivative but may not be appropriate for valuing any other interest rate derivative. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 derivatives.
- Interest rates, currencies and equities derivatives are valued using option pricing models, and credit derivatives are valued using option pricing, correlation and discounted cash flow models.
- The fair value of any one instrument may be determined using multiple valuation techniques. For example, option pricing models and discounted cash flow models are typically used together to determine fair value. Therefore, the level 3 balance encompasses both of these techniques.
- Correlation within currencies and equities includes cross-product type correlation.

Range of Significant Unobservable Inputs

The following provides information about the ranges of significant unobservable inputs used to value the Bank's level 3 derivative instruments:

- **Correlation.** Ranges for correlation cover a variety of underliers both within one product type (e.g., foreign exchange rates) and across product types (e.g., correlation of an interest rate and a currency), as well as across regions. Generally, cross-product type correlation inputs are used to value more complex instruments and are lower than correlation inputs on assets within the same derivative product type.

- **Volatility.** Ranges for volatility cover numerous underliers across a variety of markets, maturities and strike prices.

- **Credit spreads.** The ranges for credit spreads cover a variety of underliers (index and single names), regions, sectors, maturities and credit qualities (high-yield and investment-grade). The broad range of this population gives rise to the width of the ranges of significant unobservable inputs.

Sensitivity of Fair Value Measurement to Changes in Significant Unobservable Inputs

The following is a description of the directional sensitivity of the Bank's level 3 fair value measurements to changes in significant unobservable inputs, in isolation, as of each period-end:

- **Correlation.** In general, for contracts where the holder benefits from the convergence of the underlying asset or index prices (e.g., interest rates, foreign exchange rates and equity prices), an increase in correlation results in a higher fair value measurement.

- **Volatility.** In general, for purchased options, an increase in volatility results in a higher fair value measurement.

- **Credit spreads.** In general, the fair value of purchased credit protection increases as credit spreads increase. Credit spreads are strongly related to distinctive risk factors of the underlying reference obligations, which include reference entity-specific factors, such as leverage, volatility and industry, market-based risk factors, such as borrowing costs or liquidity of the underlying reference obligation, and macroeconomic conditions.

Due to the distinctive nature of each of the Bank's level 3 derivatives, the interrelationship of inputs is not necessarily uniform within each product type.

Level 3 Rollforward

The table below presents a summary of the changes in fair value for level 3 derivatives.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Total level 3 derivatives, net				
Beginning balance	**$ 695**	$ 426	**$ 377**	$ 658
Net realized gains/(losses)	**(79)**	(2)	**(58)**	(39)
Net unrealized gains/(losses)	**8**	(3)	**373**	(266)
Purchases	**7**	1	**99**	24
Sales	**(27)**	–	**(108)**	(16)
Settlements	**34**	(89)	**(55)**	(140)
Transfers into level 3	**(9)**	(16)	**15**	44
Transfers out of level 3	**(4)**	(51)	**(18)**	1
Ending balance	**$ 625**	$ 266	**$ 625**	$ 266

In the table above:

- Changes in fair value are presented for all derivative assets and liabilities that are classified in level 3 as of the end of the period.

- Net unrealized gains/(losses) relates to instruments that were still held at period-end.

- Transfers between levels of the fair value hierarchy are reported at the beginning of the reporting period in which they occur. If a derivative was transferred into level 3 during a reporting period, its entire gain or loss for the period is classified in level 3.

- Positive amounts for transfers into level 3 and negative amounts for transfers out of level 3 represent net transfers of derivative assets. Negative amounts for transfers into level 3 and positive amounts for transfers out of level 3 represent net transfers of derivative liabilities.

- A derivative with level 1 and/or level 2 inputs is classified in level 3 in its entirety if it has at least one significant level 3 input.

- If there is one significant level 3 input, the entire gain or loss from adjusting only observable inputs (i.e., level 1 and level 2 inputs) is classified in level 3.

- Gains or losses that have been classified in level 3 resulting from changes in level 1 or level 2 inputs are frequently offset by gains or losses attributable to level 1 or level 2 derivatives and/or level 1, level 2 and level 3 trading cash instruments. As a result, gains/(losses) included in the level 3 rollforward below do not necessarily represent the overall impact on the Bank's results of operations, liquidity or capital resources.

The table below presents information, by product type, for derivatives included in the summary table above.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Interest rates, net				
Beginning balance	**$ (47)**	$ (8)	**$ (92)**	$ (89)
Net realized gains/(losses)	**(74)**	(21)	**(41)**	(26)
Net unrealized gains/(losses)	**(15)**	20	**96**	47
Purchases	**(1)**	–	**66**	–
Sales	**(24)**	–	**(99)**	(17)
Settlements	**94**	(74)	**9**	(35)
Transfers into level 3	**(14)**	(74)	**(8)**	(37)
Transfers out of level 3	**1**	1	**(11)**	1
Ending balance	**$ (80)**	$ (156)	**$ (80)**	$ (156)
Currencies, net				
Beginning balance	**$ 120**	$ (1)	**$ (63)**	$ 234
Net realized gains/(losses)	**(11)**	(3)	**(40)**	(9)
Net unrealized gains/(losses)	**52**	(14)	**181**	(210)
Purchases	**1**	–	**9**	3
Sales	**–**	–	**(3)**	1
Settlements	**10**	18	**66**	(29)
Transfers into level 3	**–**	–	**3**	(1)
Transfers out of level 3	**1**	1	**20**	12
Ending balance	**$ 173**	$ 1	**$ 173**	$ 1
Credit, net				
Beginning balance	**$ (24)**	$ 3	**$ (68)**	$ (38)
Net realized gains/(losses)	**(7)**	(1)	**(21)**	(16)
Net unrealized gains/(losses)	**38**	(19)	**53**	(19)
Purchases	**4**	–	**14**	4
Sales	**(1)**	–	**(1)**	–
Settlements	**(17)**	(4)	**10**	3
Transfers into level 3	**(22)**	1	**(2)**	–
Transfers out of level 3	**(3)**	(34)	**(17)**	12
Ending balance	**$ (32)**	$ (54)	**$ (32)**	$ (54)
Equities, net				
Beginning balance	**$ 644**	$ 430	**$ 598**	$ 549
Net realized gains/(losses)	**13**	23	**44**	12
Net unrealized gains/(losses)	**(67)**	10	**43**	(84)
Purchases	**3**	1	**10**	17
Sales	**(2)**	–	**(5)**	–
Settlements	**(53)**	(29)	**(140)**	(79)
Transfers into level 3	**27**	57	**22**	82
Transfers out of level 3	**(3)**	(19)	**(10)**	(24)
Ending balance	**$ 562**	$ 473	**$ 562**	$ 473
Commodities, net				
Beginning balance	**$ 2**	$ 2	**$ 2**	$ 2
Purchases	**–**	–	–	–
Sales	**–**	–	–	–
Ending balance	**$ 2**	$ 2	**$ 2**	$ 2

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized losses on level 3 derivatives of $71 million (reflecting $79 million of net realized losses and $8 million of net unrealized gains) for the three months ended September 2021 were reported in gains and losses from financial assets and liabilities.

The drivers of net unrealized losses on level 3 derivatives for the three months ended September 2021 were not material.

The drivers of both transfers into and out of level 3 derivatives during the three months ended September 2021 were not material.

Nine Months Ended September 2021. The net realized and unrealized gains on level 3 derivatives of $315 million (reflecting $58 million of net realized losses and $373 million of net unrealized gains) for the nine months ended September 2021 were reported in gains and losses from financial assets and liabilities.

The net unrealized gains on level 3 derivatives during the nine months ended September 2021 were primarily attributable to gains on certain currency and interest rate derivatives (primarily reflecting the impact of an increase in interest rates).

The drivers of both transfers into and out of level 3 derivatives during the nine months ended September 2021 were not material.

Three Months Ended September 2020. The net realized and unrealized losses on level 3 derivatives of $5 million (reflecting $2 million of net realized losses and $3 million of net unrealized losses) for the three months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The drivers of net unrealized losses on level 3 derivatives for the three months ended September 2020 were not material.

The drivers of both transfers into and out of level 3 derivatives during the three months ended September 2020 were not material.

Nine Months Ended September 2020. The net realized and unrealized losses on level 3 derivatives of $305 million (reflecting $39 million of net realized losses and $266 million of net unrealized losses) for the nine months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The net unrealized losses on level 3 derivatives during the nine months ended September 2020 were primarily attributable to losses on certain currency derivatives (primarily reflecting the impact of a decrease in interest rates) and losses on certain equity derivatives (primarily reflecting the impact of changes in equity prices).

The drivers of both transfers into and out of level 3 derivatives during the nine months ended September 2020 were not material.

Credit Derivatives

The Bank enters into a broad array of credit derivatives to facilitate client transactions and to manage the credit risk associated with market-making and financing activities. Credit derivatives are actively managed based on the Bank's net risk position. Credit derivatives are generally individually negotiated contracts and can have various settlement and payment conventions. Credit events include failure to pay, bankruptcy, acceleration of indebtedness, restructuring, repudiation and dissolution of the reference entity.

The Bank enters into the following types of credit derivatives:

- **Credit Default Swaps.** Single-name credit default swaps protect the buyer against the loss of principal on one or more bonds, loans or mortgages (reference obligations) in the event the issuer of the reference obligations suffers a credit event. The buyer of protection pays an initial or periodic premium to the seller and receives protection for the period of the contract. If there is no credit event, as defined in the contract, the seller of protection makes no payments to the buyer. If a credit event occurs, the seller of protection is required to make a payment to the buyer, calculated according to the terms of the contract.

- **Credit Options.** In a credit option, the option writer assumes the obligation to purchase or sell a reference obligation at a specified price or credit spread. The option purchaser buys the right, but does not assume the obligation, to sell the reference obligation to, or purchase it from, the option writer. The payments on credit options depend either on a particular credit spread or the price of the reference obligation.

- **Credit Indices, Baskets and Tranches.** Credit derivatives may reference a basket of single-name credit default swaps or a broad-based index. If a credit event occurs in one of the underlying reference obligations, the protection seller pays the protection buyer. The payment is typically a pro-rata portion of the transaction's total notional amount based on the underlying defaulted reference obligation. In certain transactions, the credit risk of a basket or index is separated into various portions (tranches), each having different levels of subordination. The most junior tranches cover initial defaults and once losses exceed the notional amount of these junior tranches, any excess loss is covered by the next most senior tranche.

- **Total Return Swaps.** A total return swap transfers the risks relating to economic performance of a reference obligation from the protection buyer to the protection seller. Typically, the protection buyer receives a floating rate of interest and protection against any reduction in fair value of the reference obligation, and the protection seller receives the cash flows associated with the reference obligation, plus any increase in the fair value of the reference obligation.

The Bank economically hedges its exposure to written credit derivatives primarily by entering into offsetting purchased credit derivatives with identical underliers. Substantially all of the Bank's purchased credit derivative transactions are with financial institutions and are subject to stringent collateral thresholds. In addition, upon the occurrence of a specified trigger event, the Bank may take possession of the reference obligations underlying a particular written credit derivative, and consequently may, upon liquidation of the reference obligations, recover amounts on the underlying reference obligations in the event of default.

As of September 2021, written credit derivatives had a total gross notional amount of $223.11 billion and purchased credit derivatives had a total gross notional amount of $276.78 billion, for total net notional purchased protection of $53.67 billion. As of December 2020, written credit derivatives had a total gross notional amount of $130.84 billion and purchased credit derivatives had a total gross notional amount of $163.66 billion, for total net notional purchased protection of $32.82 billion. The Bank's written and purchased credit derivatives primarily consist of credit default swaps.

The table below presents information about credit derivatives.

	Credit Spread on Underlier (basis points)				
$ in millions	0 - 250	251 - 500	501 - 1,000	Greater than 1,000	Total
As of September 2021					
Maximum Payout/Notional Amount of Written Credit Derivatives by Tenor					
Less than 1 year	**$ 28,906**	**$ 187**	**$ 36**	**$ 278**	**$ 29,407**
1 – 5 years	**149,690**	**9,430**	**2,548**	**1,333**	**163,001**
Greater than 5 years	**26,629**	**2,432**	**1,517**	**120**	**30,698**
Total	**$ 205,225**	**$ 12,049**	**$ 4,101**	**$ 1,731**	**$ 223,106**
Maximum Payout/Notional Amount of Purchased Credit Derivatives					
Offsetting	**$ 199,496**	**$ 10,925**	**$ 2,886**	**$ 1,652**	**$ 214,959**
Other	**$ 56,112**	**$ 4,177**	**$ 1,328**	**$ 206**	**$ 61,823**
Fair Value of Written Credit Derivatives					
Asset	**$ 6,133**	**$ 956**	**$ 231**	**$ 62**	**$ 7,382**
Liability	**372**	**260**	**397**	**309**	**1,338**
Net asset/(liability)	**$ 5,761**	**$ 696**	**$ (166)**	**$ (247)**	**$ 6,044**
As of December 2020					
Maximum Payout/Notional Amount of Written Credit Derivatives by Tenor					
Less than 1 year	$ 23,134	$ 1,084	$ 47	$ 254	$ 24,519
1 – 5 years	86,013	5,800	2,598	974	95,385
Greater than 5 years	8,487	2,365	71	8	10,931
Total	$ 117,634	$ 9,249	$ 2,716	$ 1,236	$ 130,835
Maximum Payout/Notional Amount of Purchased Credit Derivatives					
Offsetting	$ 111,065	$ 6,262	$ 2,846	$ 1,237	$ 121,410
Other	$ 40,439	$ 1,208	$ 426	$ 181	$ 42,254
Fair Value of Written Credit Derivatives					
Asset	$ 3,392	$ 429	$ 184	$ 37	$ 4,042
Liability	901	645	49	212	1,807
Net asset/(liability)	$ 2,491	$ (216)	$ 135	$ (175)	$ 2,235

In the table above:

- Fair values exclude the effects of both netting of receivable balances with payable balances under enforceable netting agreements, and netting of cash received or posted under enforceable credit support agreements, and therefore are not representative of the Bank's credit exposure.
- Tenor is based on remaining contractual maturity.
- The credit spread on the underlier, together with the tenor of the contract, are indicators of payment/performance risk. The Bank is less likely to pay or otherwise be required to perform where the credit spread and the tenor are lower.
- Offsetting purchased credit derivatives represent the notional amount of purchased credit derivatives that economically hedge written credit derivatives with identical underliers.
- Other purchased credit derivatives represent the notional amount of all other purchased credit derivatives not included in offsetting.

Impact of Credit and Funding Spreads on Derivatives

The Bank realizes gains or losses on its derivative contracts. These gains or losses include credit valuation adjustments (CVA) relating to uncollateralized derivative assets and liabilities, which represent the gains or losses (including hedges) attributable to the impact of changes in credit exposure, counterparty and GS Group's credit spreads, liability funding spreads (which include GS Group's credit), probability of default and assumed recovery. These gains or losses also include funding valuation adjustments (FVA) relating to uncollateralized derivative assets, which represent the gains or losses (including hedges) attributable to the impact of changes in expected funding exposures and funding spreads.

The table below presents information about CVA and FVA.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
CVA, net of hedges	**$ 58**	$ 54	**$ 179**	$ 124
FVA, net of hedges	**(4)**	54	**(18)**	12
Total	**$ 54**	$ 108	**$ 161**	$ 136

Bifurcated Embedded Derivatives

The table below presents the fair value and the notional amount of derivatives that have been bifurcated from their related borrowings.

	As of	
$ in millions	**September 2021**	December 2020
Fair value of assets	**$ 1**	$ –
Fair value of liabilities	**(33)**	(54)
Net liability	**$ (32)**	$ (54)
Notional amount	**$ 1,205**	$ 1,205

In the table above, derivatives that have been bifurcated from their related borrowings are recorded at fair value and primarily consist of credit default swaps. These derivatives are included in unsecured long-term borrowings, as well as other secured financings, with the related borrowings.

Derivatives with Credit-Related Contingent Features

Certain of the Bank's derivatives have been transacted under bilateral agreements with counterparties who may require the Bank to post collateral or terminate the transactions based on changes in the credit ratings of the Bank and/or Group Inc. Typically, such requirements are based on the credit ratings of Group Inc. The Bank assesses the impact of these bilateral agreements by determining the collateral or termination payments that would occur assuming a downgrade by all rating agencies. A downgrade by any one rating agency, depending on the agency's relative ratings of the Bank and/or Group Inc. at the time of the downgrade, may have an impact which is comparable to the impact of a downgrade by all rating agencies.

The table below presents information about net derivative liabilities under bilateral agreements (excluding collateral posted), the fair value of collateral posted and additional collateral or termination payments that could have been called by counterparties in the event of a one- or two-notch downgrade in the credit ratings of the Bank and/or Group Inc.

	As of	
	September	December
$ in millions	**2021**	2020
Net derivative liabilities under bilateral agreements	**$ 10,845**	$ 10,461
Collateral posted	**$ 10,028**	$ 9,246
Additional collateral or termination payments:		
One-notch downgrade	**$ 48**	$ 152
Two-notch downgrade	**$ 230**	$ 315

Hedge Accounting

The Bank applies hedge accounting for (i) interest rate swaps used to manage the interest rate exposure of certain fixed-rate certificates of deposit, (ii) commodity futures contracts used to manage the price risk of certain commodities and (iii) certain foreign currency forward contracts used to manage foreign currency exposures on the Bank's net investment in GSBE.

To qualify for hedge accounting, the hedging instrument must be highly effective at reducing the risk from the exposure being hedged. Additionally, the Bank must formally document the hedging relationship at inception and assess the hedging relationship at least on a quarterly basis to ensure the hedging instrument continues to be highly effective over the life of the hedging relationship.

Fair Value Hedges

The Bank designates interest rate swaps as fair value hedges of certain fixed-rate certificates of deposit. These interest rate swaps hedge changes in fair value attributable to the designated benchmark interest rate (e.g., London Interbank Offered Rate (LIBOR) or Secured Overnight Financing Rate), effectively converting a substantial portion of fixed-rate obligations into floating-rate obligations.

The Bank applies a statistical method that utilizes regression analysis when assessing the effectiveness of these hedging relationships in achieving offsetting changes in the fair values of the hedging instrument and the risk being hedged (i.e., interest rate risk). An interest rate swap is considered highly effective in offsetting changes in fair value attributable to changes in the hedged risk when the regression analysis results in a coefficient of determination of 80% or greater and a slope between 80% and 125%.

For qualifying interest rate fair value hedges, gains or losses on derivatives are included in interest expense. The change in fair value of the hedged item attributable to the risk being hedged is reported as an adjustment to its carrying value (hedging adjustment) and is also included in interest expense. When a derivative is no longer designated as a hedge, any remaining difference between the carrying value and par value of the hedged item is amortized to interest expense over the remaining life of the hedged item using the effective interest method. See Note 21 for further information about interest income and interest expense.

The table below presents the gains/(losses) from interest rate derivatives accounted for as hedges and the related hedged deposits, and total interest expense.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Interest rate hedges	**$ (69)**	$ (75)	**$ (274)**	$ 528
Hedged deposits	**$ 66**	$ 74	**$ 262**	$ (528)
Interest expense	**$ 337**	$ 485	**$ 1,043**	$ 2,111

The table below presents the carrying value of deposits that are designated in a hedging relationship and the related cumulative hedging adjustment (increase/(decrease)) from current and prior hedging relationships included in such carrying values.

$ in millions	Carrying Value	Cumulative Hedging Adjustment
As of September 2021		
Deposits	**$ 14,605**	**$ 362**
As of December 2020		
Deposits	$ 16,515	$ 624

In the table above, cumulative hedging adjustment included $49 million as of September 2021 and $68 million as of December 2020 of hedging adjustments from prior hedging relationships that were de-designated.

In addition, cumulative hedging adjustments for items no longer designated in a hedging relationship were $(4) million as of September 2021 and $(5) million as of December 2020.

During the second quarter of 2021, the Bank designated commodity futures contracts as fair value hedges of the price risk of certain precious metals included in commodities within trading assets. As of September 2021, the carrying value of such commodities was $1.00 billion and the amortized cost was $1.04 billion. Changes in spot rates of such commodities are reflected as an adjustment to their carrying value, and the related gains/(losses) on both the commodities and the designated futures contracts are included in gains and losses from financial assets and liabilities. The contractual forward points on the designated futures contracts are amortized into earnings ratably over the life of the contract and other gains/(losses) as a result of changes in the forward points are included in other comprehensive income/(loss). The cumulative hedging adjustment was not material as of September 2021 and the related gains/(losses) were not material for both the three and nine months ended September 2021.

Net Investment Hedges

The Bank seeks to reduce the impact of fluctuations in foreign exchange rates on its net investment in GSBE through the use of foreign currency forward contracts. For foreign currency forward contracts designated as hedges, the effectiveness of the hedge is assessed based on the overall changes in the fair value of the forward contracts (i.e., based on changes in forward rates). For qualifying net investment hedges, all gains or losses on the hedging instruments are included in currency translation.

The gains/(losses) from net investment hedging were $205 million for the three months ended September 2021, $(63) million for the three months ended September 2020, $411 million for the nine months ended September 2021 and $(74) million for the nine months ended September 2020.

For the three and nine months ended September 2021 and September 2020, there were no gains or losses reclassified to earnings from accumulated comprehensive income/(loss) related to the Bank's net investment in GSBE. Gains or losses on the Bank's net investment in GSBE would be reclassified to earnings from accumulated other comprehensive income/(loss) upon liquidation of its net investment.

Note 8.
Investments

Investments includes debt instruments and equity securities that are accounted for at fair value and are generally held by the Bank in connection with its long-term investing activities. In addition, investments includes debt securities classified as available-for-sale and held-to-maturity that are generally held in connection with the Bank's asset-liability management activities.

The table below presents information about investments.

	As of	
$ in millions	**September 2021**	December 2020
Equity securities, at fair value	**$ 58**	$ 54
Debt instruments, at fair value	**42**	362
Available-for-sale securities, at fair value	**24,432**	30,225
Investments, at fair value	**24,532**	30,641
Held-to-maturity securities	**1,027**	1,022
Total investments	**$ 25,559**	$ 31,663

Equity Securities and Debt Instruments, at Fair Value

Equity securities and debt instruments, at fair value are accounted for at fair value either under the fair value option or in accordance with other U.S. GAAP, and the related fair value gains and losses are recognized in the consolidated statements of earnings.

Equity Securities, at Fair Value. Equity securities, at fair value consists of the Bank's private equity investments in corporate and real estate entities, including investments made as part of the Bank's CRA activities. Equity securities, at fair value includes $19 million as of September 2021 and $18 million as of December 2020 that are measured at net asset value (NAV).

Debt Instruments, at Fair Value. Debt instruments, at fair value includes money market instruments and corporate debt securities.

The table below presents information about debt instruments, at fair value.

$ in millions	As of September 2021	As of December 2020
Money market instruments	**$ –**	$ 324
Corporate debt securities	**42**	38
Total	**$ 42**	$ 362

In the table above, money market instruments includes commercial paper and certificates of deposit.

Available-for-Sale Securities

Available-for-sale securities are accounted for at fair value, and the related unrealized fair value gains and losses are included in accumulated other comprehensive income/(loss).

The table below presents information about available-for-sale securities by tenor.

$ in millions	Amortized Cost	Fair Value	Weighted Average Yield
As of September 2021			
1 year to 5 years	**$ 20,596**	**$ 20,551**	**0.54%**
5 years to 10 years	**3,963**	**3,881**	**0.77%**
Total	**$ 24,559**	**$ 24,432**	**0.58%**
As of December 2020			
1 year to 5 years	$ 23,831	$ 23,932	0.44%
5 years to 10 years	6,084	6,293	1.14%
Total	$ 29,915	$ 30,225	0.59%

In the table above:

- Available-for-sale securities consists of U.S. government obligations that were classified in level 1 of the fair value hierarchy as of both September 2021 and December 2020.
- The Bank sold available-for-sale securities of $5.64 billion (realized gains of $5 million) during the three months ended September 2021 and $16.36 billion (realized gains of $85 million) during the nine months ended September 2021. There were no sales of available-for-sale securities during the three or nine months ended September 2020. Such gains were included in the consolidated statements of earnings.
- The gross unrealized gains included in accumulated other comprehensive income/(loss) were $106 million as of September 2021 and $325 million as of December 2020. The gross unrealized losses included in accumulated other comprehensive income/(loss) were $233 million as of September 2021 and primarily related to U.S. government obligations in a continuous unrealized loss position for less than a year and $16 million as of December 2020.
- Available-for-sale securities are reviewed to determine if an allowance for credit losses should be recorded in the consolidated statements of earnings. The Bank considers various factors in such determination, including market conditions, changes in issuer credit ratings, severity of the unrealized losses, and the intent and ability to hold the security until recovery. The Bank did not record any provision for credit losses on such securities during either the three or nine months ended September 2021 or September 2020.

Fair Value of Investments by Level

The table below presents investments accounted for at fair value by level within the fair value hierarchy.

$ in millions	Level 1	Level 2	Level 3	Total
As of September 2021				
U.S. government obligations	**$ 24,432**	**$ –**	**$ –**	**$ 24,432**
Equity securities	**–**	**7**	**32**	**39**
Corporate debt securities	**–**	**42**	**–**	**42**
Subtotal	**$ 24,432**	**$ 49**	**$ 32**	**$ 24,513**
Investments in funds at NAV				**19**
Total investments				**$ 24,532**
As of December 2020				
U.S. government obligations	$ 30,225	$ –	$ –	$ 30,225
Equity securities	–	8	28	36
Corporate debt securities	–	–	38	38
Money market instruments	–	324	–	324
Subtotal	$ 30,225	$ 332	$ 66	$ 30,623
Investments in funds at NAV				18
Total investments				$ 30,641

See Note 4 for an overview of the Bank's fair value measurement policies and the valuation techniques and significant inputs used to determine the fair value of investments.

Significant Unobservable Inputs

The table below presents the amount of level 3 investments, and ranges and weighted averages of significant unobservable inputs used to value such investments.

	As of September 2021		As of December 2020	
$ in millions	**Amount or Range**	**Weighted Average**	Amount or Range	Weighted Average
Equity securities				
Level 3 assets	**$32**		$28	
Discount rate/yield	**5.1% to 10.0%**	**7.2%**	4.8% to 10.0%	7.6%
Capitalization rate	**5.3% to 6.0%**	**5.7%**	5.3% to 6.0%	5.7%

In the table above:

- Ranges represent the significant unobservable inputs that were used in the valuation of each type of investment.
- Weighted averages are calculated by weighting each input by the relative fair value of the investment.
- The ranges and weighted averages of these inputs are not representative of the appropriate inputs to use when calculating the fair value of any one investment. For example, the highest discount rate for private equity securities is appropriate for valuing a specific private equity security but may not be appropriate for valuing any other private equity security. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 investments.
- Equity securities are valued using market comparables and discounted cash flows.
- The fair value of any one instrument may be determined using multiple valuation techniques. For example, market comparables and discounted cash flows may be used together to determine fair value. Therefore, the level 3 balance encompasses both of these techniques.
- Significant unobservable inputs used to value the Bank's level 3 corporate debt securities are not material and are therefore excluded from the table.

Level 3 Rollforward

The table below presents a summary of the changes in fair value for level 3 investments.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Beginning balance	**$ 72**	$ 70	**$ 66**	$ 36
Net realized gains/(losses)	**–**	–	**(2)**	1
Net unrealized gains/(losses)	**–**	1	**1**	(10)
Purchases	**–**	–	**6**	1
Settlements	**(1)**	–	**(1)**	–
Transfers into level 3	**–**	–	**–**	40
Transfers out of level 3	**(39)**	(3)	**(38)**	–
Ending balance	**$ 32**	$ 68	**$ 32**	$ 68

In the table above:

- Changes in fair value are presented for all investments that are classified in level 3 as of the end of the period.
- Net unrealized gains/(losses) relates to investments that were still held at period-end.
- Transfers between levels of the fair value hierarchy are reported at the beginning of the reporting period in which they occur. If an investment was transferred to level 3 during a reporting period, its entire gain or loss for the period is classified in level 3.
- For level 3 investments, increases are shown as positive amounts, while decreases are shown as negative amounts.

The table below presents information, by product type, for investments included in the summary table above.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Equity securities				
Beginning balance	**$ 33**	$ 35	**$ 28**	$ 36
Net realized gains/(losses)	**–**	–	**(2)**	1
Net unrealized gains/(losses)	**–**	(1)	**1**	(6)
Purchases	**–**	–	**6**	–
Settlements	**(1)**	–	**(1)**	–
Transfers out of level 3	**–**	(3)	**–**	–
Ending balance	**$ 32**	$ 31	**$ 32**	$ 31
Corporate debt securities				
Beginning balance	**$ 39**	$ 35	**$ 38**	$ –
Net unrealized gains/(losses)	**–**	2	**–**	(4)
Purchases	**–**	–	**–**	1
Transfers into level 3	**–**	–	**–**	40
Transfers out of level 3	**(39)**	–	**(38)**	–
Ending balance	**$ –**	$ 37	**$ –**	$ 37

Level 3 Rollforward Commentary

Three Months Ended September 2021. There were no net realized and unrealized gains or losses on level 3 investments for the three months ended September 2021.

There were no transfers into level 3 investments during the three months ended September 2021.

Transfers out of level 3 investments during the three months ended September 2021 primarily reflected transfers of certain corporate debt securities to level 2 (principally due to certain unobservable yield and duration inputs no longer being significant to the valuation of these instruments).

Nine Months Ended September 2021. The net realized and unrealized losses on level 3 investments of $1 million (reflecting $2 million of net realized losses and $1 million of net unrealized gains) for the nine months ended September 2021 were reported in gains and losses from financial assets and liabilities.

The drivers of net unrealized losses on level 3 investments for the nine months ended September 2021 were not material.

There were no transfers into level 3 investments during the nine months ended September 2021.

Transfers out of level 3 investments during the nine months ended September 2021 primarily reflected transfers of certain corporate debt securities to level 2 (principally due to certain unobservable yield and duration inputs no longer being significant to the valuation of these instruments).

Three Months Ended September 2020. The net unrealized gains on level 3 investments of $1 million for the three months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The drivers of net unrealized gains on level 3 investments for the three months ended September 2020 were not material.

There were no transfers into level 3 investments during the three months ended September 2020.

The drivers of transfers out of level 3 investments during the three months ended September 2020 were not material.

Nine Months Ended September 2020. The net realized and unrealized losses on level 3 investments of $9 million (reflecting $1 million of net realized gains and $10 million of net unrealized losses) for the nine months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The drivers of net unrealized losses on level 3 investments for the nine months ended September 2020 were not material.

Transfers into level 3 investments during the nine months ended September 2020 primarily reflected transfers of certain corporate debt securities from level 2 (principally due to certain unobservable yield and duration inputs becoming significant to the valuation of these instruments).

There were no transfers out of level 3 investments during the nine months ended September 2020.

Held-to-Maturity Securities

Held-to-maturity securities are accounted for at amortized cost.

The table below presents information about held-to-maturity securities by tenor.

$ in millions	Amortized Cost	Fair Value	Weighted Average Yield
As of September 2021			
Less than 1 year	**$ 504**	**$ 506**	**2.55%**
1 year to 5 years	**504**	**533**	**3.08%**
Total U.S. government obligations	**1,008**	**1,039**	**2.81%**
Greater than 10 years	**19**	**19**	**0.19%**
Total securities backed by real estate	**19**	**19**	**0.19%**
Total held-to-maturity securities	**$ 1,027**	**$ 1,058**	**2.77%**
As of December 2020			
Less than 1 year	$ 501	$ 512	2.53%
1 year to 5 years	500	541	3.08%
Total U.S. government obligations	1,001	1,053	2.81%
Greater than 10 years	21	20	0.22%
Total securities backed by real estate	21	20	0.22%
Total held-to-maturity securities	$ 1,022	$ 1,073	2.75%

In the table above:

- Substantially all of the securities backed by real estate consist of securities backed by residential real estate.
- As these securities are not accounted for at fair value, they are not included in the Bank's fair value hierarchy in Notes 4 through 10. Had these securities been included in the Bank's fair value hierarchy, U.S. government and agency obligations would have been classified in level 1 and securities backed by real estate would have been primarily classified in level 2 of the fair value hierarchy as of both September 2021 and December 2020.
- The gross unrealized gains were $31 million as of September 2021 and $52 million as of December 2020. There were no gross unrealized losses as of both September 2021 and December 2020.

