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

Form 10-Q

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

For the quarterly period ended September 30, 2021

or

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

For the transition period from to

Commission File Number: 001-14965

The Goldman Sachs Group, Inc.

(Exact name of registrant as specified in its charter)

Delaware	13-4019460
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
200 West Street, New York, N.Y.	10282
(Address of principal executive offices)	(Zip Code)

(212) 902-1000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Exchange on which registered
Common stock, par value $.01 per share	GS	NYSE
Depositary Shares, Each Representing 1/1,000th Interest in a Share of Floating Rate Non-Cumulative Preferred Stock, Series A	GS PrA	NYSE
Depositary Shares, Each Representing 1/1,000th Interest in a Share of Floating Rate Non-Cumulative Preferred Stock, Series C	GS PrC	NYSE
Depositary Shares, Each Representing 1/1,000th Interest in a Share of Floating Rate Non-Cumulative Preferred Stock, Series D	GS PrD	NYSE
Depositary Shares, Each Representing 1/1,000th Interest in a Share of 5.50% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series J	GS PrJ	NYSE
Depositary Shares, Each Representing 1/1,000th Interest in a Share of 6.375% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series K	GS PrK	NYSE
5.793% Fixed-to-Floating Rate Normal Automatic Preferred Enhanced Capital Securities of Goldman Sachs Capital II	GS/43PE	NYSE
Floating Rate Normal Automatic Preferred Enhanced Capital Securities of Goldman Sachs Capital III	GS/43PF	NYSE
Medium-Term Notes, Series F, Callable Fixed and Floating Rate Notes due 2031 of GS Finance Corp.	GS/31B	NYSE
Medium-Term Notes, Series E, Index-Linked Notes due 2028 of GS Finance Corp.	FRLG	NYSE Arca

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

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

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

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

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

As of October 15, 2021, there were 334,792,980 shares of the registrant's common stock outstanding.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

THE GOLDMAN SACHS GROUP, INC. AND SUBSIDIARIES

Consolidated Statements of Earnings (Unaudited)

	Three Months Ended September		Nine Months Ended September	
in millions, except per share amounts	**2021**	2020	**2021**	2020
Revenues				
Investment banking	**$ 3,548**	$ 1,934	**$10,564**	$ 6,409
Investment management	**2,139**	1,689	**5,840**	5,092
Commissions and fees	**860**	804	**2,766**	2,699
Market making	**3,929**	3,327	**13,096**	12,796
Other principal transactions	**1,568**	1,943	**9,759**	2,482
Total non-interest revenues	**12,044**	9,697	**42,025**	29,478
Interest income	**3,117**	2,932	**9,110**	10,716
Interest expense	**1,553**	1,848	**4,435**	7,375
Net interest income	**1,564**	1,084	**4,675**	3,341
Total net revenues	**13,608**	10,781	**46,700**	32,819
Provision for credit losses	**175**	278	**13**	2,805
Operating expenses				
Compensation and benefits	**3,167**	3,117	**14,473**	10,830
Transaction based	**1,139**	1,011	**3,520**	3,055
Market development	**165**	70	**360**	312
Communications and technology	**397**	340	**1,143**	1,006
Depreciation and amortization	**509**	468	**1,527**	1,404
Occupancy	**239**	235	**727**	706
Professional fees	**433**	298	**1,137**	956
Other expenses	**542**	665	**1,781**	4,807
Total operating expenses	**6,591**	6,204	**24,668**	23,076
Pre-tax earnings	**6,842**	4,299	**22,019**	6,938
Provision for taxes	**1,464**	932	**4,319**	1,985
Net earnings	**5,378**	3,367	**17,700**	4,953
Preferred stock dividends	**94**	134	**358**	400
Net earnings applicable to common shareholders	**$ 5,284**	$ 3,233	**$17,342**	$ 4,553
Earnings per common share				
Basic	**$ 15.14**	$ 9.07	**$ 49.23**	$ 12.71
Diluted	**$ 14.93**	$ 8.98	**$ 48.59**	$ 12.65
Average common shares				
Basic	**348.3**	355.9	**351.8**	356.5
Diluted	**353.9**	359.9	**356.9**	360.0

Consolidated Statements of Comprehensive Income (Unaudited)

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Net earnings	**$ 5,378**	$ 3,367	**$17,700**	$ 4,953
Other comprehensive income/(loss) adjustments, net of tax:				
Currency translation	**(20)**	(13)	**(36)**	(74)
Debt valuation adjustment	**67**	(268)	**165**	428
Pension and postretirement liabilities	**–**	(2)	**7**	1
Available-for-sale securities	**(114)**	(11)	**(658)**	494
Other comprehensive income/(loss)	**(67)**	(294)	**(522)**	849
Comprehensive income	**$ 5,311**	$ 3,073	**$17,178**	$ 5,802

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

THE GOLDMAN SACHS GROUP, INC. AND SUBSIDIARIES

Consolidated Balance Sheets (Unaudited)

$ in millions	As of **September 2021**	December 2020
Assets		
Cash and cash equivalents	**$ 211,830**	$ 155,842
Collateralized agreements:		
Securities purchased under agreements to resell (at fair value)	**213,062**	108,060
Securities borrowed (includes **$34,437** and $28,898 at fair value)	**186,671**	142,160
Customer and other receivables (includes **$46** and $82 at fair value)	**171,780**	121,331
Trading assets (at fair value and includes **$66,754** and $69,031 pledged as collateral)	**392,998**	393,630
Investments (includes **$80,969** and $82,778 at fair value, and **$14,515** and $13,375 pledged as collateral)	**86,708**	88,445
Loans (net of allowance of **$3,332** and $3,874, and includes **$12,104** and $13,625 at fair value)	**143,624**	116,115
Other assets	**36,557**	37,445
Total assets	**$1,443,230**	$1,163,028
Liabilities and shareholders' equity		
Deposits (includes **$34,078** and $16,176 at fair value)	**$ 333,038**	$ 259,962
Collateralized financings:		
Securities sold under agreements to repurchase (at fair value)	**167,339**	126,571
Securities loaned (includes **$7,298** and $1,053 at fair value)	**41,534**	21,621
Other secured financings (includes **$18,208** and $24,126 at fair value)	**19,685**	25,755
Customer and other payables	**252,120**	190,658
Trading liabilities (at fair value)	**204,269**	153,727
Unsecured short-term borrowings (includes **$30,447** and $26,750 at fair value)	**48,990**	52,870
Unsecured long-term borrowings (includes **$47,880** and $40,911 at fair value)	**242,780**	213,481
Other liabilities (includes **$166** and $263 at fair value)	**27,178**	22,451
Total liabilities	**1,336,933**	1,067,096
Commitments, contingencies and guarantees		
Shareholders' equity		
Preferred stock; aggregate liquidation preference of **$9,953** and $11,203	**9,953**	11,203
Common stock; **906,430,049** and 901,692,039 shares issued, and **334,792,980** and 344,088,725 shares outstanding	**9**	9
Share-based awards	**3,896**	3,468
Nonvoting common stock; no shares issued and outstanding	**–**	–
Additional paid-in capital	**56,398**	55,679
Retained earnings	**128,631**	112,947
Accumulated other comprehensive loss	**(1,956)**	(1,434)
Stock held in treasury, at cost; **571,637,071** and 557,603,316 shares	**(90,634)**	(85,940)
Total shareholders' equity	**106,297**	95,932
Total liabilities and shareholders' equity	**$1,443,230**	$1,163,028

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

THE GOLDMAN SACHS GROUP, INC. AND SUBSIDIARIES

Consolidated Statements of Changes in Shareholders' Equity (Unaudited)

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Preferred stock				
Beginning balance	**$ 9,203**	$ 11,203	**$ 11,203**	$ 11,203
Issued	**750**	–	**1,425**	350
Redeemed	**–**	–	**(2,675)**	(350)
Ending balance	**9,953**	11,203	**9,953**	11,203
Common stock				
Beginning balance	**9**	9	**9**	9
Issued	**–**	–	**–**	–
Ending balance	**9**	9	**9**	9
Share-based awards				
Beginning balance	**3,759**	3,203	**3,468**	3,195
Issuance and amortization of share-based awards	**202**	176	**2,180**	1,770
Delivery of common stock underlying share-based awards	**(21)**	(33)	**(1,625)**	(1,597)
Forfeiture of share-based awards	**(44)**	(38)	**(127)**	(60)
Ending balance	**3,896**	3,308	**3,896**	3,308
Additional paid-in capital				
Beginning balance	**56,390**	55,637	**55,679**	54,883
Delivery of common stock underlying share-based awards	**23**	34	**1,676**	1,607
Cancellation of share-based awards in satisfaction of withholding tax requirements	**(14)**	(9)	**(983)**	(828)
Issuance costs of redeemed preferred stock	**(1)**	–	**25**	–
Other	**–**	–	**1**	–
Ending balance	**56,398**	55,662	**56,398**	55,662
Retained earnings				
Beginning balance, as previously reported	**124,051**	106,248	**112,947**	106,465
Cumulative effect of change in accounting principle for current expected credit losses, net of tax	**–**	–	**–**	(638)
Beginning balance, adjusted	**124,051**	106,248	**112,947**	105,827
Net earnings	**5,378**	3,367	**17,700**	4,953
Accretion of redeemable noncontrolling interests	**(4)**	–	**(69)**	–
Dividends and dividend equivalents declared on common stock and share-based awards	**(700)**	(448)	**(1,589)**	(1,347)
Dividends declared on preferred stock	**(94)**	(134)	**(317)**	(399)
Preferred stock redemption premium	**–**	–	**(41)**	(1)
Ending balance	**128,631**	109,033	**128,631**	109,033
Accumulated other comprehensive income/(loss)				
Beginning balance	**(1,889)**	(341)	**(1,434)**	(1,484)
Other comprehensive income/(loss)	**(67)**	(294)	**(522)**	849
Ending balance	**(1,956)**	(635)	**(1,956)**	(635)
Stock held in treasury, at cost				
Beginning balance	**(89,633)**	(85,930)	**(85,940)**	(84,006)
Repurchased	**(1,000)**	–	**(4,700)**	(1,928)
Reissued	**1**	1	**11**	11
Other	**(2)**	(1)	**(5)**	(7)
Ending balance	**(90,634)**	(85,930)	**(90,634)**	(85,930)
Total shareholders' equity	**$106,297**	$ 92,650	**$106,297**	$ 92,650

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

THE GOLDMAN SACHS GROUP, INC. AND SUBSIDIARIES

Consolidated Statements of Cash Flows (Unaudited)

	Nine Months Ended September	
$ in millions	**2021**	2020
Cash flows from operating activities		
Net earnings	**$ 17,700**	$ 4,953
Adjustments to reconcile net earnings to net cash used for operating activities:		
Depreciation and amortization	**1,527**	1,404
Share-based compensation	**2,141**	1,737
Gain related to extinguishment of unsecured borrowings	**–**	(1)
Provision for credit losses	**13**	2,805
Changes in operating assets and liabilities:		
Customer and other receivables and payables, net	**11,010**	(24,045)
Collateralized transactions (excluding other secured financings), net	**(88,832)**	(21,080)
Trading assets	**(1,815)**	(50,937)
Trading liabilities	**50,065**	53,306
Loans held for sale, net	**(1,780)**	2,264
Other, net	**(14,005)**	(148)
Net cash used for operating activities	**(23,976)**	(29,742)
Cash flows from investing activities		
Purchase of property, leasehold improvements and equipment	**(3,548)**	(4,906)
Proceeds from sales of property, leasehold improvements and equipment	**3,111**	1,272
Net cash used for business acquisitions	**–**	(226)
Purchase of investments	**(31,998)**	(37,516)
Proceeds from sales and paydowns of investments	**40,127**	23,200
Loans (excluding loans held for sale), net	**(24,219)**	(7,257)
Net cash used for investing activities	**(16,527)**	(25,433)
Cash flows from financing activities		
Unsecured short-term borrowings, net	**1,342**	6,567
Other secured financings (short-term), net	**(635)**	1,629
Proceeds from issuance of other secured financings (long-term)	**3,661**	6,016
Repayment of other secured financings (long-term), including the current portion	**(4,922)**	(2,019)
Purchase of Trust Preferred securities	**–**	(11)
Proceeds from issuance of unsecured long-term borrowings	**68,798**	36,120
Repayment of unsecured long-term borrowings, including the current portion	**(38,370)**	(41,042)
Derivative contracts with a financing element, net	**477**	1,022
Deposits, net	**74,612**	70,654
Preferred stock redemption	**(2,675)**	(350)
Common stock repurchased	**(4,700)**	(1,928)
Settlement of share-based awards in satisfaction of withholding tax requirements	**(984)**	(829)
Dividends and dividend equivalents paid on common stock, preferred stock and share-based awards	**(1,903)**	(1,744)
Proceeds from issuance of preferred stock, net of issuance costs	**1,423**	349
Other financing, net	**367**	396
Net cash provided by financing activities	**96,491**	74,830
Net increase in cash and cash equivalents	**55,988**	19,655
Cash and cash equivalents, beginning balance	**155,842**	133,546
Cash and cash equivalents, ending balance	**$211,830**	$153,201
Supplemental disclosures:		
Cash payments for interest, net of capitalized interest	**$ 4,394**	$ 7,648
Cash payments for income taxes, net	**$ 4,769**	$ 1,904

See Notes 12 and 16 for information about non-cash activities.

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

Note 1.

Description of Business

The Goldman Sachs Group, Inc. (Group Inc. or parent company), a Delaware corporation, together with its consolidated subsidiaries (collectively, the firm), is a leading global financial institution that delivers a broad range of financial services across investment banking, securities, investment management and consumer banking to a large and diversified client base that includes corporations, financial institutions, governments and individuals. Founded in 1869, the firm is headquartered in New York and maintains offices in all major financial centers around the world.

The firm reports its activities in four business segments:

Investment Banking

The firm provides a broad range of investment banking services to a diverse group of corporations, financial institutions, investment funds and governments. Services include strategic advisory assignments with respect to mergers and acquisitions, divestitures, corporate defense activities, restructurings and spin-offs, and equity and debt underwriting of public offerings and private placements. The firm also provides lending to corporate clients, including relationship lending, middle-market lending and acquisition financing. The firm also provides transaction banking services to certain corporate clients.

Global Markets

The firm facilitates client transactions and makes markets in fixed income, equity, currency and commodity products with institutional clients, such as corporations, financial institutions, investment funds and governments. The firm also makes markets in and clears institutional client transactions on major stock, options and futures exchanges worldwide and provides prime brokerage and other equities financing activities, including securities lending, margin lending and swaps. The firm also provides financing to clients through securities purchased under agreements to resell (resale agreements), and through structured credit, warehouse and asset-backed lending.

Asset Management

The firm manages assets and offers investment products (primarily through separately managed accounts and commingled vehicles, such as mutual funds and private investment funds) across all major asset classes to a diverse set of institutional clients and a network of third-party distributors around the world. The firm makes equity investments, which include alternative investing activities related to public and private equity investments in corporate, real estate and infrastructure assets, as well as investments through consolidated investment entities, substantially all of which are engaged in real estate investment activities. The firm also invests in corporate debt and provides financing for real estate and other assets.

Consumer & Wealth Management

The firm provides investing and wealth advisory solutions, including financial planning and counseling, executing brokerage transactions and managing assets for individuals in its wealth management business. The firm also provides loans, accepts deposits and provides investing services through its consumer banking digital platform, *Marcus by Goldman Sachs*, and through its private bank, as well as issues credit cards to consumers.

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 Group Inc. and all other entities in which the firm 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 firm's Annual Report on Form 10-K for the year ended December 31, 2020. References to "the 2020 Form 10-K" are to the firm's Annual Report on Form 10-K 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 and the rules of the Securities and Exchange Commission.

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, June 2021 and September 2020 refer to the firm's 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.

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. Previously reported amounts have been conformed to the current presentation.

Note 3.

Significant Accounting Policies

The firm's significant accounting policies include when and how to measure the fair value of assets and liabilities, measuring the allowance for credit losses on loans and lending commitments accounted for at amortized cost, and when to consolidate an entity. See Note 4 for policies on fair value measurements, Note 9 for policies on the allowance for credit losses, 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
Deposits	Note 13
Unsecured Borrowings	Note 14
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Consolidation

The firm consolidates entities in which the firm has a controlling financial interest. The firm 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 firm 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 firm has a controlling financial interest in a VIE when the firm 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.

Equity-Method Investments. When the firm does not have a controlling financial interest in an entity but can exert significant influence over the entity's operating and financial policies, the investment is generally accounted for at fair value by electing the fair value option available under U.S. GAAP. Significant influence generally exists when the firm owns 20% to 50% of the entity's common stock or in-substance common stock.

In certain cases, the firm applies the equity method of accounting to new investments that are strategic in nature or closely related to the firm's principal business activities, when the firm has a significant degree of involvement in the cash flows or operations of the investee or when cost-benefit considerations are less significant. See Note 8 for further information about equity-method investments.

Investment Funds. The firm has formed investment funds with third-party investors. These funds are typically organized as limited partnerships or limited liability companies for which the firm acts as general partner or manager. Generally, the firm does not hold a majority of the economic interests in these funds. These funds are usually voting interest entities and generally are not consolidated because third-party investors typically have rights to terminate the funds or to remove the firm as general partner or manager. Investments in these funds are generally measured at net asset value (NAV) and are included in investments. See Notes 8, 18 and 22 for further information about investments in funds.

Use of Estimates

Preparation of these consolidated financial statements requires management to make certain estimates and assumptions, the most important of which relate to fair value measurements, the allowance for credit losses on loans and lending commitments accounted for at amortized cost, discretionary compensation accruals, accounting for goodwill and identifiable intangible assets, 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 firm 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 generally included in market making or other principal transactions. See Note 4 for further information about fair value measurements.

Revenue from Contracts with Clients. The firm recognizes revenue earned from contracts with clients for services, such as investment banking, investment management, and execution and clearing (contracts with clients), when the performance obligations related to the underlying transaction are completed.

Revenues from contracts with clients represent approximately 50% of total non-interest revenues for the three months ended September 2021 and approximately 40% for the nine months ended September 2021 (in each case, reflecting approximately 90% of investment banking revenues, approximately 95% of investment management revenues and all commissions and fees), and approximately 45% of total non-interest revenues for both the three and nine months ended September 2020 (in each case, reflecting approximately 90% of investment banking revenues, approximately 95% of investment management revenues and all commissions and fees). See Note 25 for information about net revenues by business segment.

Investment Banking

Advisory. Fees from financial advisory assignments are recognized in revenues when the services related to the underlying transaction are completed under the terms of the assignment. Non-refundable deposits and milestone payments in connection with financial advisory assignments are recognized in revenues upon completion of the underlying transaction or when the assignment is otherwise concluded.

Expenses associated with financial advisory assignments are recognized when incurred and are included in transaction based expenses. Client reimbursements for such expenses are included in investment banking revenues.

Underwriting. Fees from underwriting assignments are recognized in revenues upon completion of the underlying transaction based on the terms of the assignment.

Expenses associated with underwriting assignments are generally deferred until the related revenue is recognized or the assignment is otherwise concluded. Such expenses are included in transaction based expenses for completed assignments.

Investment Management

The firm earns management fees and incentive fees for investment management services, which are included in investment management revenues. The firm makes payments to brokers and advisors related to the placement of the firm's investment funds (distribution fees), which are included in transaction based expenses.

Management Fees. Management fees for mutual funds are calculated as a percentage of daily net asset value and are received monthly. Management fees for hedge funds and separately managed accounts are calculated as a percentage of month-end net asset value and are generally received quarterly. Management fees for private equity funds are calculated as a percentage of monthly invested capital or committed capital and are received quarterly, semi-annually or annually, depending on the fund. Management fees are recognized over time in the period the services are provided.

Distribution fees paid by the firm are calculated based on either a percentage of the management fee, the investment fund's net asset value or the committed capital. Such fees are included in transaction based expenses.

Incentive Fees. Incentive fees are calculated as a percentage of a fund's or separately managed account's return, or excess return above a specified benchmark or other performance target. Incentive fees are generally based on investment performance over a twelve-month period or over the life of a fund. Fees that are based on performance over a twelve-month period are subject to adjustment prior to the end of the measurement period. For fees that are based on investment performance over the life of the fund, future investment underperformance may require fees previously distributed to the firm to be returned to the fund.

Incentive fees earned from a fund or separately managed account are recognized when it is probable that a significant reversal of such fees will not occur, which is generally when such fees are no longer subject to fluctuations in the market value of investments held by the fund or separately managed account. Therefore, incentive fees recognized during the period may relate to performance obligations satisfied in previous periods.

Commissions and Fees

The firm earns commissions and fees from executing and clearing client transactions on stock, options and futures markets, as well as over-the-counter (OTC) transactions. Commissions and fees are recognized on the day the trade is executed. The firm also provides third-party research services to clients in connection with certain soft-dollar arrangements. Third-party research costs incurred by the firm in connection with such arrangements are presented net within commissions and fees.

Remaining Performance Obligations

Remaining performance obligations are services that the firm has committed to perform in the future in connection with its contracts with clients. The firm's remaining performance obligations are generally related to its financial advisory assignments and certain investment management activities. Revenues associated with remaining performance obligations relating to financial advisory assignments cannot be determined until the outcome of the transaction. For the firm's investment management activities, where fees are calculated based on the net asset value of the fund or separately managed account, future revenues associated with such remaining performance obligations cannot be determined as such fees are subject to fluctuations in the market value of investments held by the fund or separately managed account.

The firm is able to determine the future revenues associated with management fees calculated based on committed capital. As of September 2021, substantially all future net revenues associated with such remaining performance obligations will be recognized through 2028. Annual revenues associated with such performance obligations average less than $250 million through 2028.

Transfers of Financial Assets

Transfers of financial assets are accounted for as sales when the firm has relinquished control over the assets transferred. For transfers of financial assets accounted for as sales, any gains or losses are recognized in net revenues. Assets or liabilities that arise from the firm'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 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 and Cash Equivalents

The firm defines cash equivalents as highly liquid overnight deposits held in the ordinary course of business. Cash and cash equivalents included cash and due from banks of $10.23 billion as of September 2021 and $11.95 billion as of December 2020. Cash and cash equivalents also included interest-bearing deposits with banks of $201.60 billion as of September 2021 and $143.89 billion as of December 2020.

The firm segregates cash for regulatory and other purposes related to client activity. Cash and cash equivalents segregated for regulatory and other purposes were $24.71 billion as of September 2021 and $24.52 billion as of December 2020. In addition, the firm segregates securities for regulatory and other purposes related to client activity. See Note 11 for further information about segregated securities.

Customer and Other Receivables

Customer and other receivables included receivables from customers and counterparties of $109.60 billion as of September 2021 and $82.39 billion as of December 2020, and receivables from brokers, dealers and clearing organizations of $62.18 billion as of September 2021 and $38.94 billion as of December 2020. Such receivables primarily consist of customer margin loans, receivables resulting from unsettled transactions and collateral posted in connection with certain derivative transactions.

Substantially all of these 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 firm's fair value hierarchy in Notes 4 through 10. Had these receivables been included in the firm's fair value hierarchy, substantially all would have been classified in level 2 as of both September 2021 and December 2020. See Note 10 for further information about customer and other receivables accounted for at fair value under the fair value option. Interest on customer and other receivables is recognized over the life of the transaction and included in interest income.

Customer and other receivables includes receivables from contracts with clients and contract assets. Contract assets represent the firm's right to receive consideration for services provided in connection with its contracts with clients for which collection is conditional and not merely subject to the passage of time. The firm's receivables from contracts with clients were $3.23 billion as of September 2021 and $2.60 billion as of December 2020. As of both September 2021 and December 2020 contract assets were not material.

Customer and Other Payables

Customer and other payables included payables to customers and counterparties of $230.71 billion as of September 2021 and $183.57 billion as of December 2020, and payables to brokers, dealers and clearing organizations of $21.41 billion as of September 2021 and $7.09 billion as of December 2020. Such payables primarily consist of customer credit balances related to the firm's prime brokerage activities. 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 firm's fair value hierarchy in Notes 4 through 10. Had these payables been included in the firm'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 firm 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 firm 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 firm's right of setoff under netting and credit support agreements, the firm 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. 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. 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.

Share-Based Compensation

The cost of employee services received in exchange for a share-based award is generally measured based on the grant-date fair value of the award. Share-based awards that do not require future service (i.e., vested awards, including awards granted to retirement-eligible employees) are expensed immediately. Share-based awards that require future service are amortized over the relevant service period. Forfeitures are recorded when they occur.

Cash dividend equivalents paid on restricted stock units (RSUs) are generally charged to retained earnings. If RSUs that require future service are forfeited, the related dividend equivalents originally charged to retained earnings are reclassified to compensation expense in the period in which forfeiture occurs.

The firm generally issues new shares of common stock upon delivery of share-based awards. In certain cases, primarily related to conflicted employment (as outlined in the applicable award agreements), the firm may cash settle share-based compensation awards accounted for as equity instruments. For these awards, whose terms allow for cash settlement, additional paid-in capital is adjusted to the extent of the difference between the value of the award at the time of cash settlement and the grant-date value of the award. The tax effect related to the settlement of share-based awards is recorded in income tax benefit or expense.

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 a non-U.S. operation, when the functional currency is other than the U.S. dollar, 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 firm adopted this ASU in January 2020 under a modified retrospective approach. As a result of adopting this ASU, the firm'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 $848 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. In addition, in accordance with the ASU, the firm elected the fair value option for loans that were previously accounted for as Purchased Credit Impaired (PCI), which resulted in a decrease to the allowance for PCI loans of $169 million. The cumulative effect of adopting this ASU was a decrease to retained earnings of $638 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 firm 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 firm'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 firm 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 firm 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 firm 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 firm's financial assets and 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 firm's 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 firm'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, certain corporate debt instruments, certain money market instruments and actively traded listed equities. These instruments are valued using quoted prices for identical unrestricted instruments in active markets. The firm 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 firm 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, most mortgage-backed loans and securities, most corporate debt instruments, most state and municipal obligations, most money market instruments, most other debt obligations, restricted or less liquid listed equities, certain private equities, commodities and certain lending commitments.

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 firm 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;
- A measure of expected future cash flows in a default scenario (recovery rates) implied by the value of the underlying collateral, which is mainly driven by current performance of the underlying collateral and capitalization rates. Recovery rates are expressed as a percentage of notional or face value of the instrument and reflect the benefit of credit enhancements on certain instruments; 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).

Loans and Securities Backed by Residential Real Estate

Loans and securities backed by residential real estate are directly or indirectly collateralized by portfolios of residential real estate and may include tranches of varying levels of subordination. Significant inputs are generally determined based on relative value analyses, which incorporate comparisons to instruments with similar collateral and risk profiles. Significant inputs include:

- Market yields implied by transactions of similar or related assets;
- Transaction prices in both the underlying collateral and instruments with the same or similar underlying collateral;
- Cumulative loss expectations, driven by default rates, home price projections, residential property liquidation timelines, related costs and subsequent recoveries; and
- Duration, driven by underlying loan prepayment speeds and residential property liquidation timelines.

Corporate Debt Instruments

Corporate debt instruments includes corporate loans, debt securities and convertible debentures. 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 firm uses credit default swaps to value the related instrument, the cost of borrowing the underlying reference obligation;
- Duration; and
- Market and transaction multiples for corporate debt instruments with convertibility or participation options.

Equity Securities

Equity securities consists of private equities. 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 (primarily EBITDA and revenue multiples) and public comparables;
- Transactions in similar instruments;
- Discounted cash flow techniques; and
- Third-party appraisals.

The firm also considers changes in the outlook for the relevant industry and financial performance of the issuer as compared to projected performance. Significant inputs include:

- Market and transaction multiples;
- Discount rates and capitalization rates; and
- For equity securities with debt-like features, market yields implied by transactions of similar or related assets, current performance and recovery assumptions, and duration.

Other Trading Cash Instruments, Investments and Loans

The significant inputs to the valuation of other instruments, such as non-U.S. government obligations and U.S. and non-U.S. agency obligations, state and municipal obligations, and other loans and debt obligations 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 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;
- Current performance and recovery assumptions and, where the firm uses credit default swaps to value the related instrument, the cost of borrowing the underlying reference obligation; and
- Duration.

Valuation Techniques and Significant Inputs for Derivatives

The firm'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.
- **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.

- **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.
- **Commodity.** Commodity derivatives include transactions referenced to energy (e.g., oil, natural gas and electricity), metals (e.g., precious and base) and soft commodities (e.g., agricultural). 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 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 firm'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 and upfront credit points, which are unique to specific reference obligations and reference entities, and recovery rates.
- For level 3 commodity derivatives, significant unobservable inputs include volatilities for options with strike prices that differ significantly from current market prices and prices or spreads for certain products for which the product quality or physical location of the commodity is not aligned with benchmark indices.
- For level 3 equity derivatives, significant unobservable inputs generally include equity volatility inputs for options that are long-dated and/or have strike prices that differ significantly from current market prices. In addition, the valuation of certain structured trades requires the use of level 3 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, such as commodities.

Subsequent to the initial valuation of a level 3 derivative, the firm 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 firm 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 firm also makes funding valuation adjustments to collateralized derivatives where the terms of the agreement do not permit the firm 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 firm 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 firm 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 securities borrowed and loaned transactions; certain customer and other receivables, including certain margin loans; certain time deposits, including structured certificates of deposit, which are hybrid financial instruments; substantially all other secured financings, including transfers of assets accounted for as financings; certain unsecured short- and long-term borrowings, substantially all of which are hybrid financial instruments; and certain other liabilities. 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 firm's credit quality. The significant inputs used to value the firm's other financial instruments are described below.

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

Customer and Other Receivables. The significant inputs to the valuation of receivables are interest rates, the amount and timing of expected future cash flows and funding spreads.

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 firm'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 firm (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 Short- and Long-Term Borrowings. The significant inputs to the valuation of unsecured short- and long-term borrowings are the amount and timing of expected future cash flows, interest rates, the credit spreads of the firm and commodity prices for prepaid commodity transactions. The inputs used to value the embedded derivative component of hybrid financial instruments are consistent with the inputs used to value the firm's other derivative instruments described above. See Note 7 for further information about derivatives and Note 14 for further information about borrowings.

Other Liabilities. The significant inputs to the valuation of other liabilities are the amount and timing of expected future cash flows and equity volatility and correlation inputs. The inputs used to value the embedded derivative component of hybrid financial instruments are consistent with the inputs used to value the firm's other derivative instruments described above. See Note 7 for further information about derivatives.

Financial Assets and Liabilities at Fair Value

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

	As of		
$ in millions	**September 2021**	June 2021	December 2020
Total level 1 financial assets	**$ 264,245**	$ 256,699	$ 263,999
Total level 2 financial assets	**508,809**	446,055	410,275
Total level 3 financial assets	**23,437**	25,623	26,305
Investments in funds at NAV	**3,917**	3,988	3,664
Counterparty and cash collateral netting	**(66,792)**	(63,655)	(77,170)
Total financial assets at fair value	**$ 733,616**	$ 668,710	$ 627,073
Total assets	**$1,443,230**	$1,387,922	$1,163,028
Total level 3 financial assets divided by:			
Total assets	**1.6%**	1.8%	2.3%
Total financial assets at fair value	**3.2%**	3.8%	4.2%
Total level 1 financial liabilities	**$ 130,725**	$ 133,781	$ 85,120
Total level 2 financial liabilities	**404,273**	378,188	331,824
Total level 3 financial liabilities	**29,869**	33,405	32,930
Counterparty and cash collateral netting	**(55,182)**	(52,129)	(60,297)
Total financial liabilities at fair value	**$ 509,685**	$ 493,245	$ 389,577
Total liabilities	**$1,336,933**	$1,286,032	$1,067,096
Total level 3 financial liabilities divided by:			
Total liabilities	**2.2%**	2.6%	3.1%
Total financial liabilities at fair value	**5.9%**	6.8%	8.5%

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		
$ in millions	**September 2021**	June 2021	December 2020
Trading assets:			
Trading cash instruments	**$ 1,516**	$ 1,304	$ 1,237
Derivatives	**6,043**	5,758	5,967
Investments	**13,679**	16,332	16,423
Loans	**2,199**	2,229	2,678
Total	**$ 23,437**	$ 25,623	$ 26,305

Level 3 financial assets as of September 2021 decreased compared with June 2021, primarily reflecting a decrease in level 3 investments. Level 3 financial assets as of September 2021 decreased compared with December 2020, primarily reflecting a decrease in level 3 investments and loans. 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 firm'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	**$321,415**	**$150,763**
Derivatives	**71,583**	**53,506**
Total	**$392,998**	**$204,269**
As of December 2020		
Trading cash instruments	$324,049	$ 95,136
Derivatives	69,581	58,591
Total	$393,630	$153,727

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

Gains and Losses from Market Making

The table below presents market making revenues by major product type.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Interest rates	**$(1,249)**	$1,732	**$ (1,572)**	$ 3,784
Credit	**162**	578	**1,324**	3,571
Currencies	**1,779**	(981)	**4,521**	(1,674)
Equities	**2,521**	1,391	**6,839**	5,022
Commodities	**716**	607	**1,984**	2,093
Total	**$ 3,929**	$3,327	**$13,096**	$12,796

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 23 for further information about interest income and interest expense.
- Gains and losses included in market making are primarily related to the firm's trading assets and liabilities, including both derivative and non-derivative financial instruments.
- Gains/(losses) are not representative of the manner in which the firm manages its business activities because many of the firm's market-making and client facilitation strategies 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, most of the firm's longer-term derivatives across product types are sensitive to changes in interest rates and may be economically hedged with interest rate swaps. Similarly, a significant portion of the firm's trading cash instruments and derivatives across product types has exposure to foreign currencies 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 firm'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.	**$ 76,579**	**$ 23,883**	**$ 17**	**$ 100,479**
Non-U.S.	**40,510**	**15,600**	**16**	**56,126**
Loans and securities backed by:				
Commercial real estate	**–**	**1,049**	**136**	**1,185**
Residential real estate	**–**	**10,160**	**122**	**10,282**
Corporate debt instruments	**588**	**38,493**	**1,096**	**40,177**
State and municipal obligations	**–**	**752**	**1**	**753**
Other debt obligations	**72**	**2,145**	**53**	**2,270**
Equity securities	**99,930**	**2,755**	**75**	**102,760**
Commodities	**–**	**7,383**	**–**	**7,383**
Total	**$ 217,679**	**$102,220**	**$1,516**	**$ 321,415**
Liabilities				
Government and agency obligations:				
U.S.	**$ (28,554)**	**$ (30)**	**$ –**	**$ (28,584)**
Non-U.S.	**(39,190)**	**(2,886)**	**–**	**(42,076)**
Loans and securities backed by:				
Commercial real estate	**–**	**(42)**	**(1)**	**(43)**
Residential real estate	**–**	**–**	**(11)**	**(11)**
Corporate debt instruments	**(72)**	**(16,380)**	**(99)**	**(16,551)**
Equity securities	**(62,824)**	**(639)**	**(27)**	**(63,490)**
Commodities	**–**	**(8)**	**–**	**(8)**
Total	**$(130,640)**	**$ (19,985)**	**$ (138)**	**$(150,763)**
As of December 2020				
Assets				
Government and agency obligations:				
U.S.	$ 93,670	$ 44,863	$ –	$ 138,533
Non-U.S.	46,147	11,261	15	57,423
Loans and securities backed by:				
Commercial real estate	–	597	203	800
Residential real estate	–	6,948	131	7,079
Corporate debt instruments	915	29,639	797	31,351
State and municipal obligations	–	200	–	200
Other debt obligations	338	1,055	19	1,412
Equity securities	75,300	2,505	72	77,877
Commodities	–	9,374	–	9,374
Total	$ 216,370	$106,442	$1,237	$ 324,049
Liabilities				
Government and agency obligations:				
U.S.	$ (16,880)	$ (13)	$ –	$ (16,893)
Non-U.S.	(22,092)	(1,792)	–	(23,884)
Loans and securities backed by:				
Commercial real estate	–	(17)	(1)	(18)
Residential real estate	–	(1)	–	(1)
Corporate debt instruments	(2)	(7,970)	(50)	(8,022)
State and municipal obligations	–	(5)	–	(5)
Other debt obligations	–	–	(2)	(2)
Equity securities	(45,734)	(550)	(27)	(46,311)
Total	$ (84,708)	$ (10,348)	$ (80)	$ (95,136)

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, debt securities, convertible debentures, prepaid commodity transactions and transfers of assets accounted for as secured loans rather than purchases.
- 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 firm'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

The table below presents the amount of level 3 assets, and ranges and weighted averages of significant unobservable inputs used to value level 3 trading cash instruments.

	As of September 2021		As of December 2020	
$ in millions	**Amount or Range**	**Weighted Average**	Amount or Range	Weighted Average
Loans and securities backed by commercial real estate				
Level 3 assets	**$136**		$203	
Yield	**3.5% to 27.1%**	**13.1%**	1.7% to 22.0%	9.0%
Recovery rate	**7.9% to 97.0%**	**61.7%**	5.1% to 94.9%	57.7%
Duration (years)	**0.4 to 4.6**	**1.9**	1.1 to 9.1	5.0
Loans and securities backed by residential real estate				
Level 3 assets	**$122**		$131	
Yield	**1.0% to 27.2%**	**8.9%**	0.6% to 15.7%	6.3%
Cumulative loss rate	**1.1% to 37.5%**	**16.2%**	3.4% to 45.6%	20.8%
Duration (years)	**0.2 to 16.6**	**6.6**	0.9 to 16.1	6.5
Corporate debt instruments				
Level 3 assets	**$1,096**		$797	
Yield	**0.2% to 15.5%**	**5.8%**	0.6% to 30.6%	9.5%
Recovery rate	**9.0% to 80.0%**	**64.4%**	0.0% to 73.6%	58.7%
Duration (years)	**1.5 to 28.8**	**4.7**	0.3 to 25.5	4.0

Level 3 government and agency obligations, state and municipal obligations, other debt obligations and equity securities were not material as of both September 2021 and December 2020, and therefore are not included in the table above.

In the table above:

- Ranges represent the significant unobservable inputs that were used in the valuation of each type of trading cash instrument.
- Weighted averages are calculated by weighting each input by the relative fair value of the trading cash instruments.
- 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 trading cash instrument. For example, the highest recovery rate for corporate debt instruments is appropriate for valuing a specific corporate debt instrument, but may not be appropriate for valuing any other corporate debt instrument. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 trading cash instruments.
- Increases in yield, duration or cumulative loss rate used in the valuation of level 3 trading cash instruments would have resulted in a lower fair value measurement, while increases in recovery rate would have resulted in a higher fair value measurement as of both September 2021 and December 2020. Due to the distinctive nature of each level 3 trading cash instrument, the interrelationship of inputs is not necessarily uniform within each product type.
- Trading cash instruments are valued using discounted cash flows.

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	**$1,304**	$1,804	**$1,237**	$1,242
Net realized gains/(losses)	**27**	15	**63**	59
Net unrealized gains/(losses)	**11**	34	**64**	(146)
Purchases	**223**	244	**793**	685
Sales	**(133)**	(701)	**(455)**	(438)
Settlements	**(113)**	(124)	**(287)**	(264)
Transfers into level 3	**358**	157	**306**	313
Transfers out of level 3	**(161)**	(164)	**(205)**	(186)
Ending balance	**$1,516**	$1,265	**$1,516**	$1,265
Total trading cash instrument liabilities				
Beginning balance	**$ (78)**	$ (156)	**$ (80)**	$ (273)
Net realized gains/(losses)	**2**	–	**5**	–
Net unrealized gains/(losses)	**(2)**	(79)	**(1)**	18
Purchases	**22**	13	**35**	50
Sales	**(55)**	(20)	**(86)**	(35)
Settlements	**–**	(3)	**8**	(2)
Transfers into level 3	**(32)**	(34)	**(22)**	(28)
Transfers out of level 3	**5**	11	**3**	2
Ending balance	**$ (138)**	$ (268)	**$ (138)**	$ (268)

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 1, 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 1, 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 firm'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
Loans and securities backed by commercial real estate				
Beginning balance	**$ 96**	$ 430	**$ 203**	$ 191
Net realized gains/(losses)	**2**	2	**6**	15
Net unrealized gains/(losses)	**(4)**	(2)	**(7)**	(36)
Purchases	**28**	7	**54**	77
Sales	**(2)**	(228)	**(39)**	(19)
Settlements	**(7)**	(3)	**(13)**	(55)
Transfers into level 3	**31**	7	**15**	30
Transfers out of level 3	**(8)**	(17)	**(83)**	(7)
Ending balance	**$ 136**	$ 196	**$ 136**	$ 196
Loans and securities backed by residential real estate				
Beginning balance	**$ 130**	$ 307	**$ 131**	$ 231
Net realized gains/(losses)	**2**	4	**6**	7
Net unrealized gains/(losses)	**5**	5	**16**	17
Purchases	**11**	78	**29**	97
Sales	**(4)**	(177)	**(48)**	(79)
Settlements	**(25)**	(11)	**(36)**	(33)
Transfers into level 3	**14**	4	**39**	22
Transfers out of level 3	**(11)**	(30)	**(15)**	(82)
Ending balance	**$ 122**	$ 180	**$ 122**	$ 180
Corporate debt instruments				
Beginning balance	**$ 891**	$ 764	**$ 797**	$ 692
Net realized gains/(losses)	**24**	10	**48**	28
Net unrealized gains/(losses)	**12**	25	**57**	(102)
Purchases	**152**	139	**634**	455
Sales	**(88)**	(89)	**(327)**	(256)
Settlements	**(67)**	(103)	**(195)**	(157)
Transfers into level 3	**292**	129	**187**	214
Transfers out of level 3	**(120)**	(93)	**(105)**	(92)
Ending balance	**$1,096**	$ 782	**$1,096**	$ 782
Other				
Beginning balance	**$ 187**	$ 303	**$ 106**	$ 128
Net realized gains/(losses)	**(1)**	(1)	**3**	9
Net unrealized gains/(losses)	**(2)**	6	**(2)**	(25)
Purchases	**32**	20	**76**	56
Sales	**(39)**	(207)	**(41)**	(84)
Settlements	**(14)**	(7)	**(43)**	(19)
Transfers into level 3	**21**	17	**65**	47
Transfers out of level 3	**(22)**	(24)	**(2)**	(5)
Ending balance	**$ 162**	$ 107	**$ 162**	$ 107

In the table above, other includes U.S. and non-U.S. government and agency obligations, other debt obligations and equity securities.