- Held-to-maturity securities are reviewed to determine if an allowance for credit loss should be recorded in the consolidated statements of earnings. The Bank considers various factors in such determination, including market conditions, changes in issuer credit ratings, historical credit losses and sovereign guarantees. The Bank did not record any provision for credit losses on such securities during either the three or nine months ended September 2021 or September 2020.

Note 9.

Loans

Loans includes (i) loans held for investment that are accounted for at amortized cost net of allowance for loan losses or at fair value under the fair value option and (ii) loans held for sale that are accounted for at the lower of cost or fair value. Interest on loans is recognized over the life of the loan and is recorded on an accrual basis.

The table below presents information about loans.

$ in millions	Amortized Cost	Fair Value	Held For Sale	Total
As of September 2021				
Loan Type				
Corporate	**$ 30,861**	**$ 2,453**	**$ 1,696**	**$ 35,010**
Wealth management	**29,431**	**6,616**	**–**	**36,047**
Commercial real estate	**13,893**	**269**	**2,166**	**16,328**
Residential real estate	**11,127**	**–**	**587**	**11,714**
Consumer:				
Installment	**3,449**	**–**	**–**	**3,449**
Credit cards	**6,251**	**–**	**–**	**6,251**
Other	**4,534**	**–**	**421**	**4,955**
Total loans, gross	**99,546**	**9,338**	**4,870**	**113,754**
Allowance for loan losses	**(2,212)**	**–**	**–**	**(2,212)**
Total loans	**$ 97,334**	**$ 9,338**	**$ 4,870**	**$ 111,542**
As of December 2020				
Loan Type				
Corporate	$ 28,907	$ 1,009	$ 770	$ 30,686
Wealth management	21,128	7,872	–	29,000
Commercial real estate	12,815	313	676	13,804
Residential real estate	4,747	1	20	4,768
Consumer:				
Installment	3,823	–	–	3,823
Credit cards	4,270	–	–	4,270
Other	2,468	–	382	2,850
Total loans, gross	78,158	9,195	1,848	89,201
Allowance for loan losses	(2,523)	–	–	(2,523)
Total loans	$ 75,635	$ 9,195	$ 1,848	$ 86,678

In the table above, as of September 2021, wealth management loans includes $24.75 billion of loans, substantially all of which are secured by investments in financial or nonfinancial assets (other than real estate), $8.31 billion of loans secured by residential real estate and $2.99 billion of loans secured by commercial real estate. As of December 2020, wealth management loans includes $18.45 billion of loans, substantially all of which are secured by investments in financial or nonfinancial assets (other than real estate), $7.81 billion of loans secured by residential real estate and $2.73 billion of loans secured by commercial real estate.

The following is a description of the loan types in the table above:

- **Corporate.** Corporate loans includes term loans, revolving lines of credit, letter of credit facilities and bridge loans, and are principally used for operating and general corporate purposes, or in connection with acquisitions. Corporate loans also includes loans originated as part of the Bank's CRA activities. Corporate loans may be secured or unsecured, depending on the loan purpose, the risk profile of the borrower and other factors.

- **Wealth Management.** Wealth management loans includes loans extended to private bank clients, including wealth management and other clients. Wealth management loans also include loans originated through *Goldman Sachs Private Bank Select*. Wealth management loans are used to finance investments in both financial and nonfinancial assets, bridge cash flow timing gaps or provide liquidity for other needs. Substantially all wealth management loans are secured by securities, residential real estate, commercial real estate or other assets.

- **Commercial Real Estate.** Commercial real estate loans includes originated loans (other than those extended to private bank clients) that are directly or indirectly secured by hotels, retail stores, multifamily housing complexes and commercial and industrial properties. Commercial real estate loans also includes loans extended to clients who warehouse assets that are directly or indirectly backed by commercial real estate. In addition, commercial real estate includes loans purchased by the Bank and loans originated as part of the Bank's CRA activities.

- **Residential Real Estate.** Residential real estate loans includes loans extended by the Bank to clients (other than those extended to private bank clients) who warehouse assets that are directly or indirectly secured by residential real estate. Residential real estate loans also includes loans purchased and originated by the Bank.

- **Installment.** Installment loans are unsecured and are originated by the Bank.

- **Credit Cards.** Credit card loans are loans made pursuant to revolving lines of credit issued to consumers by the Bank.

- **Other.** Other loans primarily includes loans extended to clients who warehouse assets that are directly or indirectly secured by consumer loans, including auto loans and private student loans, and other assets. Other loans also includes unsecured consumer loans purchased by the Bank.

Credit Quality

Risk Assessment. The Bank's risk assessment process includes evaluating the credit quality of its loans. For corporate loans and a majority of wealth management, residential real estate and other loans, the Bank performs credit reviews which include initial and ongoing analyses of its borrowers, resulting in an internal credit rating. A credit review is an independent analysis of the capacity and willingness of a borrower to meet its financial obligations and is performed on an annual basis or more frequently if circumstances change that indicate that a review may be necessary. The determination of internal credit ratings also incorporates assumptions with respect to the nature of and outlook for the borrower's industry and the economic environment.

The table below presents gross loans by an internally determined public rating agency equivalent or other credit metrics and the concentration of secured and unsecured loans.

$ in millions	Investment-Grade	Non-Investment-Grade	Other Metrics/Unrated	Total
As of September 2021				
Accounting Method				
Amortized cost	**$ 38,356**	**$ 47,285**	**$ 13,905**	**$ 99,546**
Fair value	**1,494**	**4,327**	**3,517**	**9,338**
Held for sale	**1,086**	**3,635**	**149**	**4,870**
Total	**$ 40,936**	**$ 55,247**	**$ 17,571**	**$ 113,754**
Loan Type				
Corporate	**$ 11,521**	**$ 23,417**	**$ 72**	**$ 35,010**
Wealth management	**24,193**	**5,382**	**6,472**	**36,047**
Commercial real estate	**2,434**	**13,814**	**80**	**16,328**
Residential real estate	**562**	**10,488**	**664**	**11,714**
Consumer:				
Installment	**–**	**–**	**3,449**	**3,449**
Credit cards	**–**	**–**	**6,251**	**6,251**
Other	**2,226**	**2,146**	**583**	**4,955**
Total	**$ 40,936**	**$ 55,247**	**$ 17,571**	**$ 113,754**
Secured	**86%**	**95%**	**41%**	**83%**
Unsecured	**14%**	**5%**	**59%**	**17%**
Total	**100%**	**100%**	**100%**	**100%**
As of December 2020				
Accounting Method				
Amortized cost	$ 27,433	$ 40,282	$ 10,443	$ 78,158
Fair value	1,639	3,367	4,189	9,195
Held for sale	223	1,220	405	1,848
Total	$ 29,295	$ 44,869	$ 15,037	$ 89,201
Loan Type				
Corporate	$ 7,687	$ 22,966	$ 33	$ 30,686
Wealth management	18,303	5,262	5,435	29,000
Commercial real estate	1,287	12,487	30	13,804
Residential real estate	627	3,546	595	4,768
Consumer:				
Installment	–	–	3,823	3,823
Credit cards	–	–	4,270	4,270
Other	1,391	608	851	2,850
Total	$ 29,295	$ 44,869	$ 15,037	$ 89,201
Secured	83%	92%	40%	80%
Unsecured	17%	8%	60%	20%
Total	100%	100%	100%	100%

In the table above:

- Wealth management loans included in the other metrics/unrated category primarily consists of loans backed by residential real estate and securities. The Bank's risk assessment process for these loans includes reviewing certain key metrics, such as loan-to-value ratio, delinquency status, collateral values, expected cash flows, the Fair Isaac Corporation (FICO) credit score (which measures a borrower's creditworthiness by considering factors such as payment and credit history) and other risk factors.

- For installment and credit card loans included in the other metrics/unrated category, the evaluation of credit quality incorporates the borrower's FICO credit score. FICO credit scores are periodically refreshed by the Bank to assess the updated creditworthiness of the borrower. See "Vintage" below for information about installment and credit card loans by FICO credit scores.

The Bank also assigns a regulatory risk rating to its loans based on the definitions provided by the U.S. federal bank regulatory agencies. Total loans included 95% of loans as of September 2021 and 92% of loans as of December 2020 that were rated pass/non-criticized.

Vintage. The tables below present gross loans accounted for at amortized cost (excluding installment and credit card loans) by an internally determined public rating agency equivalent or other credit metrics and origination year for term loans.

	As of September 2021			
$ in millions	Investment-Grade	Non-Investment-Grade	Other Metrics/Unrated	Total
2021	$ 2,586	$ 3,844	$ –	$ 6,430
2020	1,774	2,209	18	4,001
2019	219	1,474	–	1,693
2018	1,831	1,028	–	2,859
2017	755	878	–	1,633
2016 or earlier	258	1,222	–	1,480
Revolving	3,166	9,571	28	12,765
Corporate	10,589	20,226	46	30,861
2021	890	478	875	2,243
2020	526	231	–	757
2019	573	399	–	972
2018	320	93	–	413
2017	365	31	–	396
2016 or earlier	309	247	–	556
Revolving	19,785	2,232	2,077	24,094
Wealth management	22,768	3,711	2,952	29,431
2021	329	1,844	5	2,178
2020	265	1,773	–	2,038
2019	10	724	–	734
2018	75	779	–	854
2017	436	447	–	883
2016 or earlier	–	249	–	249
Revolving	1,096	5,861	–	6,957
Commercial real estate	2,211	11,677	5	13,893
2021	–	43	180	223
2020	287	274	110	671
2019	–	3	179	182
2018	–	6	163	169
2017	–	42	–	42
Revolving	275	9,565	–	9,840
Residential real estate	562	9,933	632	11,127
2021	104	290	155	549
2020	–	32	385	417
2019	–	15	21	36
2018	–	33	–	33
2017	–	3	9	12
Revolving	2,122	1,365	–	3,487
Other	2,226	1,738	570	4,534
Total	$ 38,356	$ 47,285	$ 4,205	$ 89,846
Percentage of total	43%	52%	5%	100%

$ in millions	Investment-Grade	Non-Investment-Grade	Other Metrics/ Unrated	Total
	As of December 2020			
2020	$ 1,088	$ 4,075	$ –	$ 5,163
2019	564	2,592	1	3,157
2018	2,055	1,287	–	3,342
2017	851	1,462	–	2,313
2016	268	418	–	686
2015 or earlier	351	1,418	–	1,769
Revolving	2,224	10,249	4	12,477
Corporate	7,401	21,501	5	28,907
2020	446	302	–	748
2019	700	397	–	1,097
2018	298	74	–	372
2017	373	30	–	403
2016	22	20	–	42
2015 or earlier	247	264	–	511
Revolving	14,652	2,045	1,258	17,955
Wealth management	16,738	3,132	1,258	21,128
2020	790	2,770	4	3,564
2019	10	1,139	–	1,149
2018	1	1,310	17	1,328
2017	18	1,230	–	1,248
2016	–	90	–	90
2015 or earlier	–	245	–	245
Revolving	458	4,733	–	5,191
Commercial real estate	1,277	11,517	21	12,815
2020	402	976	115	1,493
2019	–	90	243	333
2018	–	27	218	245
2017	–	49	–	49
Revolving	225	2,402	–	2,627
Residential real estate	627	3,544	576	4,747
2020	242	16	461	719
2019	–	40	29	69
2018	–	46	–	46
2017	–	5	–	5
Revolving	1,148	481	–	1,629
Other	1,390	588	490	2,468
Total	$ 27,433	$ 40,282	$ 2,350	$ 70,065
Percentage of total	40%	57%	3%	100%

In the tables above, revolving loans which converted to term loans were not material as of both September 2021 and December 2020.

The table below presents gross installment loans by refreshed FICO credit scores and origination year and gross credit card loans by refreshed FICO credit scores.

$ in millions	Greater than or equal to 660	Less than 660	Total
As of September 2021			
2021	**$ 1,380**	**$ 19**	**$ 1,399**
2020	**816**	**40**	**856**
2019	**658**	**74**	**732**
2018	**347**	**56**	**403**
2017	**47**	**10**	**57**
2016	**2**	**–**	**2**
Installment	**3,250**	**199**	**3,449**
Credit cards	**4,665**	**1,586**	**6,251**
Total	**$ 7,915**	**$ 1,785**	**$ 9,700**
Percentage of total:			
Installment	**94%**	**6%**	**100%**
Credit cards	**75%**	**25%**	**100%**
Total	**82%**	**18%**	**100%**
As of December 2020			
2020	$ 1,321	$ 38	$ 1,359
2019	1,225	132	1,357
2018	792	150	942
2017	128	30	158
2016	6	1	7
Installment	3,472	351	3,823
Credit cards	3,398	872	4,270
Total	$ 6,870	$ 1,223	$ 8,093
Percentage of total:			
Installment	91%	9%	100%
Credit cards	80%	20%	100%
Total	85%	15%	100%

In the table above, credit card loans consist of revolving lines of credit.

Credit Concentrations. The table below presents the concentration of gross loans by region.

$ in millions	Carrying Value	Americas	EMEA	Asia	Total
As of September 2021					
Corporate	**$ 35,010**	**67%**	**30%**	**3%**	**100%**
Wealth management	**36,047**	**99%**	**1%**	**–**	**100%**
Commercial real estate	**16,328**	**93%**	**7%**	**–**	**100%**
Residential real estate	**11,714**	**100%**	**–**	**–**	**100%**
Consumer:					
Installment	**3,449**	**100%**	**–**	**–**	**100%**
Credit cards	**6,251**	**100%**	**–**	**–**	**100%**
Other	**4,955**	**100%**	**–**	**–**	**100%**
Total	**$ 113,754**	**89%**	**10%**	**1%**	**100%**
As of December 2020					
Corporate	$ 30,686	75%	20%	5%	100%
Wealth management	29,000	100%	–	–	100%
Commercial real estate	13,804	96%	4%	–	100%
Residential real estate	4,768	100%	–	–	100%
Consumer:					
Installment	3,823	100%	–	–	100%
Credit cards	4,270	100%	–	–	100%
Other	2,850	100%	–	–	100%
Total	$ 89,201	90%	8%	2%	100%

In the table above:

- EMEA represents Europe, Middle East and Africa.
- The top five industry concentrations for corporate loans as of September 2021 were 26% for funds (17% as of December 2020), 15% for technology, media & telecommunications (11% as of December 2020), 14% for diversified industrials (15% as of December 2020), 10% for natural resources & utilities (13% as of December 2020) and 9% for financial institutions (14% as of December 2020).

Nonaccrual and Past Due Loans. Loans accounted for at amortized cost (other than credit card loans) are placed on nonaccrual status when it is probable that the Bank will not collect all principal and interest due under the contractual terms, regardless of the delinquency status or if a loan is past due for 90 days or more, unless the loan is both well collateralized and in the process of collection. At that time, all accrued but uncollected interest is reversed against interest income and interest subsequently collected is recognized on a cash basis to the extent the loan balance is deemed collectible. Otherwise, all cash received is used to reduce the outstanding loan balance. A loan is considered past due when a principal or interest payment has not been made according to its contractual terms. Credit card loans are not placed on nonaccrual status and accrue interest until the loan is paid in full or is charged off.

In certain circumstances, the Bank may modify the original terms of a loan agreement by granting a concession to a borrower experiencing financial difficulty, typically in the form of a modification of loan covenants, but may also include forbearance of interest or principal, payment extensions or interest rate reductions. These modifications, to the extent significant, are considered troubled debt restructurings (TDRs). Loan modifications that extend payment terms for a period of less than 90 days are generally considered insignificant and therefore not reported as TDRs.

The Bank adopted the relief issued under the Coronavirus Aid, Relief, and Economic Security Act, as amended, and certain interpretive guidance issued by the U.S. banking agencies that provides for certain modified loans that would otherwise meet the definition of a TDR to not be classified as such. Loans accounted for at amortized cost that were not classified as TDRs as a result of this relief and interpretive guidance were not material as of both September 2021 and December 2020.

The table below presents information about past due loans.

$ in millions	30-89 days	90 days or more	Total
As of September 2021			
Corporate	**$ –**	**$ 91**	**$ 91**
Wealth management	**4**	**46**	**50**
Commercial real estate	**10**	**54**	**64**
Residential real estate	**–**	**4**	**4**
Consumer:			
Installment	**20**	**8**	**28**
Credit cards	**66**	**52**	**118**
Other	**5**	**2**	**7**
Total	**$ 105**	**$ 257**	**$ 362**
Total divided by gross loans at amortized cost			**0.4%**
As of December 2020			
Corporate	$ –	$ 201	$ 201
Wealth management	58	34	92
Commercial real estate	34	78	112
Residential real estate	1	22	23
Consumer:			
Installment	42	16	58
Credit cards	46	31	77
Other	5	1	6
Total	$ 186	$ 383	$ 569
Total divided by gross loans at amortized cost			0.7%

The table below presents information about nonaccrual loans.

	As of	
$ in millions	**September 2021**	December 2020
Corporate	**$ 703**	$ 1,300
Wealth management	**39**	61
Commercial real estate	**561**	527
Residential real estate	**11**	25
Installment	**45**	44
Other	**–**	122
Total	**$ 1,359**	$ 2,079
Total divided by gross loans at amortized cost	**1.4%**	2.7%

In the table above:

- Nonaccrual loans included $206 million as of September 2021 and $383 million as of December 2020 of loans that were 30 days or more past due.
- Loans that were 90 days or more past due and still accruing were not material as of both September 2021 and December 2020.
- Nonaccrual loans included $44 million as of September 2021 and $78 million as of December 2020 of commercial real estate loans that were modified in a TDR. The Bank's lending commitments related to these loans were not material as of both September 2021 and December 2020. Installment loans that were modified in a TDR were not material as of both September 2021 and December 2020.

Allowance for Credit Losses

The Bank's allowance for credit losses consists of the allowance for losses on loans and lending commitments accounted for at amortized cost. Loans and lending commitments accounted for at fair value or accounted for at the lower of cost or fair value are not subject to an allowance for credit losses.

To determine the allowance for credit losses, the Bank classifies its loans and lending commitments accounted for at amortized cost into wholesale and consumer portfolios. These portfolios represent the level at which the Bank has developed and documented its methodology to determine the allowance for credit losses. The allowance for credit losses is measured on a collective basis for loans that exhibit similar risk characteristics using a modeled approach and asset-specific basis for loans that do not share similar risk characteristics.

The allowance for credit losses takes into account the weighted average of a range of forecasts of future economic conditions over the expected life of the loan and lending commitments. The expected life of each loan or lending commitment is determined based on the contractual term adjusted for extension options or demand features. The forecasts include baseline, favorable and adverse economic scenarios over a three-year period. For loans with expected lives beyond three years, the model reverts to historical loss information based on a non-linear modeled approach. The forecasted economic scenarios consider a number of risk factors relevant to the wholesale and consumer portfolios described below. The Bank applies judgment in weighing individual scenarios each quarter based on a variety of factors, including the Bank's internally derived economic outlook, market consensus, recent macroeconomic conditions and industry trends.

The allowance for credit losses also includes qualitative components which allow management to reflect the uncertain nature of economic forecasting, capture uncertainty regarding model inputs, and account for model imprecision and concentration risk.

Management's estimate of credit losses entails judgment about loan collectability at the reporting dates, and there are uncertainties inherent in those judgments. The allowance for credit losses is subject to a governance process that involves review and approval by senior management within the Bank's independent risk oversight and control functions. Personnel within GS Group's independent risk oversight and control functions are responsible for forecasting the economic variables that underlie the economic scenarios that are used in the modeling of expected credit losses. While management uses the best information available to determine this estimate, future adjustments to the allowance may be necessary based on, among other things, changes in the economic environment or variances between actual results and the original assumptions used.

The table below presents gross loans and lending commitments accounted for at amortized cost by portfolio.

	As of September 2021		As of December 2020	
$ in millions	**Loans**	**Lending Commitments**	Loans	Lending Commitments
Wholesale				
Corporate	**$ 30,861**	**$ 127,244**	$ 28,907	$ 107,785
Wealth management	**29,431**	**3,806**	21,128	2,277
Commercial real estate	**13,893**	**3,169**	12,815	2,668
Residential real estate	**11,127**	**1,889**	4,747	1,749
Other	**4,534**	**4,867**	2,468	4,735
Consumer				
Installment	**3,449**	**11**	3,823	4
Credit cards	**6,251**	**31,718**	4,270	21,640
Total	**$ 99,546**	**$ 172,704**	$ 78,158	$ 140,858

In the table above:

- Wholesale loans included $1.31 billion as of September 2021 and $2.04 billion as of December 2020 of nonaccrual loans for which the allowance for credit losses was measured on an asset-specific basis. The allowance for credit losses on these loans was $233 million as of September 2021 and $317 million as of December 2020. These loans included $130 million as of September 2021 and $451 million as of December 2020 of loans which did not require a reserve as the loan was deemed to be recoverable.
- Credit card lending commitments included $29.79 billion as of September 2021 and $21.64 billion as of December 2020 related to credit card lines issued by the Bank to consumers. These credit card lines are cancellable by the Bank. Credit card lending commitments also included approximately $2.0 billion as of September 2021 related to a commitment to acquire the General Motors co-branded credit card portfolio.

See Note 18 for further information about lending commitments.

The following is a description of the methodology used to calculate the allowance for credit losses:

Wholesale. The allowance for credit losses for wholesale loans and lending commitments that exhibit similar risk characteristics is measured using a modeled approach. These models determine the probability of default and loss given default based on various risk factors, including internal credit ratings, industry default and loss data, expected life, macroeconomic indicators, the borrower's capacity to meet its financial obligations, the borrower's country of risk and industry, loan seniority and collateral type. For lending commitments, the methodology also considers probability of drawdowns or funding. In addition, for loans backed by real estate, risk factors include the loan-to-value ratio, debt service ratio and home price index. The most significant inputs to the forecast model for wholesale loans and lending commitments include unemployment rates, GDP, credit spreads, commercial and industrial delinquency rates, short- and long-term interest rates, and oil prices.

The allowance for loan losses for wholesale loans that do not share similar risk characteristics, such as nonaccrual loans or loans in a TDR, is calculated using the present value of expected future cash flows discounted at the loan's original effective rate, the observable market price of the loan or the fair value of the collateral.

Wholesale loans are charged off against the allowance for loan losses when deemed to be uncollectible.

Consumer. The allowance for credit losses for consumer loans that exhibit similar risk characteristics is calculated using a modeled approach which classifies consumer loans into pools based on borrower-related and exposure-related characteristics that differentiate a pool's risk characteristics from other pools. The factors considered in determining a pool are generally consistent with the risk characteristics used for internal credit risk measurement and management and include key metrics, such as FICO credit scores, delinquency status, loan vintage and macroeconomic indicators. The most significant inputs to the forecast model for consumer loans include unemployment rates and delinquency rates. The expected life of revolving credit card loans is determined by modeling expected future draws and the timing and amount of repayments allocated to the funded balance. The Bank also recognizes an allowance for credit losses on commitments to acquire loans. However, no allowance for credit losses is recognized on credit card lending commitments as they are cancellable by the Bank.

The allowance for credit losses for consumer loans that do not share similar risk characteristics, such as loans in a TDR, is calculated using the present value of expected future cash flows discounted at the loan's original effective rate.

Installment loans are charged off when they are 120 days past due. Credit card loans are charged off when they are 180 days past due.

Allowance for Credit Losses Rollforward

The table below presents information about the allowance for credit losses.

$ in millions	Wholesale	Consumer	Total
Three Months Ended September 2021			
Allowance for loan losses			
Beginning balance	**$ 1,021**	**$ 1,098**	**$ 2,119**
Net (charge-offs)/recoveries	**–**	**(36)**	**(36)**
Provision	**(16)**	**139**	**123**
Other	**6**	**–**	**6**
Ending balance	**$ 1,011**	**$ 1,201**	**$ 2,212**
Allowance ratio	**1.1%**	**12.4%**	**2.2%**
Net charge-off ratio	**0.0%**	**1.6%**	**0.2%**
Allowance for losses on lending commitments			
Beginning balance	**$ 426**	**$ 186**	**$ 612**
Provision	**26**	**(2)**	**24**
Ending balance	**$ 452**	**$ 184**	**$ 636**
Three Months Ended September 2020			
Allowance for loan losses			
Beginning balance	$ 1,397	$ 1,144	$ 2,541
Net (charge-offs)/recoveries	(90)	(63)	(153)
Provision	(69)	51	(18)
Other	(3)	–	(3)
Ending balance	$ 1,235	$ 1,132	$ 2,367
Allowance ratio	1.8%	16.1%	3.2%
Net charge-off ratio	0.5%	3.7%	0.8%
Allowance for losses on lending commitments			
Beginning balance	$ 388	$ –	$ 388
Provision	94	–	94
Ending balance	$ 482	$ –	$ 482
Nine Months Ended September 2021			
Allowance for loan losses			
Beginning balance	**$ 1,233**	**$ 1,290**	**$ 2,523**
Net (charge-offs)/recoveries	**13**	**(153)**	**(140)**
Provision	**(180)**	**64**	**(116)**
Other	**(55)**	**–**	**(55)**
Ending balance	**$ 1,011**	**$ 1,201**	**$ 2,212**
Allowance ratio	**1.1%**	**12.4%**	**2.2%**
Net charge-off ratio	**0.0%**	**2.4%**	**0.2%**
Allowance for losses on lending commitments			
Beginning balance	**$ 395**	**$ –**	**$ 395**
Provision	**75**	**184**	**259**
Other	**(18)**	**–**	**(18)**
Ending balance	**$ 452**	**$ 184**	**$ 636**
Nine Months Ended September 2020			
Allowance for loan losses			
Beginning balance	$ 531	$ 837	$ 1,368
Net (charge-offs)/recoveries	(152)	(230)	(382)
Provision	1,007	525	1,532
Other	(151)	–	(151)
Ending balance	$ 1,235	$ 1,132	$ 2,367
Allowance ratio	1.8%	16.1%	3.2%
Net charge-off ratio	0.3%	4.5%	0.7%
Allowance for losses on lending commitments			
Beginning balance	$ 223	$ –	$ 223
Provision	259	–	259
Ending balance	$ 482	$ –	$ 482

In the table above:

- Other represents the reduction to the allowance related to loans and lending commitments transferred to held for sale.
- The allowance ratio is calculated by dividing the allowance for loan losses by gross loans accounted for at amortized cost.
- The net charge-off ratio is calculated by dividing annualized net (charge-offs)/recoveries by average gross loans accounted for at amortized cost.
- The beginning balance for the allowance for loan losses and allowance for losses on lending commitments for the nine months ended September 2020 reflects the cumulative effect of measuring the allowance under the CECL standard as of January 1, 2020. The cumulative effect was an increase in the allowance for credit losses of $548 million, which consisted of (i) an increase in the allowance for loan losses of $591 million (an increase in the allowance for wholesale loans of $147 million and an increase in the allowance for consumer loans of $444 million) and (ii) a decrease in the allowance for lending commitments of $43 million.

As of December 2020, the allowance ratio was 1.8% for wholesale, 15.9% for consumer and 3.2% for total loans. The net charge-off ratio for the year ended December 2020 was 0.3% for wholesale, 4.2% for consumer and 0.7% for total loans.

Allowance for Credit Losses Rollforward Commentary

Three Months Ended September 2021. The allowance for credit losses increased by $117 million during the three months ended September 2021.

The provision for credit losses reflected growth in the Bank's lending portfolios, primarily in consumer loans related to credit cards, partially offset by reserve reduction driven by improved broader economic conditions.

Net (charge-offs)/recoveries for the three months ended September 2021 for wholesale loans were not material and net (charge-offs)/recoveries for consumer loans were primarily related to credit cards.

Nine Months Ended September 2021. The allowance for credit losses decreased by $70 million during the nine months ended September 2021.

The provision for credit losses reflected growth in the Bank's wholesale and consumer lending portfolios, including a provision for credit losses of approximately $185 million relating to the pending acquisition of the General Motors co-branded credit card portfolio, partially offset by reserve reduction driven by improved broader economic conditions.

Net (charge-offs)/recoveries for the nine months ended September 2021 for wholesale loans were not material and net (charge-offs)/recoveries for consumer loans were primarily related to credit cards.

Forecast model inputs as of September 2021. When modeling expected credit losses, the Bank employs a weighted, multivariate forecast, which includes baseline, adverse and favorable economic scenarios. As of September 2021, the forecasted economic scenarios were most heavily weighted towards the baseline and adverse scenarios. The forecast model incorporated adjustments to reflect the impact of the coronavirus (COVID-19) pandemic-related economic support programs provided by national governments.

The table below presents the forecasted range (across the baseline, adverse and favorable scenarios) of the U.S. unemployment and U.S. GDP growth rates used in the forecast model as of September 2021.

	U.S. Unemployment Rate	Growth/(Decline) in U.S. GDP
Forecast for the quarter ended:		
December 2021	**4.1% to 6.2%**	**3.8% to 1.5%**
June 2022	**3.6% to 9.5%**	**5.8% to (1.0)%**
December 2022	**3.4% to 9.7%**	**7.4% to (0.9)%**

In the table above:

- U.S. unemployment rate represents the rate forecasted as of the respective quarter-end.
- Growth/(decline) in U.S. GDP represents the change in quarterly U.S. GDP relative to the U.S. GDP for the fourth quarter of 2019 (pre-pandemic levels).
- While the U.S. unemployment and U.S. GDP growth rates are significant inputs to the forecast model, the model contemplates a variety of other inputs across a range of scenarios to provide a forecast of future economic conditions. Given the complex nature of the forecasting process, no single economic variable can be viewed in isolation and independently of other inputs.

Three Months Ended September 2020. The allowance for credit losses decreased by $80 million during the three months ended September 2020.

The provision for credit losses for wholesale and consumer loans reflected the impact of the COVID-19 pandemic on macroeconomic indicators such as unemployment and GDP. In addition, the provision for credit losses for wholesale loans was impacted by ratings downgrades and asset-specific provisions primarily related to borrowers in the diversified industrials, technology, media & telecommunications, and natural resources industries.

Net (charge-offs)/recoveries for the three months ended September 2020 for wholesale loans were substantially all related to corporate loans and net (charge-offs)/recoveries for consumer loans were primarily related to installment loans.

Nine Months Ended September 2020. The allowance for credit losses increased by $1.81 billion during the nine months ended September 2020 reflecting $548 million relating to the impact of CECL adoption and $1.26 billion from activity during the period.

The provision for credit losses for wholesale and consumer loans reflected the impact of the COVID-19 pandemic on economic conditions, which resulted in higher modeled expected losses and lower recoveries. In addition, the provision for credit losses for wholesale loans was impacted by asset-specific provisions and ratings downgrades primarily related to borrowers in the technology, media & telecommunications, diversified industrials, and natural resources industries. Besides the weaker economic outlook related to the COVID-19 pandemic, the provision for credit losses for consumer loans for the nine months ended September 2020 was also impacted by the continued seasoning of the credit card portfolio.

Net (charge-offs)/recoveries for the nine months ended September 2020 for wholesale loans were substantially all related to corporate loans and net (charge-offs)/recoveries for consumer loans were primarily related to installment loans.

Fair Value of Loans by Level

The table below presents loans held for investment accounted for at fair value under the fair value option by level within the fair value hierarchy.

$ in millions	Level 1	Level 2	Level 3	Total
As of September 2021				
Loan Type				
Corporate	**$ –**	**$ 2,292**	**$ 161**	**$ 2,453**
Wealth management	**–**	**6,553**	**63**	**6,616**
Commercial real estate	**–**	**226**	**43**	**269**
Total	**$ –**	**$ 9,071**	**$ 267**	**$ 9,338**
As of December 2020				
Loan Type				
Corporate	$ –	$ 643	$ 366	$ 1,009
Wealth management	–	7,809	63	7,872
Commercial real estate	–	141	172	313
Residential real estate	–	1	–	1
Total	$ –	$ 8,594	$ 601	$ 9,195

The gains/(losses) as a result of changes in the fair value of loans held for investment for which the fair value option was elected were $1 million for the three months ended September 2021, $7 million for the three months ended September 2020, $(63) million for the nine months ended September 2021 and $177 million for the nine months ended September 2020. These gains/(losses) were included in gains and losses from financial assets and liabilities.

See Note 4 for an overview of the Bank's fair value measurement policies and the valuation techniques and significant inputs used to determine the fair value of loans.

Significant Unobservable Inputs

The table below presents the amount of level 3 loans, and ranges and weighted averages of significant unobservable inputs used to value such loans.