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 trading cash instrument assets of $38 million (reflecting $27 million of net realized gains and $11 million of net unrealized gains) for the three months ended September 2021 included gains of $17 million reported in market making and $21 million reported in interest income.

The drivers of the net unrealized gains on level 3 trading cash instrument assets for the three months ended September 2021 were not material.

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

Transfers out of level 3 trading cash instrument assets during the three months ended September 2021 primarily 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 and unrealized gains on level 3 trading cash instrument assets of $127 million (reflecting $63 million of net realized gains and $64 million of net unrealized gains) for the nine months ended September 2021 included gains of $63 million reported in market making and $64 million reported in interest income.

The drivers of the net unrealized gains on level 3 trading cash instrument assets for the nine months ended September 2021 were not material.

Transfers into level 3 trading cash instrument assets during the nine months ended September 2021 primarily reflected transfers of certain corporate debt instruments from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

Transfers out of level 3 trading cash instrument assets during the nine months ended September 2021 primarily 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).

Three Months Ended September 2020. The net realized and unrealized gains on level 3 trading cash instrument assets of $49 million (reflecting $15 million of net realized gains and $34 million of net unrealized gains) for the three months ended September 2020 included gains of $25 million reported in market making and $24 million reported in interest income.

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

Transfers into level 3 trading cash instrument assets during the three months ended September 2020 primarily reflected transfers of certain corporate debt instruments from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

Transfers out of level 3 trading cash instrument assets during the three months ended September 2020 primarily 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 2020. The net realized and unrealized losses on level 3 trading cash instrument assets of $87 million (reflecting $59 million of net realized gains and $146 million of net unrealized losses) for the nine months ended September 2020 included gains/(losses) of $(171) million reported in market making and $84 million reported in interest income.

The net unrealized losses on level 3 trading cash instrument assets for the nine months ended September 2020 primarily reflected losses on certain corporate debt instruments (principally driven by corporate performance).

Transfers into level 3 trading cash instrument assets during the nine months ended September 2020 primarily reflected transfers of certain corporate debt instruments from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

Transfers out of level 3 trading cash instrument assets during the nine months ended September 2020 primarily reflected transfers of certain corporate debt instruments, and loans and securities 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 firm'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 firm enters into derivative transactions to provide liquidity to clients and to facilitate the transfer and hedging of their risks. In this role, the firm 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 firm also enters into derivatives to actively manage risk exposures that arise from its market-making and investing and financing activities. The firm'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. The offsetting impact of this economic hedging is reflected in the same business segment as the related revenues. In addition, the firm may enter into derivatives designated as hedges under U.S. GAAP. These derivatives are used to manage interest rate exposure of certain fixed-rate unsecured borrowings and deposits, foreign exchange risk of certain available-for-sale securities and the net investment in certain non-U.S. operations, and the price risk of certain commodities.

The firm enters into various types of derivatives, including:

- **Futures and Forwards.** Contracts that commit counterparties to purchase or sell financial instruments, commodities 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, commodities, 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, commodities 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 market making (for derivatives included in the Global Markets segment), and other principal transactions (for derivatives included in the remaining business segments) in the consolidated statements of earnings. For each of the three and nine months ended September 2021 and September 2020, substantially all of the firm's derivatives were included in the Global Markets segment.

Notes to Consolidated Financial Statements (Unaudited)

The tables below present the gross fair value and the notional amounts of derivative contracts by major product type, the amounts of counterparty and cash collateral netting in the consolidated balance sheets, as well as cash and securities 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	**$ 295**	**$ 460**	$ 665	$ 660
OTC-cleared	**14,960**	**13,847**	18,832	16,809
Bilateral OTC	**239,708**	**213,612**	337,998	304,370
Total interest rates	**254,963**	**227,919**	357,495	321,839
OTC-cleared	**4,789**	**5,200**	4,137	4,517
Bilateral OTC	**12,287**	**11,180**	12,418	11,551
Total credit	**17,076**	**16,380**	16,555	16,068
Exchange-traded	**208**	**18**	133	22
OTC-cleared	**446**	**325**	401	631
Bilateral OTC	**77,690**	**74,705**	101,830	102,676
Total currencies	**78,344**	**75,048**	102,364	103,329
Exchange-traded	**10,803**	**11,538**	4,476	4,177
OTC-cleared	**489**	**456**	195	187
Bilateral OTC	**36,707**	**30,745**	9,320	13,691
Total commodities	**47,999**	**42,739**	13,991	18,055
Exchange-traded	**42,055**	**41,626**	29,006	31,944
OTC-cleared	**8**	**7**	–	–
Bilateral OTC	**41,624**	**49,790**	47,867	49,072
Total equities	**83,687**	**91,423**	76,873	81,016
Subtotal	**482,069**	**453,509**	567,278	540,307
Accounted for as hedges				
OTC-cleared	**5**	**–**	1	–
Bilateral OTC	**1,000**	**–**	1,346	–
Total interest rates	**1,005**	**–**	1,347	–
OTC-cleared	**66**	**17**	–	87
Bilateral OTC	**195**	**122**	4	372
Total currencies	**261**	**139**	4	459
Subtotal	**1,266**	**139**	1,351	459
Total gross fair value	**$ 483,335**	**$ 453,648**	$ 568,629	$ 540,766
Offset in the consolidated balance sheets				
Exchange-traded	**$ (46,978)**	**$ (46,978)**	$ (29,549)	$ (29,549)
OTC-cleared	**(19,180)**	**(19,180)**	(21,315)	(21,315)
Bilateral OTC	**(281,429)**	**(281,429)**	(372,142)	(372,142)
Counterparty netting	**(347,587)**	**(347,587)**	(423,006)	(423,006)
OTC-cleared	**(1,151)**	**(430)**	(1,926)	(720)
Bilateral OTC	**(63,014)**	**(52,125)**	(74,116)	(58,449)
Cash collateral netting	**(64,165)**	**(52,555)**	(76,042)	(59,169)
Total amounts offset	**$(411,752)**	**$(400,142)**	$(499,048)	$(482,175)
Included in the consolidated balance sheets				
Exchange-traded	**$ 6,383**	**$ 6,664**	$ 4,731	$ 7,254
OTC-cleared	**432**	**242**	325	196
Bilateral OTC	**64,768**	**46,600**	64,525	51,141
Total	**$ 71,583**	**$ 53,506**	$ 69,581	$ 58,591
Not offset in the consolidated balance sheets				
Cash collateral	**$ (1,092)**	**$ (1,857)**	$ (979)	$ (2,427)
Securities collateral	**(15,932)**	**(7,606)**	(17,297)	(9,943)
Total	**$ 54,559**	**$ 44,043**	$ 51,305	$ 46,221

	Notional Amounts as of	
$ in millions	**September 2021**	December 2020
Not accounted for as hedges		
Exchange-traded	**$ 2,802,116**	$ 3,722,558
OTC-cleared	**16,154,313**	13,789,571
Bilateral OTC	**11,610,308**	11,076,460
Total interest rates	**30,566,737**	28,588,589
Exchange-traded	**44**	–
OTC-cleared	**580,846**	515,197
Bilateral OTC	**595,708**	558,813
Total credit	**1,176,598**	1,074,010
Exchange-traded	**17,031**	7,413
OTC-cleared	**195,425**	157,687
Bilateral OTC	**6,667,786**	6,041,663
Total currencies	**6,880,242**	6,206,763
Exchange-traded	**354,299**	242,193
OTC-cleared	**2,596**	2,315
Bilateral OTC	**242,751**	206,253
Total commodities	**599,646**	450,761
Exchange-traded	**1,291,539**	948,937
OTC-cleared	**258**	–
Bilateral OTC	**1,318,136**	1,126,572
Total equities	**2,609,933**	2,075,509
Subtotal	**41,833,156**	38,395,632
Accounted for as hedges		
OTC-cleared	**208,439**	182,311
Bilateral OTC	**5,021**	6,641
Total interest rates	**213,460**	188,952
OTC-cleared	**3,178**	1,767
Bilateral OTC	**19,514**	14,055
Total currencies	**22,692**	15,822
Exchange-traded	**986**	–
Total commodities	**986**	–
Subtotal	**237,138**	204,774
Total notional amounts	**$42,070,294**	$38,600,406

In the tables above:

- Gross fair values exclude the effects of both counterparty netting and collateral, and therefore are not representative of the firm's exposure.
- Where the firm 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 firm's derivative activity and do not represent anticipated losses.
- Total gross fair value of derivatives included derivative assets of $18.23 billion as of September 2021 and $20.60 billion as of December 2020, and derivative liabilities of $18.45 billion as of September 2021 and $22.98 billion as of December 2020, which are not subject to an enforceable netting agreement or are subject to a netting agreement that the firm 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	**$ 96**	**$ 254,940**	**$ 932**	**$ 255,968**
Credit	**–**	**13,868**	**3,208**	**17,076**
Currencies	**–**	**78,350**	**255**	**78,605**
Commodities	**–**	**46,708**	**1,291**	**47,999**
Equities	**90**	**82,363**	**1,234**	**83,687**
Gross fair value	**186**	**476,229**	**6,920**	**483,335**
Counterparty netting in levels	**–**	**(344,083)**	**(877)**	**(344,960)**
Subtotal	**$ 186**	**$ 132,146**	**$ 6,043**	**$ 138,375**
Cross-level counterparty netting				**(2,627)**
Cash collateral netting				**(64,165)**
Net fair value				**$ 71,583**
Liabilities				
Interest rates	**$ (3)**	**$(227,231)**	**$ (685)**	**$(227,919)**
Credit	**–**	**(14,891)**	**(1,489)**	**(16,380)**
Currencies	**–**	**(74,813)**	**(374)**	**(75,187)**
Commodities	**–**	**(41,961)**	**(778)**	**(42,739)**
Equities	**(82)**	**(88,396)**	**(2,945)**	**(91,423)**
Gross fair value	**(85)**	**(447,292)**	**(6,271)**	**(453,648)**
Counterparty netting in levels	**–**	**344,083**	**877**	**344,960**
Subtotal	**$ (85)**	**$(103,209)**	**$(5,394)**	**$(108,688)**
Cross-level counterparty netting				**2,627**
Cash collateral netting				**52,555**
Net fair value				**$ (53,506)**
As of December 2020				
Assets				
Interest rates	$ 297	$ 357,568	$ 977	$ 358,842
Credit	–	13,104	3,451	16,555
Currencies	–	102,221	147	102,368
Commodities	–	13,285	706	13,991
Equities	75	75,054	1,744	76,873
Gross fair value	372	561,232	7,025	568,629
Counterparty netting in levels	(135)	(420,685)	(1,058)	(421,878)
Subtotal	$ 237	$ 140,547	$ 5,967	$ 146,751
Cross-level counterparty netting				(1,128)
Cash collateral netting				(76,042)
Net fair value				$ 69,581
Liabilities				
Interest rates	$(229)	$(320,900)	$ (710)	$(321,839)
Credit	–	(14,395)	(1,673)	(16,068)
Currencies	–	(103,303)	(485)	(103,788)
Commodities	–	(17,649)	(406)	(18,055)
Equities	(318)	(78,122)	(2,576)	(81,016)
Gross fair value	(547)	(534,369)	(5,850)	(540,766)
Counterparty netting in levels	135	420,685	1,058	421,878
Subtotal	$(412)	$(113,684)	$(4,792)	$(118,888)
Cross-level counterparty netting				1,128
Cash collateral netting				59,169
Net fair value				$ (58,591)

In the table above:

- Gross fair values exclude the effects of both counterparty netting and collateral netting, and therefore are not representative of the firm'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 firm'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, except inputs	**Amount or Range**	**Average/ Median**	Amount or Range	Average/ Median
Interest rates, net	**$247**		$267	
Correlation	**25% to 81%**	**63%/62%**	(8)% to 81%	56%/60%
Volatility (bps)	**31 to 150**	**65/54**	31 to 150	65/53
Credit, net	**$1,719**		$1,778	
Credit spreads (bps)	**1 to 576**	**113/87**	2 to 699	109/74
Upfront credit points	**2 to 100**	**40/30**	7 to 90	40/30
Recovery rates	**20% to 90%**	**47%/40%**	25% to 90%	46%/40%
Currencies, net	**$(119)**		$(338)	
Correlation	**20% to 70%**	**39%/41%**	20% to 70%	39%/41%
Volatility	**20% to 20%**	**20%/20%**	18% to 18%	18%/18%
Commodities, net	**$513**		$300	
Volatility	**15% to 152%**	**37%/33%**	15% to 87%	32%/30%
Natural gas spread	**$(1.39) to $4.36**	**$(0.07)/ $(0.03)**	$(1.00) to $2.13	$(0.13)/ $(0.09)
Oil spread	**$(0.93) to $(0.74)**	**$(0.84)/ $(0.84)**	$8.30 to $11.20	$9.73/ $9.55
Electricity price	**$9.95 to $55.76**	**$34.19/ $35.69**	N/A	N/A
Equities, net	**$(1,711)**		$(832)	
Correlation	**(70)% to 99%**	**62%/71%**	(70)% to 100%	52%/55%
Volatility	**4% to 153%**	**18%/19%**	3% to 129%	14%/7%

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, credit derivatives are valued using option pricing, correlation and discounted cash flow models, and commodities derivatives are valued using option pricing 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.
- Natural gas spread represents the spread per million British thermal units of natural gas.
- Oil spread represents the spread per barrel of oil and refined products.
- Electricity price represents the price per megawatt hour of electricity.

Range of Significant Unobservable Inputs

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

- **Correlation.** Ranges for correlation cover a variety of underliers both within one product type (e.g., equity index and equity single stock names) 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. For example, volatility of equity indices is generally lower than volatility of single stocks.
- **Credit spreads, upfront credit points and recovery rates.** The ranges for credit spreads, upfront credit points and recovery rates 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.
- **Commodity prices and spreads.** The ranges for commodity prices and spreads cover variability in products, maturities and delivery locations.

Sensitivity of Fair Value Measurement to Changes in Significant Unobservable Inputs

The following is a description of the directional sensitivity of the firm'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, credit spreads, foreign exchange rates, inflation 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, upfront credit points and recovery rates.** In general, the fair value of purchased credit protection increases as credit spreads or upfront credit points increase or recovery rates decrease. Credit spreads, upfront credit points and recovery rates 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.
- **Commodity prices and spreads.** In general, for contracts where the holder is receiving a commodity, an increase in the spread (price difference from a benchmark index due to differences in quality or delivery location) or price results in a higher fair value measurement.

Due to the distinctive nature of each of the firm'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	**$ 567**	$3,060	**$ 1,175**	$ 25
Net realized gains/(losses)	**(33)**	(8)	**73**	142
Net unrealized gains/(losses)	**453**	(315)	**34**	1,465
Purchases	**92**	93	**439**	345
Sales	**(366)**	(288)	**(1,058)**	181
Settlements	**(264)**	(189)	**99**	182
Transfers into level 3	**(112)**	–	**(79)**	(74)
Transfers out of level 3	**312**	(199)	**(34)**	(112)
Ending balance	**$ 649**	$2,154	**$ 649**	$2,154

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 firm'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	**$ 308**	$ 311	**$ 267**	$ 89
Net realized gains/(losses)	**(60)**	3	**(11)**	12
Net unrealized gains/(losses)	**(56)**	54	**38**	201
Purchases	**–**	11	**67**	18
Sales	**(24)**	1	**(72)**	(15)
Settlements	**101**	(59)	**23**	(40)
Transfers into level 3	**(20)**	(53)	**(1)**	(14)
Transfers out of level 3	**(2)**	(13)	**(64)**	4
Ending balance	**$ 247**	$ 255	**$ 247**	$ 255
Credit, net				
Beginning balance	**$ 1,750**	$2,327	**$ 1,778**	$ 1,877
Net realized gains/(losses)	**(22)**	(1)	**(33)**	6
Net unrealized gains/(losses)	**11**	(124)	**129**	175
Purchases	**18**	16	**62**	35
Sales	**(35)**	(8)	**(62)**	(23)
Settlements	**(22)**	(189)	**(9)**	(38)
Transfers into level 3	**15**	26	**(60)**	4
Transfers out of level 3	**4**	(61)	**(86)**	(50)
Ending balance	**$ 1,719**	$1,986	**$ 1,719**	$ 1,986
Currencies, net				
Beginning balance	**$ (234)**	$ (94)	**$ (338)**	$ (211)
Net realized gains/(losses)	**9**	18	**(29)**	8
Net unrealized gains/(losses)	**43**	(143)	**(7)**	(118)
Purchases	**1**	5	**41**	5
Sales	**(5)**	(12)	**(12)**	(7)
Settlements	**36**	(34)	**235**	77
Transfers into level 3	**(4)**	(1)	**(20)**	(2)
Transfers out of level 3	**35**	6	**11**	(7)
Ending balance	**$ (119)**	$ (255)	**$ (119)**	$ (255)
Commodities, net				
Beginning balance	**$ 266**	$ 331	**$ 300**	$ 247
Net realized gains/(losses)	**(23)**	16	**(76)**	65
Net unrealized gains/(losses)	**196**	(84)	**348**	38
Purchases	**16**	1	**38**	2
Sales	**(4)**	(7)	**(34)**	(20)
Settlements	**6**	(20)	**(56)**	(64)
Transfers into level 3	**25**	(12)	**16**	(24)
Transfers out of level 3	**31**	(30)	**(23)**	(49)
Ending balance	**$ 513**	$ 195	**$ 513**	$ 195
Equities, net				
Beginning balance	**$(1,523)**	$ 185	**$ (832)**	$(1,977)
Net realized gains/(losses)	**63**	(44)	**222**	51
Net unrealized gains/(losses)	**259**	(18)	**(474)**	1,169
Purchases	**57**	60	**231**	285
Sales	**(298)**	(262)	**(878)**	246
Settlements	**(385)**	113	**(94)**	247
Transfers into level 3	**(128)**	40	**(14)**	(38)
Transfers out of level 3	**244**	(101)	**128**	(10)
Ending balance	**$(1,711)**	$ (27)	**$(1,711)**	$ (27)

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 derivatives of $420 million (reflecting $33 million of net realized losses and $453 million of net unrealized gains) for the three months ended September 2021 included gains of $405 million reported in market making and $15 million reported in other principal transactions.

The net unrealized gains on level 3 derivatives for the three months ended September 2021 were primarily attributable to gains on certain equity derivatives (primarily reflecting the impact of changes in equity prices) and gains on certain commodity derivatives (primarily reflecting the impact of an increase in commodity prices).

Transfers into level 3 derivatives during the three months ended September 2021 primarily reflected transfers of certain equity derivative liabilities from level 2 (principally due to certain unobservable inputs becoming significant to the valuation of these derivatives).