	As of September 2021		As of December 2020	
$ in millions	**Amount or Range**	**Weighted Average**	Amount or Range	Weighted Average
Corporate				
Level 3 assets	**$161**		$366	
Yield	**2.3% to 9.5%**	**6.6%**	2.2% to 9.7%	6.5%
Recovery rate	**70.0% to 85.0%**	**78.4%**	N/A	N/A
Duration (years)	**3.0 to 4.5**	**3.3**	2.6 to 5.3	3.2
Commercial real estate				
Level 3 assets	**$43**		$172	
Yield	**N.M.**	**N.M.**	6.6% to 10.2%	7.6%
Duration (years)	**N.M.**	**N.M.**	1.8 to 4.0	3.1

In the table above:

- Ranges represent the significant unobservable inputs that were used in the valuation of each type of loan.
- Weighted averages are calculated by weighting each input by the relative fair value of the loan.
- The ranges and weighted averages of these inputs are not representative of the appropriate inputs to use when calculating the fair value of any one loan. For example, the highest yield for commercial real estate loans is appropriate for valuing a specific commercial real estate loan but may not be appropriate for valuing any other commercial real estate loan. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 loans.
- Loans are valued using discounted cash flows.
- Significant unobservable inputs for commercial real estate loans as of September 2021 and wealth management loans as of both September 2021 and December 2020 have no range and are not meaningful and therefore have been excluded from the table.

Level 3 Rollforward

The table below presents a summary of the changes in fair value for level 3 loans.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Beginning balance	**$ 383**	$ 716	**$ 601**	$ 153
Net realized gains/(losses)	**5**	11	**14**	23
Net unrealized gains/(losses)	**(1)**	–	**(4)**	15
Purchases	**–**	35	**–**	557
Sales	**–**	(57)	**–**	(1)
Settlements	**(47)**	(52)	**(186)**	(87)
Transfers into level 3	**–**	23	**–**	9
Transfers out of level 3	**(73)**	(7)	**(158)**	–
Ending balance	**$ 267**	$ 669	**$ 267**	$ 669

In the table above:

- Changes in fair value are presented for loans that are classified in level 3 as of the end of the period.
- Net unrealized gains/(losses) relates to loans that were still held at period-end.
- Purchases includes originations and secondary purchases.

The table below presents information, by loan type, for loans included in the summary table above.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Corporate				
Beginning balance	**$ 275**	$ 502	**$ 366**	$ 25
Net realized gains/(losses)	**2**	6	**4**	8
Net unrealized gains/(losses)	**–**	7	**–**	19
Purchases	**–**	12	**–**	457
Sales	**–**	(57)	**–**	–
Settlements	**(43)**	(33)	**(174)**	(53)
Transfers into level 3	**–**	19	**–**	–
Transfers out of level 3	**(73)**	–	**(35)**	–
Ending balance	**$ 161**	$ 456	**$ 161**	$ 456
Wealth management				
Beginning balance	**$ 63**	$ 61	**$ 63**	$ 60
Net realized gains/(losses)	**–**	–	**–**	1
Net unrealized gains/(losses)	**–**	–	**–**	1
Settlements	**–**	(1)	**–**	(2)
Ending balance	**$ 63**	$ 60	**$ 63**	$ 60
Commercial real estate				
Beginning balance	**$ 45**	$ 153	**$ 172**	$ 68
Net realized gains/(losses)	**3**	5	**10**	14
Net unrealized gains/(losses)	**(1)**	(7)	**(4)**	(5)
Purchases	**–**	23	**–**	100
Sales	**–**	–	**–**	(1)
Settlements	**(4)**	(18)	**(12)**	(32)
Transfers into level 3	**–**	4	**–**	9
Transfers out of level 3	**–**	(7)	**(123)**	–
Ending balance	**$ 43**	$ 153	**$ 43**	$ 153

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 loans of $4 million (reflecting $5 million of net realized gains and $1 million of net unrealized losses) for the three months ended September 2021 were reported in gains and losses from financial assets and liabilities.

The drivers of the net unrealized losses on level 3 loans for the three months ended September 2021 were not material.

There were no transfers into level 3 loans during the three months ended September 2021.

Transfers out of level 3 loans during the three months ended September 2021 primarily reflected transfers of certain corporate loans to level 2 (principally due to certain unobservable yield and duration inputs no longer being significant to the valuation of these instruments).

Nine Months Ended September 2021. The net realized and unrealized gains on level 3 loans of $10 million (reflecting $14 million of net realized gains and $4 million of net unrealized losses) for the nine months ended September 2021 were reported in gains and losses from financial assets and liabilities.

The drivers of the net unrealized losses on level 3 loans for the nine months ended September 2021 were not material.

There were no transfers into level 3 loans during the nine months ended September 2021.

Transfers out of level 3 loans during the nine months ended September 2021 primarily reflected transfers of certain loans backed by commercial real estate to level 2 (principally due to certain unobservable yield and duration inputs no longer being significant to the valuation of these instruments).

Three Months Ended September 2020. The net realized gains on level 3 loans of $11 million for the three months ended September 2020 were reported in gains and losses from financial assets and liabilities.

There were no net unrealized gains/(losses) on level 3 loans for the three months ended September 2020.

The drivers of both transfers into and out of level 3 loans during the three months ended September 2020 were not material.

Nine Months Ended September 2020. The net realized and unrealized gains on level 3 loans of $38 million (reflecting $23 million of net realized gains and $15 million of net unrealized gains) for the nine months ended September 2020 were reported in gains and losses from financial assets and liabilities.

The drivers of the net unrealized gains on level 3 loans for the nine months ended September 2020 were not material.

The drivers of transfers into level 3 loans during the nine months ended September 2020 were not material.

There were no transfers out of level 3 loans during the nine months ended September 2020.

Estimated Fair Value

The table below presents the estimated fair value of loans that are not accounted for at fair value and in what level of the fair value hierarchy they would have been classified if they had been included in the Bank's fair value hierarchy.

	Carrying	Estimated Fair Value		
$ in millions	Value	Level 2	Level 3	Total
As of September 2021				
Amortized cost	**$ 97,334**	**$ 61,573**	**$ 36,666**	**$ 98,239**
Held for sale	**$ 4,870**	**$ 2,687**	**$ 2,268**	**$ 4,955**
As of December 2020				
Amortized cost	$ 75,635	$ 42,358	$ 34,214	$ 76,572
Held for sale	$ 1,848	$ 1,257	$ 596	$ 1,853

Note 10.

Fair Value Option

Other Financial Assets and Liabilities at Fair Value

In addition to trading assets and liabilities, and certain investments and loans, the Bank accounts for certain of its other financial assets and liabilities at fair value, the vast majority under the fair value option. The primary reasons for electing the fair value option are to:

- Reflect economic events in earnings on a timely basis;
- Mitigate volatility in earnings from using different measurement attributes (e.g., transfers of financial assets accounted for as financings are recorded at fair value, whereas the related secured financing would be recorded on an accrual basis absent electing the fair value option); and
- Address simplification and cost-benefit considerations (e.g., accounting for hybrid financial instruments at fair value in their entirety versus bifurcation of embedded derivatives and hedge accounting for debt hosts).

Hybrid financial instruments are instruments that contain bifurcatable embedded derivatives and do not require settlement by physical delivery of nonfinancial assets. For the vast majority of hybrid financial instruments, the Bank has not elected to bifurcate hybrid financial instruments and accounts for the entire hybrid financial instrument at fair value under the fair value option.

Other financial assets and liabilities accounted for at fair value under the fair value option include:

- Resale and repurchase agreements;
- Certain customer and other receivables;
- Certain time deposits (deposits with no stated maturity are not eligible for a fair value option election), including structured certificates of deposit, which are hybrid financial instruments;
- Certain other secured financings, including advances from the FHLB; and
- Certain unsecured borrowings.

Fair Value of Other Financial Assets and Liabilities by Level

The table below presents, by level within the fair value hierarchy, other financial assets and liabilities at fair value, substantially all of which are accounted for at fair value under the fair value option.

$ in millions	Level 1	Level 2	Level 3	Total
As of September 2021				
Assets				
Resale agreements	**$ –**	**$ 30,586**	**$ –**	**$ 30,586**
Total	**$ –**	**$ 30,586**	**$ –**	**$ 30,586**
Liabilities				
Deposits	**$ –**	**$ (1,613)**	**$ (3,709)**	**$ (5,322)**
Repurchase agreements	**–**	**(6,747)**	**–**	**(6,747)**
Other secured financings	**–**	**(1,973)**	**(31)**	**(2,004)**
Unsecured borrowings	**–**	**(501)**	**–**	**(501)**
Total	**$ –**	**$ (10,834)**	**$ (3,740)**	**$ (14,574)**
As of December 2020				
Assets				
Resale agreements	$ –	$ 22,245	$ –	$ 22,245
Customer and other receivables	–	8	–	8
Total	$ –	$ 22,253	$ –	$ 22,253
Liabilities				
Deposits	$ –	$ (1,576)	$ (4,362)	$ (5,938)
Repurchase agreements	–	(3,023)	–	(3,023)
Other secured financings	–	(118)	–	(118)
Unsecured borrowings	–	(1,336)	–	(1,336)
Total	$ –	$ (6,053)	$ (4,362)	$ (10,415)

In the table above, other financial assets are shown as positive amounts and other financial liabilities are shown as negative amounts.

See Note 4 for an overview of the Bank's fair value measurement policies and the valuation techniques and significant inputs used to determine the fair value of other financial assets and liabilities.

Significant Unobservable Inputs

See below for information about the significant unobservable inputs used to value level 3 other financial assets and liabilities at fair value as of both September 2021 and December 2020.

Deposits. The Bank's deposits that are classified in level 3 are hybrid financial instruments. As the significant unobservable inputs used to value such instruments primarily relate to the embedded derivative component of these deposits, these unobservable inputs are incorporated in the Bank's derivative disclosures in Note 7.

Level 3 Rollforward

The table below presents a summary of the changes in fair value for level 3 other financial liabilities accounted for at fair value.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Beginning balance	**$ (4,000)**	$ (4,392)	**$ (4,362)**	$ (4,185)
Net realized gains/(losses)	**(10)**	(8)	**(33)**	(9)
Net unrealized gains/(losses)	**76**	(66)	**(22)**	(139)
Issuances	**(139)**	(48)	**(246)**	(3,972)
Settlements	**294**	249	**872**	4,092
Transfers into level 3	**–**	(19)	**(23)**	(57)
Transfers out of level 3	**39**	69	**74**	55
Ending balance	**$ (3,740)**	$ (4,215)	**$ (3,740)**	$ (4,215)

In the table above:

- Changes in fair value are presented for all other financial liabilities that are classified in level 3 as of the end of the period.
- Net unrealized gains/(losses) relates to other financial liabilities that were still held at period-end.
- Transfers between levels of the fair value hierarchy are reported at the beginning of the reporting period in which they occur. If a financial liability was transferred to level 3 during a reporting period, its entire gain or loss for the period is classified in level 3.
- For level 3 other financial liabilities, increases are shown as negative amounts, while decreases are shown as positive amounts.

- Level 3 other financial liabilities are frequently economically hedged with trading assets and liabilities. Accordingly, gains or losses that are classified in level 3 can be partially offset by gains or losses attributable to level 1, 2 or 3 trading assets and liabilities. As a result, gains or losses included in the level 3 rollforward above do not necessarily represent the overall impact on the Bank's results of operations, liquidity or capital resources.

The table below presents information, by the consolidated balance sheet line items, for liabilities included in the summary table above.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Deposits				
Beginning balance	**$ (4,000)**	$ (4,392)	**$ (4,362)**	$ (4,185)
Net realized gains/(losses)	**(10)**	(8)	**(33)**	(9)
Net unrealized gains/(losses)	**76**	(66)	**(22)**	(139)
Issuances	**(108)**	(48)	**(215)**	(3,972)
Settlements	**294**	249	**872**	4,092
Transfers into level 3	**–**	(19)	**(23)**	(57)
Transfers out of level 3	**39**	69	**74**	55
Ending balance	**$ (3,709)**	$ (4,215)	**$ (3,709)**	$ (4,215)
Other secured financings				
Beginning balance	**$ –**	$ –	**$ –**	$ –
Issuances	**(31)**	–	**(31)**	–
Ending balance	**$ (31)**	$ –	**$ (31)**	$ –

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 other financial liabilities of $66 million (reflecting $10 million of net realized losses and $76 million of net unrealized gains) for the three months ended September 2021 included gains of $58 million reported in gains and losses from financial assets and liabilities in the consolidated statements of earnings, and gains of $8 million reported in debt valuation adjustment in the consolidated statements of comprehensive income.

The net unrealized gains on level 3 other financial liabilities for the three months ended September 2021 primarily reflected gains on certain hybrid financial instruments included in deposits (principally due to the impact of a decrease in the market value of the underlying assets).

There were no transfers into level 3 other financial liabilities during the three months ended September 2021.

Transfers out of level 3 other financial liabilities during the three months ended September 2021 primarily reflected transfers of certain hybrid financial instruments included in deposits to level 2 (principally due to increased transparency of certain correlation and volatility inputs used to value these instruments).

Nine Months Ended September 2021. The net realized and unrealized losses on level 3 other financial liabilities of $55 million (reflecting $33 million of net realized losses and $22 million of net unrealized losses) for the nine months ended September 2021 included losses of $69 million reported in gains and losses from financial assets and liabilities in the consolidated statements of earnings, and gains of $14 million reported in debt valuation adjustment in the consolidated statements of comprehensive income.

The net unrealized losses on level 3 other financial liabilities for the nine months ended September 2021 primarily reflected losses on certain hybrid financial instruments included in deposits (principally due to the impact of an increase in the market value of the underlying assets).

The drivers of transfers into level 3 other financial liabilities during the nine months ended September 2021 were not material.

Transfers out of level 3 other financial liabilities during the nine months ended September 2021 primarily reflected transfers of certain hybrid financial instruments included in deposits to level 2 (principally due to increased transparency of certain correlation and volatility inputs used to value these instruments).

Three Months Ended September 2020. The net realized and unrealized losses on level 3 other financial liabilities of $74 million (reflecting $8 million of net realized losses and $66 million of net unrealized losses) for the three months ended September 2020 included losses of $41 million reported in gains and losses from financial assets and liabilities in the consolidated statements of earnings, and losses of $33 million reported in debt valuation adjustment in the consolidated statements of comprehensive income.

The net unrealized losses on level 3 other financial liabilities for the three months ended September 2020 primarily reflected losses on certain hybrid financial instruments included in deposits (principally due to the impact of an increase in the market value of the underlying assets).

The drivers of transfers into level 3 other financial liabilities during the three months ended September 2020 were not material.

Transfers out of level 3 other financial liabilities during the three months ended September 2020 primarily reflected transfers of certain hybrid financial instruments included in deposits to level 2 (principally due to increased transparency of certain correlation and volatility inputs used to value these instruments).

Nine Months Ended September 2020. The net realized and unrealized losses on level 3 other financial liabilities of $148 million (reflecting $9 million of net realized losses and $139 million of net unrealized losses) for the nine months ended September 2020 included losses of $113 million reported in gains and losses from financial assets and liabilities in the consolidated statements of earnings, and losses of $35 million reported in debt valuation adjustment in the consolidated statements of comprehensive income.

The net unrealized losses on level 3 other financial liabilities for the nine months ended September 2020 primarily reflected losses on certain hybrid financial instruments included in deposits (principally due to the impact of an increase in the market value of the underlying assets).

Transfers into level 3 other financial liabilities during the nine months ended September 2020 primarily reflected transfers of certain hybrid financial instruments included in deposits from level 2 (principally due to reduced transparency of certain correlation and volatility inputs used to value these instruments).

Transfers out of level 3 other financial liabilities during the nine months ended September 2020 primarily reflected transfers of certain hybrid financial instruments included in deposits to level 2 (principally due to increased transparency of certain correlation and volatility inputs used to value these instruments).

Gains and Losses on Other Financial Assets and Liabilities Accounted for at Fair Value Under the Fair Value Option

The table below presents the gains and losses recognized in earnings as a result of the election to apply the fair value option to certain financial assets and liabilities.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Deposits	**$ 57**	$ (58)	**$ (158)**	$ (157)
Other	**1**	(8)	**(101)**	36
Total	**$ 58**	$ (66)	**$ (259)**	$ (121)

In the table above:

- Gains/(losses) are included in gains and losses from financial assets and liabilities.
- Gains/(losses) exclude contractual interest, which is included in interest income and interest expense, for all instruments other than hybrid financial instruments. See Note 21 for further information about interest income and interest expense.
- Gains/(losses) included in deposits were related to the embedded derivative component of hybrid financial instruments for both the three and nine months ended September 2021 and September 2020. These gains and losses would have been recognized under other U.S. GAAP even if the Bank had not elected to account for the entire hybrid financial instrument at fair value.
- Other primarily consists of gains/(losses) on certain unsecured borrowings and resale agreements.
- Other financial assets and liabilities at fair value are frequently economically hedged with trading assets and liabilities. Accordingly, gains or losses on such other financial assets and liabilities can be partially offset by gains or losses on trading assets and liabilities. As a result, gains or losses on other financial assets and liabilities do not necessarily represent the overall impact on the Bank's results of operations, liquidity or capital resources.

See Note 8 for information about gains/(losses) on equity securities and Note 9 for information about gains/(losses) on loans which are accounted for at fair value under the fair value option. Gains/(losses) on trading assets and liabilities accounted for at fair value under the fair value option are included in gains and losses from financial assets and liabilities. See Note 5 for further information about gains/(losses) from financial assets and liabilities.

Long-Term Deposits

The fair value of long-term deposits, for which the fair value option was elected, exceeded the aggregate contractual principal amount by $441 million as of September 2021 and $622 million as of December 2020.

Debt Valuation Adjustment

The Bank calculates the fair value of financial liabilities for which the fair value option is elected by discounting future cash flows at a rate which incorporates the Bank's credit spreads.

The table below presents information about the net debt valuation adjustment (DVA) gains/(losses) on financial liabilities for which the fair value option was elected.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
DVA (pre-tax)	**$ 10**	$ (40)	**$ 19**	$ (44)
DVA (net of tax)	**$ 8**	$ (30)	**$ 14**	$ (33)

In the table above:

- DVA (net of tax) is included in debt valuation adjustment in the consolidated statements of comprehensive income.
- The gains/(losses) reclassified to earnings from accumulated other comprehensive income/(loss) upon extinguishment of such financial liabilities were not material for both the three and nine months ended September 2021 and September 2020.

Loans and Lending Commitments

The table below presents the difference between the aggregate fair value and the aggregate contractual principal amount for loans (included in trading assets and loans in the consolidated balance sheets) for which the fair value option was elected.

	As of	
	September	December
$ in millions	**2021**	2020
Performing loans		
Aggregate contractual principal in excess of fair value	**$ (25)**	$ 22
Loans on nonaccrual status and/or more than 90 days past due		
Aggregate contractual principal in excess of fair value	**$ 43**	$ 114
Aggregate fair value	**$ 135**	$ 332

The fair value of unfunded lending commitments for which the fair value option was elected was a liability of $3 million as of September 2021 and $63 million as of December 2020. See Note 18 for further information about lending commitments.

Impact of Credit Spreads on Loans and Lending Commitments

The estimated net gain/(loss) attributable to changes in instrument-specific credit spreads on loans and lending commitments for which the fair value option was elected was $1 million for the three months ended September 2021, $5 million for the three months ended September 2020, $35 million for the nine months ended September 2021 and $60 million for the nine months ended September 2020. The Bank generally calculates the fair value of loans and lending commitments for which the fair value option is elected by discounting future cash flows at a rate which incorporates the instrument-specific credit spreads. For floating-rate loans and lending commitments, substantially all changes in fair value are attributable to changes in instrument-specific credit spreads, whereas for fixed-rate loans and lending commitments, changes in fair value are also attributable to changes in interest rates.

Note 11.

Collateralized Agreements and Financings

Collateralized agreements are resale agreements and securities borrowed. Collateralized financings are repurchase agreements, securities loaned and other secured financings. The Bank enters into these transactions in order to, among other things, facilitate client activities, invest excess cash, acquire securities to cover short positions and finance certain Bank activities.

Collateralized agreements and financings are presented on a net-by-counterparty basis when a legal right of setoff exists. Interest on collateralized agreements, which is included in interest income, and collateralized financings, which is included in interest expense, is recognized over the life of the transaction. See Note 21 for further information about interest income and interest expense.

See Note 4 for further information about the valuation techniques and significant inputs used to determine fair value.

Resale and Repurchase Agreements

A resale agreement is a transaction in which the Bank purchases financial instruments from a seller, typically in exchange for cash, and simultaneously enters into an agreement to resell the same or substantially the same financial instruments to the seller at a stated price plus accrued interest at a future date.

A repurchase agreement is a transaction in which the Bank sells financial instruments to a buyer, typically in exchange for cash, and simultaneously enters into an agreement to repurchase the same or substantially the same financial instruments from the buyer at a stated price plus accrued interest at a future date.

Even though repurchase and resale agreements involve the legal transfer of ownership of financial instruments, they are accounted for as financing arrangements because they require the financial instruments to be repurchased or resold before or at the maturity of the agreement. The financial instruments purchased or sold in resale and repurchase agreements typically include U.S. government and agency obligations.

The Bank receives financial instruments purchased under resale agreements and makes delivery of financial instruments sold under repurchase agreements. To mitigate credit exposure, the Bank monitors the market value of these financial instruments on a daily basis, and delivers or obtains additional collateral due to changes in the market value of the financial instruments, as appropriate. For resale agreements, the Bank typically requires collateral with a fair value approximately equal to the carrying value of the relevant assets in the consolidated balance sheets.

Securities Borrowed and Loaned Transactions

In a securities borrowed transaction, the Bank borrows securities from a counterparty in exchange for cash or securities. When the Bank returns the securities, the counterparty returns the cash or securities. Interest is generally paid periodically over the life of the transaction.

In a securities loaned transaction, the Bank lends securities to a counterparty in exchange for cash or securities. When the counterparty returns the securities, the Bank returns the cash or securities posted as collateral. Interest is generally paid periodically over the life of the transaction.

The Bank receives securities borrowed and makes delivery of securities loaned. To mitigate credit exposure, the Bank monitors the market value of these securities on a daily basis, and delivers or obtains additional collateral due to changes in the market value of the securities, as appropriate. For securities borrowed transactions, the Bank typically requires collateral with a fair value approximately equal to the carrying value of the securities borrowed transaction.

Securities borrowed and loaned are recorded based on the amount of cash collateral advanced or received plus accrued interest. The Bank also reviews such securities borrowed to determine if an allowance for credit losses should be recorded by taking into consideration the fair value of collateral received. As these agreements generally can be terminated on demand, they exhibit little, if any, sensitivity to changes in interest rates. Therefore, the carrying value of such agreements approximates fair value. As these agreements are not accounted for at fair value, they are not included in the Bank's fair value hierarchy in Notes 4 through 10. Had these agreements been included in the Bank's fair value hierarchy, they would have been classified in level 2 as of both September 2021 and December 2020.

Offsetting Arrangements

The table below presents resale and repurchase agreements and securities borrowed and loaned transactions included in the consolidated balance sheets, as well as the amounts not offset in the consolidated balance sheets.

	Assets		Liabilities	
$ in millions	Resale agreements	Securities borrowed	Repurchase agreements	Securities loaned
As of September 2021				
Included in the consolidated balance sheets				
Gross carrying value	**$ 39,802**	$ **1,109**	**$ 15,963**	**$ 1,412**
Counterparty netting	**(9,216)**	–	**(9,216)**	–
Total	**30,586**	**1,109**	**6,747**	**1,412**
Amounts not offset				
Counterparty netting	**(1,973)**	**(1,100)**	**(1,973)**	**(1,100)**
Collateral	**(28,581)**	–	**(4,774)**	**(256)**
Total	**$ 32**	$ **9**	**$ –**	**$ 56**
As of December 2020				
Included in the consolidated balance sheets				
Gross carrying value	$ 31,038	$ 767	$ 11,816	$ 1,516
Counterparty netting	(8,793)	–	(8,793)	–
Total	22,245	767	3,023	1,516
Amounts not offset				
Counterparty netting	(387)	(675)	(387)	(675)
Collateral	(21,629)	–	(1,240)	(686)
Total	$ 229	$ 92	$ 1,396	$ 155

In the table above:

- Substantially all of the gross carrying values of these arrangements are subject to enforceable netting agreements.
- Where the Bank has received or posted collateral under credit support agreements, but has not yet determined such agreements are enforceable, the related collateral has not been netted.
- Amounts not offset includes counterparty netting that does not meet the criteria for netting under U.S. GAAP and the fair value of collateral received or posted subject to enforceable credit support agreements.
- Resale agreements and repurchase agreements are carried at fair value under the fair value option.
- There were no securities borrowed and securities loaned as of both September 2021 and December 2020 that were carried at fair value under the fair value option.

Gross Carrying Value of Repurchase Agreements and Securities Loaned

The table below presents the gross carrying value of repurchase agreements and securities loaned by class of collateral pledged.

$ in millions	Repurchase agreements	Securities loaned
As of September 2021		
U.S. government and agency obligations	**$ 6,394**	**$ –**
Non-U.S. government and agency obligations	**9,401**	**10**
Securities backed by residential real estate	**36**	**–**
Corporate debt securities	**132**	**249**
Equity securities	**–**	**1,153**
Total	**$ 15,963**	**$ 1,412**
As of December 2020		
U.S. government and agency obligations	$ 8,478	$ –
Non-U.S. government and agency obligations	3,319	–
Corporate debt securities	19	91
Equity securities	–	1,425
Total	$ 11,816	$ 1,516

The table below presents the gross carrying value of repurchase agreements and securities loaned by maturity.

	As of September 2021	
$ in millions	**Repurchase agreements**	**Securities loaned**
No stated maturity and overnight	**$ 9,808**	**$ 1,412**
2 - 30 days	**5,638**	**–**
31 - 90 days	**513**	**–**
91 days - 1 year	**4**	**–**
Total	**$ 15,963**	**$ 1,412**

Other Secured Financings

In addition to repurchase agreements and securities loaned transactions, the Bank funds certain assets through the use of other secured financings and pledges financial instruments and other assets as collateral in these transactions. These other secured financings include:

- FHLB advances;
- Credit-linked notes; and
- Transfers of assets accounted for as financings rather than sales (e.g., collateralized by bank loans and mortgage whole loans).

The Bank has elected to apply the fair value option to most other secured financings because the use of fair value eliminates non-economic volatility in earnings that would arise from using different measurement attributes. See Note 10 for further information about other secured financings that are accounted for at fair value.

Other secured financings that are not recorded at fair value are recorded based on the amount of cash received plus accrued interest, which generally approximates fair value. As these financings are not accounted for at fair value, they are not included in the Bank's fair value hierarchy in Notes 4 through 10. Had these financings been included in the Bank's fair value hierarchy, they would have been primarily classified in level 3 as of both September 2021 and December 2020.

Other secured financings had a weighted average interest rate of 0.95% as of September 2021 and 1.41% as of December 2020.

FHLB Advances. As a member of the FHLB, the Bank can draw under a funding arrangement secured by eligible collateral. Outstanding borrowings from the FHLB were $100 million as of September 2021, which were all short-term, and there were no outstanding borrowings as of December 2020. These borrowings are carried at fair value under the fair value option in the Bank's fair value hierarchy. See Note 10 for further information about borrowings accounted for at fair value.

Collateral Received and Pledged

The Bank receives cash and securities (e.g., U.S. government and agency obligations, other sovereign and corporate obligations) as collateral, primarily in connection with resale agreements, securities borrowed, derivative transactions and customer margin loans. The Bank obtains cash and securities as collateral on an upfront or contingent basis for derivative instruments and collateralized agreements to reduce its credit exposure to individual counterparties.

In many cases, the Bank is permitted to deliver or repledge financial instruments received as collateral when entering into repurchase agreements and securities loaned transactions. The Bank is also permitted to deliver or repledge these financial instruments in connection with collateralized derivative transactions.

The Bank also pledges certain trading assets, loans and other assets (substantially all of which is cash) in connection with repurchase agreements, securities loaned transactions and other secured financings. These assets are pledged to counterparties who may or may not have the right to deliver or repledge them.

The table below presents financial instruments at fair value received as collateral that were available to be delivered or repledged and were delivered or repledged.

	As of	
	September	December
$ in millions	**2021**	2020
Collateral available to be delivered or repledged	**$ 46,486**	$ 35,436
Collateral that was delivered or repledged	**$ 28,321**	$ 22,021

The table below presents information about assets pledged.

	As of	
	September	December
$ in millions	**2021**	2020
Pledged to counterparties that had the right to deliver or repledge		
Trading assets	**$ 8,139**	$ 9,355
Investments	**$ 72**	$ 37
Pledged to counterparties that did not have the right to deliver or repledge		
Trading assets	**$ 3,909**	$ 4,538
Loans	**$ 8,528**	$ 6,871
Other assets	**$ 185**	$ 188

Note 12.

Other Assets

The table below presents other assets by type.

	As of	
	September	December
$ in millions	**2021**	2020
Income tax-related assets	**$ 873**	$ 680
Receivables from affiliates	**812**	470
FRB shares	**437**	414
Investments in qualified affordable housing projects	**405**	384
Property, leasehold improvements and equipment	**274**	211
Operating lease right-of-use assets	**60**	69
FHLB shares	**38**	36
Miscellaneous receivables and other	**181**	173
Total	**$ 3,080**	$ 2,437

Property, Leasehold Improvements and Equipment

Property, leasehold improvements and equipment, which is primarily software, is net of accumulated depreciation and amortization of $187 million as of September 2021 and $137 million as of December 2020. Capitalized costs of software developed or obtained for internal use are amortized on a straight-line basis over three years. Leasehold improvements are amortized on a straight-line basis over the shorter of the useful life of the improvement or the term of the lease. Other property and equipment is depreciated on a straight-line basis over the useful life of the asset.

The Bank tests property, leasehold improvements and equipment for impairment when events or changes in circumstances suggest that an asset's or asset group's carrying value may not be fully recoverable. To the extent the carrying value of an asset or asset group exceeds the projected undiscounted cash flows expected to result from the use and eventual disposal of the asset or asset group, the Bank determines the asset or asset group is impaired and records an impairment equal to the difference between the estimated fair value and the carrying value of the asset or asset group. In addition, the Bank will recognize an impairment prior to the sale of an asset or asset group if the carrying value of the asset or asset group exceeds its estimated fair value.

There were no material impairments during either the nine months ended September 2021 or the year ended December 2020.

Operating Lease Right-of-Use Assets

The Bank enters into operating leases for real estate, office equipment and other assets, which are used in connection with its operations. For leases longer than one year, generally based on the contractual maturity, adjusted for certain extension or termination options, the Bank recognizes a right-of-use asset representing the right to use the underlying asset for the lease term, and a lease liability representing the liability to make payments.

An operating lease right-of-use asset is initially determined based on the operating lease liability, and amortized over the lease term. Right-of-use assets and operating lease liabilities in non-cash transactions for leases entered into or assumed were not material for both the nine months ended September 2021 and September 2020. See Note 15 for information about operating lease liabilities.

Note 13.

Deposits

The table below presents the types and sources of deposits.

$ in millions	Savings and Demand	Time	Total
As of September 2021			
Consumer	**$ 54,964**	**$ 21,289**	**$ 76,253**
Private bank	**61,109**	**1,979**	**63,088**
Brokered certificates of deposit	**–**	**30,443**	**30,443**
Deposit sweep programs	**31,260**	**–**	**31,260**
Transaction banking	**51,561**	**5,628**	**57,189**
Other	**3,745**	**10,334**	**14,079**
Total	**$ 202,639**	**$ 69,673**	**$ 272,312**
As of December 2020			
Consumer	$ 41,101	$ 27,050	$ 68,151
Private bank	55,377	512	55,889
Brokered certificates of deposit	–	30,323	30,323
Deposit sweep programs	22,987	–	22,987
Transaction banking	32,558	–	32,558
Other	2,597	6,489	9,086
Total	$ 154,620	$ 64,374	$ 218,994

In the table above:

- Substantially all deposits are interest-bearing and substantially all are held in the U.S.
- Savings and demand accounts consist of money market deposit accounts, negotiable order of withdrawal accounts and demand deposit accounts that have no stated maturity or expiration date. Savings account holders may be required by the Bank to give written notice of intended withdrawals not less than seven days before such withdrawals are made and may be limited on the number of withdrawals made within a month. Demand account holders are not subject to restrictions with respect to the timing and number of transactions that deposit holders may execute.
- Time deposits include brokered certificates of deposit which have stipulated maturity dates and rates of interest. Early withdrawals of brokered time deposits are generally prohibited.
- Time deposits included $5.32 billion as of September 2021 and $5.94 billion as of December 2020 of deposits accounted for at fair value under the fair value option. See below and Note 10 for further information about deposits accounted for at fair value.
- Time deposits had a weighted average maturity of approximately 1.2 years as of September 2021 and 1.2 years as of December 2020.
- Deposit sweep programs include long-term contractual agreements with U.S. broker-dealers who sweep client cash to FDIC-insured deposits. Pursuant to the external deposit sweep program agreements, each third-party broker-dealer agrees, for a prescribed term, to place a certain minimum amount of deposits from their clients with the Bank. Each client's deposit may be withdrawn at any time. As of September 2021, GS Bank USA had 14 such deposit sweep program agreements.
- Transaction banking deposits consists of deposits that the Bank has raised through its cash management services business for corporate, other institutional clients and affiliates.
- Other deposits represent deposits from institutional clients. As of both September 2021 and December 2020, other deposits were primarily from Funding IHC and Group Inc.
- Deposits insured by the FDIC were $148.48 billion as of September 2021 and $123.03 billion as of December 2020.
- Deposits insured by non-U.S. insurance programs were $3.38 billion as of September 2021 and $1.19 billion as of December 2020.

The table below presents time deposits by contractual maturity.

$ in millions	**As of September 2021**
Remainder of 2021	**$ 14,562**
2022	**35,831**
2023	**8,933**
2024	**4,610**
2025	**2,317**
2026 - thereafter	**3,420**
Total	**$ 69,673**

As of September 2021, deposits in U.S. offices included $24.12 billion and deposits in non-U.S. offices included $10 million of time deposits in denominations that met or exceeded the applicable insurance limits, or were otherwise not covered by insurance.

The Bank's savings and demand deposits are recorded based on the amount of cash received plus accrued interest, which approximates fair value. In addition, the Bank designates certain derivatives as fair value hedges to convert a portion of its time deposits not accounted for at fair value from fixed-rate obligations into floating-rate obligations. The carrying value of time deposits not accounted for at fair value approximated fair value as of both September 2021 and December 2020. As these savings and demand deposits and substantially all time deposits are not accounted for at fair value, they are not included in the Bank's fair value hierarchy in Notes 4 through 10. Had these deposits been included in the Bank's fair value hierarchy, they would have been primarily classified in level 2 as of both September 2021 and December 2020.

Note 14.

Unsecured Borrowings

The table below presents information about unsecured borrowings.

	As of	
	September	December
$ in millions	**2021**	2020
Unsecured short-term borrowings	**$ 84**	$ 118
Unsecured long-term borrowings	**6,818**	7,662
Total	**$ 6,902**	$ 7,780

Unsecured Short-Term Borrowings

Unsecured short-term borrowings includes the portion of unsecured long-term borrowings maturing within one year of the financial statement date.

The table below presents information about unsecured short-term borrowings.

	As of	
	September	December
$ in millions	**2021**	2020
Current portion of senior unsecured borrowings	**$ 19**	$ –
Hybrid financial instruments	**19**	48
Short-term borrowings from affiliates	**6**	8
Other unsecured short-term borrowings	**40**	62
Total	**$ 84**	$ 118

Hybrid Financial Instruments. The Bank accounts for the vast majority of hybrid financial instruments at fair value under the fair value option. See Note 10 for further information about hybrid financial instruments that are accounted for at fair value.

Short-Term Borrowings from Affiliates. As of both September 2021 and December 2020, the Bank had a senior unsecured facility, committed on an intraday basis up to $4.00 billion with Group Inc. This facility automatically renews each business day and can be terminated with six months' notice. As of both September 2021 and December 2020, there were no outstanding borrowings under this facility.

Accrued interest on long-term subordinated borrowings of $6 million as of both September 2021 and December 2020 was included in unsecured short-term borrowings from affiliates.

Unsecured Long-Term Borrowings

The table below presents information about unsecured long-term borrowings.

	As of	
	September	December
$ in millions	**2021**	2020
Subordinated borrowings	**$ 4,273**	$ 4,274
Senior unsecured borrowings	**2,094**	2,148
Long-term borrowings from affiliates	**451**	1,240
Total	**$ 6,818**	$ 7,662

Subordinated Borrowings. As of both September 2021 and December 2020, the Bank had a revolving subordinated loan agreement with Funding IHC, which expires in 2039. As of both September 2021 and December 2020, outstanding subordinated borrowings under this agreement included $2.00 billion maturing in 2026 and $2.25 billion maturing in 2028. As of both September 2021 and December 2020, outstanding borrowings bear interest at the overnight bank funding rate plus 1.85% per annum. The carrying value of the subordinated borrowings generally approximates fair value. Any amounts payable under the agreement would be subordinate to the claims of certain other creditors of the Bank, including depositors and regulatory agencies.

Senior Unsecured Borrowings. As of September 2021, the Bank had issued and outstanding senior unsecured borrowings of $2.11 billion which includes $975 million of credit-linked notes. As of December 2020, the Bank had issued and outstanding senior unsecured borrowings of $2.15 billion which includes $991 million of credit-linked notes. The weighted average interest rate was 0.42% as of September 2021 and 0.49% as of December 2020, and primarily related to fixed rate obligations. The carrying value of the Bank's senior unsecured borrowings was $2.11 billion as of September 2021 and $2.15 billion as of December 2020, which approximated its fair value. As of September 2021, outstanding borrowings included $19 million maturing in 2022, $979 million maturing in 2023, $31 million maturing in 2024, $975 million maturing in 2025, $15 million maturing in 2028 and $95 million maturing in 2033.

Long-Term Borrowings from Affiliates. As of September 2021, the Bank had outstanding long-term borrowings from affiliates of $451 million. As of December 2020, the Bank had outstanding long-term borrowings from affiliates of $1.24 billion. The weighted average interest rate was (0.75)% as of September 2021 and 2.13% as of December 2020, and related to floating rate obligations. As of September 2021, the maturity of outstanding long-term borrowings from affiliates was 2022.

Note 15.

Other Liabilities

The table below presents other liabilities by type.

	As of	
	September	December
$ in millions	**2021**	2020
Compensation and benefits	**$ 1,253**	$ 509
Income tax-related liabilities	**1,165**	389
Payables to affiliates	**673**	606
Operating lease liabilities	**66**	77
Accrued expenses and other	**1,335**	833
Total	**$ 4,492**	$ 2,414

Operating Lease Liabilities

For leases longer than one year, the Bank recognizes a right-of-use asset representing the right to use the underlying asset for the lease term, and a lease liability representing the liability to make payments. See Note 12 for information about operating lease right-of-use assets.

The table below presents information about operating lease liabilities.

$ in millions	Operating lease liabilities
As of September 2021	
Remainder of 2021	**$ 3**
2022	**12**
2023	**12**
2024	**12**
2025	**10**
2026 - thereafter	**25**
Total undiscounted lease payments	**74**
Imputed interest	**(8)**
Total operating lease liabilities	**$ 66**
Weighted average remaining lease term	**7 years**
Weighted average discount rate	**3.56%**
As of December 2020	
2021	$ 13
2022	13
2023	13
2024	12
2025	11
2026 - thereafter	26
Total undiscounted lease payments	88
Imputed interest	(11)
Total operating lease liabilities	$ 77
Weighted average remaining lease term	7 years
Weighted average discount rate	3.61%

In the table above, the weighted average discount rate represents the Bank's incremental borrowing rate as of January 2019 for operating leases existing on the date of adoption of ASU No. 2016-02, "Leases (Topic 842)," and at the lease inception date for leases entered into subsequent to the adoption of this ASU.

Operating lease costs were $3 million for the three months ended September 2021, $4 million for the three months ended September 2020, $10 million for the nine months ended September 2021 and $7 million for the nine months ended September 2020. Variable lease costs, which are included in operating lease costs, were not material for each of the three and nine months ended September 2021 and September 2020. Total occupancy expenses for space held in excess of the Bank's current requirements were not material for both the nine months ended September 2021 and September 2020.

There were no lease payments relating to operating lease arrangements that were signed, but had not yet commenced as of September 2021.

Note 16.

Securitization Activities

The Bank securitizes residential and commercial mortgages and other types of financial assets by selling these assets to securitization vehicles (e.g., trusts, corporate entities and limited liability companies) or through a resecuritization. An affiliate acts as underwriter of the beneficial interests that are sold to investors.

The Bank accounts for a securitization as a sale when it has relinquished control over the transferred financial assets. Prior to securitization, the Bank generally accounts for assets pending transfer at fair value and therefore does not typically recognize significant gains or losses upon the transfer of assets.

The Bank generally receives cash in exchange for the transferred assets but may also have continuing involvement with the transferred financial assets, including ownership of beneficial interests in securitized financial assets, primarily in the form of loans receivable.

The primary risks from the Bank's continuing involvement with securitization vehicles are the performance of the underlying collateral and the position of the Bank's investment in the capital structure of the securitization vehicle. Substantially all of these retained interests are accounted for at amortized cost net of allowance for loan losses. Had these interests been included in the Bank's fair value hierarchy, they would have been primarily classified in level 3 as of September 2021 and December 2020.

The table below presents the amount of financial assets securitized and the cash flows received on retained interests in securitization entities in which the Bank had continuing involvement as of the end of the period.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Residential mortgages	**$ 1,522**	$ 997	**$ 3,556**	$ 2,701
Commercial mortgages	**2,219**	3,748	**10,366**	10,715
Other financial assets	**1,984**	66	**2,914**	1,189
Total financial assets securitized	**$ 5,725**	$ 4,811	**$16,836**	$14,605
Retained interests cash flows	**$ 25**	$ 21	**$ 83**	$ 66

The Bank securitized assets of $151 million during the three months ended September 2021, $85 million during the three months ended September 2020, $563 million during the nine months ended September 2021 and $303 million during the nine months ended September 2020, in a non-cash exchange for loans.

The table below presents information about nonconsolidated securitization entities to which the Bank sold assets and had continuing involvement as of the end of the period.

$ in millions	Outstanding Principal Amount	Retained Interests
As of September 2021		
Residential mortgage-backed	**$ 13,805**	**$ 651**
Commercial mortgage-backed	**46,972**	**1,047**
Other asset-backed	**4,639**	**271**
Total	**$ 65,416**	**$ 1,969**
As of December 2020		
Residential mortgage-backed	$ 13,004	$ 599
Commercial mortgage-backed	37,626	888
Other asset-backed	2,922	169
Total	$ 53,552	$ 1,656

In the table above:

- The outstanding principal amount is presented for the purpose of providing information about the size of the securitization entities and is not representative of the Bank's risk of loss.
- The Bank's risk of loss from retained interests is limited to the carrying value of these interests.
- Substantially all of the total outstanding principal amount and total retained interests relate to securitizations during 2017 and thereafter.
- The fair value of retained interests was $1.98 billion as of September 2021 and $1.66 billion as of December 2020.

In addition to the interests in the table above, the Bank had other continuing involvement in the form of derivative transactions and commitments with certain nonconsolidated VIEs. As of September 2021, the notional amount of these derivatives and commitments was $80 million and the carrying value was not material. As of December 2020, the notional amount of these derivatives and commitments was $89 million and the carrying value was not material. The notional amounts of these derivatives and commitments are included in maximum exposure to loss in the nonconsolidated VIE table in Note 17.

The table below presents information about the weighted average key economic assumptions used in measuring the fair value of mortgage-backed retained interests.

	As of	
$ in millions	**September 2021**	December 2020
Fair value of retained interests	**$ 1,708**	$ 1,494
Weighted average life (years)	**4.9**	5.2
Constant prepayment rate	**9.9%**	12.5%
Impact of 10% adverse change	**$ (1)**	$ (2)
Impact of 20% adverse change	**$ (2)**	$ (3)
Discount rate	**7.2%**	8.7%
Impact of 10% adverse change	**$ (28)**	$ (25)
Impact of 20% adverse change	**$ (55)**	$ (49)

In the table above:

- Amounts do not reflect the benefit of other financial instruments that are held to mitigate risks inherent in these retained interests.
- Changes in fair value based on an adverse variation in assumptions generally cannot be extrapolated because the relationship of the change in assumptions to the change in fair value is not usually linear.
- The impact of a change in a particular assumption is calculated independently of changes in any other assumption. In practice, simultaneous changes in assumptions might magnify or counteract the sensitivities disclosed above.
- The constant prepayment rate is included only for positions for which it is a key assumption in the determination of fair value.
- Expected credit loss assumptions are reflected in the discount rate for the retained interests.

The Bank has other retained interests not reflected in the table above with a fair value of $271 million and a weighted average life of 2.1 years as of September 2021, and a fair value of $169 million and a weighted average life of 4.0 years as of December 2020. Due to the nature and fair value of certain of these retained interests, the weighted average assumptions for constant prepayment and discount rates and the related sensitivity to adverse changes are not meaningful as of both September 2021 and December 2020. The Bank's maximum exposure to adverse changes in the value of these interests is the carrying value of $271 million as of September 2021 and $169 million as of December 2020.

Note 17.

Variable Interest Entities

A variable interest in a VIE is an investment (e.g., debt or equity) or other interest (e.g., derivatives or loans and lending commitments) that will absorb portions of the VIE's expected losses and/or receive portions of the VIE's expected residual returns.

The Bank's variable interests in VIEs include senior and subordinated debt; loans and lending commitments; limited and general partnership interests; preferred and common equity; derivatives that may include foreign currency, equity and/or credit risk; and guarantees. Certain interest rate, foreign currency and credit derivatives the Bank enters into with VIEs are not variable interests because they create, rather than absorb, risk.

VIEs generally finance the purchase of assets by issuing debt and equity securities that are either collateralized by or indexed to the assets held by the VIE. The debt and equity securities issued by a VIE may include tranches of varying levels of subordination. The Bank's involvement with VIEs includes securitization of financial assets, as described in Note 16, and investments in and loans to other types of VIEs, as described below. See Note 3 for the Bank's consolidation policies, including the definition of a VIE.

VIE Consolidation Analysis

The enterprise with a controlling financial interest in a VIE is known as the primary beneficiary and consolidates the VIE. The Bank determines whether it is the primary beneficiary of a VIE by performing an analysis that principally considers:

- Which variable interest holder has the power to direct the activities of the VIE that most significantly impact the VIE's economic performance;
- Which variable interest holder has the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE;
- The VIE's purpose and design, including the risks the VIE was designed to create and pass through to its variable interest holders;
- The VIE's capital structure;
- The terms between the VIE and its variable interest holders and other parties involved with the VIE; and
- Related-party relationships.

The Bank reassesses its evaluation of whether an entity is a VIE when certain reconsideration events occur. The Bank reassesses its determination of whether it is the primary beneficiary of a VIE on an ongoing basis based on current facts and circumstances.

VIE Activities

The Bank is principally involved with VIEs through the following business activities:

Mortgage-Backed VIEs. The Bank sells residential and commercial mortgage loans and securities to mortgage-backed VIEs and may retain beneficial interests in the assets sold to these VIEs. In addition, the Bank may enter into derivatives with certain of these VIEs, primarily interest rate swaps, which are typically not variable interests. The Bank generally enters into derivatives with other counterparties to mitigate its risk.

Corporate Debt and Other Asset-Backed VIEs. The Bank structures VIEs that issue notes to clients and makes loans to VIEs that warehouse corporate debt. Certain of these VIEs synthetically create the exposure for the beneficial interests they issue by entering into credit derivatives with the Bank, rather than purchasing the underlying assets. In addition, the Bank may enter into derivatives, such as total return swaps, with certain corporate debt and other asset-backed VIEs, under which the Bank pays the VIE a return due to the beneficial interest holders and receives the return on the collateral owned by the VIE. The collateral owned by these VIEs is primarily other asset-backed loans and securities. The Bank may be removed as the total return swap counterparty and may enter into derivatives with other counterparties to mitigate its risk related to these swaps. The Bank may sell assets to the corporate debt and other asset-backed VIEs it structures.

Real Estate, Credit-Related and Other Investing VIEs. The Bank primarily purchases debt securities issued by and makes loans to VIEs that hold real estate and distressed loans. The Bank generally does not sell assets to, or enter into derivatives with, these VIEs.

Nonconsolidated VIEs

The table below presents a summary of the nonconsolidated VIEs in which the Bank holds variable interests.

	As of	
	September	December
$ in millions	**2021**	2020
Total nonconsolidated VIEs		
Assets in VIEs	**$ 76,409**	$ 61,915
Carrying value of variable interests – assets	**$ 3,755**	$ 2,594
Carrying value of variable interests – liabilities	**$ 773**	$ 834
Maximum exposure to loss:		
Retained interests	**$ 1,969**	$ 1,656
Commitments and guarantees	**2,054**	775
Derivatives	**5,311**	5,298
Loans and investments	**1,645**	801
Total	**$ 10,979**	$ 8,530

In the table above:

- The nature of the Bank's variable interests is described in the rows under maximum exposure to loss.
- The Bank's exposure to the obligations of VIEs is generally limited to its interests in these entities. In certain instances, the Bank provides guarantees, including derivative guarantees, to VIEs or holders of variable interests in VIEs.
- The maximum exposure to loss excludes the benefit of offsetting financial instruments that are held to mitigate the risks associated with these variable interests.
- The maximum exposure to loss from retained interests, and debt and equity is the carrying value of these interests.
- The maximum exposure to loss from commitments and guarantees, and derivatives is the notional amount, which does not represent anticipated losses and has not been reduced by unrealized losses. As a result, the maximum exposure to loss exceeds liabilities recorded for commitments and guarantees, and derivatives.

The table below presents information, by principal business activity, for nonconsolidated VIEs included in the summary table above.

	As of	
	September	December
$ in millions	2021	2020
Mortgage-backed		
Assets in VIEs	**$ 60,795**	$ 50,653
Carrying value of variable interests – assets	**$ 1,698**	$ 1,487
Maximum exposure to loss:		
Retained interests	**$ 1,698**	$ 1,487
Commitments and guarantees	**38**	47
Derivatives	**18**	24
Total	**$ 1,754**	$ 1,558
Corporate debt and other asset-backed		
Assets in VIEs	**$ 12,984**	$ 8,804
Carrying value of variable interests – assets	**$ 1,397**	$ 532
Carrying value of variable interests – liabilities	**$ 773**	$ 834
Maximum exposure to loss:		
Retained interests	**$ 271**	$ 169
Commitments and guarantees	**1,496**	601
Derivatives	**5,293**	5,274
Loans and investments	**985**	226
Total	**$ 8,045**	$ 6,270
Real estate, credit-related and other investing		
Assets in VIEs	**$ 2,630**	$ 2,458
Carrying value of variable interests – assets	**$ 660**	$ 575
Maximum exposure to loss:		
Commitments and guarantees	**$ 520**	$ 127
Loans and investments	**660**	575
Total	**$ 1,180**	$ 702

As of both September 2021 and December 2020, the carrying values of the Bank's variable interests in nonconsolidated VIEs are included in the consolidated balance sheets as follows:

- Mortgage-backed: Substantially all assets included in loans.
- Corporate debt and other asset-backed: Assets primarily included in loans and substantially all liabilities included in trading liabilities.
- Real estate, credit-related and other investing: Assets primarily included in other assets and investments and liabilities included in other liabilities.

Consolidated VIEs

As of both September 2021 and December 2020, the Bank had no consolidated VIEs.

Note 18.

Commitments, Contingencies and Guarantees

Commitments

The table below presents commitments by type.

	As of	
	September	December
$ in millions	2021	2020
Commitment Type		
Commercial lending:		
Investment-grade	**$ 86,802**	$ 77,021
Non-investment-grade	**58,549**	39,904
Warehouse financing	**10,161**	8,762
Credit cards	**31,718**	21,640
Total lending	**187,230**	147,327
Risk participations	**8,656**	6,747
Collateralized agreement	**2,146**	5,172
Investment	**912**	140
Other	**6,049**	3,385
Total commitments	**$ 204,993**	$ 162,771

The table below presents commitments by expiration.

	As of September 2021			
	Remainder	2022 -	2024 -	2026 -
$ in millions	of 2021	2023	2025	Thereafter
Commitment Type				
Commercial lending:				
Investment-grade	**$ 2,901**	**$ 29,554**	**$ 32,897**	**$ 21,450**
Non-investment-grade	**2,791**	**14,458**	**16,934**	**24,366**
Warehouse financing	**1**	**4,941**	**4,477**	**742**
Credit cards	**31,718**	**–**	**–**	**–**
Total lending	**37,411**	**48,953**	**54,308**	**46,558**
Risk participations	**368**	**4,331**	**2,787**	**1,170**
Collateralized agreement	**2,146**	**–**	**–**	**–**
Investment	**144**	**60**	**260**	**448**
Other	**5,805**	**244**	**–**	**–**
Total commitments	**$ 45,874**	**$ 53,588**	**$ 57,355**	**$ 48,176**

Lending Commitments

The Bank's commercial and warehouse financing lending commitments are agreements to lend with fixed termination dates and depend on the satisfaction of all contractual conditions to borrowing. These commitments are presented net of amounts syndicated to third parties. The total commitment amount does not necessarily reflect actual future cash flows because the Bank may syndicate portions of these commitments. In addition, commitments can expire unused or be reduced or cancelled at the counterparty's request. The Bank also provides credit to consumers by issuing credit card lines.

The table below presents information about lending commitments.

	As of	
	September	December
$ in millions	**2021**	2020
Held for investment	**$ 172,704**	$ 140,858
Held for sale	**11,587**	3,306
At fair value	**2,939**	3,163
Total	**$ 187,230**	$ 147,327

In the table above:

- Held for investment lending commitments are accounted for at amortized cost. The carrying value of lending commitments was a liability of $818 million (including allowance for credit losses of $636 million) as of September 2021 and $553 million (including allowance for credit losses of $395 million) as of December 2020. The estimated fair value of such lending commitments was a liability of $3.33 billion as of September 2021 and $3.20 billion as of December 2020. Had these lending commitments been carried at fair value and included in the fair value hierarchy, $1.86 billion as of September 2021 and $1.98 billion as of December 2020 would have been classified in level 2, and $1.47 billion as of September 2021 and $1.23 billion as of December 2020 would have been classified in level 3.

- Held for sale lending commitments are accounted for at the lower of cost or fair value. The carrying value of lending commitments held for sale was a liability of $80 million as of September 2021 and $33 million as of December 2020. The estimated fair value of such lending commitments approximates the carrying value. Had these lending commitments been included in the fair value hierarchy, they would have been primarily classified in level 3 as of both September 2021 and December 2020.

- Gains or losses related to lending commitments at fair value, if any, are generally recorded net of any fees in gains and losses from financial assets and liabilities.

Commercial Lending. The Bank's commercial lending commitments were primarily extended to investment-grade corporate borrowers. Such commitments primarily included relationship lending activities (principally used for operating and general corporate purposes) and other activities (generally extended for contingent acquisition financing and are often intended to be short-term in nature, as borrowers often seek to replace them with other funding sources). The Bank also extends lending commitments in connection with other types of corporate lending, as well as commercial real estate financing. See Note 9 for further information about funded loans.

To mitigate the credit risk associated with the Bank's commercial lending activities, the Bank obtains credit protection on certain loans and lending commitments through credit default swaps, both single-name and index-based contracts, and through the issuance of credit-linked notes. In addition, Sumitomo Mitsui Financial Group, Inc. provides the Bank and its affiliates with credit loss protection on certain approved loan commitments.

Warehouse Financing. The Bank provides financing to clients who warehouse financial assets. These arrangements are secured by the warehoused assets, primarily consisting of residential real estate, consumer and corporate loans.

Credit Cards. The Bank's credit card lending commitments included $29.79 billion as of September 2021 and $21.64 billion as of December 2020 related to credit card lines issued by the Bank to consumers. These credit card lines are cancellable by the Bank. Credit card commitments also includes approximately $2.0 billion relating to the Bank's commitment to acquire a credit card portfolio in connection with its agreement, in January 2021, to form a co-branded credit card relationship with General Motors. This amount represents the portfolio's outstanding credit card loan balance as of September 2021. However, the final amount will depend on the outstanding balance of credit card loans at the closing of the acquisition, which is expected to occur by the first quarter of 2022.

Risk Participations

The Bank also risk participates certain of its commercial lending commitments to other financial institutions. In the event of a risk participant's default, the Bank will be responsible to fund the borrower.

Collateralized Agreement Commitments/ Collateralized Financing Commitments

Collateralized agreement commitments includes forward starting resale agreements, and collateralized financing commitments includes forward starting repurchase and secured lending agreements that settle at a future date, generally within three business days. Collateralized agreement commitments also includes transactions where the Bank has entered into commitments to provide contingent financing to its clients and counterparties through resale agreements. The Bank's funding of these commitments depends on the satisfaction of all contractual conditions to the resale agreement and these commitments can expire unused.

Investment Commitments

Investment commitments includes commitments to invest in securities, real estate and other assets.

Other Commitments

Other commitments includes the following commitments which were extended in connection with an agreement between Group Inc., GS Bank USA, GreenSky, Inc. (GreenSky) and GreenSky Holdings, LLC executed in September 2021, pursuant to which Group Inc. will acquire GreenSky, a leading technology company Powering Commerce at Point of Sale® for a growing ecosystem of merchants, consumers and banks, and GreenSky will become a subsidiary of GS Bank USA:

- A commitment to acquire up to $800 million of loans originated by GreenSky's bank partners prior to the closing of the acquisition, which is expected to occur in the fourth quarter of 2021 or the first quarter of 2022.
- A commitment to acquire up to an additional $1.0 billion of loans originated by GreenSky's bank partners, which would be funded only in the event that the acquisition is not completed.

Contingencies

Legal Proceedings. See Note 24 for information about legal proceedings.

Guarantees

The table below presents derivatives that meet the definition of a guarantee, securities lending indemnifications and certain other financial guarantees.

$ in millions	Derivatives	Securities lending indemnifications	Other financial guarantees
As of September 2021			
Carrying Value of Net Liability	**$ 423**	**$ –**	**$ 15**
Maximum Payout/Notional Amount by Period of Expiration			
Remainder of 2021	**$ 12,574**	**$ 13,776**	**$ 785**
2022 - 2023	**26,945**	**–**	**1,007**
2024 - 2025	**13,264**	**–**	**1,067**
2026 - thereafter	**11,520**	**–**	**449**
Total	**$ 64,303**	**$ 13,776**	**$ 3,308**
As of December 2020			
Carrying Value of Net Liability	$ 66	$ –	$ 7
Maximum Payout/Notional Amount by Period of Expiration			
2021	$ 31,150	$ 22,478	$ 999
2022 - 2023	18,691	–	1,520
2024 - 2025	9,056	–	1,242
2026 - thereafter	11,934	–	14
Total	$ 70,831	$ 22,478	$ 3,775

In the table above:

- The maximum payout is based on the notional amount of the contract and does not represent anticipated losses.
- Amounts exclude certain commitments to issue standby letters of credit that are included in lending commitments. See the tables in "Commitments" above for a summary of the Bank's commitments.
- The carrying value for derivatives included derivative assets of $670 million as of September 2021 and $1.11 billion as of December 2020, and derivative liabilities of $1.09 billion as of September 2021 and $1.18 billion as of December 2020.

Derivative Guarantees. The Bank enters into various derivatives that meet the definition of a guarantee under U.S. GAAP, including written currency contracts and interest rate caps, floors and swaptions. These derivatives are risk managed together with derivatives that do not meet the definition of a guarantee, and therefore the amounts in the table above do not reflect the Bank's overall risk related to derivative activities. Disclosures about derivatives are not required if they may be cash settled and the Bank has no basis to conclude it is probable that the counterparties held the underlying instruments at inception of the contract. The Bank has concluded that these conditions have been met for certain large, internationally active commercial and investment bank counterparties, central clearing counterparties, hedge funds and certain other counterparties. Accordingly, the Bank has not included such contracts in the table above. See Note 7 for information about credit derivatives that meet the definition of a guarantee, which are not included in the table above.

Derivatives are accounted for at fair value and therefore the carrying value is considered the best indication of payment/performance risk for individual contracts. However, the carrying values in the table above exclude the effect of counterparty and cash collateral netting.

Securities Lending Indemnifications. The Bank, in its capacity as an agency lender, indemnifies most of its securities lending customers against losses incurred in the event that borrowers do not return securities and the collateral held is insufficient to cover the market value of the securities borrowed. Collateral held by the lenders in connection with securities lending indemnifications was $14.12 billion as of September 2021 and $23.02 billion as of December 2020. Because the contractual nature of these arrangements requires the Bank to obtain collateral with a market value that exceeds the value of the securities lent to the borrower, there is minimal performance risk associated with these guarantees.

Other Financial Guarantees. In the ordinary course of business, the Bank provides other financial guarantees of the obligations of third parties (e.g., standby letters of credit and other guarantees to enable clients to complete transactions). These guarantees represent obligations to make payments to beneficiaries if the guaranteed party fails to fulfill its obligation under a contractual arrangement with that beneficiary.

Indemnities and Guarantees of Service Providers. In the ordinary course of business, the Bank indemnifies and guarantees certain service providers, such as clearing and custody agents, trustees and administrators, against specified potential losses in connection with their acting as an agent of, or providing services to, the Bank.

The Bank may also be liable to some clients or other parties for losses arising from its custodial role or caused by acts or omissions of third-party service providers, including sub-custodians and third-party brokers. In certain cases, the Bank has the right to seek indemnification from these third-party service providers for certain relevant losses incurred by the Bank. In addition, the Bank is a member of a clearing and settlement network, as well as exchanges around the world that may require the Bank to meet the obligations of such networks and exchanges in the event of member defaults and other loss scenarios.

The Bank is unable to develop an estimate of the maximum payout under these guarantees and indemnifications. However, management believes that it is unlikely the Bank will have to make any material payments under these arrangements, and no material liabilities related to these guarantees and indemnifications have been recognized in the consolidated balance sheets as of both September 2021 and December 2020.

Other Representations, Warranties and Indemnifications. The Bank provides representations and warranties to counterparties in connection with a variety of commercial transactions and occasionally indemnifies them against potential losses caused by the breach of those representations and warranties. The Bank may also provide indemnifications protecting against changes in or adverse application of certain U.S. tax laws in connection with ordinary-course transactions, such as borrowings or derivatives.

In addition, the Bank may provide indemnifications to some counterparties to protect them in the event additional taxes are owed or payments are withheld, due either to a change in or an adverse application of certain non-U.S. tax laws.

These indemnifications generally are standard contractual terms and are entered into in the ordinary course of business. Generally, there are no stated or notional amounts included in these indemnifications, and the contingencies triggering the obligation to indemnify are not expected to occur. The Bank is unable to develop an estimate of the maximum payout under these guarantees and indemnifications. However, management believes that it is unlikely the Bank will have to make any material payments under these arrangements, and no material liabilities related to these arrangements have been recognized in the consolidated balance sheets as of both September 2021 and December 2020.

Note 19.

Regulation and Capital Adequacy

The Bank is regulated as described in Note 1, and is subject to consolidated regulatory capital requirements as described below. To assess the adequacy of its capital, the Bank calculates its risk-based capital and leverage ratios in accordance with the regulatory capital requirements applicable to state member banks based on the FRB's regulations (Capital Framework).

The capital requirements are expressed as risk-based capital and leverage ratios that compare measures of regulatory capital to risk-weighted assets (RWAs), average assets and off-balance sheet exposures. Failure to comply with these capital requirements could result in restrictions being imposed by the regulators and could limit the Bank's ability to pay dividends and make certain discretionary compensation payments. The Bank's capital levels are also subject to qualitative judgments by the regulators about components of capital, risk weightings and other factors.

Capital Framework

The regulations under the Capital Framework are largely based on the Basel Committee on Banking Supervision's (Basel Committee) capital framework for strengthening international capital standards (Basel III) and also implement certain provisions of the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act). Under the Capital Framework, the Bank is an "Advanced approach" banking organization.

The Capital Framework includes the minimum risk-based capital and the capital conservation buffer requirements (consisting of a 2.5% buffer and the countercyclical capital buffer). The buffer must consist entirely of capital that qualifies as Common Equity Tier 1 (CET1) capital. In addition, the Capital Framework includes the leverage ratio requirements.

The Bank calculates its CET1 capital, Tier 1 capital and Total capital ratios in accordance with both the Standardized and Advanced Capital Rules. The lower of each risk-based capital ratio calculated under the Standardized and Advanced Capital Ratios is the ratio against which the Bank's compliance with its risk-based capital requirements is assessed. Under the Capital Framework, the Bank is also subject to leverage requirements which consist of a minimum Tier 1 leverage ratio and a minimum supplementary leverage ratio (SLR).