Transfers out of level 3 derivatives during the three months ended September 2021 primarily reflected transfers of certain equity derivative liabilities to level 2 (principally due to increased transparency of certain volatility inputs used to value these derivatives).

Nine Months Ended September 2021. The net realized and unrealized gains on level 3 derivatives of $107 million (reflecting $73 million of net realized gains and $34 million of net unrealized gains) for the nine months ended September 2021 included gains of $62 million reported in market making and $45 million reported in other principal transactions.

The net unrealized gains on level 3 derivatives for the nine months ended September 2021 were primarily attributable to gains on certain commodity derivatives (primarily reflecting the impact of an increase in commodity prices) and gains on certain credit derivatives (primarily reflecting the impact of changes in foreign exchange rates), partially offset by losses on certain equity derivatives (primarily reflecting the impact of an increase in equity prices).

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

Transfers out of level 3 derivatives during the nine months ended September 2021 primarily reflected transfers of certain equity derivative liabilities to level 2 (principally due to increased transparency of certain volatility inputs used to value these derivatives), partially offset by transfers of certain credit derivative assets to level 2 (principally due to certain unobservable credit spread inputs no longer being significant to the valuation of these derivatives).

Three Months Ended September 2020. The net realized and unrealized losses on level 3 derivatives of $323 million (reflecting $8 million of net realized losses and $315 million of net unrealized losses) for the three months ended September 2020 included losses of $289 million reported in market making and losses of $34 million reported in other principal transactions.

The net unrealized losses on level 3 derivatives for the three months ended September 2020 were primarily attributable to losses on certain currency derivatives (primarily reflecting the impact of changes in foreign exchange rates) and losses on certain credit derivatives (primarily reflecting the impact of tighter credit spreads).

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

Transfers out of level 3 derivatives during the three months ended September 2020 primarily reflected transfers of certain equity derivative assets to level 2 (principally due to increased transparency of certain volatility inputs used to value these derivatives).

Nine Months Ended September 2020. The net realized and unrealized gains on level 3 derivatives of $1.61 billion (reflecting $142 million of net realized gains and $1.47 billion of net unrealized gains) for the nine months ended September 2020 included gains of $1.67 billion reported in market making and losses of $61 million reported in other principal transactions.

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

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

OTC Derivatives

The table below presents OTC derivative assets and liabilities by tenor and major product type.

$ in millions	Less than 1 Year	1 - 5 Years	Greater than 5 Years	Total
As of September 2021				
Assets				
Interest rates	**$ 6,226**	**$12,817**	**$60,548**	**$ 79,591**
Credit	**1,779**	**2,253**	**3,298**	**7,330**
Currencies	**13,252**	**6,038**	**6,822**	**26,112**
Commodities	**12,428**	**9,757**	**1,107**	**23,292**
Equities	**10,156**	**6,449**	**2,790**	**19,395**
Counterparty netting in tenors	**(2,824)**	**(2,854)**	**(2,789)**	**(8,467)**
Subtotal	**$41,017**	**$34,460**	**$71,776**	**$147,253**
Cross-tenor counterparty netting				**(17,888)**
Cash collateral netting				**(64,165)**
Total OTC derivative assets				**$ 65,200**
Liabilities				
Interest rates	**$ 4,705**	**$10,129**	**$36,542**	**$ 51,376**
Credit	**1,758**	**2,573**	**2,303**	**6,634**
Currencies	**11,988**	**5,898**	**4,999**	**22,885**
Commodities	**7,996**	**6,465**	**2,835**	**17,296**
Equities	**10,555**	**13,658**	**3,348**	**27,561**
Counterparty netting in tenors	**(2,824)**	**(2,854)**	**(2,789)**	**(8,467)**
Subtotal	**$34,178**	**$35,869**	**$47,238**	**$117,285**
Cross-tenor counterparty netting				**(17,888)**
Cash collateral netting				**(52,555)**
Total OTC derivative liabilities				**$ 46,842**
As of December 2020				
Assets				
Interest rates	$ 8,913	$20,145	$74,893	$103,951
Credit	822	3,270	3,302	7,394
Currencies	13,887	7,400	9,303	30,590
Commodities	2,998	1,466	488	4,952
Equities	12,182	12,590	1,807	26,579
Counterparty netting in tenors	(3,963)	(4,458)	(3,182)	(11,603)
Subtotal	$34,839	$40,413	$86,611	$161,863
Cross-tenor counterparty netting				(20,971)
Cash collateral netting				(76,042)
Total OTC derivative assets				$ 64,850
Liabilities				
Interest rates	$ 5,687	$11,967	$49,301	$ 66,955
Credit	1,268	3,462	2,177	6,907
Currencies	18,770	7,575	5,775	32,120
Commodities	3,455	1,545	4,315	9,315
Equities	9,702	14,095	3,986	27,783
Counterparty netting in tenors	(3,963)	(4,458)	(3,182)	(11,603)
Subtotal	$34,919	$34,186	$62,372	$131,477
Cross-tenor counterparty netting				(20,971)
Cash collateral netting				(59,169)
Total OTC derivative liabilities				$ 51,337

In the table above:

- Tenor is based on remaining contractual maturity.
- Counterparty netting within the same product type and tenor category is included within such product type and tenor category.
- Counterparty netting across product types within the same tenor category is included in counterparty netting in tenors. Where the counterparty netting is across tenor categories, the netting is included in cross-tenor counterparty netting.

Credit Derivatives

The firm enters into a broad array of credit derivatives to facilitate client transactions and to manage the credit risk associated with market-making and investing and financing activities. Credit derivatives are actively managed based on the firm'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 firm 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 firm economically hedges its exposure to written credit derivatives primarily by entering into offsetting purchased credit derivatives with identical underliers. Substantially all of the firm'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 firm 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 $564.94 billion and purchased credit derivatives had a total gross notional amount of $612.88 billion, for total net notional purchased protection of $47.94 billion. As of December 2020, written credit derivatives had a total gross notional amount of $515.85 billion and purchased credit derivatives had a total gross notional amount of $558.18 billion, for total net notional purchased protection of $42.33 billion. The firm'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	**$105,584**	**$10,289**	**$ 807**	**$ 4,042**	**$120,722**
1 – 5 years	**332,858**	**24,819**	**4,838**	**3,563**	**366,078**
Greater than 5 years	**68,202**	**6,816**	**2,504**	**613**	**78,135**
Total	**$506,644**	**$41,924**	**$8,149**	**$ 8,218**	**$564,935**
Maximum Payout/Notional Amount of Purchased Credit Derivatives					
Offsetting	**$440,512**	**$28,582**	**$6,350**	**$ 6,376**	**$481,820**
Other	**$108,898**	**$19,072**	**$2,218**	**$ 870**	**$131,058**
Fair Value of Written Credit Derivatives					
Asset	**$ 10,165**	**$ 1,430**	**$ 295**	**$ 228**	**$ 12,118**
Liability	**894**	**991**	**597**	**1,608**	**4,090**
Net asset/(liability)	**$ 9,271**	**$ 439**	**$ (302)**	**$(1,380)**	**$ 8,028**
As of December 2020					
Maximum Payout/Notional Amount of Written Credit Derivatives by Tenor					
Less than 1 year	$ 96,049	$ 5,826	$ 450	$ 2,403	$104,728
1 – 5 years	331,145	17,913	8,801	4,932	362,791
Greater than 5 years	44,132	3,839	272	88	48,331
Total	$471,326	$27,578	$9,523	$ 7,423	$515,850
Maximum Payout/Notional Amount of Purchased Credit Derivatives					
Offsetting	$407,315	$19,822	$8,679	$ 7,091	$442,907
Other	$103,604	$ 7,272	$3,619	$ 776	$115,271
Fair Value of Written Credit Derivatives					
Asset	$ 10,302	$ 638	$ 256	$ 118	$ 11,314
Liability	1,112	1,119	387	2,001	4,619
Net asset/(liability)	$ 9,190	$ (481)	$ (131)	$(1,883)	$ 6,695

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 firm'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 firm 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 firm 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 credit spreads, liability funding spreads (which include the firm's own 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	**$49**	$103	**$(14)**	$ 52
FVA, net of hedges	**17**	101	**54**	(78)
Total	**$66**	$204	**$ 40**	$(26)

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	**$ 881**	$ 1,450
Fair value of liabilities	**(1,389)**	(1,220)
Net asset/(liability)	**$ (508)**	$ 230
Notional amount	**$11,765**	$12,548

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

Derivatives with Credit-Related Contingent Features

Certain of the firm's derivatives have been transacted under bilateral agreements with counterparties who may require the firm to post collateral or terminate the transactions based on changes in the firm's credit ratings. The firm 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 firm 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 firm's credit ratings.

	As of	
$ in millions	**September 2021**	December 2020
Net derivative liabilities under bilateral agreements	**$36,431**	$43,368
Collateral posted	**$30,647**	$35,296
Additional collateral or termination payments:		
One-notch downgrade	**$ 331**	$ 481
Two-notch downgrade	**$ 1,353**	$ 1,388

Hedge Accounting

The firm applies hedge accounting for (i) interest rate swaps used to manage the interest rate exposure of certain fixed-rate unsecured long- and short-term borrowings and certain fixed-rate certificates of deposit, (ii) foreign exchange forward contracts used to manage the foreign exchange risk of certain available-for-sale securities, (iii) foreign currency forward contracts and foreign currency-denominated debt used to manage foreign currency exposures on the firm's net investment in certain non-U.S. operations and (iv) commodity futures contracts used to manage the price risk of certain commodities.

To qualify for hedge accounting, the hedging instrument must be highly effective at reducing the risk from the exposure being hedged. Additionally, the firm 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 firm designates interest rate swaps as fair value hedges of certain fixed-rate unsecured long- and short-term debt and 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), Secured Overnight Financing Rate (SOFR) or Overnight Index Swap Rate), effectively converting a substantial portion of fixed-rate obligations into floating-rate obligations.

The firm 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 23 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 borrowings and deposits, and total interest expense.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Interest rate hedges	**$(1,528)**	$(1,111)	**$(5,459)**	$ 5,829
Hedged borrowings and deposits	**$ 1,365**	$ 916	**$ 4,991**	$(6,327)
Interest expense	**$ 1,553**	$ 1,848	**$ 4,435**	$ 7,375

The table below presents the carrying value of deposits and unsecured borrowings 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	**$ 15,266**	**$ 387**
Unsecured short-term borrowings	**$ 3,221**	**$ 10**
Unsecured long-term borrowings	**$136,905**	**$ 7,062**
As of December 2020		
Deposits	$ 17,303	$ 649
Unsecured short-term borrowings	$ 5,976	$ 53
Unsecured long-term borrowings	$115,242	$11,624

In the table above, cumulative hedging adjustment included $6.27 billion as of September 2021 and $6.34 billion as of December 2020 of hedging adjustments from prior hedging relationships that were de-designated and substantially all were related to unsecured long-term borrowings.

In addition, cumulative hedging adjustments for items no longer designated in a hedging relationship were $147 million as of September 2021 and $489 million as of December 2020 and substantially all were related to unsecured long-term borrowings.

The firm designates foreign exchange forward contracts as fair value hedges of the foreign exchange risk of non-U.S. government securities classified as available-for-sale. See Note 8 for information about the amortized cost and fair value of such securities. The effectiveness of such hedges is assessed based on changes in spot rates. The losses on the hedges (relating to both spot and forward points) and the foreign exchange gains on the related available-for-sale securities were included in market making and were not material for both the three and nine months ended September 2021 and September 2020.

During the second quarter of 2021, the firm 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 market making. 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 firm seeks to reduce the impact of fluctuations in foreign exchange rates on its net investments in certain non-U.S. operations through the use of foreign currency forward contracts and foreign currency-denominated debt. 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 foreign currency-denominated debt designated as a hedge, the effectiveness of the hedge is assessed based on changes in spot rates. For qualifying net investment hedges, all gains or losses on the hedging instruments are included in currency translation.

The table below presents the gains/(losses) from net investment hedging.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Hedges:				
Foreign currency forward contract	**$373**	$(255)	**$600**	$ 387
Foreign currency-denominated debt	**$ 31**	$(102)	**$290**	$(132)

Gains or losses on individual net investments in non-U.S. operations are reclassified to earnings from accumulated other comprehensive income/(loss) when such net investments are sold or substantially liquidated. The gross and net gains and losses on hedges and the related net investments in non-U.S. operations reclassified to earnings from accumulated other comprehensive income/(loss) were not material for both the three and nine months ended September 2021. The gross and net gains and losses on hedges and the related net investments in non-U.S. operations reclassified to earnings from accumulated other comprehensive income/(loss) were not material for the three months ended September 2020, and were $61 million (reflecting a gain of $215 million related to hedges and a loss of $154 million on the related net investments in non-U.S. operations) for the nine months ended September 2020.

The firm had designated $3.68 billion as of September 2021 and $4.97 billion as of December 2020 of foreign currency-denominated debt, included in unsecured long- and short-term borrowings, as hedges of net investments in non-U.S. subsidiaries.

Note 8.

Investments

Investments includes debt instruments and equity securities that are accounted for at fair value and are generally held by the firm 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 firm's asset-liability management activities. Investments also consists of equity securities that are accounted for under the equity method.

The table below presents information about investments.

	As of	
$ in millions	**September 2021**	December 2020
Equity securities, at fair value	**$19,339**	$19,781
Debt instruments, at fair value	**17,045**	16,981
Available-for-sale securities, at fair value	**44,585**	46,016
Investments, at fair value	**80,969**	82,778
Held-to-maturity securities	**5,205**	5,301
Equity method investments	**534**	366
Total investments	**$86,708**	$88,445

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 firm's public and private equity investments in corporate and real estate entities.

The table below presents information about equity securities, at fair value.

	As of	
$ in millions	**September 2021**	December 2020
Equity securities, at fair value	**$19,339**	$19,781
Equity Type		
Public equity	**21%**	15%
Private equity	**79%**	85%
Total	**100%**	100%
Asset Class		
Corporate	**80%**	83%
Real estate	**20%**	17%
Total	**100%**	100%

In the table above:

- Equity securities, at fair value included investments accounted for at fair value under the fair value option where the firm would otherwise apply the equity method of accounting of $5.42 billion as of September 2021 and $7.14 billion as of December 2020. Gains recognized as a result of changes in the fair value of equity securities for which the fair value option was elected were $177 million for the three months ended September 2021, $101 million for the three months ended September 2020, $1.81 billion for the nine months ended September 2021 and $277 million for the nine months ended September 2020. These gains are included in other principal transactions.
- Equity securities, at fair value included $2.37 billion as of September 2021 and $2.35 billion as of December 2020 of investments in funds that are measured at NAV.

Debt Instruments, at Fair Value. Debt instruments, at fair value primarily includes mezzanine, senior and distressed debt.

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

	As of	
$ in millions	**September 2021**	December 2020
Corporate debt securities	**$10,725**	$10,991
Securities backed by real estate	**2,182**	1,940
Money market instruments	**2,109**	2,185
Other	**2,029**	1,865
Total	**$17,045**	$16,981

In the table above:

- Money market instruments primarily includes time deposits and investments in money market funds.
- Other included $1.55 billion as of September 2021 and $1.31 billion as of December 2020 of investments in credit funds that are measured at NAV.

Investments in Funds at Net Asset Value Per Share. Equity securities and debt instruments, at fair value include investments in funds that are measured at NAV of the investment fund. The firm uses NAV to measure the fair value of fund investments when (i) the fund investment does not have a readily determinable fair value and (ii) the NAV of the investment fund is calculated in a manner consistent with the measurement principles of investment company accounting, including measurement of the investments at fair value.

Substantially all of the firm's investments in funds at NAV consist of investments in firm-sponsored private equity, credit, real estate and hedge funds where the firm co-invests with third-party investors.

Private equity funds primarily invest in a broad range of industries worldwide, including leveraged buyouts, recapitalizations, growth investments and distressed investments. Credit funds generally invest in loans and other fixed income instruments and are focused on providing private high-yield capital for leveraged and management buyout transactions, recapitalizations, financings, refinancings, acquisitions and restructurings for private equity firms, private family companies and corporate issuers. Real estate funds invest globally, primarily in real estate companies, loan portfolios, debt recapitalizations and property. Private equity, credit and real estate funds are closed-end funds in which the firm's investments are generally not eligible for redemption. Distributions will be received from these funds as the underlying assets are liquidated or distributed, the timing of which is uncertain.

The firm also invests in hedge funds, primarily multi-disciplinary hedge funds that employ a fundamental bottom-up investment approach across various asset classes and strategies. The firm's investments in hedge funds primarily include interests where the underlying assets are illiquid in nature, and proceeds from redemptions will not be received until the underlying assets are liquidated or distributed, the timing of which is uncertain.

Private equity and hedge funds described above are primarily "covered funds" as defined in the Volcker Rule of the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act). Substantially all of the credit and real estate funds described above are not covered funds. The Board of Governors of the Federal Reserve System (FRB) extended the conformance period to July 2022 for the firm's investments in, and relationships with, certain legacy "illiquid funds" (as defined in the Volcker Rule) that were in place prior to December 2013. This extension is applicable to substantially all of the firm's remaining investments in, and relationships with, such covered funds. As of September 2021, the firm's total investments in funds at NAV of $3.92 billion included $1.63 billion of investments that were in covered funds.

The firm expects to achieve compliance for these covered funds through ongoing harvesting of underlying fund investments in the ordinary course or through structural modifications to these funds. To the extent that the firm is not able to achieve compliance through these measures, the firm will be required to sell its interests in such funds by July 2022. If that occurs, the firm may receive a value for its interests that is less than the then carrying value as there could be a limited secondary market for these investments and the firm may be unable to sell them in orderly transactions.

The table below presents the fair value of investments in funds at NAV and the related unfunded commitments.

$ in millions	Fair Value of Investments	Unfunded Commitments
As of September 2021		
Private equity funds	**$2,001**	**$ 626**
Credit funds	**1,547**	**743**
Hedge funds	**84**	**–**
Real estate funds	**285**	**204**
Total	**$3,917**	**$1,573**
As of December 2020		
Private equity funds	$2,042	$ 557
Credit funds	1,312	680
Hedge funds	102	–
Real estate funds	208	213
Total	$3,664	$1,450

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) unless designated in a fair value hedging relationship. See Note 7 for information about available-for-sale securities that are designated in a hedging relationship.