Consolidated Regulatory Capital Requirements

The U.S. Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), among other things, requires the federal bank regulatory agencies to take "prompt corrective action" in respect of depository institutions that do not meet specified capital requirements. FDICIA establishes five capital categories for FDIC-insured banks: well-capitalized, adequately capitalized, undercapitalized, significantly undercapitalized and critically undercapitalized.

In addition, under the regulatory framework for prompt corrective action applicable to the Bank, in order to meet the quantitative requirements for a "well-capitalized" depository institution, the Bank must also meet the "well-capitalized" requirements in the table below.

The Bank's capital levels and prompt corrective action classification are also subject to qualitative judgments by the regulators about components of capital, risk weightings and other factors. Failure to comply with the capital requirements, including a breach of the buffers described below, could result in restrictions being imposed by the regulators.

Risk-Based Capital Ratios. The table below presents the risk-based capital, leverage and "well-capitalized" requirements.

	Requirements	"Well-capitalized" Requirements
Risk-based capital requirements		
CET1 capital ratio	7.0%	6.5%
Tier 1 capital ratio	8.5%	8.0%
Total capital ratio	10.5%	10.0%
Leverage requirements		
Tier 1 leverage ratio	4.0%	5.0%
SLR	3.0%	6.0%

In the table above:

- The CET1 capital ratio requirement includes a minimum of 4.5%, the Tier 1 capital ratio requirement includes a minimum of 6.0% and the Total capital ratio requirement includes a minimum of 8.0%. These requirements also include the capital conservation buffer requirements, consisting of a 2.5% buffer and the countercyclical capital buffer, which the FRB has set to zero percent.
- The "well-capitalized" requirements are the binding requirements for leverage ratios.

The table below presents information about risk-based capital ratios.

$ in millions	Standardized	Advanced
As of September 2021		
CET1 capital	**$ 40,811**	**$ 40,811**
Tier 1 capital	**$ 40,811**	**$ 40,811**
Tier 2 capital	**$ 6,259**	**$ 4,598**
Total capital	**$ 47,070**	**$ 45,409**
RWAs	**$ 343,033**	**$ 221,831**
CET1 capital ratio	**11.9%**	**18.4%**
Tier 1 capital ratio	**11.9%**	**18.4%**
Total capital ratio	**13.7%**	**20.5%**
As of December 2020		
CET1 capital	$ 34,687	$ 34,687
Tier 1 capital	$ 34,687	$ 34,687
Tier 2 capital	$ 6,312	$ 4,963
Total capital	$ 40,999	$ 39,650
RWAs	$ 280,877	$ 173,442
CET1 capital ratio	12.3%	20.0%
Tier 1 capital ratio	12.3%	20.0%
Total capital ratio	14.6%	22.9%

In the table above:

- The lower of the Standardized or Advanced ratio is the ratio against which the Bank's compliance with the capital requirements is assessed under the risk-based Capital Rules, and therefore, the Standardized ratios applied to the Bank as of both September 2021 and December 2020.
- As permitted by the FRB, the Bank elected to temporarily delay the estimated effects of adopting CECL on regulatory capital until January 2022 and to subsequently phase-in the effects through January 2025. In addition, the Bank elected to increase regulatory capital by 25% of the increase in the allowance for credit losses since January 1, 2020, as permitted by the rules issued by the FRB. The impact of this increase will also be phased in over the three-year transition period. Reflecting the full impact of CECL as of both September 2021 and December 2020 would not have had a material impact on the Bank's Standardized risk-based capital ratios.

In the third quarter of 2021, based on regulatory feedback, the Bank revised certain interpretations of the Capital Rules underlying the calculation of Standardized RWAs. These revisions were reflected in the Bank's capital ratios as of September 2021 and increased the Bank's Standardized RWAs by approximately $10 billion and reduced the Bank's Standardized CET1, Standardized Tier 1 and Standardized Total capital ratios by 0.4 percentage points as of September 2021. The following provides information about the impact of the RWA changes on prior periods:

- As of June 2021, this change would have increased the Bank's Standardized RWAs of $319 billion by approximately $10 billion, which would have reduced the Bank's Standardized CET1 capital ratio of 12.2% by 0.3 percentage points, Standardized Tier 1 capital ratio of 12.2% by 0.3 percentage points and Standardized Total capital ratio of 14.2% by 0.5 percentage points.
- As of December 2020, this change would have increased the Bank's Standardized RWAs of $281 billion by approximately $11 billion, which would have reduced the Bank's Standardized CET1 capital ratio of 12.3% by 0.4 percentage points, Standardized Tier 1 capital ratio of 12.3% by 0.4 percentage points and Standardized Total capital ratio of 14.6% by 0.6 percentage points.

Leverage Ratios. The table below presents information about leverage ratios.

	For the Three Months Ended or as of	
$ in millions	**September 2021**	December 2020
Tier 1 capital	**$ 40,811**	$ 34,687
Average total assets	**$ 374,449**	$ 310,748
Deductions from Tier 1 capital	**(53)**	(58)
Average adjusted total assets	**374,396**	310,690
Impact of SLR temporary amendment	–	(130,088)
Average off-balance sheet exposures	**234,374**	201,035
Total leverage exposure	**$ 608,770**	$ 381,637
Tier 1 leverage ratio	**10.9%**	11.2%
SLR	**6.7%**	9.1%

In the table above:

- Average adjusted total assets represents the average daily assets for the quarter adjusted for deductions from Tier 1 capital and the impact of CECL transition.
- Impact of SLR temporary amendment represented the exclusion of average holdings of U.S. Treasury securities and average deposits at the Federal Reserve as permitted by the FRB. The impact of this temporary amendment was an increase in the Bank's SLR by approximately 2.4 percentage points for the three months ended December 2020. The amendment permitting this exclusion expired on April 1, 2021.
- Average off-balance sheet exposures represents the monthly average and consists of derivatives, securities financing transactions, commitments and guarantees.
- Tier 1 leverage ratio is calculated as Tier 1 capital divided by average adjusted total assets.
- SLR is calculated as Tier 1 capital divided by total leverage exposure.

Risk-Based Capital. The table below presents information about risk-based capital.

	As of	
$ in millions	**September 2021**	December 2020
Shareholder's equity	**$ 40,203**	$ 34,062
Impact of CECL transition	**726**	744
Other adjustments	**(118)**	(119)
CET1 capital	**40,811**	34,687
Tier 1 capital	**$ 40,811**	$ 34,687
Standardized Tier 2 and Total capital		
Tier 1 capital	**$ 40,811**	$ 34,687
Qualifying subordinated debt	**4,273**	4,274
Allowance for credit losses	**1,986**	2,038
Standardized Tier 2 capital	**6,259**	6,312
Standardized Total capital	**$ 47,070**	$ 40,999
Advanced Tier 2 and Total capital		
Tier 1 capital	**$ 40,811**	$ 34,687
Standardized Tier 2 capital	**6,259**	6,312
Allowance for credit losses	**(1,986)**	(2,038)
Other adjustments	**325**	689
Advanced Tier 2 capital	**4,598**	4,963
Advanced Total capital	**$ 45,409**	$ 39,650

In the table above:

- Impact of CECL transition represents the impact of adoption as of January 1, 2020 and the impact of increasing regulatory capital by 25% of the increase in the allowance for credit losses since January 1, 2020. The allowance for credit losses within Standardized and Advanced Tier 2 capital also reflects the impact of these adjustments.
- Other adjustments within CET1 capital primarily include credit valuation adjustments on derivative liabilities and debt valuation adjustments. Other adjustments within Advanced Tier 2 capital include eligible credit reserves.
- Qualifying subordinated debt is subordinated debt issued by the Bank with an original maturity of five years or greater. The outstanding amount of subordinated debt qualifying for Tier 2 capital is reduced upon reaching a remaining maturity of five years. See Note 14 for further information about the Bank's subordinated debt.

RWAs. RWAs are calculated in accordance with both the Standardized and Advanced Capital Rules.

Credit Risk

Credit RWAs are calculated based on measures of exposure, which are then risk weighted under the Standardized and Advanced Capital Rules:

- The Standardized Capital Rules apply prescribed risk-weights, which depend largely on the type of counterparty. The exposure measure for derivatives and securities financing transactions are based on specific formulas which take certain factors into consideration.
- Under the Advanced Capital Rules, the Bank computes risk-weights for wholesale and retail credit exposures in accordance with the Advanced Internal Ratings-Based approach. The exposure measures for derivatives and securities financing transactions are computed utilizing internal models.

Market Risk

RWAs for market risk in accordance with the Standardized and Advanced Capital Rules are generally consistent. Market RWAs are calculated based on measures of exposure which include the following:

- Value-at-Risk (VaR) is the potential loss in value of trading assets and liabilities, as well as certain investments, loans, and other financial assets and liabilities accounted for at fair value, due to adverse market movements over a defined time horizon with a specified confidence level.

  For both risk management purposes and regulatory capital calculations, the Bank uses a single VaR model which captures risks, including those related to interest rates, equity prices and currency rates. However, VaR used for risk management purposes differs from VaR used for regulatory capital requirements (regulatory VaR) due to differences in time horizons, confidence levels and the scope of positions on which VaR is calculated. For risk management purposes, a 95% one-day VaR is used, whereas for regulatory capital requirements, a 99% 10-day VaR is used to determine Market RWAs and a 99% one-day VaR is used to determine regulatory VaR exceptions.

  The Bank's positional losses observed on a single day exceeded its 99% one-day regulatory VaR once during the nine months ended September 2021 and exceeded its 99% one-day regulatory VaR on six occasions during 2020 (all of which occurred during March 2020 and, as permitted by the FRB, did not have any impact on the Bank's VaR multiplier used to calculate Market RWAs);

- Stressed VaR is the potential loss in value of trading assets and liabilities, as well as certain investments, loans, and other financial assets and liabilities accounted for at fair value, during a period of significant market stress;

- Incremental risk is the potential loss in value of non-securitized positions due to the default or credit migration of issuers of financial instruments over a one-year time horizon;

- Comprehensive risk is the potential loss in value, due to price risk and defaults, within the Bank's credit correlation positions; and

- Specific risk is the risk of loss on a position that could result from factors other than broad market movements, including event risk, default risk and idiosyncratic risk. The standardized measurement method is used to determine specific risk RWAs, by applying supervisory defined risk-weighting factors after applicable netting is performed.

Operational Risk

Operational RWAs are only required to be included under the Advanced Capital Rules. The Bank utilizes an internal risk-based model to quantify Operational RWAs.

The table below presents information about RWAs.

$ in millions	Standardized	Advanced
As of September 2021		
Credit RWAs		
Derivatives	**$ 105,668**	**$ 37,407**
Commitments, guarantees and loans	**182,084**	**118,433**
Securities financing transactions	**6,620**	**1,344**
Equity investments	**687**	**728**
Other	**10,944**	**10,539**
Total Credit RWAs	**306,003**	**168,451**
Market RWAs		
Regulatory VaR	**6,897**	**6,897**
Stressed VaR	**27,748**	**27,748**
Incremental risk	**1,029**	**1,029**
Comprehensive risk	**1,280**	**1,280**
Specific risk	**76**	**76**
Total Market RWAs	**37,030**	**37,030**
Total Operational RWAs	**–**	**16,350**
Total RWAs	**$ 343,033**	**$ 221,831**
As of December 2020		
Credit RWAs		
Derivatives	$ 99,891	$ 28,973
Commitments, guarantees and loans	136,842	90,228
Securities financing transactions	4,809	1,157
Equity investments	529	560
Other	9,509	9,154
Total Credit RWAs	251,580	130,072
Market RWAs		
Regulatory VaR	5,012	5,012
Stressed VaR	22,056	22,056
Incremental risk	1,224	1,224
Comprehensive risk	756	756
Specific risk	249	249
Total Market RWAs	29,297	29,297
Total Operational RWAs	–	14,073
Total RWAs	$ 280,877	$ 173,442

In the table above:

- Securities financing transactions represents resale and repurchase agreements and securities borrowed and loaned transactions.

- Other includes receivables, certain debt securities, cash and other assets.

The table below presents changes in RWAs.

$ in millions	Standardized	Advanced
Nine Months Ended September 2021		
RWAs		
Beginning balance	**$ 280,877**	**$ 173,442**
Credit RWAs		
Change in:		
Derivatives	**5,777**	**8,434**
Commitments, guarantees and loans	**45,242**	**28,205**
Securities financing transactions	**1,811**	**187**
Equity investments	**158**	**168**
Other	**1,435**	**1,385**
Change in Credit RWAs	**54,423**	**38,379**
Market RWAs		
Change in:		
Regulatory VaR	**1,885**	**1,885**
Stressed VaR	**5,692**	**5,692**
Incremental risk	**(195)**	**(195)**
Comprehensive risk	**524**	**524**
Specific risk	**(173)**	**(173)**
Change in Market RWAs	**7,733**	**7,733**
Change in Operational RWAs	**–**	**2,277**
Ending balance	**$ 343,033**	**$ 221,831**
Year Ended December 2020		
RWAs		
Beginning balance	$ 258,541	$ 135,596
Credit RWAs		
Change in:		
Derivatives	9,398	13,762
Commitments, guarantees and loans	1,943	10,753
Securities financing transactions	600	242
Equity investments	24	25
Other	3,695	5,853
Change in Credit RWAs	15,660	30,635
Market RWAs		
Change in:		
Regulatory VaR	215	215
Stressed VaR	7,163	7,163
Incremental risk	(526)	(526)
Comprehensive risk	352	352
Specific risk	(528)	(528)
Change in Market RWAs	6,676	6,676
Change in Operational RWAs	–	535
Ending balance	$ 280,877	$ 173,442

RWAs Rollforward Commentary

Nine Months Ended September 2021. Standardized Credit RWAs as of September 2021 increased by $54.42 billion compared with December 2020, reflecting an increase in commitments, guarantees and loans (principally due to increased lending activity and revisions to certain interpretations of the Capital Rules underlying the RWA calculations based on regulatory feedback) and an increase in derivatives (principally due to increased exposures). Standardized Market RWAs as of September 2021 increased by $7.73 billion compared with December 2020, primarily reflecting an increase in stressed VaR and regulatory VaR (both principally due to increased exposures to interest rates).

Advanced Credit RWAs as of September 2021 increased by $38.38 billion compared with December 2020, primarily reflecting an increase in commitments, guarantees and loans (principally due to increased lending activity) and an increase in derivatives (principally due to increased counterparty credit risk). Advanced Market RWAs as of September 2021 increased by $7.73 billion compared with December 2020, primarily reflecting an increase in stressed VaR and regulatory VaR (both principally due to increased exposures to interest rates).

Year Ended December 2020. Standardized Credit RWAs as of December 2020 increased by $15.66 billion compared with December 2019, reflecting an increase in derivatives (principally due to increased exposures), an increase in other (principally due to increased affiliate exposure) and an increase in commitments, guarantees, and loans (principally due to increased lending activity). Standardized Market RWAs as of December 2020 increased by $6.68 billion compared with December 2019, primarily reflecting an increase in stressed VaR (due to market volatility).

Advanced Credit RWAs as of December 2020 increased by $30.64 billion compared with December 2019, primarily reflecting an increase in derivatives (principally due to increased exposures and counterparty credit risk as a result of higher levels of volatility), an increase in commitments, guarantees, and loans (principally due to increased lending activity) and an increase in other (principally due to increased affiliate exposure). Advanced Market RWAs as of December 2020 increased by $6.68 billion compared with December 2019, primarily reflecting an increase in stressed VaR (due to market volatility).

GSBE Regulatory Capital Ratios

GSBE calculates its standalone prudential capital requirements in accordance with the E.U. Capital Requirements Directive and E.U. Capital Requirements Regulation. As of both September 2021 and December 2020, GSBE was in compliance with its regulatory capital requirements.

The table below presents information about GSBE's risk-based capital and leverage ratios.

	As of	
$ in millions	**September 2021**	December 2020
Risk-based capital and risk-weighted assets		
CET1 capital	**$ 6,468**	$ 4,007
Tier 1 capital	**$ 6,468**	$ 4,007
Total capital	**$ 6,491**	$ 4,031
RWAs	**$ 26,693**	$ 9,729
Risk-based capital and leverage ratios		
CET1 capital ratio	**24.2%**	41.2%
Tier 1 capital ratio	**24.2%**	41.2%
Total capital ratio	**24.3%**	41.4%
Leverage ratio	**9.0%**	10.3%

In the table above, CET1 capital, Tier 1 capital and Total capital includes GSBE's profits for the nine months ended September 2021. Inclusion of these profits in GSBE's regulatory capital is subject to completion of the audit of GSBE's annual financial statements and approval of such audited financial statements by GSBE's shareholder, GS Bank USA. These profits contributed 123 basis points to the regulatory capital ratios as of September 2021. The December 2020 regulatory capital includes GSBE's audited 2020 profits, which contributed 122 basis points to the regulatory capital ratios.

Required Reserves

The deposits of GS Bank USA are insured by the FDIC to the extent provided by law. The FRB requires that GS Bank USA maintain cash reserves with the Federal Reserve. As of both September 2021 and December 2020, the reserve requirement ratio was zero percent. The amount deposited by GS Bank USA at the Federal Reserve was $100.93 billion as of September 2021 and $52.71 billion as of December 2020.

GSBE is subject to minimum reserve requirements at central banks in certain of the jurisdictions in which it operates. As of September 2021, GSBE had $12.49 billion deposited at central banks (of which $103 million related to the minimum reserve requirements), substantially all of which was deposited with Deutsche Bundesbank. As of December 2020, GSBE had $3.17 billion deposited at central banks (of which $25 million related to the minimum reserve requirements), substantially all of which was deposited with Deutsche Bundesbank.

Note 20.

Transactions with Related Parties

Transactions between the Bank and its affiliates are subject to regulations adopted by the FRB and the supervision of both the FRB and the NYDFS. These regulations generally limit the types and amounts of transactions (including credit extensions from the Bank) that may take place and generally require those transactions to be on terms that are at least as favorable to the Bank as prevailing terms for comparable transactions with non-affiliates. These regulations generally do not apply to transactions within the Bank.

The table below presents assets and liabilities with affiliates.

	As of	
$ in millions	**September 2021**	December 2020
Assets		
Cash	**$ 223**	$ 228
Collateralized agreements:		
Resale agreements	**13,078**	13,708
Securities borrowed	**1,100**	755
Customer and other receivables	**10,617**	8,328
Trading assets	**686**	599
Other assets	**816**	470
Total	**$ 26,520**	$ 24,088
Liabilities		
Deposits	**$ 14,238**	$ 11,153
Collateralized financings:		
Repurchase agreements	**5,907**	2,880
Securities loaned	**1,408**	1,516
Other secured financings	**1,871**	112
Customer and other payables	**8,201**	3,120
Trading liabilities	**918**	720
Unsecured borrowings	**4,749**	5,563
Other liabilities	**697**	599
Total	**$ 37,989**	$ 25,663

In the table above, trading assets and trading liabilities consist of net outstanding derivative contracts with Group Inc. and affiliates. The Bank enters into derivative contracts with Group Inc. and affiliates in the normal course of business.

Group Inc. Guarantee

Group Inc. has guaranteed the payment obligations of GS Bank USA, subject to certain limitations.

In addition, Group Inc. has provided a guarantee to the Bank related to certain assets that the Bank acquired from certain subsidiaries and affiliated funds of Group Inc. during March 2020, as described below.

- The Bank and unaffiliated entities purchased certificates of deposit and commercial paper from two money market funds managed by GS Group. These funds are not covered funds under the Volcker Rule. The Bank's purchase price of these securities was $1.84 billion, of which none were outstanding as of September 2021 and $324 million were outstanding as of December 2020. These purchases were made to promote liquidity in the short-term credit markets and to increase the funds' weekly liquid assets.

- The Bank purchased $797 million of loans from wholly-owned subsidiaries of Group Inc. for $726 million, which represented the fair value of these loans. In addition, the Bank acquired unfunded lending commitments of $5.40 billion from wholly-owned subsidiaries of Group Inc. and, in connection with assuming these commitments, was paid $339 million, which represented the fair value of the commitments. As of September 2021, $425 million of loans and $1.22 billion of unfunded lending commitments from this transfer were outstanding. As of December 2020, $544 million of loans and $1.85 billion of unfunded lending commitments from this transfer were outstanding.

Interest Income and Interest Expense

The Bank recognizes interest income and interest expense in connection with various affiliated transactions. These transactions include resale agreements, other assets, repurchase agreements, deposits, collateral posted and received, other liabilities, and unsecured borrowings. The Bank recorded net interest income from affiliates of $5 million for the three months ended September 2021, net interest income from affiliates of $13 million for the three months ended September 2020, net interest income from affiliates of $38 million for the nine months ended September 2021 and net interest expense to affiliates of $2 million for the nine months ended September 2020.

Other Transactions

The Bank has revenue sharing agreements with affiliated entities related to certain activities under which it transfers revenues to, and receives revenues from, such entities. Revenues related to market and credit risk exposures held by the Bank or by affiliated entities that arise from activities covered by these agreements are shared among the Bank and these entities. The Bank received net revenues from affiliates of $505 million for the three months ended September 2021, transferred net revenues to affiliates of $14 million for the three months ended September 2020, received net revenues from affiliates of $937 million for the nine months ended September 2021 and transferred net revenues to affiliates of $9 million for the nine months ended September 2020. These amounts are included in gains and losses from financial assets and liabilities and other revenues.

The Bank is subject to service charges from affiliates. The net charge to the Bank by affiliates was $158 million for the three months ended September 2021, $126 million for the three months ended September 2020, $608 million for the nine months ended September 2021 and $372 million for the nine months ended September 2020. This service charge from affiliates is for employment related costs of dual employees and employees of affiliates pursuant to a Master Services Agreement supplemented by Service Level Agreements (collectively, the Master Services Agreement). These amounts are included in service charges.

The Bank receives operational and administrative support and management services from affiliates and is charged for these services. In addition, the Bank provides similar support and services to affiliates and charges these affiliates for the services provided. These amounts are reflected net in the applicable expense captions in the consolidated statements of earnings.

In connection with the capital contribution from Group Inc. of $34.0 billion for the three months ended September 2021, approximately $1.0 billion of the contribution consisted of an outstanding loan that Group Inc. had extended to GSBE.

In connection with its partnership interest in Goldman Sachs Mitsui Marine Derivative Products, L.P., the Bank has provided to Mitsui Sumitomo Insurance Co., Ltd. (Mitsui Sumitomo) additional protection in the form of assets held in a VIE which could be liquidated for the benefit of Mitsui Sumitomo under certain circumstances.

Note 21.

Interest Income and Interest Expense

Interest is recorded over the life of the instrument on an accrual basis based on contractual interest rates.

The table below presents sources of interest income and interest expense.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Deposits with banks	**$ 30**	$ 12	**$ 63**	$ 151
Collateralized agreements	**10**	47	**50**	216
Trading assets	**136**	155	**428**	774
Investments	**39**	52	**117**	135
Loans	**992**	834	**2,799**	2,685
Other interest	**132**	64	**335**	307
Total interest income	**1,339**	1,164	**3,792**	4,268
Deposits	**268**	414	**832**	1,667
Collateralized financings	**(10)**	6	**(28)**	67
Trading liabilities	**31**	12	**71**	65
Borrowings	**24**	26	**73**	113
Other interest	**24**	27	**95**	199
Total interest expense	**337**	485	**1,043**	2,111
Net interest income	**$ 1,002**	$ 679	**$ 2,749**	$ 2,157

In the table above:

- Collateralized agreements consists of resale agreements and securities borrowed.
- Loans excludes interest on loans held for sale that are accounted for at the lower of cost or fair value. Such interest is included within other interest.
- Other interest income primarily includes interest income on loans held for sale that are accounted for at the lower of cost or fair value, collateral balances posted to counterparties and foreign currency funding facilities.
- Collateralized financings consists of repurchase agreements and securities loaned.
- Borrowings includes interest expense from other secured financings and unsecured borrowings, which primarily relates to interest incurred on the Bank's affiliate borrowings from Group Inc. and Funding IHC, as well as FHLB advances.
- Other interest expense primarily includes interest expense on collateral balances received from counterparties and interest expense on foreign currency funding facilities.

Note 22.

Income Taxes

Provision for Income Taxes

Income taxes are provided for using the asset and liability method under which deferred tax assets and liabilities are recognized for temporary differences between the financial reporting and tax bases of assets and liabilities. The Bank reports interest expense related to income tax matters in provision for taxes and income tax penalties in other expenses.

The Bank's results of operations are included in the consolidated federal and certain state tax returns of GS Group. The Bank computes its tax liability as if it was filing a tax return on a modified separate company basis and settles such liability with Group Inc. pursuant to a tax sharing agreement. To the extent the Bank generates tax benefits from losses, it will be reimbursed by Group Inc. pursuant to a tax sharing agreement at such time as GS Group would have been able to utilize such losses.

Deferred Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the financial reporting and tax bases of assets and liabilities. These temporary differences result in taxable or deductible amounts in future years and are measured using the tax rates and laws that will be in effect when such differences are expected to reverse. Valuation allowances are established to reduce deferred tax assets to the amount that more likely than not will be realized. Tax assets are included in other assets and tax liabilities are included in other liabilities.

Unrecognized Tax Benefits

The Bank recognizes tax positions in the consolidated financial statements only when it is more likely than not that the position will be sustained on examination by the relevant taxing authority based on the technical merits of the position. A position that meets this standard is measured at the largest amount of benefit that will more likely than not be realized on settlement. A liability is established for differences between positions taken in a tax return and amounts recognized in the consolidated financial statements.

Regulatory Tax Examinations

The Bank is subject to examination by the U.S. Internal Revenue Service (IRS), as part of GS Group, and other taxing authorities in jurisdictions where the Bank has significant business operations, such as New York State and City, and Germany. The tax years under examination vary by jurisdiction.

GS Group has been accepted into the Compliance Assurance Process program by the IRS for each of the tax years from 2013 through 2021. This program allows GS Group to work with the IRS to identify and resolve potential U.S. Federal tax issues before the filing of tax returns. The fieldwork for tax years through 2017 has been completed and the final resolution is not expected to have a material impact on the effective tax rate of Group Inc. or the Bank. The 2018 through 2020 tax years remain subject to post-filing review.

New York State and City examinations of 2015 through 2018 commenced during 2021. All years including and subsequent to 2009 for all other significant states, excluding New York State and City, remain open to examination by the taxing authorities.

All years including and subsequent to 2017 remain open to examination by the German taxing authorities.

All years, including and subsequent to the years detailed above, remain open to examination by the taxing authorities. The Bank believes that the liability for unrecognized tax benefits it has established is adequate in relation to the potential for additional assessments.

Note 23.

Credit Concentrations

The Bank's concentrations of credit risk arise from its lending, market-making, cash management and other activities, and may be impacted by changes in economic, industry or political factors. These activities expose the Bank to many different industries and counterparties, and may also subject the Bank to a concentration of credit risk to a particular central bank, counterparty, borrower or issuer, including sovereign issuers, or to a particular clearing house or exchange. The Bank seeks to mitigate credit risk by actively monitoring exposures and obtaining collateral from counterparties as deemed appropriate.

The Bank measures and monitors its credit exposure based on amounts owed to the Bank after taking into account risk mitigants that the Bank considers when determining credit risk. Such risk mitigants include netting and collateral arrangements and economic hedges, such as credit derivatives, futures and forward contracts. Netting and collateral agreements permit the Bank to offset receivables and payables with such counterparties and/or enable the Bank to obtain collateral on an upfront or contingent basis.

The table below presents the credit concentrations included in trading cash instruments and investments.

	As of	
	September	December
$ in millions	**2021**	2020
U.S. government and agency obligations	**$ 46,373**	$ 78,891
Percentage of total assets	**12.0%**	26.7%

In addition, GS Bank USA had $100.93 billion as of September 2021 and $52.71 billion as of December 2020 of cash deposits held at the Federal Reserve. GSBE had $12.49 billion as of September 2021 and $3.17 billion as of December 2020 deposited at central banks, substantially all of which was deposited with Deutsche Bundesbank. These cash deposits are included in cash.

As of both September 2021 and December 2020, the Bank did not have credit exposure to any other external counterparty that exceeded 2% of total assets.

Collateral obtained by the Bank related to derivative assets is principally cash and is held by the Bank or a third-party custodian. Collateral obtained by the Bank related to resale agreements is primarily U.S. government and agency obligations. See Note 11 for further information about collateralized agreements and financings.

The Bank had resale agreements and securities borrowed transactions of $19.35 billion as of September 2021 and $15.38 billion as of December 2020 that are collateralized by U.S. government and agency obligations.

Given that the Bank's primary credit exposure on such transactions is to the counterparty to the transaction, the Bank would be exposed to the collateral issuer only in the event of counterparty default.

Note 24.

Legal Proceedings

The Bank is involved in a number of judicial, regulatory and arbitration proceedings concerning matters arising in connection with the conduct of the Bank's businesses. Many of these proceedings are in early stages, and many of these cases seek an indeterminate amount of damages.

Management is generally unable to estimate a range of reasonably possible loss for matters in which the Bank is involved due to various factors, including where (i) actual or potential plaintiffs have not claimed an amount of money damages, except in those instances where management can otherwise determine an appropriate amount, (ii) matters are in early stages, (iii) matters relate to regulatory investigations or reviews, except in those instances where management can otherwise determine an appropriate amount, (iv) there is uncertainty as to the likelihood of a class being certified or the ultimate size of the class, (v) there is uncertainty as to the outcome of pending appeals or motions, (vi) there are significant factual issues to be resolved, and/or (vii) there are novel legal issues presented.

Management does not believe, based on currently available information, that the outcomes of any such matters will have a material adverse effect on the Bank's financial condition, though the outcomes could be material to the Bank's operating results for any particular period, depending, in part, upon the operating results for such period.

Regulatory Investigations and Reviews and Related Litigation. The Bank and certain of its affiliates (including Group Inc.) are subject to a number of investigations and reviews by, and in some cases have received subpoenas and requests for documents and information from, various governmental and regulatory bodies and self-regulatory organizations and litigation relating to such matters in each case relating to the Bank's current and past businesses and operations, including, but not limited to, consumer lending, as well as residential mortgage lending and servicing, and compliance with related consumer laws; the sales, trading, transaction reporting, execution and clearance of derivatives, currencies and other financial products and related communications and activities, including trading activities and communications in connection with the establishment of benchmark rates, such as currency rates, and activities in U.S. Treasury securities; transactions involving government-related financings and other matters; and securities offering processes, underwriting practices and related financial advisory services. The Bank is cooperating with all such regulatory investigations and reviews.

In addition, governmental and other investigations, reviews, actions and litigation involving the Bank's affiliates and such affiliates' businesses and operations, including without limitation various matters referred to above, may have an impact on the Bank's businesses and operations.

Note 25.

Subsequent Events

The Bank evaluated subsequent events through November 8, 2021, the date the consolidated financial statements were issued, and determined that there were no material events or transactions that would require recognition or additional disclosure in these consolidated financial statements.

Report of Independent Auditors

To the Board of Directors and Shareholder of Goldman Sachs Bank USA:

We have reviewed the accompanying consolidated interim financial information of Goldman Sachs Bank USA and its subsidiaries (the Bank), which comprise the consolidated balance sheet as of September 30, 2021, the related consolidated statements of earnings, comprehensive income and changes in shareholder's equity for the three and nine month periods ended September 30, 2021 and 2020, and the consolidated statements of cash flows for the nine month periods ended September 30, 2021 and 2020.

Management's Responsibility for the Consolidated Interim Financial Information

The Bank's management is responsible for the preparation and fair presentation of the consolidated interim financial information in accordance with accounting principles generally accepted in the United States of America; this responsibility includes the design, implementation, and maintenance of internal control sufficient to provide a reasonable basis for the preparation and fair presentation of the consolidated interim financial information in accordance with accounting principles generally accepted in the United States of America.

Auditors' Responsibility

Our responsibility is to conduct our review in accordance with auditing standards generally accepted in the United States of America applicable to reviews of interim financial information. A review of interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with auditing standards generally accepted in the United States of America, the objective of which is the expression of an opinion regarding the financial information taken as a whole. Accordingly, we do not express such an opinion.

Conclusion

Based on our review, we are not aware of any material modifications that should be made to the accompanying consolidated interim financial information for it to be in accordance with accounting principles generally accepted in the United States of America.

Other Matter

We previously audited, in accordance with auditing standards generally accepted in the United States of America, the consolidated balance sheet of the Bank as of December 31, 2020, and the related consolidated statements of earnings, comprehensive income, changes in shareholder's equity and cash flows for the year then ended (not presented herein), and in our report dated March 4, 2021, which included a paragraph describing a change in the manner of accounting for credit losses on certain financial instruments in the 2020 consolidated financial statements, we expressed an unmodified opinion on those consolidated financial statements. As discussed in Notes 1 and 2, to the accompanying consolidated interim financial information, the Bank has reflected the effects of a reorganization of entities under common control. The accompanying December 31, 2020 consolidated balance sheet reflects this change.

PricewaterhouseCoopers LLP

November 8, 2021

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Supplemental Financial Information

Distribution of Assets, Liabilities and Shareholder's Equity

The tables below present information about average balances, interest and average interest rates.

	Average Balance for the			
	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Assets				
Deposits with banks	**$127,189**	$ 57,934	**$105,634**	$ 57,210
Collateralized agreements	**27,674**	32,461	**24,098**	25,539
Trading assets	**30,712**	54,608	**38,258**	53,832
Investments	**23,794**	26,836	**25,186**	17,259
Loans	**102,676**	84,803	**94,341**	86,033
Other interest-earning assets	**29,039**	17,936	**30,216**	18,001
Interest-earning assets	**341,084**	274,578	**317,733**	257,874
Cash and due from banks	**1,432**	586	**1,708**	652
Other non-interest-earning assets	**31,208**	21,487	**38,095**	19,979
Assets	**$373,724**	$296,651	**$357,536**	$278,505
Liabilities				
Interest-bearing deposits	**$259,385**	$215,308	**$238,635**	$194,445
Collateralized financings	**5,943**	9,401	**6,685**	7,831
Trading liabilities	**11,321**	4,753	**9,199**	6,229
Borrowings	**8,818**	7,770	**12,997**	10,066
Other interest-bearing liabilities	**16,321**	8,836	**15,575**	9,360
Interest-bearing liabilities	**301,788**	246,068	**283,091**	227,931
Non-interest-bearing deposits	**5,183**	5,778	**5,422**	5,632
Other non-interest-bearing liabilities	**24,865**	14,070	**31,416**	14,401
Liabilities	**331,836**	265,916	**319,929**	247,964
Shareholder's equity	**41,888**	30,735	**37,607**	30,541
Liabilities and shareholder's equity	**$373,724**	$296,651	**$357,536**	$278,505

	Interest for the			
	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Assets				
Deposits with banks	**$ 30**	$ 12	**$ 63**	$ 151
Collateralized agreements	**10**	47	**50**	216
Trading assets	**136**	155	**428**	774
Investments	**39**	52	**117**	135
Loans	**992**	834	**2,799**	2,685
Other interest-earning assets	**132**	64	**335**	307
Interest-earning assets	**$ 1,339**	$ 1,164	**$ 3,792**	$ 4,268
Liabilities				
Interest-bearing deposits	**$ 268**	$ 414	**$ 832**	$ 1,667
Collateralized financings	**(10)**	6	**(28)**	67
Trading liabilities	**31**	12	**71**	65
Borrowings	**24**	26	**73**	113
Other interest-bearing liabilities	**24**	27	**95**	199
Interest-bearing liabilities	**$ 337**	$ 485	**$ 1,043**	$ 2,111
Net interest income	**$ 1,002**	$ 679	**$ 2,749**	$ 2,157

	Average Rate for the			
	Three Months Ended September		Nine Months Ended September	
	2021	2020	**2021**	2020
Assets				
Deposits with banks	**0.09%**	0.08%	**0.08%**	0.35%
Collateralized agreements	**0.14%**	0.57%	**0.28%**	1.13%
Trading assets	**1.76%**	1.13%	**1.50%**	1.92%
Investments	**0.65%**	0.77%	**0.62%**	1.05%
Loans	**3.83%**	3.90%	**3.97%**	4.17%
Other interest-earning assets	**1.80%**	1.42%	**1.48%**	2.28%
Interest-earning assets	**1.56%**	1.68%	**1.60%**	2.21%
Liabilities				
Interest-bearing deposits	**0.41%**	0.76%	**0.47%**	1.15%
Collateralized financings	**(0.67)%**	0.25%	**(0.56)%**	1.14%
Trading liabilities	**1.09%**	1.00%	**1.03%**	1.40%
Borrowings	**1.08%**	1.33%	**0.75%**	1.50%
Other interest-bearing liabilities	**0.58%**	1.21%	**0.82%**	2.84%
Interest-bearing liabilities	**0.44%**	0.78%	**0.49%**	1.24%
Net interest margin	**1.17%**	0.98%	**1.16%**	1.12%

Supplemental Financial Information

In the tables above:

- Deposits with banks primarily consist of deposits held at the Federal Reserve.
- Collateralized agreements consists of resale agreements and securities borrowed. Collateralized financings consists of repurchase agreements and securities loaned. The average balances for both collateralized agreements and collateralized financings reflect the impact of counterparty netting, while the related interest income and interest expense do not reflect the impact of such counterparty netting. See Note 11 to the consolidated financial statements and "Results of Operations" in Part II of this Quarterly Report for further information about collateralized agreements and collateralized financings and related interest.
- See Notes 4 through 10 to the consolidated financial statements and "Results of Operations" in Part II of this Quarterly Report for further information about financial assets and liabilities and related interest.
- Loans consists of loans held for investment that are accounted for at amortized cost net of allowance for loan losses or at fair value under the fair value option. Loans exclude loans held for sale that are accounted for at the lower of cost or fair value. Such loans are included within other interest-earning assets. Interest on loans is recognized over the life of the loan and is recorded on an accrual basis. See Note 9 to the consolidated financial statements and "Results of Operations" in Part II of this Quarterly Report for further information about loans and related interest.
- Other interest-earning assets consists of customer and other receivables and loans held for sale that are accounted for at the lower of cost or fair value. Other interest-bearing liabilities consists of customer and other payables. The average balances for both other interest-earning assets and other interest-bearing liabilities reflect the impact of counterparty netting, while the related interest income and interest expense do not reflect the impact of such counterparty netting.
- Derivative instruments are included in other non-interest-earning assets and other non-interest-bearing liabilities. See Note 7 to the consolidated financial statements and "Results of Operations" in Part II of this Quarterly Report for further information about derivatives.
- Interest-bearing deposits consists of deposits from private bank clients, U.S. consumers, clients of third-party broker-dealers, institutions, corporations and affiliates. See Note 13 to the consolidated financial statements and "Results of Operations" in Part II of this Quarterly Report for further information about deposits and related interest.
- Borrowings include senior unsecured debt, subordinated borrowings, hybrid financial instruments, borrowings from affiliates and other secured financings. See Notes 11 and 14 to the consolidated financial statements and "Balance Sheet Analysis" in Part II of this Quarterly Report for further information about short-term and long-term borrowings and related interest.
- See Note 21 to the consolidated financial statements for further information about interest income and interest expense.

PART II. Management's Discussion and Analysis of Financial Condition and Results of Operations

Introduction

Goldman Sachs Bank USA, (GS Bank USA), together with its consolidated subsidiaries (collectively, the Bank), is a New York State-chartered bank and a member of the Federal Reserve System. The Bank is supervised and regulated by the Board of Governors of the Federal Reserve System (FRB), the New York State Department of Financial Services (NYDFS) and the Consumer Financial Protection Bureau (CFPB). As a member of the Federal Deposit Insurance Corporation (FDIC), GS Bank USA's deposits are insured by the FDIC up to the maximum amount provided by law. GS Bank USA is registered as a swap dealer with the U.S. Commodity Futures Trading Commission (CFTC). GS Bank USA is also a government securities dealer subject to the rules and regulations of the U.S. Department of the Treasury (Treasury Department).

GS Bank USA is a wholly-owned subsidiary of The Goldman Sachs Group, Inc. (Group Inc.). Group Inc. is a bank holding company (BHC) under the U.S. Bank Holding Company Act of 1956 (BHC Act), a financial holding company under amendments to the BHC Act effected by the U.S. Gramm-Leach-Bliley Act of 1999, and is subject to supervision and examination by the FRB.

When we use the terms "we," "us" and "our," we mean GS Bank USA and its consolidated subsidiaries. When we use the term "GS Group" we are referring to Group Inc. and its consolidated subsidiaries, including us. References to revenue-producing units and control and support functions include activities performed by our employees, by dual employees (who are employees who perform services for both us and another GS Group subsidiary) and by affiliate employees under Bank supervision pursuant to Master Services Agreements supplemented by Service Level Agreements (collectively, the Master Services Agreement) between us and our affiliates.

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our Annual Report for the year ended December 31, 2020. References to "the 2020 Annual Report" are to our Annual Report for the year ended December 31, 2020. All references to "this Quarterly Report," of which this Management's Discussion and Analysis forms a part, refers to the report dated November 8, 2021. See the 2020 Annual Report for more information relating to our business, the supervision and regulation to which we are subject, risk factors affecting our business, our results of operations and financial condition, as well as our consolidated financial statements.

References to "the consolidated financial statements" or "Supplemental Financial Information" are to Part I of this Quarterly Report. The consolidated financial statements are unaudited. All references to September 2021, June 2021 and September 2020 refer to our periods ended, or the dates, as the context requires, September 30, 2021, June 30, 2021 and September 30, 2020, respectively. All references to December 2020 refer to the date December 31, 2020. Any reference to a future year refers to a year ending on December 31 of that year. Certain reclassifications have been made to previously reported amounts to conform to the current presentation.

Our principal office is located in New York, New York. GS Bank USA operates two domestic branches, which are located in Salt Lake City, Utah and Draper, Utah. Both branches are regulated by the Utah Department of Financial Institutions. GS Bank USA has a branch in London, United Kingdom, which is regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority and, effective July 7, 2021, in Tokyo, Japan, which is regulated by the Japan Financial Services Agency. In addition, on July 1, 2021, GS Bank USA acquired Goldman Sachs Bank Europe SE (GSBE), an indirect wholly-owned bank subsidiary of Group Inc. headquartered in Frankfurt, Germany. GSBE is supervised by the European Central Bank within the context of the European Single Supervisory Mechanism, the Federal Financial Supervisory Authority and Deutsche Bundesbank. GSBE has branches in Amsterdam, Copenhagen, Dublin, London, Luxembourg, Madrid, Milan, Paris, Stockholm and Warsaw that are also regulated by the relevant authorities in each jurisdiction.

In accordance with the reporting requirements for business combinations of entities under common control, prior period amounts are presented as if the acquisition of GSBE by GS Bank USA had occurred at the beginning of 2020. Our 2020 Annual Report was prepared prior to GS Bank USA's acquisition of GSBE and, accordingly, does not reflect the acquisition of GSBE as of the beginning of 2020.

We are a financial services provider that engages in banking activities. We are GS Group's primary lending entity, serving corporate and private bank clients, as well as U.S. consumers through our digital platform, *Marcus by Goldman Sachs* (Marcus), and by issuing credit cards. We are also GS Group's primary deposit-taking entity. Our depositors include private bank clients, U.S. consumers, clients of third-party broker-dealers, institutions, corporations and our affiliates. Our consumer deposit-taking activities are conducted through Marcus. We also provide transaction banking services to institutions, corporations and our affiliates. In addition, we enter into interest rate, currency, credit and other derivatives, and transact in certain related cash products, for the purpose of market making and risk management. GS Bank USA's acquisition of GSBE expanded our activities in the E.U. and introduced new business lines, such as underwriting and market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services.

See "Regulatory and Other Matters" for further information about GSBE's current and potential activities and the related laws, rules and regulations that also apply to it and us as a result of the acquisition.

Executive Overview

Three Months Ended September 2021 versus September 2020. We generated net earnings of $922 million for the third quarter of 2021, an increase of 58% compared with $583 million for the third quarter of 2020.

Net revenues were $2.39 billion for the third quarter of 2021, an increase of 61% compared with $1.48 billion for the third quarter of 2020, primarily reflecting higher gains from financial assets and liabilities.

Net interest income was $1.00 billion for the third quarter of 2021, an increase of 48% compared with $679 million for the third quarter of 2020. This increase was driven by higher interest income.

Non-interest revenues were $1.39 billion for the third quarter of 2021, an increase of 73% compared with $802 million for the third quarter of 2020, primarily reflecting higher gains from financial assets and liabilities.

Provision for credit losses was $147 million for the third quarter of 2021, an increase of 93% compared with $76 million for the third quarter of 2020. The third quarter of 2021 primarily reflected provisions related to portfolio growth (primarily in credit cards), while the third quarter of 2020 reflected reserve increases from individual impairments related to wholesale loans and growth in credit card loans, partially offset by reserve reductions from paydowns on corporate lines of credit and consumer installment loans.

Operating expenses were $995 million for the third quarter of 2021, an increase of 57% compared with $635 million for the third quarter of 2020, primarily due to increased compensation and benefits expenses and transaction based expenses.

As of September 2021, our Common Equity Tier 1 (CET1) capital ratio as calculated in accordance with the Standardized Capital Rules was 11.9% and as calculated in accordance with the Advanced Capital Rules was 18.4%. See Note 19 to the consolidated financial statements for further information about our capital ratios.

Nine Months Ended September 2021 versus September 2020. We generated net earnings of $2.53 billion for the first nine months of 2021, an increase of 219% compared with $792 million for the first nine months of 2020.

Net revenues were $7.05 billion for the first nine months of 2021, an increase of 47% compared with $4.79 billion for the first nine months of 2020, primarily reflecting higher gains from financial assets and liabilities.

Net interest income was $2.75 billion for the first nine months of 2021, an increase of 27% compared with $2.16 billion for the first nine months of 2020. This increase was driven by lower interest expense, partially offset by lower interest income.

Non-interest revenues were $4.30 billion for the first nine months of 2021, an increase of 63% compared with $2.63 billion for the first nine months of 2020, primarily reflecting higher gains from financial assets and liabilities.

Provision for credit losses was $143 million for the first nine months of 2021, a decrease of 92% compared with $1.79 billion for the first nine months of 2020. The first nine months of 2021 included provisions related to portfolio growth (primarily in credit cards, including provisions related to the pending acquisition of the General Motors co-branded credit card portfolio), largely offset by reserve reductions on wholesale and consumer loans reflecting continued improvement in the broader economic environment following challenging conditions in the first nine months of 2020 as a result of the coronavirus (COVID-19) pandemic.

Operating expenses were $3.55 billion for the first nine months of 2021, an increase of 80% compared with $1.97 billion for the first nine months of 2020, primarily due to increased compensation and benefits expenses and service charges, reflecting strong performance.

Business Environment

In the third quarter of 2021, the global economy continued its recovery amid solid fundamentals in the current operating environment, but there was emerging uncertainty around a number of factors. On the positive side, fiscal and monetary policy remained accommodative and COVID-19 vaccination rates continued to rise around the world. However, inflationary pressures alongside supply chain complications and the lack of progress on U.S. economic policy, including discussions on infrastructure investment, the federal debt ceiling and tax increases, were concerns during the quarter. Within the context of this environment, global equity markets remained stable and near all-time highs, long-term government bond yields were higher and market volatility was generally range-bound.

Despite broad improvements in the overall economy since the initial impact of the COVID-19 pandemic, uncertainty remains on the pace of the recovery going forward, reflecting concerns about virus resurgence from the Delta variant and other virus mutations, vaccine distribution and vaccination rates, inflation, supply chain complications, and geopolitical risks.

Critical Accounting Policies

Allowance for Credit Losses

We estimate and record an allowance for credit losses related to our loans held for investment that are accounted for at amortized cost. To determine the allowance for credit losses, we classify our loans accounted for at amortized cost into wholesale and consumer portfolios. These portfolios represent the level at which we have developed and documented our methodology to determine the allowance for credit losses. The allowance for credit losses is measured on a collective basis for loans that exhibit similar risk characteristics using a modeled approach and asset-specific basis for loans that do not share similar risk characteristics. The allowance for credit losses also includes qualitative components which reflect the uncertain nature of economic forecasting, capture uncertainty regarding model inputs, and account for model imprecision and concentration risk.

The determination of the allowance for credit losses entails significant judgment on various risk factors. Risk factors for wholesale loans include internal credit ratings, industry default and loss data, expected life, macroeconomic indicators (e.g., unemployment rates and GDP), the borrower's capacity to meet its financial obligations, the borrower's country of risk and industry, loan seniority and collateral type. In addition, for loans backed by real estate, risk factors include loan-to-value ratio, debt service ratio and home price index. Risk factors for installment and credit card loans include Fair Isaac Corporation (FICO) credit scores, delinquency status, loan vintage and macroeconomic indicators.

Our estimate of credit losses entails judgment about collectability at the reporting dates, and there are uncertainties inherent in those judgments. The allowance for credit losses is subject to a governance process that involves review and approval by senior management within our independent risk oversight and control functions. Personnel within GS Group's independent risk oversight and control functions are responsible for forecasting the economic variables that underlie the economic scenarios that are used in the modeling of expected credit losses. While we use the best information available to determine this estimate, future adjustments to the allowance may be necessary based on, among other things, changes in the economic environment or variances between actual results and the original assumptions used. Loans are charged off against the allowance for loan losses when deemed to be uncollectible.

We also record an allowance for credit losses on lending commitments which are held for investment that are accounted for at amortized cost. Such allowance is determined using the same methodology as the allowance for loan losses, while also taking into consideration the probability of drawdowns or funding, and whether such commitments are cancellable by us. See Note 9 to the consolidated financial statements for further information about the allowance for credit losses.

Fair Value

Fair Value Hierarchy. Trading assets and liabilities, certain investments and loans, and certain other financial assets and liabilities, are included in our consolidated balance sheets at fair value (i.e., marked-to-market), with related gains or losses generally recognized in our consolidated statements of earnings.

The fair value of a financial instrument is the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We measure certain financial assets and liabilities as a portfolio (i.e., based on its net exposure to market and/or credit risks). In determining fair value, the hierarchy under U.S. generally accepted accounting principles (U.S. GAAP) gives (i) the highest priority to unadjusted quoted prices in active markets for identical, unrestricted assets or liabilities (level 1 inputs), (ii) the next priority to inputs other than level 1 inputs that are observable, either directly or indirectly (level 2 inputs), and (iii) the lowest priority to inputs that cannot be observed in market activity (level 3 inputs). In evaluating the significance of a valuation input, we consider, among other factors, a portfolio's net risk exposure to that input. Assets and liabilities are classified in their entirety based on the lowest level of input that is significant to their fair value measurement.

The fair values for substantially all of our financial assets and for the majority of our financial liabilities are based on observable prices and inputs and are classified in levels 1 and 2 of the fair value hierarchy. Certain level 2 and level 3 financial assets and liabilities may require appropriate valuation adjustments that a market participant would require to arrive at fair value for factors, such as counterparty and our or our affiliates' credit quality, funding risk, transfer restrictions, liquidity and bid/offer spreads.

Instruments classified in level 3 of the fair value hierarchy are those which require one or more significant inputs that are not observable. Level 3 financial assets represented 0.7% as of September 2021, 0.7% as of June 2021 and 0.9% as of December 2020, of our total assets. See Notes 4 through 10 to the consolidated financial statements for further information about level 3 financial assets, including changes in level 3 financial assets and related fair value measurements. Absent evidence to the contrary, instruments classified in level 3 of the fair value hierarchy are initially valued at transaction price, which is considered to be the best initial estimate of fair value. Subsequent to the transaction date, we use other methodologies to determine fair value, which vary based on the type of instrument. Estimating the fair value of level 3 financial instruments requires judgments to be made. These judgments include:

- Determining the appropriate valuation methodology and/or model for each type of level 3 financial instrument;
- Determining model inputs based on an evaluation of all relevant empirical market data, including prices evidenced by market transactions, interest rates, credit spreads, volatilities and correlations; and
- Determining appropriate valuation adjustments, including those related to illiquidity or counterparty credit quality.

Regardless of the methodology, valuation inputs and assumptions are only changed when corroborated by substantive evidence.

Controls Over Valuation of Financial Instruments. We leverage GS Group's control infrastructure over valuation of financial instruments, which is described below. Market makers and investment professionals in revenue-producing units are responsible for pricing our financial instruments. GS Group's control infrastructure is independent of the revenue-producing units and is fundamental to ensuring that all of our financial instruments are appropriately valued at market-clearing levels. In the event that there is a difference of opinion in situations where estimating the fair value of financial instruments requires judgment (e.g., calibration to market comparables or trade comparison, as described below), the final valuation decision is made by senior managers in independent risk oversight and control functions. This independent price verification is critical to ensuring that our financial instruments are properly valued.

Price Verification. All financial instruments at fair value classified in levels 1, 2 and 3 of the fair value hierarchy are subject to an independent price verification process. The objective of price verification is to have an informed and independent opinion with regard to the valuation of financial instruments under review. Instruments that have one or more significant inputs which cannot be corroborated by external market data are classified in level 3 of the fair value hierarchy. Price verification strategies utilized by our independent risk oversight and control functions include:

- **Trade Comparison.** Analysis of trade data (both internal and external, where available) is used to determine the most relevant pricing inputs and valuations.
- **External Price Comparison.** Valuations and prices are compared to pricing data obtained from third parties (e.g., brokers or dealers, IHS Markit, Bloomberg, IDC, TRACE). Data obtained from various sources is compared to ensure consistency and validity. When broker or dealer quotations or third-party pricing vendors are used for valuation or price verification, greater priority is generally given to executable quotations.
- **Calibration to Market Comparables.** Market-based transactions are used to corroborate the valuation of positions with similar characteristics, risks and components.
- **Relative Value Analyses.** Market-based transactions are analyzed to determine the similarity, measured in terms of risk, liquidity and return, of one instrument relative to another or, for a given instrument, of one maturity relative to another.
- **Collateral Analyses.** Margin calls on derivatives are analyzed to determine implied values, which are used to corroborate our valuations.
- **Execution of Trades.** Where appropriate, market-making desks are instructed to execute trades in order to provide evidence of market-clearing levels.
- **Backtesting.** Valuations are corroborated by comparison to values realized upon sales.

See Note 4 to the consolidated financial statements for further information about fair value measurements.

Review of Net Revenues. Independent risk oversight and control functions ensure adherence to GS Group's pricing policy through a combination of daily procedures, including the explanation and attribution of net revenues based on the underlying factors. Through this process, we independently validate net revenues, identify and resolve potential fair value or trade booking issues on a timely basis and seek to ensure that risks are being properly categorized and quantified.

Review of Valuation Models. A model risk management group (Model Risk), consisting of quantitative professionals who are separate from model developers, performs an independent model review and validation process of valuation models. New or changed models are reviewed and approved prior to implementation. Models are reviewed annually to assess the impact of any changes in the product or market and any market developments in pricing theories. See "Risk Management — Model Risk Management" in Part II of the 2020 Annual Report for further information about the review and validation of valuation models.

Recent Accounting Developments

See Note 3 to the consolidated financial statements for information about Recent Accounting Developments.

Results of Operations

The composition of our net revenues has varied over time as financial markets and the scope of our operations have changed. The composition of net revenues can also vary over the shorter term due to fluctuations in economic and market conditions. In addition to transactions entered into with third parties, we also enter into transactions with affiliates in the normal course of business, primarily as part of our market-making activities. See "Risk Factors" in Part I of the 2020 Annual Report for further information about the impact of economic and market conditions on our results of operations.

If optimism about the economic outlook declines or the ongoing efforts to mitigate the impact of the COVID-19 pandemic are ineffective (including due to new variants or complications with vaccine distribution), it may lead to a further decline in market-making activity levels, a widening of credit spreads, a deterioration in the creditworthiness of borrowers, or a decline in consumer deposits, and net revenues and the provision for credit losses would likely be negatively impacted.

Financial Overview

The table below presents an overview of our financial results and selected financial ratios.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Net revenues	**$ 2,389**	$ 1,481	**$ 7,051**	$ 4,789
Pre-tax earnings	**$ 1,247**	$ 770	**$ 3,361**	$ 1,027
Net earnings	**$ 922**	$ 583	**$ 2,528**	$ 792
Net earnings to average assets	**1.0%**	0.8%	**0.9%**	0.4%
Return on average shareholder's equity	**8.7%**	7.5%	**9.0%**	3.5%
Average equity to average assets	**11.2%**	10.4%	**10.5%**	11.0%

In the table above:

- Net earnings to average assets and return on average shareholder's equity are annualized amounts.
- Return on average shareholder's equity is calculated by dividing annualized net earnings by average monthly shareholder's equity.
- Average equity to average assets is calculated by dividing average total shareholder's equity by average total assets.

Net Revenues

The table below presents our net revenues by line item, as well as net interest margin.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Interest income	**$ 1,339**	$ 1,164	**$ 3,792**	$ 4,268
Interest expense	**337**	485	**1,043**	2,111
Net interest income	**1,002**	679	**2,749**	2,157
Non-interest revenues	**1,387**	802	**4,302**	2,632
Net revenues	**$ 2,389**	$ 1,481	**$ 7,051**	$ 4,789
Net interest margin	**1.17%**	0.98%	**1.16%**	1.12%

In the table above:

- Interest income includes interest earned from our lending portfolio, consisting of corporate lending, wealth management lending, commercial real estate lending, residential real estate lending, installment lending, credit card lending and other lending. Interest income is also earned from cash deposits held primarily at the Federal Reserve. In addition, interest is earned from certain trading assets, investments, collateralized agreements, collateral balances posted to counterparties and foreign currency funding facilities.
- Interest expense includes interest related to deposit-taking activities. Interest expense also includes interest related to certain trading liabilities, collateralized financings, unsecured borrowings, collateral balances received from counterparties and foreign currency funding facilities. We apply hedge accounting to certain interest rate swaps used to manage the interest rate exposure of certain fixed-rate term certificates of deposit. For qualifying fair value hedges, gains and losses on derivatives are included in interest expense. See Note 7 to the consolidated financial statements for further information about hedge accounting.
- Non-interest revenues includes gains and losses from financial assets and liabilities related to market-making and risk management activities in interest rate, currency, credit and other derivatives and certain related products which are primarily accounted for at fair value. Non-interest revenues also includes net gains and losses from loans and lending commitments primarily accounted for at fair value. In addition, non-interest revenues includes revenues earned from relationships with affiliates, loan syndication fees, fees for investment management services, fees for financial advisory services relating to mergers and acquisitions and other corporate reorganizations, fees related to our credit card business and other fees.

Three Months Ended September 2021 versus September 2020. Net revenues in the consolidated statements of earnings were $2.39 billion for the third quarter of 2021, an increase of 61% compared with $1.48 billion for the third quarter of 2020, primarily reflecting higher gains from financial assets and liabilities.

Net Interest Income

Net interest income in the consolidated statements of earnings was $1.00 billion for the third quarter of 2021, 48% higher than the third quarter of 2020, driven by higher interest income. Net interest income was 43% of net revenues in the third quarter of 2021**,** compared with 46% in the third quarter of 2020.

Net Interest Margin

Net interest margin was 117 basis points for the third quarter of 2021, an increase of 19 basis points compared with 98 basis points for the third quarter of 2020, primarily driven by lower rates on deposits.

Non-Interest Revenues

Non-interest revenues were $1.39 million for the third quarter of 2021, 73% higher than the third quarter of 2020, primarily reflecting higher gains from financial assets and liabilities.

Nine Months Ended September 2021 versus September 2020. Net revenues in the consolidated statements of earnings were $7.05 billion for the first nine months of 2021, an increase of 47% compared with $4.79 billion for the first nine months of 2020, primarily reflecting higher gains from financial assets and liabilities.

Net Interest Income

Net interest income in the consolidated statements of earnings was $2.75 billion for the first nine months of 2021, 27% higher than the first nine months of 2020, driven by lower interest expense, partially offset by lower interest income. Net interest income was 40% of net revenues in the first nine months of 2021**,** compared with 45% in the first nine months of 2020.

Net Interest Margin

Net interest margin was 116 basis points for the first nine months of 2021, an increase of 4 basis points compared with 112 basis points for the first nine months of 2020, primarily driven by lower rates on deposits.

Non-Interest Revenues

Non-interest revenues were $4.30 billion for the first nine months of 2021, 63% higher than the first nine months of 2020, primarily reflecting higher gains from financial assets and liabilities.

Interest Income

The table below presents our sources of interest income.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Deposits with banks	**$ 30**	$ 12	**$ 63**	$ 151
Collateralized agreements	**10**	47	**50**	216
Trading assets	**136**	155	**428**	774
Investments	**39**	52	**117**	135
Loans	**992**	834	**2,799**	2,685
Other	**132**	64	**335**	307
Total interest income	**$ 1,339**	$ 1,164	**$ 3,792**	$ 4,268

Three Months Ended September 2021 versus September 2020. Interest income in the consolidated statements of earnings was $1.34 billion for the third quarter of 2021, 15% higher than the third quarter of 2020. See below and "Supplemental Financial Information — Distribution of Assets, Liabilities and Shareholder's Equity" for further information about our sources of interest income, including average balances and rates.

Interest income from deposits with banks was $30 million for the third quarter of 2021, 150% higher than the third quarter of 2020, primarily due to higher average balances. See Note 3 to the consolidated financial statements for further information about our cash.

Interest income from collateralized agreements was $10 million for the third quarter of 2021, 79% lower than the third quarter of 2020, primarily due to lower rates. See Note 11 to the consolidated financial statements for further information about collateralized agreements.

Interest income from trading assets was $136 million for the third quarter of 2021, 12% lower than the third quarter of 2020, due to lower average balances, partially offset by higher rates. See Note 5 to the consolidated financial statements for further information about trading assets.

Interest income from investments was $39 million for the third quarter of 2021, 25% lower than the third quarter of 2020, due to lower rates and average balances. See Note 8 to the consolidated financial statements for further information about investments.

Interest income from loans was $992 million for the third quarter of 2021, 19% higher than the third quarter of 2020, primarily due to higher average balances. See Note 9 to the consolidated financial statements for further information about loans.

Other interest income was $132 million for the third quarter of 2021, 106% higher than the third quarter of 2020, primarily due to higher average balances. Other interest income primarily includes interest income on loans held for sale that are accounted for at the lower of cost or fair value, collateral balances posted to counterparties and foreign currency funding facilities.

Nine Months Ended September 2021 versus September 2020. Interest income in the consolidated statements of earnings was $3.79 billion for the first nine months of 2021, 11% lower than the first nine months of 2020. See below and "Supplemental Financial Information — Distribution of Assets, Liabilities and Shareholder's Equity" for further information about our sources of interest income, including average balances and rates.

Interest income from deposits with banks was $63 million for the first nine months of 2021, 58% lower than the first nine months of 2020, due to lower rates, partially offset by higher average balances. See Note 3 to the consolidated financial statements for further information about our cash.

Interest income from collateralized agreements was $50 million for the first nine months of 2021, 77% lower than the first nine months of 2020, primarily due to lower rates. See Note 11 to the consolidated financial statements for further information about collateralized agreements.

Interest income from trading assets was $428 million for the first nine months of 2021, 45% lower than the first nine months of 2020, due to lower average balances and rates. See Note 5 to the consolidated financial statements for further information about trading assets.

Interest income from investments was $117 million for the first nine months of 2021, 13% lower than the first nine months of 2020, due to lower rates, partially offset by higher average balances.

Interest income from loans was $2.80 billion for the first nine months of 2021, 4% higher than the first nine months of 2020, due to higher average balances, partially offset by lower rates. See Note 9 to the consolidated financial statements for further information about loans.

Other interest income was $335 million for the first nine months of 2021, 9% higher than the first nine months of 2020, due to higher average balances, partially offset by lower rates. Other interest income primarily includes interest income on loans held for sale that are accounted for at the lower of cost or fair value, collateral balances posted to counterparties and foreign currency funding facilities.

Interest Expense

The table below presents our sources of interest expense.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Deposits	**$ 268**	$ 414	**$ 832**	$ 1,667
Collateralized financings	**(10)**	6	**(28)**	67
Trading liabilities	**31**	12	**71**	65
Borrowings	**24**	26	**73**	113
Other	**24**	27	**95**	199
Total interest expense	**$ 337**	$ 485	**$ 1,043**	$ 2,111

Three Months Ended September 2021 versus September 2020. Interest expense in the consolidated statements of earnings was $337 million for the third quarter of 2021, 31% lower than the third quarter of 2020. See below and "Supplemental Financial Information — Distribution of Assets, Liabilities and Shareholder's Equity" for further information about our sources of interest expense, including average balances and rates.