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			
Less than 1 year	**$ 25**	**$ 25**	**0.03%**
1 year to 5 years	**37,056**	**36,946**	**0.47%**
5 years to 10 years	**5,339**	**5,270**	**0.92%**
Total U.S. government obligations	**42,420**	**42,241**	**0.53%**
5 years to 10 years	**2,431**	**2,344**	**0.25%**
Total non-U.S. government obligations	**2,431**	**2,344**	**0.25%**
Total available-for-sale securities	**$44,851**	**$44,585**	**0.51%**
As of December 2020			
Less than 1 year	$ 25	$ 25	0.08%
1 year to 5 years	35,831	36,158	0.70%
5 years to 10 years	7,454	7,732	1.19%
Total U.S. government obligations	43,310	43,915	0.78%
5 years to 10 years	1,739	1,744	0.10%
Greater than 10 years	353	357	0.74%
Total non-U.S. government obligations	2,092	2,101	0.21%
Total available-for-sale securities	$45,402	$46,016	0.76%

In the table above:

- Available-for-sale securities were classified in level 1 of the fair value hierarchy as of both September 2021 and December 2020.
- The firm sold available-for-sale securities of $11.47 billion (realized gains of $54 million) during the three months ended September 2021 and $24.89 billion (realized gains of $187 million) during the nine months ended September 2021. There were no sales of available-for-sale securities during the three months ended September 2020 and the firm sold $3.49 billion (realized gains of $319 million) during the 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 $166 million and the gross unrealized losses included in accumulated other comprehensive income/(loss) were $432 million as of September 2021 and primarily related to U.S. government obligations in a continuous unrealized loss position for less than a year. The gross unrealized gains included in accumulated other comprehensive income/(loss) were $631 million and the gross unrealized losses included in accumulated other comprehensive income/(loss) were not material 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 firm 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 firm 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				
Government and agency obligations:				
U.S.	**$42,241**	**$ –**	**$ –**	**$42,241**
Non-U.S.	**2,346**	**48**	**–**	**2,394**
Corporate debt securities	**65**	**6,383**	**4,277**	**10,725**
Securities backed by real estate	**–**	**1,094**	**1,088**	**2,182**
Money market instruments	**787**	**1,322**	**–**	**2,109**
Other debt obligations	**–**	**45**	**387**	**432**
Equity securities	**941**	**8,101**	**7,927**	**16,969**
Subtotal	**$46,380**	**$16,993**	**$13,679**	**$77,052**
Investments in funds at NAV				**3,917**
Total investments				**$80,969**
As of December 2020				
Government and agency obligations:				
U.S.	$43,915	$ –	$ –	$43,915
Non-U.S.	2,109	48	–	2,157
Corporate debt securities	70	5,635	5,286	10,991
Securities backed by real estate	–	942	998	1,940
Money market instruments	781	1,404	–	2,185
Other debt obligations	–	–	497	497
Equity securities	517	7,270	9,642	17,429
Subtotal	$47,392	$15,299	$16,423	$79,114
Investments in funds at NAV				3,664
Total investments				$82,778

See Note 4 for an overview of the firm'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
Corporate debt securities				
Level 3 assets	**$4,277**		$5,286	
Yield	**6.9% to 14.6%**	**9.8%**	4.5% to 19.5%	10.2%
Recovery rate	**9.1% to 76.0%**	**56.8%**	10.0% to 70.0%	50.7%
Duration (years)	**3.0 to 9.4**	**4.6**	3.0 to 7.7	4.2
Multiples	**0.5x to 36.1x**	**8.2x**	0.6x to 29.3x	6.9x
Securities backed by real estate				
Level 3 assets	**$1,088**		$998	
Yield	**8.3% to 20.3%**	**13.5%**	8.2% to 52.4%	17.5%
Recovery rate	**56.8% to 69.0%**	**59.9%**	21.6% to 57.8%	33.7%
Duration (years)	**0.4 to 2.8**	**1.4**	0.4 to 3.6	2.7
Other debt obligations				
Level 3 assets	**$387**		$497	
Yield	**2.2% to 10.1%**	**2.9%**	1.7% to 6.2%	3.5%
Duration (years)	**1.2 to 6.3**	**4.3**	0.2 to 10.3	6.4
Equity securities				
Level 3 assets	**$7,927**		$9,642	
Multiples	**0.4x to 23.2x**	**10.8x**	0.6x to 27.9x	9.0x
Discount rate/yield	**4.8% to 54.2%**	**15.9%**	4.0% to 38.5%	13.5%
Capitalization rate	**4.2% to 14.0%**	**6.3%**	3.7% to 14.1%	6.3%

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 multiple 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.
- Increases in yield, discount rate, capitalization rate or duration used in the valuation of level 3 investments would have resulted in a lower fair value measurement, while increases in recovery rate or multiples would have resulted in a higher fair value measurement as of both September 2021 and December 2020. Due to the distinctive nature of each level 3 investment, the interrelationship of inputs is not necessarily uniform within each product type.
- Corporate debt securities, securities backed by real estate and other debt obligations are valued using discounted cash flows, and 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.

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	**$16,332**	$17,916	**$16,423**	$15,282
Net realized gains/(losses)	**78**	128	**184**	238
Net unrealized gains/(losses)	**155**	534	**1,244**	(808)
Purchases	**496**	405	**1,467**	1,250
Sales	**(478)**	(269)	**(1,070)**	(1,379)
Settlements	**(831)**	(686)	**(2,421)**	(1,180)
Transfers into level 3	**806**	230	**1,843**	5,373
Transfers out of level 3	**(2,879)**	(984)	**(3,991)**	(1,502)
Ending balance	**$13,679**	$17,274	**$13,679**	$17,274

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
Corporate debt securities				
Beginning balance	**$ 4,958**	$ 6,572	**$ 5,286**	$ 3,465
Net realized gains/(losses)	**33**	48	**150**	115
Net unrealized gains/(losses)	**47**	142	**302**	(263)
Purchases	**101**	137	**374**	401
Sales	**(204)**	(22)	**(383)**	(215)
Settlements	**(601)**	(386)	**(1,254)**	(553)
Transfers into level 3	**529**	121	**1,120**	3,234
Transfers out of level 3	**(586)**	(761)	**(1,318)**	(333)
Ending balance	**$ 4,277**	$ 5,851	**$ 4,277**	$ 5,851
Securities backed by real estate				
Beginning balance	**$ 1,117**	$ 880	**$ 998**	$ 595
Net realized gains/(losses)	**12**	12	**29**	32
Net unrealized gains/(losses)	**(11)**	16	**25**	(97)
Purchases	**14**	35	**212**	124
Sales	**(19)**	–	**(43)**	–
Settlements	**(51)**	(11)	**(247)**	(43)
Transfers into level 3	**26**	–	**114**	323
Transfers out of level 3	**–**	(2)	**–**	(4)
Ending balance	**$ 1,088**	$ 930	**$ 1,088**	$ 930
Other debt obligations				
Beginning balance	**$ 502**	$ 429	**$ 497**	$ 319
Net realized gains/(losses)	**4**	4	**9**	10
Net unrealized gains/(losses)	**1**	3	**1**	–
Purchases	**10**	27	**32**	45
Sales	**(1)**	(2)	**(3)**	(4)
Settlements	**(33)**	(6)	**(54)**	(9)
Transfers into level 3	**–**	–	**–**	94
Transfers out of level 3	**(96)**	–	**(95)**	–
Ending balance	**$ 387**	$ 455	**$ 387**	$ 455
Equity securities				
Beginning balance	**$ 9,755**	$10,035	**$ 9,642**	$10,903
Net realized gains/(losses)	**29**	64	**(4)**	81
Net unrealized gains/(losses)	**118**	373	**916**	(448)
Purchases	**371**	206	**849**	680
Sales	**(254)**	(245)	**(641)**	(1,160)
Settlements	**(146)**	(283)	**(866)**	(575)
Transfers into level 3	**251**	109	**609**	1,722
Transfers out of level 3	**(2,197)**	(221)	**(2,578)**	(1,165)
Ending balance	**$ 7,927**	$10,038	**$ 7,927**	$10,038

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 investments of $233 million (reflecting $78 million of net realized gains and $155 million of net unrealized gains) for the three months ended September 2021 included gains of $183 million reported in other principal transactions and $50 million reported in interest income.

The net unrealized gains on level 3 investments for the three months ended September 2021 primarily reflected gains on certain private equity securities (principally driven by corporate performance and company-specific events).

Transfers into level 3 investments during the three months ended September 2021 primarily reflected transfers of certain corporate debt securities and private equity securities from level 2 (in each case, principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

Transfers out of level 3 investments during the three months ended September 2021 primarily reflected transfers of certain private equity securities to level 2 (principally due to increased price transparency as a result of market evidence, including market transactions in these instruments) and 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, and increased price transparency as a result of market evidence, including market transactions in these instruments).

Nine Months Ended September 2021. The net realized and unrealized gains on level 3 investments of $1.43 billion (reflecting $184 million of net realized gains and $1.24 billion of net unrealized gains) for the nine months ended September 2021 included gains of $1.29 billion reported in other principal transactions and $135 million reported in interest income.

The net unrealized gains on level 3 investments for the nine months ended September 2021 primarily reflected gains on certain private equity securities and corporate debt securities (in each case, principally driven by corporate performance and company-specific events).

Transfers into level 3 investments during the nine months ended September 2021 primarily reflected transfers of certain corporate debt securities from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments, and certain unobservable yield and duration inputs becoming significant to the valuation of these instruments) and transfers of certain private equity securities from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

Transfers out of level 3 investments during the nine months ended September 2021 primarily reflected transfers of certain private equity securities to level 2 (principally due to increased price transparency as a result of market evidence, including market transactions in these instruments) and 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, and increased price transparency as a result of market evidence, including market transactions of these instruments).

Three Months Ended September 2020. The net realized and unrealized gains on level 3 investments of $662 million (reflecting $128 million of net realized gains and $534 million of net unrealized gains) for the three months ended September 2020 included gains of $584 million reported in other principal transactions and $78 million reported in interest income.

The net unrealized gains on level 3 investments for the three months ended September 2020 primarily reflected gains on certain private equity securities and corporate debt securities (in each case, principally driven by corporate performance).

Transfers into level 3 investments during the three months ended September 2020 primarily reflected transfers of certain corporate debt securities and private equity securities from level 2 (in each case, principally due to reduced price transparency as a result of a lack of market evidence, including fewer transactions in these instruments).

Transfers out of level 3 investments during the three months ended September 2020 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) and certain private equity securities 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 2020. The net realized and unrealized losses on level 3 investments of $570 million (reflecting $238 million of net realized gains and $808 million of net unrealized losses) for the nine months ended September 2020 included gains/(losses) of $(737) million reported in other principal transactions and $167 million reported in interest income.

The net unrealized losses on level 3 investments for the nine months ended September 2020 primarily reflected losses on certain private equity securities and corporate debt securities (in each case, principally driven by corporate performance).

Transfers into level 3 investments during the nine months ended September 2020 primarily reflected transfers of certain corporate debt securities and private equity securities from level 2 (in each case, principally due to reduced price transparency as a result of a lack of market evidence, including fewer transactions in these instruments).

Transfers out of level 3 investments during the nine months ended September 2020 primarily reflected transfers of certain private equity securities to level 2 (principally due to increased price transparency as a result of market evidence, including market transactions in these instruments) and 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).

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 type and tenor.

$ in millions	Amortized Cost	Fair Value	Weighted Average Yield
As of September 2021			
Less than 1 year	**$ 504**	**$ 507**	**2.55%**
1 year to 5 years	**4,038**	**4,242**	**2.30%**
Total U.S. government obligations	**4,542**	**4,749**	**2.33%**
5 years to 10 years	**3**	**3**	**2.64%**
Greater than 10 years	**660**	**686**	**1.00%**
Total securities backed by real estate	**663**	**689**	**1.02%**
Total held-to-maturity securities	**$5,205**	**$5,438**	**2.16%**
As of December 2020			
Less than 1 year	$ 501	$ 513	2.53%
1 year to 5 years	2,529	2,695	2.34%
5 years to 10 years	1,531	1,675	2.25%
Total U.S. government obligations	4,561	4,883	2.33%
5 years to 10 years	4	3	2.56%
Greater than 10 years	736	751	1.08%
Total securities backed by real estate	740	754	1.08%
Total held-to-maturity securities	$5,301	$5,637	2.15%

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 firm's fair value hierarchy in Notes 4 through 10. Had these securities been included in the firm's fair value hierarchy, U.S. government 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 $233 million as of September 2021 and $340 million as of December 2020. The gross unrealized losses were not material as of both September 2021 and December 2020.
- Held-to-maturity securities are reviewed to determine if an allowance for credit losses should be recorded in the consolidated statements of earnings. The firm considers various factors in such determination, including market conditions, changes in issuer credit ratings, historical credit losses and sovereign guarantees. Provision for credit losses on such securities was not material during either the three or nine months ended September 2021 or September 2020.

Note 9.

Loans

Loans include (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	**$ 48,943**	**$ 3,020**	**$2,144**	**$ 54,107**
Wealth management	**35,159**	**6,616**	**–**	**41,775**
Commercial real estate	**17,892**	**1,655**	**2,160**	**21,707**
Residential real estate	**12,356**	**351**	**652**	**13,359**
Consumer:				
Installment	**3,449**	**–**	**–**	**3,449**
Credit cards	**6,251**	**–**	**–**	**6,251**
Other	**5,308**	**462**	**538**	**6,308**
Total loans, gross	**129,358**	**12,104**	**5,494**	**146,956**
Allowance for loan losses	**(3,332)**	**–**	**–**	**(3,332)**
Total loans	**$126,026**	**$12,104**	**$5,494**	**$143,624**
As of December 2020				
Loan Type				
Corporate	$ 44,778	$ 2,751	$1,130	$ 48,659
Wealth management	25,151	7,872	–	33,023
Commercial real estate	17,096	1,961	1,233	20,290
Residential real estate	5,236	494	20	5,750
Consumer:				
Installment	3,823	–	–	3,823
Credit cards	4,270	–	–	4,270
Other	3,211	547	416	4,174
Total loans, gross	103,565	13,625	2,799	119,989
Allowance for loan losses	(3,874)	–	–	(3,874)
Total loans	$ 99,691	$13,625	$2,799	$116,115

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 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. These 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.
- **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 firm.
- **Residential Real Estate.** Residential real estate loans primarily includes loans extended by the firm to clients (other than those extended to private bank clients) who warehouse assets that are directly or indirectly secured by residential real estate and loans purchased by the firm.
- **Installment.** Installment loans are unsecured and are originated by the firm.
- **Credit Cards.** Credit card loans are loans made pursuant to revolving lines of credit issued to consumers by the firm.
- **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 and credit card loans purchased by the firm.

Credit Quality

Risk Assessment. The firm's risk assessment process includes evaluating the credit quality of its loans. For corporate loans and a majority of wealth management, real estate and other loans, the firm 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.

Notes to Consolidated Financial Statements (Unaudited)

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	**$47,429**	**$67,434**	**$14,495**	**$129,358**
Fair value	**2,502**	**5,279**	**4,323**	**12,104**
Held for sale	**1,151**	**4,163**	**180**	**5,494**
Total	**$51,082**	**$76,876**	**$18,998**	**$146,956**
Loan Type				
Corporate	**$14,048**	**$39,809**	**$ 250**	**$ 54,107**
Wealth management	**29,631**	**5,595**	**6,549**	**41,775**
Real estate:				
Commercial	**3,463**	**17,903**	**341**	**21,707**
Residential	**1,247**	**11,051**	**1,061**	**13,359**
Consumer:				
Installment	**–**	**–**	**3,449**	**3,449**
Credit cards	**–**	**–**	**6,251**	**6,251**
Other	**2,693**	**2,518**	**1,097**	**6,308**
Total	**$51,082**	**$76,876**	**$18,998**	**$146,956**
Secured	**87%**	**92%**	**42%**	**84%**
Unsecured	**13%**	**8%**	**58%**	**16%**
Total	**100%**	**100%**	**100%**	**100%**
As of December 2020				
Accounting Method				
Amortized cost	$33,532	$58,250	$11,783	$103,565
Fair value	2,084	5,925	5,616	13,625
Held for sale	224	2,152	423	2,799
Total	$35,840	$66,327	$17,822	$119,989
Loan Type				
Corporate	$ 9,478	$38,704	$ 477	$ 48,659
Wealth management	22,098	5,331	5,594	33,023
Real estate:				
Commercial	1,792	17,480	1,018	20,290
Residential	636	3,852	1,262	5,750
Consumer:				
Installment	–	–	3,823	3,823
Credit cards	–	–	4,270	4,270
Other	1,836	960	1,378	4,174
Total	$35,840	$66,327	$17,822	$119,989
Secured	83%	90%	46%	82%
Unsecured	17%	10%	54%	18%
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, and real estate loans included in the other metrics/unrated category primarily consists of purchased loans. The firm'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 firm to assess the updated creditworthiness of the borrower. See "Vintage" below for information about installment and credit card loans by FICO credit scores.

The firm 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 89% of loans as of September 2021 and 85% of loans as of December 2020 that were rated pass/non-criticized.

Notes to Consolidated Financial Statements (Unaudited)

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	**$ 2,910**	**$ 8,217**	**$ –**	**$ 11,127**
2020	**2,241**	**5,263**	**19**	**7,523**
2019	**458**	**4,377**	**–**	**4,835**
2018	**1,853**	**2,965**	**–**	**4,818**
2017	**755**	**2,029**	**–**	**2,784**
2016 or earlier	**258**	**2,157**	**–**	**2,415**
Revolving	**4,127**	**11,249**	**65**	**15,441**
Corporate	**12,602**	**36,257**	**84**	**48,943**
2021	**967**	**618**	**875**	**2,460**
2020	**537**	**248**	**–**	**785**
2019	**636**	**400**	**–**	**1,036**
2018	**320**	**106**	**–**	**426**
2017	**369**	**31**	**–**	**400**
2016 or earlier	**578**	**247**	**–**	**825**
Revolving	**24,796**	**2,273**	**2,158**	**29,227**
Wealth management	**28,203**	**3,923**	**3,033**	**35,159**
2021	**329**	**2,715**	**33**	**3,077**
2020	**322**	**2,194**	**–**	**2,516**
2019	**72**	**1,460**	**–**	**1,532**
2018	**212**	**1,055**	**–**	**1,267**
2017	**453**	**740**	**–**	**1,193**
2016 or earlier	**419**	**741**	**17**	**1,177**
Revolving	**1,096**	**6,034**	**–**	**7,130**
Commercial real estate	**2,903**	**14,939**	**50**	**17,892**
2021	**381**	**43**	**191**	**615**
2020	**287**	**274**	**110**	**671**
2019	**–**	**3**	**205**	**208**
2018	**–**	**93**	**177**	**270**
2017	**8**	**53**	**127**	**188**
2016 or earlier	**–**	**1**	**58**	**59**
Revolving	**435**	**9,910**	**–**	**10,345**
Residential real estate	**1,111**	**10,377**	**868**	**12,356**
2021	**104**	**428**	**246**	**778**
2020	**–**	**75**	**400**	**475**
2019	**–**	**31**	**21**	**52**
2018	**–**	**33**	**–**	**33**
2017	**–**	**6**	**9**	**15**
Revolving	**2,506**	**1,365**	**84**	**3,955**
Other	**2,610**	**1,938**	**760**	**5,308**
Total	**$47,429**	**$67,434**	**$4,795**	**$119,658**
Percentage of total	**40%**	**56%**	**4%**	**100%**

	As of December 2020			
$ in millions	Investment-Grade	Non-Investment-Grade	Other Metrics/ Unrated	Total
2020	$ 1,978	$ 7,545	$ 140	$ 9,663
2019	889	6,106	–	6,995
2018	2,076	3,555	–	5,631
2017	851	3,083	–	3,934
2016	268	1,262	–	1,530
2015 or earlier	351	2,073	–	2,424
Revolving	2,662	11,891	48	14,601
Corporate	9,075	35,515	188	44,778
2020	497	313	–	810
2019	723	403	–	1,126
2018	298	87	–	385
2017	377	30	–	407
2016	22	20	–	42
2015 or earlier	531	264	–	795
Revolving	18,077	2,085	1,424	21,586
Wealth management	20,525	3,202	1,424	25,151
2020	848	3,071	55	3,974
2019	76	1,965	–	2,041
2018	137	2,164	25	2,326
2017	26	1,734	12	1,772
2016	–	165	9	174
2015 or earlier	–	775	526	1,301
Revolving	461	5,047	–	5,508
Commercial real estate	1,548	14,921	627	17,096
2020	402	976	115	1,493
2019	–	90	271	361
2018	–	123	249	372
2017	9	83	152	244
2016	–	1	–	1
2015 or earlier	–	–	70	70
Revolving	225	2,470	–	2,695
Residential real estate	636	3,743	857	5,236
2020	242	84	466	792
2019	–	67	29	96
2018	–	46	–	46
2017	–	8	–	8
Revolving	1,506	664	99	2,269
Other	1,748	869	594	3,211
Total	$33,532	$58,250	$3,690	$95,472
Percentage of total	35%	61%	4%	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	**$ 54,107**	**56%**	**36%**	**8%**	**100%**
Wealth management	**41,775**	**86%**	**11%**	**3%**	**100%**
Commercial real estate	**21,707**	**75%**	**19%**	**6%**	**100%**
Residential real estate	**13,359**	**92%**	**5%**	**3%**	**100%**
Consumer:					
Installment	**3,449**	**100%**	**–**	**–**	**100%**
Credit cards	**6,251**	**100%**	**–**	**–**	**100%**
Other	**6,308**	**88%**	**10%**	**2%**	**100%**
Total	**$146,956**	**75%**	**20%**	**5%**	**100%**
As of December 2020					
Corporate	$ 48,659	60%	31%	9%	100%
Wealth management	33,023	88%	10%	2%	100%
Commercial real estate	20,290	71%	19%	10%	100%
Residential real estate	5,750	88%	9%	3%	100%
Consumer:					
Installment	3,823	100%	–	–	100%
Credit cards	4,270	100%	–	–	100%
Other	4,174	81%	17%	2%	100%
Total	$119,989	75%	19%	6%	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 20% for technology, media & telecommunications (17% as of December 2020), 19% for funds (13% as of December 2020), 15% for diversified industrials (17% as of December 2020), 8% for natural resources & utilities (12% as of December 2020), and 8% for financial institutions (10% 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 firm 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 firm 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 firm 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 $219 million as of September 2021 and were $184 million as of 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	**$ –**	**$121**	**$121**
Wealth management	**4**	**46**	**50**
Commercial real estate	**33**	**101**	**134**
Residential real estate	**1**	**5**	**6**
Consumer:			
Installment	**20**	**8**	**28**
Credit cards	**66**	**52**	**118**
Other	**17**	**9**	**26**
Total	**$141**	**$342**	**$483**
Total divided by gross loans at amortized cost			**0.4%**
As of December 2020			
Corporate	$ –	$294	$294
Wealth management	58	34	92
Commercial real estate	49	183	232
Residential real estate	4	23	27
Consumer:			
Installment	42	16	58
Credit cards	46	31	77
Other	20	4	24
Total	$219	$585	$804
Total divided by gross loans at amortized cost			0.8%

The table below presents information about nonaccrual loans.

	As of	
$ in millions	**September 2021**	December 2020
Corporate	**$1,739**	$2,651
Wealth management	**39**	61
Commercial real estate	**874**	649
Residential real estate	**12**	25
Installment	**45**	44
Other	**–**	122
Total	**$2,709**	$3,552
Total divided by gross loans at amortized cost	**2.1%**	3.4%

In the table above:

- Nonaccrual loans included $237 million as of September 2021 and $533 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 $307 million as of September 2021 and $315 million as of December 2020 of corporate and commercial real estate loans that were modified in a TDR. The firm'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 firm'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 firm classifies its loans and lending commitments accounted for at amortized cost into wholesale and consumer portfolios. These portfolios represent the level at which the firm 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 firm applies judgment in weighing individual scenarios each quarter based on a variety of factors, including the firm'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 firm's independent risk oversight and control functions. Personnel within the firm'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		December 2020	
$ in millions	**Loans**	**Lending Commitments**	Loans	Lending Commitments
Wholesale				
Corporate	**$ 48,943**	**$150,464**	$ 44,778	$127,756
Wealth management	**35,159**	**4,014**	25,151	2,314
Commercial real estate	**17,892**	**4,183**	17,096	4,154
Residential real estate	**12,356**	**2,785**	5,236	1,804
Other	**5,308**	**5,183**	3,211	4,841
Consumer				
Installment	**3,449**	**11**	3,823	4
Credit cards	**6,251**	**31,718**	4,270	21,640
Total	**$129,358**	**$198,358**	$103,565	$162,513

In the table above:

- Wholesale loans included $2.66 billion as of September 2021 and $3.51 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 $575 million as of September 2021 and $649 million as of December 2020. These loans included $161 million as of September 2021 and $584 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 firm to consumers. These credit card lines are cancellable by the firm. 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 firm 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 firm.

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	**$2,173**	**$1,098**	**$3,271**
Net (charge-offs)/recoveries	**(40)**	**(36)**	**(76)**
Provision	**25**	**139**	**164**
Other	**(27)**	**–**	**(27)**
Ending balance	**$2,131**	**$1,201**	**$3,332**
Allowance ratio	**1.8%**	**12.4%**	**2.6%**
Net charge-off ratio	**0.1%**	**1.6%**	**0.2%**
Allowance for losses on lending commitments			
Beginning balance	**$ 636**	**$ 186**	**$ 822**
Provision	**13**	**(2)**	**11**
Ending balance	**$ 649**	**$ 184**	**$ 833**
Three Months Ended September 2020			
Allowance for loan losses			
Beginning balance	$2,757	$1,144	$3,901
Net (charge-offs)/recoveries	(277)	(63)	(340)
Provision	102	51	153
Ending balance	$2,582	$1,132	$3,714
Allowance ratio	2.8%	16.1%	3.7%
Net charge-off ratio	1.2%	3.7%	1.3%
Allowance for losses on lending commitments			
Beginning balance	$ 490	$ –	$ 490
Provision	125	–	125
Ending balance	$ 615	$ –	$ 615
Nine Months Ended September 2021			
Allowance for loan losses			
Beginning balance	**$2,584**	**$1,290**	**$3,874**
Net (charge-offs)/recoveries	**(49)**	**(153)**	**(202)**
Provision	**(345)**	**64**	**(281)**
Other	**(59)**	**–**	**(59)**
Ending balance	**$2,131**	**$1,201**	**$3,332**
Allowance ratio	**1.8%**	**12.4%**	**2.6%**
Net charge-off ratio	**0.1%**	**2.4%**	**0.2%**
Allowance for losses on lending commitments			
Beginning balance	**$ 557**	**$ –**	**$ 557**
Provision	**110**	**184**	**294**
Other	**(18)**	**–**	**(18)**
Ending balance	**$ 649**	**$ 184**	**$ 833**
Nine Months Ended September 2020			
Allowance for loan losses			
Beginning balance	$1,331	$ 837	$2,168
Net (charge-offs)/recoveries	(501)	(230)	(731)
Provision	1,977	525	2,502
Other	(225)	–	(225)
Ending balance	$2,582	$1,132	$3,714
Allowance ratio	2.8%	16.1%	3.7%
Net charge-off ratio	0.7%	4.5%	1.0%
Allowance for losses on lending commitments			
Beginning balance	$ 313	$ –	$ 313
Provision	302	–	302
Ending balance	$ 615	$ –	$ 615

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 $679 million, which consisted of (i) an increase in the allowance for loan losses of $727 million (an increase in the allowance for wholesale loans of $452 million, an increase in the allowance for consumer loans of $444 million and a decrease in the allowance for PCI loans of $169 million) and (ii) a decrease in the allowance for lending commitments of $48 million.

As of December 2020, the allowance ratio was 2.7% for wholesale, 15.9% for consumer and 3.7% for total loans. The net charge-off ratio for the year ended December 2020 was 0.6% for wholesale, 4.2% for consumer and 0.9% for total loans.

Allowance for Credit Losses Rollforward Commentary

Three Months Ended September 2021. The allowance for credit losses increased by $72 million during the three months ended September 2021.

The provision for credit losses reflected growth in the firm'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 primarily related to corporate loans 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 $266 million during the nine months ended September 2021.

The provision for credit losses reflected growth in the firm'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 primarily related to corporate loans 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 firm 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 $62 million during the three months ended September 2020.

The provision for credit losses reflected ratings downgrades and asset-specific provisions related to wholesale loans (relating to borrowers in the technology, media & telecommunications, diversified industrials and natural resources industries), and growth in consumer loans, partially offset by reserve reductions from paydowns on corporate lines of credit.

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 $2.53 billion during the nine months ended September 2020 reflecting $679 million relating to the impact of CECL adoption and $1.85 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	**$ –**	**$ 2,245**	**$ 775**	**$ 3,020**
Wealth management	**–**	**6,553**	**63**	**6,616**
Commercial real estate	**–**	**719**	**936**	**1,655**
Residential real estate	**–**	**185**	**166**	**351**
Other	**–**	**203**	**259**	**462**
Total	**$ –**	**$ 9,905**	**$2,199**	**$12,104**
As of December 2020				
Loan Type				
Corporate	$ –	$ 1,822	$ 929	$ 2,751
Wealth management	–	7,809	63	7,872
Commercial real estate	–	857	1,104	1,961
Residential real estate	–	234	260	494
Other	–	225	322	547
Total	$ –	$10,947	$2,678	$13,625

The gains as a result of changes in the fair value of loans held for investment for which the fair value option was elected were $30 million for the three months ended September 2021, $64 million for the three months ended September 2020, $223 million for the nine months ended September 2021 and $49 million for the nine months ended September 2020. These gains were included in other principal transactions.

See Note 4 for an overview of the firm'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	**$775**		$929	
Yield	**2.3% to 40.3%**	**8.9%**	1.1% to 45.2%	12.4%
Recovery rate	**20.0% to 94.4%**	**56.0%**	15.0% to 58.0%	31.0%
Duration (years)	**1.7 to 4.5**	**3.2**	1.5 to 5.3	3.4
Commercial real estate				
Level 3 assets	**$936**		$1,104	
Yield	**7.0% to 25.4%**	**14.4%**	4.5% to 19.3%	11.0%
Recovery rate	**2.5% to 99.5%**	**39.6%**	3.0% to 99.8%	66.5%
Duration (years)	**0.2 to 4.1**	**1.4**	0.3 to 4.8	2.6
Residential real estate				
Level 3 assets	**$166**		$260	
Yield	**2.0% to 13.5%**	**11.0%**	2.0% to 14.0%	12.1%
Duration (years)	**0.4 to 2.4**	**0.9**	0.6 to 2.6	1.7
Wealth management and other				
Level 3 assets	**$322**		$385	
Yield	**3.5% to 18.7%**	**7.9%**	2.8% to 18.7%	8.0%
Duration (years)	**3.1 to 5.7**	**4.0**	0.9 to 5.5	4.1

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 residential real estate loans is appropriate for valuing a specific residential real estate loan but may not be appropriate for valuing any other residential real estate loan. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 loans.
- Increases in yield or duration used in the valuation of level 3 loans would have resulted in a lower fair value measurement, while increases in recovery rate would have resulted in a higher fair value measurement as of both September 2021 and December 2020. Due to the distinctive nature of each level 3 loan, the interrelationship of inputs is not necessarily uniform within each product type.
- Loans are valued using discounted cash flows.

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	**$2,229**	$2,659	**$2,678**	$1,890
Net realized gains/(losses)	**23**	23	**72**	60
Net unrealized gains/(losses)	**(16)**	76	**(31)**	34
Purchases	**74**	181	**140**	557
Sales	**(13)**	(17)	**(17)**	(31)
Settlements	**(181)**	(221)	**(555)**	(567)
Transfers into level 3	**93**	166	**181**	928
Transfers out of level 3	**(10)**	(40)	**(269)**	(44)
Ending balance	**$2,199**	$2,827	**$2,199**	$2,827

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

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	**$852**	$ 939	**$ 929**	$ 752
Net realized gains/(losses)	**11**	7	**21**	14
Net unrealized gains/(losses)	**(16)**	1	**(24)**	(5)
Purchases	**17**	132	**63**	184
Sales	**(13)**	(9)	**(13)**	(18)
Settlements	**(81)**	(58)	**(208)**	(110)
Transfers into level 3	**15**	23	**103**	230
Transfers out of level 3	**(10)**	(32)	**(96)**	(44)
Ending balance	**$775**	$1,003	**$ 775**	$1,003
Commercial real estate				
Beginning balance	**$920**	$1,084	**$1,104**	$ 591
Net realized gains/(losses)	**9**	11	**33**	38
Net unrealized gains/(losses)	**11**	43	**(15)**	4
Purchases	**–**	40	**19**	323
Sales	**–**	(5)	**(3)**	(10)
Settlements	**(82)**	(120)	**(227)**	(278)
Transfers into level 3	**78**	121	**78**	498
Transfers out of level 3	**–**	(8)	**(53)**	–
Ending balance	**$936**	$1,166	**$ 936**	$1,166
Residential real estate				
Beginning balance	**$118**	$ 268	**$ 260**	$ 221
Net realized gains/(losses)	**3**	3	**6**	7
Net unrealized gains/(losses)	**1**	11	**(36)**	8
Purchases	**57**	1	**58**	43
Sales	**–**	(2)	**(1)**	(2)
Settlements	**(13)**	(22)	**(45)**	(57)
Transfers into level 3	**–**	10	**–**	49
Transfers out of level 3	**–**	–	**(76)**	–
Ending balance	**$166**	$ 269	**$ 166**	$ 269
Wealth management and other				
Beginning balance	**$339**	$ 368	**$ 385**	$ 326
Net realized gains/(losses)	**–**	2	**12**	1
Net unrealized gains/(losses)	**(12)**	21	**44**	27
Purchases	**–**	8	**–**	7
Sales	**–**	(1)	**–**	(1)
Settlements	**(5)**	(21)	**(75)**	(122)
Transfers into level 3	**–**	12	**–**	151
Transfers out of level 3	**–**	–	**(44)**	–
Ending balance	**$322**	$ 389	**$ 322**	$ 389

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 loans of $7 million (reflecting $23 million of net realized gains and $16 million of net unrealized losses) for the three months ended September 2021 included losses of $7 million reported in other principal transactions and gains of $14 million reported in interest income.

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

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

Nine Months Ended September 2021. The net realized and unrealized gains on level 3 loans of $41 million (reflecting $72 million of net realized gains and $31 million of net unrealized losses) for the nine months ended September 2021 included gains of $15 million reported in other principal transactions and $26 million reported in interest income.

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

Transfers into level 3 loans during the nine months ended September 2021 primarily reflected transfers of certain corporate loans from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

Transfers out of level 3 loans during the nine months ended September 2021 primarily reflected transfers of certain corporate loans and 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).

Three Months Ended September 2020. The net realized and unrealized gains on level 3 loans of $99 million (reflecting $23 million of net realized gains and $76 million of net unrealized gains) for the three months ended September 2020 included gains of $86 million reported in other principal transactions and $13 million reported in interest income.

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

Transfers into level 3 loans during the three months ended September 2020 primarily reflected transfers of certain loans backed by commercial real estate from level 2 (principally due to certain unobservable inputs becoming significant to the valuation of these instruments) and transfers of certain other loans backed by commercial real estate from level 2 (principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

The drivers of transfers 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 $94 million (reflecting $60 million of net realized gains and $34 million of net unrealized gains) for the nine months ended September 2020 included gains of $70 million reported in other principal transactions and $24 million reported in interest income.

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

Transfers into level 3 loans during the nine months ended September 2020 primarily reflected transfers of certain loans backed by commercial real estate, corporate loans and wealth management and other loans from level 2 (in each case, principally due to reduced price transparency as a result of a lack of market evidence, including fewer market transactions in these instruments).

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

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 firm's fair value hierarchy.

	Carrying	Estimated Fair Value		
$ in millions	Value	Level 2	Level 3	Total
As of September 2021				
Amortized cost	**$126,026**	**$71,984**	**$55,179**	**$127,163**
Held for sale	**$ 5,494**	**$ 2,898**	**$ 2,618**	**$ 5,516**
As of December 2020				
Amortized cost	$ 99,691	$52,793	$48,512	$101,305
Held for sale	$ 2,799	$ 1,541	$ 1,271	$ 2,812

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 firm accounts for certain of its other financial assets and liabilities at fair value, substantially all 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 (e.g., physical commodities). If the firm elects to bifurcate the embedded derivative from the associated debt, the derivative is accounted for at fair value and the host contract is accounted for at amortized cost, adjusted for the effective portion of any fair value hedges. If the firm does not elect to bifurcate, the entire hybrid financial instrument is accounted for 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 securities borrowed and loaned transactions;
- Certain customer and other receivables and certain other liabilities;
- 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;
- Substantially all other secured financings, including transfers of assets accounted for as financings; and
- Certain unsecured short- and long-term borrowings, substantially all of which are hybrid financial instruments.

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	**$ –**	**$ 213,062**	**$ –**	**$ 213,062**
Securities borrowed	**–**	**34,437**	**–**	**34,437**
Customer and other receivables	**–**	**46**	**–**	**46**
Total	**$ –**	**$ 247,545**	**$ –**	**$ 247,545**
Liabilities				
Deposits	**$ –**	**$ (30,441)**	**$ (3,637)**	**$ (34,078)**
Repurchase agreements	**–**	**(167,339)**	**–**	**(167,339)**
Securities loaned	**–**	**(7,298)**	**–**	**(7,298)**
Other secured financings	**–**	**(15,568)**	**(2,640)**	**(18,208)**
Unsecured borrowings:				
Short-term	**–**	**(21,778)**	**(8,669)**	**(30,447)**
Long-term	**–**	**(38,654)**	**(9,226)**	**(47,880)**
Other liabilities	**–**	**(1)**	**(165)**	**(166)**
Total	**$ –**	**$(281,079)**	**$(24,337)**	**$(305,416)**
As of December 2020				
Assets				
Resale agreements	$ –	$ 108,060	$ –	$ 108,060
Securities borrowed	–	28,898	–	28,898
Customer and other receivables	–	82	–	82
Total	$ –	$ 137,040	$ –	$ 137,040
Liabilities				
Deposits	$ –	$ (11,955)	$ (4,221)	$ (16,176)
Repurchase agreements	–	(126,569)	(2)	(126,571)
Securities loaned	–	(1,053)	–	(1,053)
Other secured financings	–	(20,652)	(3,474)	(24,126)
Unsecured borrowings:	–			
Short-term	–	(19,227)	(7,523)	(26,750)
Long-term	–	(28,335)	(12,576)	(40,911)
Other liabilities	–	(1)	(262)	(263)
Total	$ –	$(207,792)	$(28,058)	$(235,850)

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 firm'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.

Other Secured Financings. The ranges and weighted averages of significant unobservable inputs used to value level 3 other secured financings are presented below. These ranges and weighted averages exclude unobservable inputs that are only relevant to a single instrument, and therefore are not meaningful.

As of September 2021:

- Yield: 1.4% to 6.4% (weighted average: 2.5%)
- Duration: 0.9 to 7.4 years (weighted average: 3.9 years)

As of December 2020:

- Yield: 1.4% to 7.1% (weighted average: 2.7%)
- Duration: 1.4 to 8.0 years (weighted average: 4.0 years)

Generally, increases in yield or duration, in isolation, would have resulted in a lower fair value measurement as of period-end. Due to the distinctive nature of each of level 3 other secured financings, the interrelationship of inputs is not necessarily uniform across such financings. See Note 11 for further information about other secured financings.

Deposits, Unsecured Borrowings and Other Liabilities. Substantially all of the firm's deposits, unsecured short- and long-term borrowings, and other liabilities that are classified in level 3 are hybrid financial instruments. As the significant unobservable inputs used to value hybrid financial instruments primarily relate to the embedded derivative component of these deposits, unsecured borrowings and other liabilities, these unobservable inputs are incorporated in the firm's derivative disclosures in Note 7. See Note 13 for further information about deposits, Note 14 for further information about unsecured borrowings and Note 15 for further information about other liabilities.

Repurchase Agreements. As of September 2021, the firm had no level 3 repurchase agreements. As of December 2020, the firm's level 3 repurchase agreements were not material.

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	**$(28,136)**	$(25,963)	**$(28,058)**	$(21,036)
Net realized gains/(losses)	**(181)**	(112)	**(388)**	(244)
Net unrealized gains/(losses)	**819**	(354)	**822**	347
Issuances	**(4,856)**	(6,974)	**(11,797)**	(18,633)
Settlements	**6,742**	6,911	**13,325**	14,348
Transfers into level 3	**(570)**	(1,756)	**(745)**	(2,857)
Transfers out of level 3	**1,845**	344	**2,504**	171
Ending balance	**$(24,337)**	$(27,904)	**$(24,337)**	$(27,904)

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 below do not necessarily represent the overall impact on the firm'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	**$ (3,908)**	$ (4,217)	**$ (4,221)**	$ (4,023)
Net realized gains/(losses)	**(8)**	(4)	**(23)**	–
Net unrealized gains/(losses)	**74**	(68)	**(28)**	(142)
Issuances	**(144)**	(124)	**(341)**	(4,054)
Settlements	**307**	235	**904**	4,083
Transfers into level 3	**–**	(38)	**(23)**	(69)
Transfers out of level 3	**42**	66	**95**	55
Ending balance	**$ (3,637)**	$ (4,150)	**$ (3,637)**	$ (4,150)
Repurchase agreements				
Beginning balance	**$ –**	$ (10)	**$ (2)**	$ (30)
Net unrealized gains/(losses)	**–**	–	**–**	(2)
Settlements	**–**	8	**2**	30
Ending balance	**$ –**	$ (2)	**$ –**	$ (2)
Other secured financings				
Beginning balance	**$ (2,891)**	$ (1,773)	**$ (3,474)**	$ (386)
Net realized gains/(losses)	**3**	7	**(1)**	13
Net unrealized gains/(losses)	**30**	(67)	**71**	(12)
Issuances	**(43)**	(10)	**(101)**	(847)
Settlements	**414**	79	**657**	332
Transfers into level 3	**(233)**	(1,299)	**(243)**	(2,163)
Transfers out of level 3	**80**	–	**451**	–
Ending balance	**$ (2,640)**	$ (3,063)	**$ (2,640)**	$ (3,063)
Unsecured short-term borrowings				
Beginning balance	**$(11,461)**	$ (6,806)	**$ (7,523)**	$ (5,707)
Net realized gains/(losses)	**(112)**	(58)	**(168)**	(109)
Net unrealized gains/(losses)	**429**	(42)	**334**	458
Issuances	**(3,453)**	(4,879)	**(8,042)**	(7,605)
Settlements	**4,846**	4,295	**6,399**	5,571
Transfers into level 3	**(200)**	(280)	**(183)**	(234)
Transfers out of level 3	**1,282**	196	**514**	52
Ending balance	**$ (8,669)**	$ (7,574)	**$ (8,669)**	$ (7,574)
Unsecured long-term borrowings				
Beginning balance	**$ (9,714)**	$(12,837)	**$(12,576)**	$(10,741)
Net realized gains/(losses)	**(64)**	(64)	**(196)**	(171)
Net unrealized gains/(losses)	**289**	(167)	**348**	225
Issuances	**(1,216)**	(1,949)	**(3,313)**	(6,099)
Settlements	**1,175**	2,294	**5,363**	4,332
Transfers into level 3	**(137)**	(139)	**(296)**	(390)
Transfers out of level 3	**441**	82	**1,444**	64
Ending balance	**$ (9,226)**	$(12,780)	**$ (9,226)**	$(12,780)
Other liabilities				
Beginning balance	**$ (162)**	$ (320)	**$ (262)**	$ (149)
Net realized gains/(losses)	**–**	7	**–**	23
Net unrealized gains/(losses)	**(3)**	(10)	**97**	(180)
Issuances	**–**	(12)	**–**	(28)
Transfers into level 3	**–**	–	**–**	(1)
Ending balance	**$ (165)**	$ (335)	**$ (165)**	$ (335)

Level 3 Rollforward Commentary

Three Months Ended September 2021. The net realized and unrealized gains on level 3 other financial liabilities of $638 million (reflecting $181 million of net realized losses and $819 million of net unrealized gains) for the three months ended September 2021 included gains/(losses) of $599 million reported in market making, $19 million reported in other principal transactions and $(5) million reported in interest expense in the consolidated statements of earnings and $25 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 unsecured short- and long-term borrowings (principally due to higher levels of volatility and decreases in the market value of certain underlying equities).