Interest expense from deposits was $268 million for the third quarter of 2021, 35% lower than the third quarter of 2020, due to lower rates, partially offset by higher average balances.

Interest expense from collateralized financings was $(10) million for the third quarter of 2021, lower than the third quarter of 2020, primarily due to lower rates.

Interest expense from trading liabilities was $31 million for the third quarter of 2021, 158% higher than the third quarter of 2020, primarily due to higher average balances.

Interest expense from borrowings was $24 million for the third quarter of 2021, 8% lower than the third quarter of 2020, primarily due to lower rates.

Other interest expense was $24 million for the third quarter of 2021, 11% lower than the third quarter of 2020, primarily due to lower rates. Other interest expense primarily includes interest expense on collateral balances received from counterparties and interest expense on foreign currency funding facilities.

Nine Months Ended September 2021 versus September 2020. Interest expense in the consolidated statements of earnings was $1.04 billion for the first nine months of 2021, 51% lower than the first nine months of 2020. See below and "Supplemental Financial Information — Distribution of Assets, Liabilities and Shareholder's Equity" for further information about our sources of interest expense, including average balances and rates.

Interest expense from deposits was $832 million for the first nine months of 2021, 50% lower than the first nine months of 2020, primarily due to lower rates.

Interest expense from collateralized financings was $(28) million for the first nine months of 2021, lower than the first nine months of 2020, primarily due to lower rates.

Interest expense from trading liabilities was $71 million for the first nine months of 2021, 9% higher than the first nine months of 2020, primarily due to higher average balances.

Interest expense from borrowings was $73 million for the first nine months of 2021, 35% lower than the first nine months of 2020, due to lower rates, partially offset by higher average balances.

Other interest expense was $95 million for the first nine months of 2021, 52% lower than the first nine months of 2020, due to lower rates, partially offset by higher average balances. Other interest expense primarily includes interest expense on collateral balances received from counterparties and interest expense on foreign currency funding facilities.

Provision for Credit Losses

Provision for credit losses consists of provision for credit losses on loans and lending commitments held for investment and accounted for at amortized cost. See Note 9 to the consolidated financial statements for further information about the provision for credit losses.

The table below presents our provision for credit losses.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Provision for credit losses	**$ 147**	$ 76	**$ 143**	$ 1,791

Three Months Ended September 2021 versus September 2020. Provision for credit losses in the consolidated statements of earnings was $147 million for the third quarter of 2021, an increase of 93% compared with $76 million for the third quarter of 2020. The third quarter of 2021 primarily reflected provisions related to portfolio growth (primarily in credit cards), while the third quarter of 2020 reflected reserve increases from individual impairments related to wholesale loans and growth in credit card loans, partially offset by reserve reductions from paydowns on corporate lines of credit and consumer installment loans.

Nine Months Ended September 2021 versus September 2020. Provision for credit losses in the consolidated statements of earnings was $143 million for the first nine months of 2021, a decrease of 92% compared with $1.79 billion for the first nine months of 2020. The first nine months of 2021 included provisions related to portfolio growth (primarily in credit cards, including approximately $185 million of provisions related to the pending acquisition of the General Motors co-branded credit card portfolio), largely offset by reserve reductions on wholesale and consumer loans reflecting continued improvement in the broader economic environment following challenging conditions in the first nine months of 2020 as a result of the COVID-19 pandemic.

Operating Expenses

Our operating expenses are primarily influenced by compensation, headcount and levels of business activity. Compensation and benefits includes salaries, estimated year-end discretionary compensation, amortization of equity awards and other items such as benefits. Compensation and benefits relate to direct Bank employees. Discretionary compensation is significantly impacted by, among other factors, GS Group's overall financial performance, prevailing labor markets, business mix, the structure of GS Group's share-based compensation programs and the external environment. Another component of our operating expenses is service charges, which are employment related costs of dual employees and employees of affiliates pursuant to the Master Services Agreement.

The table below presents our operating expenses by line item and headcount.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Compensation and benefits	**$ 292**	$ 154	**$ 1,418**	$ 534
Service charges	**158**	126	**608**	372
Professional fees	**85**	63	**230**	192
Transaction based	**115**	56	**341**	176
Market development	**57**	22	**135**	124
Communications and technology	**73**	53	**195**	154
Depreciation and amortization	**27**	17	**80**	47
Other expenses	**188**	144	**540**	372
Total operating expenses	**$ 995**	$ 635	**$ 3,547**	$ 1,971
Headcount at period-end	**3,580**	2,731		

In the table above:

- Compensation and benefits and service charges include employee-related expenses. As described above, compensation and benefits are expenses of direct Bank employees. Service charges are expenses related to dual employees and employees of affiliates who provide services to us pursuant to the Master Services Agreement.
- Brokerage, clearing, exchange and distribution fees was renamed transaction based (beginning in the fourth quarter of 2020) and additionally includes expenses resulting from completed transactions, which are directly related to client revenues. Such expenses were previously reported in other expenses. Previously reported amounts have been conformed to the current presentation.
- Other expenses primarily includes regulatory and agency fees, origination and servicing expenses and other expenses charged by affiliates. Expenses related to depreciation and amortization were previously reported in other expenses. Previously reported amounts have been conformed to the current presentation.

Three Months Ended September 2021 versus September 2020. Operating expenses in the consolidated statements of earnings were $995 million for the third quarter of 2021, 57% higher than the third quarter of 2020.

Compensation and benefits expenses in the consolidated statements of earnings were $292 million for the third quarter of 2021, 90% higher than the third quarter of 2020, primarily reflecting strong performance and an increase in headcount.

Service charges in the consolidated statements of earnings were $158 million for the third quarter of 2021, 25% higher than the third quarter of 2020, primarily reflecting an increase in compensation expenses charged by affiliates pursuant to the Master Services Agreement.

Professional fees in the consolidated statements of earnings were $85 million for the third quarter of 2021, 35% higher than the third quarter of 2020, primarily due to higher consultant expenses related to our consumer business.

Transaction based expenses in the consolidated statements of earnings were $115 million for the third quarter of 2021, 105% higher than the third quarter of 2020, primarily reflecting higher expenses related to increased client activity.

Market development expenses in the consolidated statements of earnings were $57 million for the third quarter of 2021, 159% higher than the third quarter of 2020, primarily reflecting increased expenses related to our consumer business.

Communications and technology expenses in the consolidated statements of earnings were $73 million for the third quarter of 2021, 38% higher than the third quarter of 2020, primarily due to increased expenses related to our consumer business.

Depreciation and amortization expenses in the consolidated statements of earnings were $27 million for the third quarter of 2021, 59% higher than the third quarter of 2020, primarily due to increased amortization related to software.

Other expenses in the consolidated statements of earnings were $188 million for the third quarter of 2021, 31% higher than the third quarter of 2020, due to increased expenses related to our consumer business and higher regulatory and agency fees.

Nine Months Ended September 2021 versus September 2020. Operating expenses in the consolidated statements of earnings were $3.55 billion for the first nine months of 2021, 80% higher than the first nine months of 2020.

Compensation and benefits expenses in the consolidated statements of earnings were $1.42 billion for the first nine months of 2021, 166% higher than the first nine months of 2020, primarily reflecting strong performance and an increase in headcount,

Service charges in the consolidated statements of earnings were $608 million for the first nine months of 2021, 63% higher than the first nine months of 2020, primarily reflecting an increase in compensation expenses charged by affiliates pursuant to the Master Services Agreement.

Professional fees in the consolidated statements of earnings were $230 million for the first nine months of 2021, 20% higher than the first nine months of 2020, primarily due to higher consultant expenses related to our consumer business.

Transaction based expenses in the consolidated statements of earnings were $341 million for the first nine months of 2021, 94% higher than the first nine months of 2020, primarily reflecting higher expenses related to increased client activity.

Market development expenses in the consolidated statements of earnings were $135 million for the first nine months of 2021, 9% higher than the first nine months of 2020, primarily reflecting increased expenses related to our consumer business.

Communications and technology expenses in the consolidated statements of earnings were $195 million for the first nine months of 2021, 27% higher than the first nine months of 2020, primarily reflecting increased expenses related to our consumer business.

Depreciation and amortization expenses in the consolidated statements of earnings were $80 million for the first nine months of 2021, 70% higher than the first nine months of 2020, primarily due to increased amortization related to software.

Other expenses in the consolidated statements of earnings were $540 million for the first nine months of 2021, 45% higher than the first nine months of 2020, due to increased expenses related to our consumer business and higher regulatory and agency fees.

Provision for Taxes

The effective income tax rate for the first nine months of 2021 was 24.8%, up from the full year income tax rate of 23.1% for 2020, primarily due to an increase in tax expense related to state and local income taxes.

In March 2021, the American Rescue Plan Act of 2021 (Rescue Plan) was signed into law. The Rescue Plan is a $1.9 trillion stimulus package enacted to help address the economic and health impacts of the COVID-19 pandemic. The legislation is not expected to have a material impact on our 2021 annual effective tax rate.

In April 2021, the New York State (NYS) FY 2022 budget was enacted. The legislation temporarily increased the NYS corporate income tax rate from 6.5% to 7.25% for calendar years 2021 through 2023. The legislation is not expected to have a material impact on our 2021 annual effective tax rate.

Balance Sheet and Funding Sources

See "Balance Sheet and Funding Sources" in Part II of the 2020 Annual Report for further information about our balance sheet management process and our funding sources.

Balance Sheet Analysis

As of September 2021, total assets in our consolidated balance sheets were $387.38 billion, an increase of $91.70 billion from December 2020, primarily reflecting an increase in cash of $60.25 billion (primarily reflecting a change in the composition of our global core liquid assets (GCLA)) partially offset by a decrease in trading assets of $20.62 billion (primarily reflecting a decrease in U.S. government obligations).

As of September 2021, total liabilities in our consolidated balance sheets were $347.18 billion, an increase of $85.56 billion from December 2020, primarily reflecting an increase in deposits of $53.32 billion (primarily reflecting increases in transaction banking, deposit sweep programs and consumer deposits).

Funding Sources

Our primary sources of funding are deposits, collateralized financings, unsecured borrowings and shareholder's equity. We seek to maintain broad and diversified funding sources across products, programs, tenors and creditors to avoid funding concentrations.

The table below presents information about our funding sources.

	As of			
$ in millions	**September 2021**		December 2020	
Deposits	**$ 272,312**	**83%**	$ 218,994	82%
Collateralized financings	**10,578**	**3%**	5,175	2%
Unsecured borrowings	**6,902**	**2%**	7,780	3%
Total shareholder's equity	**40,203**	**12%**	34,062	13%
Total	**$ 329,995**	**100%**	$ 266,011	100%

Substantially all of our funding is raised in U.S. dollars. We generally distribute our funding products through third-party distributors and private wealth advisors, to a depositor base in a variety of markets and directly to U.S. consumers, through our digital deposit platform. We believe that our relationships with our creditors are critical to our liquidity. Our creditors include individuals, financial institutions, nonfinancial institutions, corporations and asset managers. We have imposed various internal guidelines to monitor creditor concentration across our funding programs.

Deposits. Our deposits provide us with a diversified source of funding and reduce our reliance on wholesale funding. We accept deposits, including savings, demand and time deposits. Our depositors include private bank clients, U.S. consumers, clients of third-party broker-dealers, institutions, corporations and affiliates.

We also accept deposits from Goldman Sachs Funding LLC (Funding IHC) and Group Inc.

The average annualized interest rate on our interest-bearing deposits was 0.41% for the third quarter of 2021 and 0.76% for the third quarter of 2020, and 0.47% for the first nine months of 2021 and 1.15% for the first nine months of 2020.

The table below presents our average annualized interest rate on each type of deposit.

	Three Months Ended September		Nine Months Ended September	
	2021	2020	**2021**	2020
Savings and demand	**0.31%**	0.46%	**0.33%**	0.83%
Time	**0.72%**	1.42%	**0.87%**	1.70%

See "Supplemental Financial Information — Distribution of Assets, Liabilities, and Shareholder's Equity" and Note 13 to the consolidated financial statements for further information about deposits.

Collateralized Financings. We fund certain of our inventory and a portion of investments on a secured basis by entering into collateralized financing agreements, such as securities sold under agreements to repurchase (repurchase agreements). We are also a member of the Federal Home Loan Bank of New York (FHLB). Our outstanding borrowings against the FHLB were $100 million as of September 2021 and we had no outstanding borrowings as of December 2020. See Note 11 to the consolidated financial statements for further information about collateralized financings. Additionally, we have access to funding through the Federal Reserve discount window. However, we do not rely on this funding in our liquidity planning and stress testing.

Unsecured Borrowings. We may raise funding through unsecured borrowings, primarily from Funding IHC and Group Inc. Group Inc. raises non-deposit unsecured funding and lends to Funding IHC and other affiliates, including consolidated subsidiaries, such as us, to meet those entities' funding needs. This approach enhances the flexibility with which Funding IHC and Group Inc. can meet our and other Group Inc. subsidiaries' funding requirements. We may also raise funding through issuing senior unsecured debt. See Note 14 to the consolidated financial statements for further information about our unsecured borrowings.

Shareholder's Equity. Shareholder's equity is a stable and perpetual source of funding. See the consolidated statements of changes in shareholder's equity in the consolidated financial statements for further information about our equity transactions.

Capital Management and Regulatory Capital

Capital adequacy is of critical importance to us. We have in place a comprehensive capital management policy that provides a framework, defines objectives and establishes guidelines to assist us in maintaining the appropriate level and composition of capital in both business-as-usual and stressed conditions. See "Equity Capital Management and Regulatory Capital" in Part II of the 2020 Annual Report for further information about our capital management process and regulatory capital requirement.

Restrictions on Payments. Our payment of dividends to Group Inc. is subject to certain restrictions. For example, the amount of dividends that may be paid is limited to the lesser of the amounts calculated under a recent earnings test and an undivided profits test. In addition to limitations on the payment of dividends imposed by federal and state laws, the FRB and the FDIC have the authority to prohibit or limit the payment of dividends by the banking organizations they supervise if, in their opinion, payment of a dividend would constitute an unsafe or unsound practice in light of the financial condition of the banking organization, pursuant to applicable FRB regulations.

We did not pay a dividend to Group Inc. during the year ended December 2020. Under the recent earnings test and undivided profits test, we could have declared dividends to Group Inc. of up to $4.66 billion as of December 2020. During the three and nine months ended September 2021, we declared and paid approximately $33 billion of dividends to Group Inc., substantially all of which related to our acquisition of GSBE in July 2021. As a result of making these dividend payments, we cannot currently declare any dividends without prior regulatory approval.

Stress Testing Process. Our stress tests incorporate our internally designed stress scenarios, including our internally developed severely adverse scenario, and are designed to capture our specific vulnerabilities and risks.

Starting in 2022, we will be required by FRB regulations to submit our annual stress test results under U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act Stress Tests.

Regulatory and Other Matters

Regulatory Matters

In October 2021, rules issued by the CFTC establishing capital and financial reporting requirements for swap dealers, as well as rules issued by the SEC establishing capital, margin and segregation requirements for security-based swap dealers became effective. GS Bank USA, and its subsidiaries GSBE and Goldman Sachs Mitsui Marine Derivative Products, L.P. (MMDP), are swap dealers registered with the CFTC. In the fourth quarter of 2021, both GS Bank USA and GSBE became security-based swap dealers registered with the SEC. GS Bank USA, GSBE, and MMDP were compliant with the aforementioned CFTC or SEC rules, as applicable, as of the effective date.

See "Regulation" in Part I of the 2020 Annual Report for further information about the laws, rules and regulations and proposed laws, rules and regulations that apply to us and our operations. In addition, see Note 19 to the consolidated financial statements for information about our risk-based capital ratios and leverage ratios.

Other Matters

GreenSky, Inc. (GreenSky). In September 2021, Group Inc., GS Bank USA, GreenSky and GreenSky Holdings, LLC (GreenSky Holdings) entered into an agreement pursuant to which Group Inc. will acquire GreenSky, a leading technology company Powering Commerce at Point of Sale® for a growing ecosystem of merchants, consumers and banks, in an all-stock transaction in which stockholders of GreenSky and unit holders of GreenSky Holdings will receive 0.03 shares of Group Inc.'s common stock for each share of GreenSky Class A common stock and each GreenSky Holdings common unit. Upon closing of the transaction, GreenSky will become a wholly-owned subsidiary of GS Bank USA. The purchase price of the acquisition, based on the closing stock price of Group Inc. as of September 2021, was approximately $2.0 billion. However, the final purchase price of the acquisition will depend upon the stock price of Group Inc. at the time of the closing of the transaction. The transaction is anticipated to close in the fourth quarter of 2021 or first quarter of 2022. In connection with this transaction, we have provided a commitment to acquire up to $800 million of loans originated by GreenSky's bank partners. Additionally, we have provided a commitment to purchase up to $1.0 billion of loans originated by GreenSky's bank partners, which would be funded only in the event that the acquisition is not completed.

GSBE. On July 1, 2021, GS Bank USA acquired GSBE, an indirect wholly-owned bank subsidiary of Group Inc. headquartered in Frankfurt, Germany. GSBE is our only operating subsidiary in the E.U. and, following the withdrawal of the U.K. from the E.U., is GS Group's main operating subsidiary in the E.U. The following provides information about GSBE's financial results and balance sheet on a U.S. GAAP basis:

- As of September 2021, GSBE had total assets of approximately $62.0 billion and total shareholders' equity of approximately $7.0 billion. As of December 2020, GSBE had total assets of approximately $25.0 billion and total shareholders' equity of approximately $4.0 billion.
- GSBE's total net revenues were approximately $540 million for the three months ended September 2021 and approximately $149 million for the three months ended September 2020, and net earnings were approximately $233 million for the three months ended September 2021 and approximately $71 million for the three months ended September 2020.
- GSBE's total net revenues were approximately $1.3 billion for the nine months ended September 2021 and approximately $288 million for the nine months ended September 2020, and net earnings were approximately $324 million for the nine months ended September 2021 and approximately $118 million for the nine months ended September 2020.

GSBE is subject to various legal and regulatory requirements and obligations in Germany and in the E.U., including with respect to capital, liquidity and stress testing; recovery and resolution planning; deposit insurance; prohibitions on certain kinds of proprietary trading and lending and guarantee businesses with hedge funds and other highly-leveraged funds; regulation and oversight of broker-dealer activities, swap dealer activities and investment, asset and wealth management activities; and restrictions on employee compensation. In addition, as a foreign bank subsidiary of GS Bank USA, GSBE is subject to limits on the nature and scope of its activities under the FRB's Regulation K (Reg K). In particular, GSBE's activities are limited to those that are permissible under Reg K, and its underwriting and market making in equity securities are each subject to limits based on GSBE's and/or GS Bank USA's capital. Additionally, pursuant to German regulatory requirements, transactions between GSBE and its respective affiliates, including both the Bank and GS Group affiliates, must be on market terms.

GS Bank USA's acquisition of GSBE expanded our activities in the E.U. and introduced new business lines, such as underwriting and market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services. For a discussion of risks we face in connection with new business initiatives and acquisitions generally, including our acquisition of GSBE, see "Risk Factors — We face enhanced risks as new business initiatives and acquisitions lead us to engage in new activities, operate in new locations, transact with a broader array of clients and counterparties, and expose us to new assets, activities and markets" in Part I of the 2020 Annual Report. For a discussion of risks we face specifically in connection with the new business lines of underwriting and market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services, as well as risks associated with expanding our operations into the E.U., see "Risk Factors — GS Bank USA's acquisition of GSBE expanded our activities in the E.U. and introduced new business lines, such as underwriting and market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services, which exposes us to new and additional risks" in the Risk Factors section of this Quarterly Report.

In connection with the acquisition, Group Inc. made a $34.0 billion capital contribution to GS Bank USA on July 1, 2021. Since the acquisition, GS Bank USA has declared and paid approximately $33 billion of dividends to Group Inc., largely reflecting the subsequent maturity or settlement of assets held by GSBE on the acquisition date.

Interbank Offered Rates (IBORs), including London Interbank Offered Rate (LIBOR). Central banks and regulators in a number of major jurisdictions (for example, U.S., U.K., E.U., Switzerland and Japan) have convened working groups to find and implement the transition to suitable replacements for IBORs. In March 2021, the FCA and the Intercontinental Exchange Benchmark Authority announced that the publication of all EUR and CHF LIBOR settings along with certain JPY, GBP and USD LIBOR settings will cease after December 31, 2021 and the publication of the most commonly used USD LIBOR settings will cease after June 30, 2023. The FCA continues to consult the market on publishing synthetic rates for certain GBP and JPY LIBOR settings for a limited time. In April 2021, the State of New York approved legislation which minimizes legal and economic uncertainty for contracts that are governed by New York law and have no fallback provisions or have fallback provisions that are based on LIBOR by providing a statutory framework to replace LIBOR with a benchmark rate based on the Secured Overnight Financing Rate. The U.S. federal banking agencies have also issued guidance strongly encouraging banking organizations to cease using USD LIBOR as a reference rate in new contracts as soon as practicable and in any event by December 31, 2021.

The International Swaps and Derivatives Association (ISDA) 2020 IBOR Fallbacks Protocol (IBOR Protocol), which became effective in January 2021, provides derivatives market participants with amended fallbacks for legacy and new derivatives contracts to mitigate legal or economic uncertainty. Both counterparties will have to adhere to the IBOR Protocol or engage in bilateral amendments for the terms to be effective for derivative contracts. ISDA confirmed that the FCA's formal announcement in March 2021 fixed the spread adjustment for all LIBOR rates and that fallbacks will automatically occur for outstanding derivatives contracts that incorporate the relevant terms. GS Group has a program in place that focuses on achieving an orderly transition from IBORs to alternative risk-free reference rates for us and our clients and continues to make progress on its transition program.

Consent Order with the NYDFS. Group Inc. has entered into a consent order with the NYDFS that resolves an investigation in connection with GS Group's involvement in bond transactions for 1Malaysia Development Berhad (1MDB). The consent order requires us, together with Group Inc., to create a written plan acceptable to the NYDFS detailing enhancements to the policies and procedures that control how our affiliates provide services to us.

Impact of COVID-19 Pandemic. During the third quarter of 2021, the spike in infections from the spread of the Delta variant put heightened focus on efforts to increase vaccination rates in order to make further progress against the virus. Although the global recovery continued to progress, the rising number of infections had the effect of tempering the pace of economic growth.

GS Group has continued to successfully execute on its Business Continuity Planning strategy since initially activating it in the first quarter of 2020 in response to the emergence of the COVID-19 pandemic.

We maintained high liquidity levels during the third quarter of 2021, as our GCLA averaged $172 billion. See "Balance Sheet and Funding Sources" and "Risk Management — Liquidity Risk Management" for further information.

Accounting estimates made in connection with determining the allowance for credit losses are sensitive to assumptions regarding future economic conditions. Predicting the trajectory of the economic recovery is highly judgmental given the uncertainty as to how the pandemic will evolve, as it will largely depend on the extent to which the Delta variant continues to spread, the emergence of other mutations of the virus and further progress with vaccine distribution. See Note 9 to the consolidated financial statements for further information about our allowance for credit losses.

The market backdrop was generally favorable during the third quarter of 2021 and supported healthy levels of client activity, although at the end of the quarter anxiety over the trajectory of inflation, uncertainty regarding U.S. economic policy and longer-term extension of the federal debt ceiling intensified and volatility increased. We continued to deploy our balance sheet to intermediate risk and to support the needs of clients. We have maintained our proactive approach to managing market risk levels, which entails ongoing review and monitoring of exposures and focusing on ways to mitigate risk. As a result of the improved broader economic backdrop, credit risk in general has abated from the depths of the pandemic, including the risk associated with industries that were most severely impacted by lockdowns, such as hospitality and airlines. However, the operating environment remains unpredictable and we continue to closely monitor our exposures to industries that are most at risk to encountering financial stress due to the persistence of the pandemic. See "Risk Management — Market Risk Management" and "— Credit Risk Management" for further information.

Economies around the world continue to be susceptible to potential adverse developments related to the pandemic, such as additional waves of infection, a worsening of supply chain constraints and an intensification of inflationary pressures. If the future effects of the pandemic were to lead to a sustained period of economic weakness, our businesses would be negatively impacted. This would have a negative impact on factors that are important to our operating performance, such as the level of client activity and creditworthiness of counterparties and borrowers. We will continue to closely monitor the rollout of vaccines across regions, as well as the impact of new variants of the virus, and will take further actions, as necessary, in order to best serve the interests of employees, clients and counterparties. For further information about the risks associated with the COVID-19 pandemic, see "Business — Risk Factors" in Part I of the 2020 Annual Report.

Contractual Obligations

We have certain contractual obligations which require us to make future cash payments. These contractual obligations include our time deposits, secured long-term financings, unsecured long-term borrowings and interest payments.

Our obligations to make future cash payments also include our commitments and guarantees related to off-balance sheet arrangements, which are excluded from the table below. See Note 18 to the consolidated financial statements for further information about such commitments and guarantees.

Due to the uncertainty of the timing and amounts that will ultimately be paid, our liability for unrecognized tax benefits has been excluded from the table below. See Note 22 to the consolidated financial statements for further information about our unrecognized tax benefits.

The table below presents our contractual obligations by type.

	As of	
$ in millions	**September 2021**	December 2020
Time deposits	**$ 55,111**	$ 24,629
Financings and borrowings:		
Secured long-term	**$ 546**	$ 636
Unsecured long-term	**$ 6,818**	$ 7,662
Interest payments	**$ 1,221**	$ 1,534

The table below presents our contractual obligations by expiration.

	As of September 2021			
$ in millions	**Remainder of 2021**	**2022 - 2023**	**2024 - 2025**	**2026 - Thereafter**
Time deposits	**$ –**	**$ 44,764**	**$ 6,927**	**$ 3,420**
Financings and borrowings:				
Secured long-term	**$ –**	**$ 244**	**$ 13**	**$ 289**
Unsecured long-term	**$ –**	**$ 1,430**	**$ 1,005**	**$ 4,383**
Interest payments	**$ 212**	**$ 720**	**$ 203**	**$ 86**

In the table above:

- Obligations maturing within one year of our financial statement date or redeemable within one year of our financial statement date at the option of the holders are excluded as they are treated as short-term obligations. See Notes 11 and 14 to the consolidated financial statements for further information about our short-term borrowings.
- Obligations that are repayable prior to maturity at our option are reflected at their contractual maturity dates and obligations that are redeemable prior to maturity at the option of the holders are reflected at the earliest dates such options become exercisable.
- Interest payments represents estimated future contractual interest payments related to unsecured long-term borrowings and time deposits based on applicable interest rates as of September 2021.

Risk Management

Risks are inherent in our businesses and include liquidity, market, credit, operational, model, legal, compliance, conduct, regulatory and reputational risks. Our risks include the risks across our risk categories, regions or businesses, as well as those which have uncertain outcomes and have the potential to materially impact our financial results, our liquidity and our reputation. For further information about our risk management processes, see "Risk Factors," "Overview and Structure of Risk Management," "Liquidity Risk Management," "Market Risk Management," "Credit Risk Management," "Operational Risk Management" and "Model Risk Management" in Parts I and II of the 2020 Annual Report.

Liquidity Risk Management

Overview

Liquidity risk is the risk that we will be unable to fund ourselves or meet our liquidity needs in the event of Bank-specific, GS Group, broader industry or market liquidity stress events. We have in place a comprehensive and conservative set of liquidity and funding policies. Our principal objective is to be able to fund ourselves and to enable our core businesses to continue to serve clients and generate revenues, even under adverse circumstances. See "Liquidity Risk Management" in Part II of the 2020 Annual Report for further information about our liquidity risk management process.

GCLA Metrics

Based on the results of our internal liquidity risk models, as well as our consideration of other factors including, but not limited to, a qualitative assessment of GS Group's, inclusive of our, condition, as well as the financial markets, we believe our liquidity position as of both September 2021 and December 2020 was appropriate. We strictly limit our GCLA to a narrowly defined list of securities and cash because they are highly liquid, even in a difficult funding environment. We do not include other potential sources of excess liquidity in our GCLA, such as less liquid unencumbered securities or committed credit facilities.

The table below presents information about our GCLA by asset class.

	Average for the Three Months Ended	
$ in millions	**September 2021**	June 2021
Overnight cash deposits	**$ 126,744**	$ 113,208
U.S. government obligations	**33,925**	36,553
U.S. agency obligations	**8,353**	7,601
Non-U.S. government obligations	**3,447**	5,360
Total	**$ 172,469**	$ 162,722

GCLA consists of (i) certain overnight U.S. dollar cash deposits, (ii) unencumbered U.S. government and agency obligations (including highly liquid U.S. agency mortgage-backed obligations), all of which are eligible as collateral in Federal Reserve open market operations and (iii) certain non-U.S. dollar-denominated government obligations.

Liquidity Regulatory Framework

We are subject to a minimum Liquidity Coverage Ratio (LCR) under the LCR rule approved by the U.S. federal bank regulatory agencies. The LCR rule requires organizations to maintain an adequate ratio of eligible high-quality liquid assets to expected net cash outflows under an acute short-term liquidity stress scenario. We are required to maintain a minimum LCR of 100%. As of September 2021, our LCR exceeded the minimum requirement.

In October 2020, the U.S. federal bank regulatory agencies issued a final rule that establishes a net stable funding ratio (NSFR) requirement for large U.S. banking organizations. This rule became effective on July 1, 2021 and requires banking organizations to ensure they have access to stable funding over a one-year time horizon. Our NSFR as of September 2021 exceeded the minimum requirement.

The implementation of these rules and any amendments adopted by the regulatory authorities could impact our liquidity and funding requirements and practices in the future.

Credit Ratings

Credit ratings are important when we are competing in certain markets, such as over-the-counter (OTC) derivatives, and when we seek to engage in longer-term transactions.

The table below presents the unsecured credit ratings and outlook by Fitch, Inc. (Fitch), Moody's Investors Service (Moody's), and Standard & Poor's Ratings Services (S&P) of GS Bank USA and GSBE.

	As of September 2021		
	Fitch	**Moody's**	**S&P**
GS Bank USA			
Short-term debt	**F1**	**P-1**	**A-1**
Long-term debt	**A+**	**A1**	**A+**
Short-term bank deposits	**F1+**	**P-1**	**N/A**
Long-term bank deposits	**AA-**	**A1**	**N/A**
Ratings outlook	**Stable**	**Stable**	**Stable**
GSBE			
Short-term debt	**F1**	**P-1**	**A-1**
Long-term debt	**A**	**A1**	**A+**
Short-term bank deposits	**N/A**	**P-1**	**N/A**
Long-term bank deposits	**N/A**	**A1**	**N/A**
Ratings outlook	**Stable**	**Stable**	**Stable**

We believe our credit ratings are primarily based on the credit rating agencies' assessment of:

- Our status within GS Group and likelihood of GS Group support;
- Our liquidity, market, credit and operational risk management practices;
- The level and variability of our earnings;
- Our capital base;
- Our primary businesses, reputation and management;
- Our corporate governance; and
- The external operating and economic environment, including, in some cases, the assumed level of government support or other systemic considerations, such as potential resolution.

Market Risk Management

Overview

Market risk is the risk of loss in the value of our positions, investments, loans and other financial assets and liabilities, due to changes in market conditions. We hold such positions primarily for market making for our clients and for our investing and financing activities, and therefore, these positions change based on client demands and our investment opportunities. We employ a variety of risk measures, each described in the respective sections below, to monitor market risk.

Categories of market risk include the following:

- Interest rate risk: results from exposures to changes in the level, slope and curvature of yield curves, the volatilities of interest rates, prepayment speeds and credit spreads;
- Equity price risk: results from exposures to changes in prices and volatilities of individual equities, baskets of equities and equity indices; and
- Currency rate risk: results from exposures to changes in spot prices, forward prices and volatilities of currency rates.

See "Market Risk Management" in Part II of the 2020 Annual Report for further information about our market risk management process.

Metrics

We analyze Value-at-Risk (VaR) at the Bank level and a variety of more detailed levels, including by risk category, business and region. Diversification effect in the tables below represents the difference between total VaR and the sum of the VaRs for the three risk categories. This effect arises because the three market risk categories are not perfectly correlated.

The table below presents our average daily VaR.

	Three Months Ended			Nine Months Ended September	
	September	June	September		
$ in millions	**2021**	2021	2020	**2021**	2020
Categories					
Interest rates	**$ 46**	$ 50	$ 44	**$ 45**	$ 51
Currency rates	**6**	5	13	**6**	11
Equity prices	**1**	1	5	**1**	4
Diversification effect	**(7)**	(5)	(15)	**(6)**	(14)
Total	**$ 46**	$ 51	$ 47	**$ 46**	$ 52

Our average daily VaR decreased to $46 million for the third quarter of 2021 from $51 million for the second quarter of 2021, primarily due to a decrease in the interest rates category. The overall decrease was due to lower levels of volatility and reduced exposures.

Our average daily VaR decreased to $46 million for the third quarter of 2021 from $47 million for the third quarter of 2020, due to lower levels of volatility across interest rates and currency rates as well as reduced exposures to equity prices, partially offset by increased exposures in interest rates and reduced diversification effect.

Our average daily VaR decreased to $46 million for the nine months ended September 2021 from $52 million for the nine months ended September 2020. The overall decrease was primarily due to lower levels of volatility across interest and currency rates, partially offset by reduced diversification effect.

The table below presents our period-end VaR.

	As of		
	September	June	September
$ in millions	**2021**	2021	2020
Categories			
Interest rates	**$ 43**	$ 58	$ 47
Currency rates	**3**	4	16
Equity prices	**1**	1	–
Diversification effect	**(5)**	(4)	(10)
Total	**$ 42**	$ 59	$ 53

Our period-end VaR decreased to $42 million as of September 2021 from $59 million as of June 2021, primarily due to a decrease in the interest rates category. The overall decrease was primarily due to reduced exposures and lower levels of volatility.

Our period-end VaR decreased to $42 million as of September 2021 from $53 million as of September 2020, primarily due to a decrease in the interest rates category. The overall decrease was primarily due to lower levels of volatility, partially offset by increased exposures.

During the nine months ended September 2021, our total VaR limit was exceeded one time. During this period, our total VaR limit was raised on one occasion to facilitate increased client activity.

The table below presents our high and low VaR.

	Three Months Ended					
	September 2021		June 2021		September 2020	
$ in millions	**High**	**Low**	High	Low	High	Low
Categories						
Interest rates	**$ 59**	**$ 36**	$ 58	$ 44	$ 55	$ 36
Currency rates	**$ 8**	**$ 3**	$ 6	$ 4	$ 16	$ 10
Equity prices	**$ 2**	**$ 1**	$ 1	$ –	$ 11	$ –
Bank						
VaR	**$ 59**	**$ 37**	$ 59	$ 44	$ 58	$ 39

Sensitivity Measures

Certain portfolios and individual positions are not included in VaR because VaR is not the most appropriate risk measure. Other sensitivity measures we use to analyze market risk are described below.

10% Sensitivity Measures. The table below presents our market risk by asset category for positions accounted for at fair value that are not included in VaR.

	As of		
	September	June	September
$ in millions	**2021**	2021	2020
Debt	**$ 676**	$ 730	$ 900
Equity	**6**	6	5
Total	**$ 682**	$ 736	$ 905

In the table above:

- The market risk of these positions is determined by estimating the potential reduction in net revenues of a 10% decline in the value of these positions.
- Equity positions relate to investments in qualified affordable housing projects.
- Debt positions include loans backed by commercial and residential real estate, corporate bank loans and other corporate debt.
- Funded equity and debt positions are included in our consolidated balance sheets in investments and loans. See Note 8 to the consolidated financial statements for further information about investments and Note 9 to the consolidated financial statements for further information about loans.
- These measures do not reflect the diversification effect across asset categories or across other market risk measures.

Interest Rate Sensitivity. Loans accounted for at amortized cost were $97.33 billion as of September 2021 and $88.90 billion as of June 2021, substantially all of which had floating interest rates. The estimated sensitivity to a 100 basis point increase in interest rates on such loans was $715 million as of September 2021 and $666 million as of June 2021, of additional interest income over a twelve-month period, which does not take into account the potential impact of an increase in costs to fund such loans. In addition, we manage our exposure to structural interest rate risk generated by our net asset-liability position, which is primarily a function of our fixed rate term deposits and non-maturity deposits. See Note 9 to the consolidated financial statements for further information about loans that are held for investment and Note 13 for further information about deposits.

Other Market Risk Considerations

We make investments in securities that are accounted for as available-for-sale or held-to-maturity and included in investments in the consolidated balance sheets. See Note 8 to the consolidated financial statements for further information.

Credit Risk Management

Overview

Credit risk represents the potential for loss due to the default or deterioration in credit quality of a counterparty (e.g., an OTC derivatives counterparty or a borrower) or an issuer of securities or other instruments we hold. Our exposure to credit risk comes mostly from client transactions in loans and lending commitments and OTC derivatives. Credit risk also comes from cash placed with banks, securities financing transactions (resale agreements and repurchase agreements) and customer and other receivables. See "Credit Risk Management" in Part II of the 2020 Annual Report for further information about our credit risk management process.

Credit Exposures

As of September 2021, our aggregate credit exposure increased as compared with December 2020, primarily reflecting increases in cash deposits with the Federal Reserve and loans and lending commitments. The percentage of our credit exposures arising from non-investment-grade counterparties (based on our internally determined public rating agency equivalents) decreased as compared with December 2020, primarily reflecting an increase in investment-grade credit exposure related to cash deposits with the Federal Reserve. Our credit exposures are described further below.

Cash. Our credit exposure on cash arises from our unrestricted cash, and includes both interest-bearing and non-interest-bearing deposits. To mitigate the risk of credit loss, we deposit substantially all of our cash at the Federal Reserve.

OTC Derivatives. Our credit exposure on OTC derivatives arises primarily from our market-making activities. As a market maker, we enter into derivative transactions to provide liquidity to clients and to facilitate the transfer and hedging of their risks. We also enter into derivatives to manage market risk exposures. We manage our credit exposure on OTC derivatives using the credit risk process, measures, limits and risk mitigants described above.

We generally enter into OTC derivatives transactions under bilateral collateral arrangements that require the daily exchange of collateral. As credit risk is an essential component of fair value, we include a credit valuation adjustment (CVA) in the fair value of derivatives to reflect counterparty credit risk, as described in Note 7 to the consolidated financial statements. CVA is a function of the present value of expected exposure, the probability of counterparty default and the assumed recovery upon default.

The table below presents our net credit exposure from OTC derivatives and the concentration by industry and region.

	As of	
$ in millions	**September 2021**	December 2020
OTC derivative assets	**$ 12,984**	$ 15,801
Collateral (not netted under U.S. GAAP)	**(3,883)**	(3,894)
Net credit exposure	**$ 9,101**	$ 11,907
Industry		
Consumer & Retail	**4%**	6%
Diversified Industrials	**9%**	9%
Financial Institutions	**19%**	13%
Funds	**15%**	15%
Healthcare	**1%**	3%
Municipalities & Nonprofit	**18%**	22%
Natural Resources & Utilities	**13%**	13%
Sovereign	**7%**	5%
Technology, Media & Telecommunications	**10%**	9%
Other (including Special Purpose Vehicles)	**4%**	5%
Total	**100%**	100%
Region		
Americas	**52%**	78%
EMEA	**47%**	21%
Asia	**1%**	1%
Total	**100%**	100%

In the table above:

- OTC derivative assets, included in the consolidated balance sheets, are reported on a net-by-counterparty basis (i.e., the net receivable for a given counterparty) when a legal right of setoff exists under an enforceable netting agreement (counterparty netting) and are accounted for at fair value, net of cash collateral received under enforceable credit support agreements (cash collateral netting).
- Collateral represents cash collateral and the fair value of securities collateral, primarily U.S. and non-U.S. government and agency obligations, received under credit support agreements, that we consider when determining credit risk, but such collateral is not eligible for netting under U.S. GAAP.
- EMEA represents Europe, Middle East and Africa.

The table below presents the distribution of our net credit exposure from OTC derivatives by tenor.

$ in millions	Investment-Grade	Non-Investment-Grade / Unrated	Total
As of September 2021			
Less than 1 year	**$ 7,468**	**$ 888**	**$ 8,356**
1 - 5 years	**8,064**	**1,267**	**9,331**
Greater than 5 years	**36,816**	**1,141**	**37,957**
Total	**52,348**	**3,296**	**55,644**
Netting	**(45,605)**	**(938)**	**(46,543)**
Net credit exposure	**$ 6,743**	**$ 2,358**	**$ 9,101**
As of December 2020			
Less than 1 year	$ 9,229	$ 1,402	$ 10,631
1 - 5 years	12,228	1,904	14,132
Greater than 5 years	39,600	1,849	41,449
Total	61,057	5,155	66,212
Netting	(52,839)	(1,466)	(54,305)
Net credit exposure	$ 8,218	$ 3,689	$ 11,907

In the table above:

- Tenor is based on remaining contractual maturity.
- Netting includes counterparty netting across tenor categories and collateral that we consider when determining credit risk (including collateral that is not eligible for netting under U.S. GAAP). Counterparty netting within the same tenor category is included within such tenor category.

The tables below present the distribution of our net credit exposure from OTC derivatives by tenor and internally determined public rating agency equivalents.

	Investment-Grade				
$ in millions	AAA	AA	A	BBB	Total
As of September 2021					
Less than 1 year	**$ 133**	**$ 1,710**	**$ 3,629**	**$ 1,996**	**$ 7,468**
1 - 5 years	**620**	**1,711**	**3,341**	**2,392**	**8,064**
Greater than 5 years	**7,053**	**4,171**	**17,708**	**7,884**	**36,816**
Total	**7,806**	**7,592**	**24,678**	**12,272**	**52,348**
Netting	**(7,340)**	**(5,772)**	**(22,155)**	**(10,338)**	**(45,605)**
Net credit exposure	**$ 466**	**$ 1,820**	**$ 2,523**	**$ 1,934**	**$ 6,743**
As of December 2020					
Less than 1 year	$ 96	$ 1,548	$ 5,771	$ 1,814	$ 9,229
1 - 5 years	617	1,611	6,666	3,334	12,228
Greater than 5 years	6,907	3,963	19,849	8,881	39,600
Total	7,620	7,122	32,286	14,029	61,057
Netting	(5,905)	(5,001)	(29,703)	(12,230)	(52,839)
Net credit exposure	$ 1,715	$ 2,121	$ 2,583	$ 1,799	$ 8,218

	Non-Investment-Grade / Unrated		
$ in millions	BB or lower	Unrated	Total
As of September 2021			
Less than 1 year	**$ 854**	**$ 34**	**$ 888**
1 - 5 years	**1,264**	**3**	**1,267**
Greater than 5 years	**1,136**	**5**	**1,141**
Total	**3,254**	**42**	**3,296**
Netting	**(938)**	**–**	**(938)**
Net credit exposure	**$ 2,316**	**$ 42**	**$ 2,358**
As of December 2020			
Less than 1 year	$ 1,304	$ 98	$ 1,402
1 - 5 years	1,887	17	1,904
Greater than 5 years	1,833	16	1,849
Total	5,024	131	5,155
Netting	(1,464)	(2)	(1,466)
Net credit exposure	$ 3,560	$ 129	$ 3,689

Lending Activities. We manage our lending activities using the credit risk process, measures, limits and risk mitigants described above. Other lending positions, including secondary trading positions, are risk-managed as a component of market risk.

The table below presents our loans and lending commitments.

$ in millions	Loans	Lending Commitments	Total
As of September 2021			
Corporate	**$ 35,010**	**$ 139,753**	**$ 174,763**
Wealth management	**36,047**	**3,843**	**39,890**
Commercial real estate	**16,328**	**5,009**	**21,337**
Residential real estate	**11,714**	**2,006**	**13,720**
Consumer:			
Installment	**3,449**	**11**	**3,460**
Credit cards	**6,251**	**31,718**	**37,969**
Other	**4,955**	**4,890**	**9,845**
Total, gross	**113,754**	**187,230**	**300,984**
Allowance for loan losses	**(2,212)**	**(636)**	**(2,848)**
Total	**$ 111,542**	**$ 186,594**	**$ 298,136**
As of December 2020			
Corporate	$ 30,686	$ 113,247	$ 143,933
Wealth management	29,000	3,066	32,066
Commercial real estate	13,804	2,790	16,594
Residential real estate	4,768	1,845	6,613
Consumer:			
Installment	3,823	4	3,827
Credit cards	4,270	21,640	25,910
Other	2,850	4,735	7,585
Total, gross	89,201	147,327	236,528
Allowance for loan losses	(2,523)	(396)	(2,919)
Total	$ 86,678	$ 146,931	$ 233,609

Corporate. Corporate loans and lending commitments include term loans, revolving lines of credit, letter of credit facilities and bridge loans, and are principally used for operating and general corporate purposes, or in connection with acquisitions. Corporate loans also includes loans originated as part of our Community Reinvestment Act (CRA) activities. Corporate loans may be secured or unsecured, depending on the loan purpose, the risk profile of the borrower and other factors.

The table below presents our credit exposure from corporate loans and lending commitments, and the concentration by industry, region, internally determined public rating agency equivalents and other credit metrics.

$ in millions	Loans	Lending Commitments	Total
As of September 2021			
Corporate	**$ 35,010**	**$ 139,753**	**$ 174,763**
Industry			
Consumer & Retail	**6%**	**13%**	**11%**
Diversified Industrials	**14%**	**21%**	**19%**
Financial Institutions	**9%**	**7%**	**7%**
Funds	**26%**	**3%**	**8%**
Healthcare	**5%**	**10%**	**9%**
Natural Resources & Utilities	**10%**	**17%**	**16%**
Real Estate	**5%**	**5%**	**5%**
Structured Finance	**6%**	**2%**	**3%**
Technology, Media & Telecommunications	**15%**	**20%**	**19%**
Other (including Special Purpose Vehicles)	**4%**	**2%**	**3%**
Total	**100%**	**100%**	**100%**
Region			
Americas	**67%**	**76%**	**74%**
EMEA	**30%**	**23%**	**25%**
Asia	**3%**	**1%**	**1%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
AAA	**–**	**1%**	**1%**
AA	**–**	**5%**	**4%**
A	**7%**	**17%**	**15%**
BBB	**26%**	**38%**	**36%**
BB or lower	**67%**	**38%**	**43%**
Other metrics/unrated	**–**	**1%**	**1%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Corporate	$ 30,686	$ 113,247	$ 143,933
Industry			
Consumer & Retail	7%	14%	12%
Diversified Industrials	15%	16%	16%
Financial Institutions	14%	7%	8%
Funds	17%	3%	6%
Healthcare	5%	13%	11%
Natural Resources & Utilities	13%	18%	17%
Real Estate	7%	6%	6%
Structured Finance	6%	2%	3%
Technology, Media & Telecommunications	11%	19%	18%
Other (including Special Purpose Vehicles)	5%	2%	3%
Total	100%	100%	100%
Region			
Americas	75%	77%	77%
EMEA	20%	22%	21%
Asia	5%	1%	2%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
AAA	–	1%	1%
AA	–	6%	5%
A	8%	21%	18%
BBB	17%	39%	34%
BB or lower	75%	33%	42%
Total	100%	100%	100%

In the table above, credit exposure excludes $2.43 billion as of September 2021 and $2.70 billion as of December 2020 relating to issued letters of credit which are classified as guarantees in our consolidated financial statements. See Note 18 to the consolidated financial statements for further information about guarantees.

Wealth Management. Wealth management loans and lending commitments are extended to private bank clients, including wealth management and other clients. Wealth management loans and lending commitments also include loans originated through *Goldman Sachs Private Bank Select*. Wealth management loans are used to finance investments in both financial and nonfinancial assets, bridge cash flow timing gaps or provide liquidity for other needs. Substantially all of such loans are secured by securities, residential real estate, commercial real estate or other assets.

The table below presents our credit exposure from wealth management loans and lending commitments, and the concentration by region, internally determined public rating agency equivalents and other credit metrics.

$ in millions	Loans	Lending Commitments	Total
As of September 2021			
Wealth Management	**$ 36,047**	**$ 3,843**	**$ 39,890**
Region			
Americas	**99%**	**100%**	**99%**
EMEA	**1%**	**–**	**1%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**67%**	**57%**	**66%**
Non-investment-grade	**15%**	**13%**	**15%**
Other metrics/unrated	**18%**	**30%**	**19%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Wealth Management	$ 29,000	$ 3,066	$ 32,066
Region			
Americas	100%	100%	100%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	63%	57%	63%
Non-investment-grade	18%	21%	18%
Other metrics/unrated	19%	22%	19%
Total	100%	100%	100%

In the table above, other metrics/unrated loans primarily include loans backed by residential real estate. Our risk assessment process for such loans include reviewing certain key metrics, such as loan-to-value ratio and delinquency status.

Commercial Real Estate. Commercial real estate loans and lending commitments include originated loans and lending commitments (other than those extended to private bank clients) that are directly or indirectly secured by hotels, retail stores, multifamily housing complexes and commercial and industrial properties. Commercial real estate loans and lending commitments also includes loans and lending commitments extended to clients who warehouse assets that are directly or indirectly backed by commercial real estate. In addition, commercial real estate includes loans purchased by us and loans originated as part of our CRA activities.

The table below presents our credit exposure from commercial real estate loans and lending commitments, and the concentration by region, internally determined public rating agency equivalents and other credit metrics.

$ in millions	Loans	Lending Commitments	Total
As of September 2021			
Commercial Real Estate	**$ 16,328**	**$ 5,009**	**$ 21,337**
Region			
Americas	**93%**	**96%**	**94%**
EMEA	**7%**	**4%**	**6%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**15%**	**20%**	**16%**
Non-investment-grade	**85%**	**72%**	**82%**
Other metrics/unrated	**–**	**8%**	**2%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Commercial Real Estate	$ 13,804	$ 2,790	$ 16,594
Region			
Americas	96%	93%	95%
EMEA	4%	7%	5%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	9%	18%	11%
Non-investment-grade	91%	82%	89%
Total	100%	100%	100%

In the table above, credit exposure includes loans and lending commitments of $9.60 billion as of September 2021 and $7.76 billion as of December 2020 which are extended to clients who warehouse assets that are directly or indirectly backed by commercial real estate.

In addition, we also have credit exposure to certain commercial real estate loans held for securitization of $303 million as of September 2021 and $442 million as of December 2020. Such loans are included in trading assets in our consolidated balance sheets.

Residential Real Estate. Residential real estate loans and lending commitments are extended to clients (other than those extended to private bank clients) who warehouse assets that are directly or indirectly secured by residential real estate and also includes loans purchased and originated by us.

The table below presents our credit exposure from residential real estate loans and lending commitments, and the concentration by region, internally determined public rating agency equivalents and other credit metrics.

$ in millions	Loans	Lending Commitments	Total
As of September 2021			
Residential Real Estate	**$ 11,714**	**$ 2,006**	**$ 13,720**
Region			
Americas	**100%**	**100%**	**100%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**5%**	**5%**	**5%**
Non-investment-grade	**89%**	**95%**	**90%**
Other metrics/unrated	**6%**	**–**	**5%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Residential Real Estate	$ 4,768	$ 1,845	$ 6,613
Region			
Americas	100%	100%	100%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	13%	2%	10%
Non-investment-grade	74%	93%	79%
Other metrics/unrated	13%	5%	11%
Total	100%	100%	100%

In the table above:

- Credit exposure includes loans and lending commitments of $12.44 billion as of September 2021 and $5.63 billion as of December 2020 which are extended to clients who warehouse assets that are directly or indirectly secured by residential real estate.
- Other metrics/unrated primarily includes loans purchased by us. Our risk assessment process for such loans includes reviewing certain key metrics, such as loan-to-value ratio, delinquency status, collateral values, expected cash flows and other risk factors.

In addition, we also have exposure to residential real estate loans held for securitization of $6.33 billion as of September 2021 and $3.84 billion as of December 2020. Such loans are included in trading assets in our consolidated balance sheets.

Installment and Credit Card Lending. We originate unsecured installment loans and credit card loans (pursuant to revolving lines of credit) to consumers in the Americas. The credit card lines are cancellable by us and therefore do not result in credit exposure.

The table below presents our credit exposure from originated installment and credit card funded loans, and the concentration by the five most concentrated U.S. states.

	As of	
$ in millions	**September 2021**	December 2020
Installment	**$ 3,449**	$ 3,823
California	**11%**	11%
Texas	**9%**	9%
New York	**7%**	7%
Florida	**7%**	7%
Illinois	**4%**	4%
Other	**62%**	62%
Total	**100%**	100%
Credit Cards	**$ 6,251**	$ 4,270
California	**19%**	19%
Texas	**9%**	9%
New York	**8%**	8%
Florida	**8%**	8%
Illinois	**4%**	4%
Other	**52%**	52%
Total	**100%**	100%

See Note 9 to the consolidated financial statements for further information about the credit quality indicators of installment and credit card loans.

Other. Other loans and lending commitments are extended to clients who warehouse assets that are directly or indirectly secured by consumer loans, including auto loans and private student loans, and other assets. Other loans also includes unsecured consumer loans purchased by us.

The table below presents our credit exposure from other loans and lending commitments, and the concentration by region, internally determined public rating agency equivalents and other credit metrics.

$ in millions	Loans	Lending Commitments	Total
As of September 2021			
Other	**$ 4,955**	**$ 4,890**	**$ 9,845**
Region			
Americas	**100%**	**100%**	**100%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**45%**	**86%**	**65%**
Non-investment-grade	**43%**	**14%**	**29%**
Other metrics/unrated	**12%**	**–**	**6%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Other	$ 2,850	$ 4,735	$ 7,585
Region			
Americas	100%	100%	100%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	49%	94%	77%
Non-investment-grade	21%	6%	12%
Other metrics/unrated	30%	–	11%
Total	100%	100%	100%

In the table above:

- Credit exposure includes loans and lending commitments extended to clients who warehouse assets of $8.83 billion as of September 2021 and $6.64 billion as of December 2020.
- Other metrics/unrated primarily includes consumer loans purchased by us. Our risk assessment process for such loans includes reviewing certain key metrics, such as expected cash flows, delinquency status and other risk factors.

In addition, we also have exposure to other loans held for securitization of $306 million as of September 2021 and $420 million as of December 2020. Such loans are included in trading assets in our consolidated balance sheets.

Credit Hedges

To mitigate the credit risk associated with our lending activities, we obtain credit protection on certain loans and lending commitments through credit default swaps, both single-name and index-based contracts, and through the issuance of credit-linked notes. In addition, Sumitomo Mitsui Financial Group, Inc. provides us with credit loss protection on certain approved loan commitments.

Securities Financing Transactions. We enter into securities financing transactions in order to, among other things, facilitate client activities, invest excess cash, acquire securities to cover short positions and finance certain activities. We bear credit risk related to resale agreements only to the extent that cash advanced or the value of securities pledged or delivered to the counterparty exceeds the value of the collateral received. We also have credit exposure on repurchase agreements to the extent that the value of securities pledged or delivered to the counterparty for these transactions exceeds the amount of cash or collateral received. Securities collateral for these transactions primarily includes U.S. government and agency obligations. We had credit exposure related to securities financing transactions of $1.34 billion as of September 2021 and $884 million as of December 2020, reflecting both netting agreements and collateral that we consider when determining credit risk.

Other Credit Exposures. We are exposed to credit risk from our customer and other receivables. These receivables primarily consist of initial cash margin placed with clearing organizations and receivables related to sales of loans which have traded, but not yet settled. These receivables generally have minimal credit risk due to the low probability of clearing organization default and the short-term nature of receivables related to loan settlements.

The table below presents our other credit exposures and the concentration by industry, region and internally determined public rating agency equivalents.

	As of	
$ in millions	**September 2021**	December 2020
Other Credit Exposures	**$ 5,169**	$ 5,241
Industry		
Financial Institutions	**86%**	93%
Funds	**12%**	4%
Other (including Special Purpose Vehicles)	**2%**	3%
Total	**100%**	100%
Region		
Americas	**6%**	5%
EMEA	**94%**	95%
Total	**100%**	100%
Credit Quality (Credit Rating Equivalent)		
AAA	**3%**	2%
AA	**83%**	81%
A	**3%**	5%
BBB	**8%**	11%
BB or lower	**3%**	1%
Total	**100%**	100%

The table above reflects collateral that we consider when determining credit risk.

Selected Exposures

We have credit and market exposures, as described below, that have had heightened focus given recent events and broad market concerns. Credit exposure represents the potential for loss due to the default or deterioration in credit quality of a counterparty or borrower. Market exposure represents the potential for loss in value of our long and short positions due to changes in market prices.

Industry Exposures. The sharp decline in economic activity as a result of the COVID-19 pandemic resulted in a significant impact to the gaming and lodging industry. Though the rate of recovery in gaming and lodging has accelerated during recent months, the timing of full recovery to the pre-pandemic levels remains uncertain. As of September 2021, our credit exposure to gaming and lodging companies (including hotel owners and operators) related to loans and lending commitments was $2.24 billion ($359 million of loans and $1.88 billion of lending commitments). Such exposure included $1.64 billion of exposure to non-investment-grade counterparties ($359 million related to loans and $1.28 billion related to lending commitments), of which 66% was secured. In addition, we extend loans that are secured by hotel properties. As of September 2021, our exposure related to such loans and lending commitments was $1.31 billion and was to non-investment-grade counterparties. In addition, we have exposure to our clients in the gaming and lodging industry arising from derivatives. As of September 2021, our credit exposure related to derivatives and receivables to gaming and lodging companies was $2 million, which was primarily to non-investment-grade counterparties. As of September 2021, our market exposure related to gaming and lodging companies was $(316) million, substantially all of which was to non-investment-grade issuers or underliers. Such exposure consisted of $11 million related to debt, $(325) million related to credit derivatives and $(2) million related to equities.

Although air travel has increased from its low point of the COVID-19 pandemic, the airline industry still faces hurdles in the path to a full recovery. As of September 2021, our credit exposure to airline companies related to loans and lending commitments was $1.09 billion ($157 million of loans and $934 million of lending commitments) to non-investment-grade counterparties, of which 83% was secured. In addition, we have exposure to our clients in the airline industry arising from derivatives. As of September 2021, our credit exposure related to derivatives and receivables to airline companies was $147 million, which was primarily to investment-grade counterparties. After taking into consideration the benefit of $239 million of hedges, our net credit exposure was $1.00 billion. As of September 2021, our market exposure related to airline companies was $(229) million, substantially all of which was to non-investment-grade issuers or underliers. Such exposure consisted of $14 million related to debt, $(241) million related to credit derivatives and $(2) million related to equities.

Operational Risk Management

Overview

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes, people, systems or from external events. Our exposure to operational risk arises from routine processing errors, as well as extraordinary incidents, such as major systems failures or legal and regulatory matters. See “Operational Risk Management” in Part II of the 2020 Annual Report for further information about our operational risk management process.

Model Risk Management

Overview

Model risk is the potential for adverse consequences from decisions made based on model outputs that may be incorrect or used inappropriately. We rely on quantitative models across our business activities primarily to value certain financial assets and liabilities, to monitor and manage our risk, and to measure and monitor our regulatory capital. See “Model Risk Management” in Part II of the 2020 Annual Report for further information about our model risk management process.

Forward-Looking Statements

In the preceding discussion and analysis of our financial condition and results of operations, we have included statements that may constitute "forward-looking statements." Forward-looking statements are not historical facts or statements of current conditions, but instead represent only our beliefs regarding future events, many of which, by their nature, are inherently uncertain and outside our control.

By identifying these statements for you in this manner, we are alerting you to the possibility that our actual results, financial condition and liquidity may differ, possibly materially, from the anticipated results, financial condition and liquidity in these forward-looking statements. Important factors that could cause our results, financial condition and liquidity to differ from those in these statements include, among others, those described below and in "Risk Factors" and "Cautionary Statement Regarding Forward-Looking Statements" in Part I of the 2020 Annual Report.

These statements may relate to, among other things, (i) our future plans and objectives, (ii) our expense savings initiative, (iii) expenses we may incur, including expenses from investing in our consumer and transaction banking activities and new business initiatives, (iv) the growth of our deposits and other funding, asset liability management and funding strategies, (v) our business initiatives, including transaction banking and new consumer financial products, (vi) our expected provisions for credit losses (including those related to our planned co-branded credit card relationship with General Motors), (vii) the adequacy of our allowance for credit losses (viii) the projected growth of our installment loan and credit card businesses, (ix) the objectives and effectiveness of our risk management and liquidity policies, (x) our resolution plan and strategy, (xi) the impact of regulatory changes applicable to us, and our future status, activities or reporting under banking and financial regulation, (xii) legal proceedings, governmental investigations or other contingencies, (xiv) GS Group's 1MDB settlement, (xiii) the replacement of IBORs and our transition to alternative risk-free reference rates, (xv) the impact of the COVID-19 pandemic on our business, results, financial position and liquidity, (xvi) the effectiveness of our management of human capital, (xvii) our plans for our people to return to GS Group's offices, (xviii) future inflation and (xix) our announced acquisitions of the General Motors co-branded credit card portfolio and GreenSky.

Statements about the timing, costs, profitability, benefits and other aspects of our business and expense savings initiatives and increases in market share are based on our current expectations regarding our ability to implement these initiatives and actual results may differ, possibly materially, from current expectations due to, among other things, a delay in the timing of these initiatives, increased competition and an inability to reduce expenses and grow businesses.

Statements about the growth of our deposits and associated interest expense savings, and our installment loan and credit card businesses are subject to the risk that actual growth may differ, possibly materially, from that currently anticipated due to, among other things, changes in interest rates and competition from other similar products.

Statements about our expected provisions for credit losses (including those related to our planned co-branded credit card relationship with General Motors) are subject to the risk that actual credit losses may differ and our expectations may change, possibly materially, from that currently anticipated due to, among other things, changes to the composition of our loan portfolio and changes in the economic environment in future periods and our forecasts of future economic conditions, as well as changes in our models, policies and other management judgments.

Statements about the future state of our liquidity and regulatory capital ratios are subject to the risk that our actual liquidity and regulatory capital ratios may differ, possibly materially, from what is currently expected due to, among other things, increased regulatory requirements resulting from changes in regulations or the interpretation or application of existing regulations and changes to the composition of our balance sheet.

Statements about satisfying the terms of the consent order relating to 1MDB are based on our ability to create a plan jointly with Group Inc. that is acceptable to the NYDFS, and therefore may be different from what we currently expect.

Statements about our objectives in management of human capital are based on our current expectations and are subject to the risk that we may not achieve these objectives and goals due to, among other things, competition in recruiting and attracting diverse candidates and unsuccessful efforts in retaining diverse employees.

Statements about our plans for our people to return to GS Group's offices are based on our current expectations and that return may be delayed due to, among other factors, future events that are unpredictable, including the course of the COVID-19 pandemic, responses of governmental authorities and the availability, use and effectiveness of vaccines.

Statements about future inflation are subject to the risk that actual inflation may differ, possibly materially, due to, among other things, changes in economic growth, unemployment or consumer demand.

Statements about our announced acquisitions of the General Motors co-branded credit card portfolio and GreenSky are subject to the risk that the transactions may not close on the timeline contemplated or at all, including due to a failure to obtain requisite regulatory approval and, in the case of GreenSky, shareholder approval, as well as the risk that we may be unable to realize the expected benefits of the acquisitions and the risk that integrating the General Motors co-branded credit card portfolio and GreenSky, into our business may be more difficult, time-consuming or expensive than expected.

Risk Factors

GS Bank USA's acquisition of GSBE expanded our activities in the E.U. and introduced new business lines, such as underwriting and market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services, which exposes us to new and additional risks.

Underwriting, market making in debt and equity securities, investment, asset and wealth management services, and financial advisory services are businesses that have been adversely affected and may in the future be adversely affected by market uncertainty or lack of confidence among investors and CEOs due to declines in economic activity and other unfavorable economic, geopolitical or market conditions. In addition, our asset management and wealth management businesses have been and may in the future be adversely affected by the poor investment performance of our investment products or a client preference for products other than those which we offer or for products that generate lower fees. Expanding our operations into the E.U. through the acquisition of GSBE subjects us to additional political, legal, regulatory and other risks that are inherent in operating in multiple jurisdictions, including the risk that our businesses may be subject to divergent laws and regulations across markets and that the jurisdictions in which we operate may implement laws and regulations that directly conflict with those of another jurisdiction. For a further discussion of general risks we face, see "Risk Factors" in Part I of the 2020 Annual Report. For a further discussion of risks we face in connection with new business initiatives and acquisitions generally, including our acquisition of GSBE, see "Risk Factors — We face enhanced risks as new business initiatives and acquisitions lead us to engage in new activities, operate in new locations, transact with a broader array of clients and counterparties, and expose us to new assets, activities and markets" in Part I of the 2020 Annual Report.