Transfers into level 3 other financial liabilities during the three months ended September 2021 primarily reflected transfers of certain other secured financings from level 2 (principally due to reduced price transparency of certain yield and duration inputs used to value these instruments) and certain hybrid financial instruments included in unsecured short- and long-term borrowings from level 2 (principally due to reduced price transparency of certain volatility and correlation inputs used to value these instruments).

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 unsecured short- and long-term borrowings to level 2 (principally due to increased price transparency of certain volatility and correlation inputs used to value these instruments).

Nine Months Ended September 2021. The net realized and unrealized gains on level 3 other financial liabilities of $434 million (reflecting $388 million of net realized losses and $822 million of net unrealized gains) for the nine months ended September 2021 included gains/(losses) of $366 million reported in market making, $49 million reported in other principal transactions and $(14) million reported in interest expense in the consolidated statements of earnings and $33 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 nine months ended September 2021 primarily reflected gains on certain hybrid financial instruments included in unsecured long- and short-term borrowings (principally due to higher levels of volatility in certain underlying equities and an increase in interest rates, partially offset by an increase in global equity prices).

Transfers into level 3 other financial liabilities during the nine months ended September 2021 primarily reflected transfers of certain hybrid financial instruments included in unsecured long- and short-term borrowings from level 2 (principally due to reduced price transparency of certain volatility and correlation inputs used to value these instruments) and certain other secured financings from level 2 (principally due to reduced price transparency of certain yield and duration inputs used to value these instruments).

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 unsecured long- and short-term borrowings to level 2 (principally due to increased price transparency of certain volatility and correlation inputs used to value these instruments, and certain unobservable volatility inputs no longer being significant to the valuation of these instruments) and certain other secured financings to level 2 (principally due to increased price transparency of certain yield and duration inputs used to value these instruments).

Three Months Ended September 2020. The net realized and unrealized losses on level 3 other financial liabilities of $466 million (reflecting $112 million of net realized losses and $354 million of net unrealized losses) for the three months ended September 2020 included losses of $289 million reported in market making, $32 million reported in other principal transactions and $7 million reported in interest expense in the consolidated statements of earnings, and $138 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 unsecured long-term borrowings (principally due to an increase in global equity prices) and losses on certain hybrid financial instruments included in deposits and other secured financings (in each case, principally due to an increase in the market value of the underlying assets).

Transfers into level 3 other financial liabilities during the three months ended September 2020 primarily reflected transfers of certain other secured financings from level 2 (principally due to reduced price transparency of certain yield and duration inputs used to value these instruments) and certain hybrid financial instruments included in unsecured short- and long-term borrowings from level 2 (principally due to reduced price transparency of certain volatility and correlation inputs used to value these instruments).

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 unsecured short-term borrowings to level 2 (principally due to increased price transparency of certain volatility and correlation inputs used to value these instruments).

Nine Months Ended September 2020. The net realized and unrealized gains on level 3 other financial liabilities of $103 million (reflecting $244 million of net realized losses and $347 million of net unrealized gains) for the nine months ended September 2020 included gains/(losses) of $(38) million reported in market making, $27 million reported in other principal transactions and $(12) million reported in interest expense in the consolidated statements of earnings, and $126 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 nine months ended September 2020 primarily reflected gains on certain hybrid financial instruments included in unsecured short- and long-term borrowings (principally due to a decrease in global equity prices), partially offset by losses on certain other liabilities and hybrid financial instruments included in deposits (in each case, principally due to 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 other secured financings from level 2 (principally due to reduced price transparency of certain yield and duration inputs used to value these instruments) and certain hybrid financial instruments included in unsecured long- and short-term borrowings from level 2 (principally due to reduced price transparency of certain volatility and correlation inputs used to value these instruments).

The drivers of transfers out of level 3 other financial liabilities during the nine months ended September 2020 to level 2 were not material.

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
Unsecured short-term borrowings	**$ 875**	$(406)	**$ (935)**	$ 1,723
Unsecured long-term borrowings	**(128)**	(143)	**(1,830)**	(1,166)
Other	**54**	(152)	**(17)**	(246)
Total	**$ 801**	$(701)	**$(2,782)**	$ 311

In the table above:

- Gains/(losses) were primarily included in market making.
- Gains/(losses) exclude contractual interest, which is included in interest income and interest expense, for all instruments other than hybrid financial instruments. See Note 23 for further information about interest income and interest expense.
- Gains/(losses) included in unsecured short- and long-term borrowings were substantially all 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 firm had not elected to account for the entire hybrid financial instrument at fair value.
- Other primarily consists of gains/(losses) on customer and other receivables, deposits, other secured financings and other liabilities.
- 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 firm'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 market making. See Note 5 for further information about gains/(losses) from market making.

Long-Term Debt Instruments

The difference between the aggregate contractual principal amount and the related fair value of long-term other secured financings, for which the fair value option was elected, was not material as of both September 2021 and December 2020.

The fair value of unsecured long-term borrowings, for which the fair value option was elected, exceeded the related aggregate contractual principal amount by $290 million as of September 2021 and $445 million as of December 2020. The amounts above include both principal-protected and non-principal-protected long-term borrowings.

Debt Valuation Adjustment

The firm 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 firm'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)	**$92**	$(357)	**$222**	$576
DVA (net of tax)	**$67**	$(268)	**$165**	$428

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	
$ in millions	**September 2021**	December 2020
Performing loans		
Aggregate contractual principal in excess of fair value	**$ 1,430**	$ 958
Loans on nonaccrual status and/or more than 90 days past due		
Aggregate contractual principal in excess of fair value	**$10,279**	$10,526
Aggregate fair value	**$ 3,315**	$ 3,519

In the table above, the aggregate contractual principal amount of loans on nonaccrual status and/or more than 90 days past due (which excludes loans carried at zero fair value and considered uncollectible) exceeds the related fair value primarily because the firm regularly purchases loans, such as distressed loans, at values significantly below the contractual principal amounts.

The fair value of unfunded lending commitments for which the fair value option was elected was a liability of $39 million as of September 2021 and $25 million as of December 2020, and the related total contractual amount of these lending commitments was $1.78 billion as of September 2021 and $1.64 billion 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 $87 million for the three months ended September 2021, $73 million for the three months ended September 2020, $290 million for the nine months ended September 2021 and $(151) million for the nine months ended September 2020. The firm 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 firm 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 firm 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 23 for further information about interest income and interest expense.

Resale and Repurchase Agreements

A resale agreement is a transaction in which the firm 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 firm 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 (including "repos- and reverses-to-maturity") 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, and investment-grade sovereign obligations.

The firm receives financial instruments purchased under resale agreements and makes delivery of financial instruments sold under repurchase agreements. To mitigate credit exposure, the firm 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 firm 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 firm borrows securities from a counterparty in exchange for cash or securities. When the firm 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 firm lends securities to a counterparty in exchange for cash or securities. When the counterparty returns the securities, the firm returns the cash or securities posted as collateral. Interest is generally paid periodically over the life of the transaction.

The firm receives securities borrowed and makes delivery of securities loaned. To mitigate credit exposure, the firm 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 firm typically requires collateral with a fair value approximately equal to the carrying value of the securities borrowed transaction.

Securities borrowed and loaned within Fixed Income, Currency and Commodities (FICC) financing are recorded at fair value under the fair value option. See Note 10 for further information about securities borrowed and loaned accounted for at fair value.

Substantially all of securities borrowed and loaned within Equities financing are recorded based on the amount of cash collateral advanced or received plus accrued interest. The firm 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 firm's fair value hierarchy in Notes 4 through 10. Had these agreements been included in the firm'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	**$ 323,886**	**$ 191,023**	**$ 278,163**	**$ 45,886**
Counterparty netting	**(110,824)**	**(4,352)**	**(110,824)**	**(4,352)**
Total	**213,062**	**186,671**	**167,339**	**41,534**
Amounts not offset				
Counterparty netting	**(32,117)**	**(12,313)**	**(32,117)**	**(12,313)**
Collateral	**(178,668)**	**(164,478)**	**(131,121)**	**(28,295)**
Total	**$ 2,277**	**$ 9,880**	**$ 4,101**	**$ 926**
As of December 2020				
Included in the consolidated balance sheets				
Gross carrying value	$ 205,817	$ 147,593	$ 224,328	$ 27,054
Counterparty netting	(97,757)	(5,433)	(97,757)	(5,433)
Total	108,060	142,160	126,571	21,621
Amounts not offset				
Counterparty netting	(8,920)	(3,525)	(8,920)	(3,525)
Collateral	(96,140)	(132,893)	(116,819)	(17,693)
Total	$ 3,000	$ 5,742	$ 832	$ 403

In the table above:

- Substantially all of the gross carrying values of these arrangements are subject to enforceable netting agreements.
- Where the firm 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. See Note 4 for further information about the valuation techniques and significant inputs used to determine fair value.
- Securities borrowed included in the consolidated balance sheets of $34.44 billion as of September 2021 and $28.90 billion as of December 2020, and securities loaned of $7.30 billion as of September 2021 and $1.05 billion as of December 2020 were at fair value under the fair value option. See Note 10 for further information about securities borrowed and securities loaned accounted for at fair value.

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		
Money market instruments	**$ 1,104**	**$ 3**
U.S. government and agency obligations	**120,020**	**–**
Non-U.S. government and agency obligations	**117,732**	**1,471**
Securities backed by commercial real estate	**237**	**–**
Securities backed by residential real estate	**729**	**–**
Corporate debt securities	**13,859**	**902**
State and municipal obligations	**135**	**–**
Other debt obligations	**365**	**–**
Equity securities	**23,982**	**43,510**
Total	**$278,163**	**$45,886**
As of December 2020		
Money market instruments	$ 88	$ –
U.S. government and agency obligations	121,751	–
Non-U.S. government and agency obligations	79,159	1,634
Securities backed by commercial real estate	65	–
Securities backed by residential real estate	121	–
Corporate debt securities	6,364	46
State and municipal obligations	92	–
Other debt obligations	20	–
Equity securities	16,668	25,374
Total	$224,328	$27,054

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	**$ 94,879**	**$29,258**
2 - 30 days	**74,502**	**219**
31 - 90 days	**44,514**	**116**
91 days - 1 year	**49,889**	**13,362**
Greater than 1 year	**14,379**	**2,931**
Total	**$278,163**	**$45,886**

In the table above:

- Repurchase agreements and securities loaned that are repayable prior to maturity at the option of the firm are reflected at their contractual maturity dates.
- Repurchase agreements and securities loaned that are redeemable prior to maturity at the option of the holder are reflected at the earliest dates such options become exercisable.

Other Secured Financings

In addition to repurchase agreements and securities loaned transactions, the firm 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:

- Liabilities of consolidated VIEs;
- Transfers of assets accounted for as financings rather than sales (e.g., pledged commodities, bank loans and mortgage whole loans); and
- Other structured financing arrangements.

Other secured financings included nonrecourse arrangements. Nonrecourse other secured financings were $8.31 billion as of September 2021 and $12.31 billion as of December 2020.

The firm has elected to apply the fair value option to substantially all 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 firm's fair value hierarchy in Notes 4 through 10. Had these financings been included in the firm's fair value hierarchy, substantially all would have been classified in level 3 as of both September 2021 and December 2020.

The table below presents information about other secured financings.

$ in millions	U.S. Dollar	Non-U.S. Dollar	Total
As of September 2021			
Other secured financings (short-term):			
At fair value	**$ 4,768**	**$ 5,332**	**$10,100**
At amortized cost	**–**	**–**	**–**
Other secured financings (long-term):			
At fair value	**3,812**	**4,296**	**8,108**
At amortized cost	**813**	**664**	**1,477**
Total other secured financings	**$ 9,393**	**$10,292**	**$19,685**
Other secured financings collateralized by:			
Financial instruments	**$ 5,154**	**$ 8,943**	**$14,097**
Other assets	**$ 4,239**	**$ 1,349**	**$ 5,588**
As of December 2020			
Other secured financings (short-term):			
At fair value	$ 6,371	$ 6,847	$13,218
At amortized cost	–	–	–
Other secured financings (long-term):			
At fair value	6,632	4,276	10,908
At amortized cost	914	715	1,629
Total other secured financings	$13,917	$11,838	$25,755
Other secured financings collateralized by:			
Financial instruments	$ 6,841	$10,068	$16,909
Other assets	$ 7,076	$ 1,770	$ 8,846

In the table above:

- Short-term other secured financings includes financings maturing within one year of the financial statement date and financings that are redeemable within one year of the financial statement date at the option of the holder.
- U.S. dollar-denominated long-term other secured financings at amortized cost had a weighted average interest rate of 0.95% as of September 2021 and 1.27% as of December 2020. These rates include the effect of hedging activities.
- Non-U.S. dollar-denominated long-term other secured financings at amortized cost had a weighted average interest rate of 0.39% as of September 2021 and 0.40% as of December 2020. These rates include the effect of hedging activities.
- Total other secured financings included $1.57 billion as of September 2021 and $2.05 billion as of December 2020 related to transfers of financial assets accounted for as financings rather than sales. Such financings were collateralized by financial assets, primarily included in trading assets, of $1.53 billion as of September 2021 and $2.26 billion as of December 2020.
- Other secured financings collateralized by financial instruments included $11.17 billion as of September 2021 and $11.28 billion as of December 2020 of other secured financings collateralized by trading assets, investments and loans, and included $2.93 billion as of September 2021 and $5.63 billion as of December 2020 of other secured financings collateralized by financial instruments received as collateral and repledged.

The table below presents other secured financings by maturity.

$ in millions	As of September 2021
Other secured financings (short-term)	**$10,100**
Other secured financings (long-term):	
2022	**1,314**
2023	**3,002**
2024	**1,389**
2025	**795**
2026	**1,076**
2027 - thereafter	**2,009**
Total other secured financings (long-term)	**9,585**
Total other secured financings	**$19,685**

In the table above:

- Long-term other secured financings that are repayable prior to maturity at the option of the firm are reflected at their contractual maturity dates.
- Long-term other secured financings that are redeemable prior to maturity at the option of the holder are reflected at the earliest dates such options become exercisable.

Collateral Received and Pledged

The firm receives cash and securities (e.g., U.S. government and agency obligations, other sovereign and corporate obligations, as well as equity securities) as collateral, primarily in connection with resale agreements, securities borrowed, derivative transactions and customer margin loans. The firm 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 firm is permitted to deliver or repledge financial instruments received as collateral when entering into repurchase agreements and securities loaned transactions, primarily in connection with secured client financing activities. The firm is also permitted to deliver or repledge these financial instruments in connection with other secured financings, collateralized derivative transactions and firm or customer settlement requirements.

The firm also pledges certain trading assets in connection with repurchase agreements, securities loaned transactions and other secured financings, and other assets (substantially all real estate and cash) in connection with other secured financings 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	
$ in millions	**September 2021**	December 2020
Collateral available to be delivered or repledged	**$1,045,005**	$864,494
Collateral that was delivered or repledged	**$ 875,554**	$723,409

The table below presents information about assets pledged.

	As of	
$ in millions	**September 2021**	December 2020
Pledged to counterparties that had the right to deliver or repledge		
Trading assets	**$ 66,754**	$ 69,031
Investments	**$ 14,515**	$ 13,375
Pledged to counterparties that did not have the right to deliver or repledge		
Trading assets	**$ 99,991**	$ 99,142
Investments	**$ 9,840**	$ 2,331
Loans	**$ 8,152**	$ 8,320
Other assets	**$ 8,741**	$ 14,144

The firm also segregates securities for regulatory and other purposes related to client activity. Such securities are segregated from trading assets and investments, as well as from securities received as collateral under resale agreements and securities borrowed transactions. Securities segregated by the firm were $33.11 billion as of September 2021 and $32.97 billion as of December 2020.

Note 12.

Other Assets

The table below presents other assets by type.

	As of	
$ in millions	**September 2021**	December 2020
Property, leasehold improvements and equipment	**$ 18,171**	$ 23,147
Goodwill	**4,326**	4,332
Identifiable intangible assets	**497**	630
Operating lease right-of-use assets	**2,288**	2,280
Income tax-related assets	**3,813**	2,960
Miscellaneous receivables and other	**7,462**	4,096
Total	**$ 36,557**	$ 37,445

Property, Leasehold Improvements and Equipment

Property, leasehold improvements and equipment is net of accumulated depreciation and amortization of $10.73 billion as of September 2021 and $10.12 billion as of December 2020. Property, leasehold improvements and equipment included $6.55 billion as of September 2021 and $6.54 billion as of December 2020 that the firm uses in connection with its operations, and $218 million as of September 2021 and $318 million as of December 2020 of foreclosed real estate primarily related to distressed loans that were purchased by the firm. The remainder is held by investment entities, including VIEs, consolidated by the firm. Substantially all property and equipment is depreciated on a straight-line basis over the useful life of the asset. 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. Capitalized costs of software developed or obtained for internal use are amortized on a straight-line basis over three years.

The firm 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 firm 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 firm 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 both the three months ended September 2021 and September 2020. There were $134 million of impairments during the nine months ended September 2021 and $132 million of impairments during the nine months ended September 2020.

Goodwill

Goodwill is the cost of acquired companies in excess of the fair value of net assets, including identifiable intangible assets, at the acquisition date.

The table below presents the carrying value of goodwill by reporting unit.

	As of	
$ in millions	**September 2021**	December 2020
Investment Banking	**$ 281**	$ 281
Global Markets:		
FICC	**269**	269
Equities	**2,638**	2,644
Asset Management	**390**	390
Consumer & Wealth Management:		
Consumer banking	**48**	48
Wealth management	**700**	700
Total	**$4,326**	$4,332

Goodwill is assessed for impairment annually in the fourth quarter or more frequently if events occur or circumstances change that indicate an impairment may exist. When assessing goodwill for impairment, first, a qualitative assessment can be made to determine whether it is more likely than not that the estimated fair value of a reporting unit is less than its estimated carrying value. If the results of the qualitative assessment are not conclusive, a quantitative goodwill test is performed. Alternatively, a quantitative goodwill test can be performed without performing a qualitative assessment.

The quantitative goodwill test compares the estimated fair value of each reporting unit with its estimated net book value (including goodwill and identifiable intangible assets). If the reporting unit's estimated fair value exceeds its estimated net book value, goodwill is not impaired. An impairment is recognized if the estimated fair value of a reporting unit is less than its estimated net book value.

To estimate the fair value of each reporting unit, other than Consumer banking, a relative value technique is used because the firm believes market participants would use this technique to value these reporting units. The relative value technique applies observable price-to-earnings multiples or price-to-book multiples of comparable competitors to reporting units' net earnings or net book value. To estimate the fair value of Consumer banking, a discounted cash flow valuation approach is used because the firm believes market participants would use this technique to value that reporting unit given its early stage of development. The estimated net carrying value of each reporting unit reflects an allocation of total shareholders' equity and represents the estimated amount of total shareholders' equity required to support the activities of the reporting unit under currently applicable regulatory capital requirements.

In the fourth quarter of 2020, the firm performed its annual assessment of goodwill for impairment, for each of its reporting units, by performing a qualitative assessment. Multiple factors, including performance indicators, macroeconomic indicators, firm and industry events, and fair value indicators, were assessed with respect to each of the firm's reporting units to determine whether it was more likely than not that the estimated fair value of any of these reporting units was less than its estimated carrying value. The qualitative assessment also considered changes since the quantitative test performed in the fourth quarter of 2019.

As a result of the qualitative assessment, the firm determined that it was more likely than not that the estimated fair value of each of the reporting units exceeded its respective estimated carrying value. Therefore, the firm determined that goodwill for each reporting unit was not impaired and that a quantitative goodwill test was not required.

There were no events or changes in circumstances during the nine months ended September 2021 that would indicate that it was more likely than not that the estimated fair value of each of the reporting units did not exceed its respective estimated carrying value as of September 2021.

Identifiable Intangible Assets

The table below presents identifiable intangible assets by reporting unit and type.

	As of	
$ in millions	**September 2021**	December 2020
By Reporting Unit		
Global Markets:		
FICC	**$ 1**	$ 2
Equities	**43**	45
Asset Management	**180**	274
Consumer & Wealth Management:		
Consumer banking	**–**	6
Wealth management	**273**	303
Total	**$ 497**	$ 630
By Type		
Customer lists		
Gross carrying value	**$ 1,472**	$ 1,478
Accumulated amortization	**(1,123)**	(1,089)
Net carrying value	**349**	389
Acquired leases and other		
Gross carrying value	**576**	710
Accumulated amortization	**(428)**	(469)
Net carrying value	**148**	241
Total gross carrying value	**2,048**	2,188
Total accumulated amortization	**(1,551)**	(1,558)
Total net carrying value	**$ 497**	$ 630

During the nine months ended September 2021, the amount of intangible assets acquired by the firm was not material. The firm acquired $155 million of intangible assets during 2020, primarily related to acquired leases and customer lists, with a weighted average amortization period of 10 years.

Substantially all of the firm's identifiable intangible assets have finite useful lives and are amortized over their estimated useful lives generally using the straight-line method.

The tables below present information about the amortization of identifiable intangible assets.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Amortization	**$22**	$40	**$89**	$117

$ in millions	**As of September 2021**
Estimated future amortization	
Remainder of 2021	**$ 23**
2022	**$ 82**
2023	**$ 76**
2024	**$ 61**
2025	**$ 43**
2026	**$ 32**

The firm tests intangible assets 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 firm 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 firm 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 each of the three and nine months ended September 2021 and September 2020.

Operating Lease Right-of-Use Assets

The firm enters into operating leases for real estate, office equipment and other assets, substantially all of which are used in connection with its operations. For leases longer than one year, the firm 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. The lease term is generally determined based on the contractual maturity of the lease. For leases where the firm has the option to terminate or extend the lease, an assessment of the likelihood of exercising the option is incorporated into the determination of the lease term. Such assessment is initially performed at the inception of the lease and is updated if events occur that impact the original assessment.

An operating lease right-of-use asset is initially determined based on the operating lease liability, adjusted for initial direct costs, lease incentives and amounts paid at or prior to lease commencement. This amount is then amortized over the lease term. The firm recognized $230 million for the nine months ended September 2021 and $152 million for the nine months ended September 2020 of right-of-use assets and operating lease liabilities in non-cash transactions for leases entered into or assumed. See Note 15 for information about operating lease liabilities.

For leases where the firm will derive no economic benefit from leased space that it has vacated or where the firm has shortened the term of a lease when space is no longer needed, the firm will record an impairment or accelerated amortization of right-of-use assets. There were no material impairments or accelerated amortizations during both the nine months ended September 2021 and September 2020.

Miscellaneous Receivables and Other

Miscellaneous receivables and other included:

- Investments in qualified affordable housing projects of $681 million as of September 2021 and $678 million as of December 2020.
- Assets classified as held for sale of $3.66 billion as of September 2021 and $437 million as of December 2020 related to certain of the firm's consolidated investments within the Asset Management segment, substantially all of which consisted of property and equipment.

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	**$ 83,584**	**$21,889**	**$105,473**
Private bank	**75,012**	**3,363**	**78,375**
Brokered certificates of deposit	**–**	**31,508**	**31,508**
Deposit sweep programs	**31,260**	**–**	**31,260**
Transaction banking	**45,764**	**5,628**	**51,392**
Other	**–**	**35,030**	**35,030**
Total	**$235,620**	**$97,418**	**$333,038**
As of December 2020			
Consumer	$ 67,395	$29,530	$ 96,925
Private bank	67,185	1,183	68,368
Brokered certificates of deposit	–	30,060	30,060
Deposit sweep programs	22,987	–	22,987
Transaction banking	28,852	–	28,852
Other	–	12,770	12,770
Total	$186,419	$73,543	$259,962

In the table above:

- Substantially all deposits are interest-bearing.
- 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.
- Time deposits included $34.08 billion as of September 2021 and $16.18 billion as of December 2020 of deposits accounted for at fair value under the fair value option. See Note 10 for further information about deposits accounted for at fair value.
- Time deposits had a weighted average maturity of approximately 1.0 years as of September 2021 and 1.3 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. As of September 2021, the firm had 14 such deposit sweep program agreements.

- Transaction banking deposits consists of deposits that the firm raised through its cash management services business for corporate and other institutional clients.
- Other deposits represent deposits from institutional clients.
- 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 $29.90 billion as of September 2021 and $27.52 billion as of December 2020.

The table below presents the location of deposits.

	As of	
$ in millions	**September 2021**	December 2020
U.S. offices	**$254,890**	$206,356
Non-U.S. offices	**78,148**	53,606
Total	**$333,038**	$259,962

In the table above, U.S. deposits were held at Goldman Sachs Bank USA (GS Bank USA) and substantially all non-U.S. deposits were held at Goldman Sachs International Bank (GSIB).

The table below presents maturities of time deposits held in U.S. and non-U.S. offices.

	As of September 2021		
$ in millions	**U.S.**	**Non-U.S.**	**Total**
Remainder of 2021	**$14,539**	**$ 9,100**	**$23,639**
2022	**31,278**	**21,796**	**53,074**
2023	**8,909**	**131**	**9,040**
2024	**4,591**	**130**	**4,721**
2025	**2,302**	**261**	**2,563**
2026	**2,262**	**278**	**2,540**
2027 - thereafter	**1,131**	**710**	**1,841**
Total	**$65,012**	**$32,406**	**$97,418**

As of September 2021, deposits in U.S. offices included $19.51 billion and deposits in non-U.S. offices included $31.66 billion of time deposits in denominations that met or exceeded the applicable insurance limits, or were otherwise not covered by insurance.

The firm's savings and demand deposits are recorded based on the amount of cash received plus accrued interest, which approximates fair value. In addition, the firm 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 time deposits are not accounted for at fair value, they are not included in the firm's fair value hierarchy in Notes 4 through 10. Had these deposits been included in the firm's fair value hierarchy, they would have been 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	
$ in millions	**September 2021**	December 2020
Unsecured short-term borrowings	**$ 48,990**	$ 52,870
Unsecured long-term borrowings	**242,780**	213,481
Total	**$291,770**	$266,351

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 and unsecured long-term borrowings that are redeemable within one year of the financial statement date at the option of the holder.

The firm accounts for certain hybrid financial instruments at fair value under the fair value option. See Note 10 for further information about unsecured short-term borrowings that are accounted for at fair value. In addition, the firm designates certain derivatives as fair value hedges to convert a portion of its unsecured short-term borrowings not accounted for at fair value from fixed-rate obligations into floating-rate obligations. The carrying value of unsecured short-term borrowings that are not recorded at fair value generally approximates fair value due to the short-term nature of the obligations. As these unsecured short-term borrowings are not accounted for at fair value, they are not included in the firm's fair value hierarchy in Notes 4 through 10. Had these borrowings been included in the firm's fair value hierarchy, substantially all would have been classified in level 2 as of both September 2021 and December 2020.

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

	As of	
$ in millions	**September 2021**	December 2020
Current portion of unsecured long-term borrowings	**$20,631**	$25,914
Hybrid financial instruments	**21,624**	18,823
Commercial paper	**4,752**	6,085
Other unsecured short-term borrowings	**1,983**	2,048
Total unsecured short-term borrowings	**$48,990**	$52,870
Weighted average interest rate	**2.35%**	1.84%

In the table above, the weighted average interest rates for these borrowings include the effect of hedging activities and exclude unsecured short-term borrowings accounted for at fair value under the fair value option. See Note 7 for further information about hedging activities.

Unsecured Long-Term Borrowings

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

$ in millions	U.S. Dollar	Non-U.S. Dollar	Total
As of September 2021			
Fixed-rate obligations	**$117,469**	**$45,381**	**$162,850**
Floating-rate obligations	**49,286**	**30,644**	**79,930**
Total	**$166,755**	**$76,025**	**$242,780**
As of December 2020			
Fixed-rate obligations	$100,558	$38,759	$139,317
Floating-rate obligations	42,019	32,145	74,164
Total	$142,577	$70,904	$213,481

In the table above:

- Unsecured long-term borrowings consists principally of senior borrowings, which have maturities extending through 2065.
- Floating-rate obligations includes equity-linked, credit-linked and indexed instruments. Floating interest rates are generally based on LIBOR, Euro Interbank Offered Rate or SOFR.
- U.S. dollar-denominated debt had interest rates ranging from 0.48% to 7.68% (with a weighted average rate of 3.48%) as of September 2021 and 0.63% to 9.30% (with a weighted average rate of 4.07%) as of December 2020. These rates exclude unsecured long-term borrowings accounted for at fair value under the fair value option.
- Non-U.S. dollar-denominated debt had interest rates ranging from 0.13% to 13.00% (with a weighted average rate of 1.87%) as of September 2021 and 0.13% to 13.00% (with a weighted average rate of 2.20%) as of December 2020. These rates exclude unsecured long-term borrowings accounted for at fair value under the fair value option.

The table below presents unsecured long-term borrowings by maturity.

$ in millions	**As of September 2021**
2022	**$ 7,767**
2023	**38,318**
2024	**30,240**
2025	**28,006**
2026	**22,605**
2027 - thereafter	**115,844**
Total	**$242,780**

In the table above:

- Unsecured long-term borrowings maturing within one year of the financial statement date and unsecured long-term borrowings that are redeemable within one year of the financial statement date at the option of the holder are excluded as they are included in unsecured short-term borrowings.
- Unsecured long-term borrowings that are repayable prior to maturity at the option of the firm are reflected at their contractual maturity dates.
- Unsecured long-term borrowings that are redeemable prior to maturity at the option of the holder are reflected at the earliest dates such options become exercisable.
- Unsecured long-term borrowings included $7.21 billion of adjustments to the carrying value of certain unsecured long-term borrowings resulting from the application of hedge accounting by year of maturity as follows: $1 million in 2022, $132 million in 2023, $456 million in 2024, $499 million in 2025, $353 million in 2026 and $5.77 billion in 2027 and thereafter.

The firm designates certain derivatives as fair value hedges to convert a portion of fixed-rate unsecured long-term borrowings not accounted for at fair value into floating-rate obligations. See Note 7 for further information about hedging activities.

The table below presents unsecured long-term borrowings, after giving effect to such hedging activities.

	As of	
$ in millions	**September 2021**	December 2020
Fixed-rate obligations:		
At fair value	**$ 3,188**	$ 1,521
At amortized cost	**30,180**	30,827
Floating-rate obligations:		
At fair value	**44,692**	39,390
At amortized cost	**164,720**	141,743
Total	**$242,780**	$213,481

In the table above, the aggregate amounts of unsecured long-term borrowings had weighted average interest rates of 1.61% (2.31% related to fixed-rate obligations and 1.47% related to floating-rate obligations) as of September 2021 and 2.01% (3.34% related to fixed-rate obligations and 1.70% related to floating-rate obligations) as of December 2020. These rates exclude unsecured long-term borrowings accounted for at fair value under the fair value option.

The carrying value of unsecured long-term borrowings for which the firm did not elect the fair value option was $194.90 billion as of September 2021 and $172.57 billion as of December 2020. The estimated fair value of such unsecured long-term borrowings was $203.30 billion as of September 2021 and $183.29 billion as of December 2020. As these borrowings are not accounted for at fair value, they are not included in the firm's fair value hierarchy in Notes 4 through 10. Had these borrowings been included in the firm's fair value hierarchy, substantially all would have been classified in level 2 as of both September 2021 and December 2020.

Subordinated Borrowings

Unsecured long-term borrowings includes subordinated debt and junior subordinated debt. Subordinated debt that matures within one year is included in unsecured short-term borrowings. Junior subordinated debt is junior in right of payment to other subordinated borrowings, which are junior to senior borrowings. Long-term subordinated debt had maturities ranging from 2025 to 2045 as of both September 2021 and December 2020.

The table below presents information about subordinated borrowings.

$ in millions	Par Amount	Carrying Value	Rate
As of September 2021			
Subordinated debt	**$14,004**	**$17,140**	**1.63%**
Junior subordinated debt	**968**	**1,327**	**1.28%**
Total	**$14,972**	**$18,467**	**1.60%**
As of December 2020			
Subordinated debt	$14,136	$18,529	1.83%
Junior subordinated debt	968	1,430	1.32%
Total	$15,104	$19,959	1.80%

In the table above, the rate is the weighted average interest rate for these borrowings (excluding borrowings accounted for at fair value under the fair value option), including the effect of fair value hedges used to convert fixed-rate obligations into floating-rate obligations. See Note 7 for further information about hedging activities.

Junior Subordinated Debt

In 2004, Group Inc. issued $2.84 billion of junior subordinated debt to Goldman Sachs Capital I (Trust), a Delaware statutory trust. The Trust issued $2.75 billion of guaranteed preferred beneficial interests (Trust Preferred securities) to third parties and $85 million of common beneficial interests to Group Inc. As of both September 2021 and December 2020, the outstanding par amount of junior subordinated debt held by the Trust was $968 million and the outstanding par amount of Trust Preferred securities and common beneficial interests issued by the Trust was $939 million and $29 million, respectively. The Trust is a wholly-owned finance subsidiary of the firm for regulatory and legal purposes but is not consolidated for accounting purposes.

The firm pays interest semi-annually on the junior subordinated debt at an annual rate of 6.345% and the debt matures on February 15, 2034. The coupon rate and the payment dates applicable to the beneficial interests are the same as the interest rate and payment dates for the junior subordinated debt. The firm has the right, from time to time, to defer payment of interest on the junior subordinated debt, and therefore cause payment on the Trust's preferred beneficial interests to be deferred, in each case up to ten consecutive semi-annual periods. During any such deferral period, the firm will not be permitted to, among other things, pay dividends on or make certain repurchases of its common stock. The Trust is not permitted to pay any distributions on the common beneficial interests held by Group Inc. unless all dividends payable on the preferred beneficial interests have been paid in full.

The firm has covenanted in favor of the holders of Group Inc.'s 6.345% junior subordinated debt due February 15, 2034, that, subject to certain exceptions, the firm will not redeem or purchase the capital securities issued by Goldman Sachs Capital II and Goldman Sachs Capital III (APEX Trusts) or shares of Group Inc.'s Perpetual Non-Cumulative Preferred Stock, Series E (Series E Preferred Stock), Perpetual Non-Cumulative Preferred Stock, Series F (Series F Preferred Stock) or Perpetual Non-Cumulative Preferred Stock, Series O, if the redemption or purchase results in less than $253 million aggregate liquidation preference of that series outstanding, prior to specified dates in 2022 for a price that exceeds a maximum amount determined by reference to the net cash proceeds that the firm has received from the sale of qualifying securities.

The APEX Trusts hold Group Inc.'s Series E Preferred Stock and Series F Preferred Stock. These trusts are Delaware statutory trusts sponsored by the firm and wholly-owned finance subsidiaries of the firm for regulatory and legal purposes but are not consolidated for accounting purposes.

Note 15.

Other Liabilities

The table below presents other liabilities by type.

	As of	
$ in millions	**September 2021**	December 2020
Compensation and benefits	**$10,215**	$ 7,896
Income tax-related liabilities	**3,058**	3,155
Operating lease liabilities	**2,283**	2,283
Noncontrolling interests	**1,598**	1,640
Employee interests in consolidated funds	**30**	34
Accrued expenses and other	**9,994**	7,443
Total	**$27,178**	$22,451

Operating Lease Liabilities

For leases longer than one year, the firm 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	**$ 71**
2022	**324**
2023	**288**
2024	**268**
2025	**241**
2026 - thereafter	**1,839**
Total undiscounted lease payments	**3,031**
Imputed interest	**(748)**
Total operating lease liabilities	**$2,283**
Weighted average remaining lease term	**14 years**
Weighted average discount rate	**3.66%**
As of December 2020	
2021	$ 342
2022	301
2023	264
2024	247
2025	215
2026 - thereafter	1,899
Total undiscounted lease payments	3,268
Imputed interest	(985)
Total operating lease liabilities	$2,283
Weighted average remaining lease term	16 years
Weighted average discount rate	4.02%

In the table above, the weighted average discount rate represents the firm'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 $118 million for the three months ended September 2021, $116 million for the three months ended September 2020, $348 million for the nine months ended September 2021 and $339 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 firm's current requirements were not material for both the nine months ended September 2021 and September 2020.

Lease payments relating to operating lease arrangements that were signed, but had not yet commenced were $344 million as of September 2021.

Accrued Expenses and Other

Accrued expenses and other included:

- Liabilities classified as held for sale of $2.06 billion as of September 2021 related to certain of the firm's consolidated investments within the Asset Management segment, substantially all of which consisted of other secured financings and were related to assets classified as held for sale. See Note 12 for further information about assets held for sale. As of December 2020, liabilities classified as held for sale were not material.
- Contract liabilities, which represent consideration received by the firm in connection with its contracts with clients prior to providing the service. As of both September 2021 and December 2020, the firm's contract liabilities were not material.

Note 16.

Securitization Activities

The firm securitizes residential and commercial mortgages, corporate bonds, loans 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. The firm acts as underwriter of the beneficial interests that are sold to investors. The firm's residential mortgage securitizations are primarily in connection with government agency securitizations.

The firm accounts for a securitization as a sale when it has relinquished control over the transferred financial assets. Prior to securitization, the firm generally accounts for assets pending transfer at fair value and therefore does not typically recognize significant gains or losses upon the transfer of assets. Net revenues from underwriting activities are recognized in connection with the sales of the underlying beneficial interests to investors.

The firm 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 debt instruments. The firm may also purchase senior or subordinated securities issued by securitization vehicles (which are typically VIEs) in connection with secondary market-making activities.

The primary risks included in beneficial interests and other interests from the firm's continuing involvement with securitization vehicles are the performance of the underlying collateral, the position of the firm's investment in the capital structure of the securitization vehicle and the market yield for the security. Interests accounted for at fair value are primarily classified in level 2 of the fair value hierarchy. Interests not accounted for at fair value are carried at amounts that approximate fair value. See Notes 4 through 10 for further information about fair value measurements.

The table below presents the amount of financial assets securitized and the cash flows received on retained interests in securitization entities in which the firm 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	**$ 9,888**	$ 7,717	**$19,894**	$15,725
Commercial mortgages	**3,066**	6,279	**13,832**	14,062
Other financial assets	**2,353**	66	**4,017**	1,189
Total financial assets securitized	**$15,307**	$14,062	**$37,743**	$30,976
Retained interests cash flows	**$ 204**	$ 130	**$ 452**	$ 274

The firm securitized assets of $266 million during the three months ended September 2021, $132 million during the three months ended September 2020, $679 million during the nine months ended September 2021 and $435 million during the nine months ended September 2020, in a non-cash exchange for loans and investments.

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

$ in millions	Outstanding Principal Amount	Retained Interests	Purchased Interests
As of September 2021			
U.S. government agency-issued CMOs	**$ 30,081**	**$1,149**	**$ 1**
Other residential mortgage-backed	**23,252**	**1,039**	**36**
Other commercial mortgage-backed	**47,283**	**1,083**	**88**
Corporate debt and other asset-backed	**7,650**	**352**	**42**
Total	**$108,266**	**$3,623**	**$167**
As of December 2020			
U.S. government agency-issued CMOs	$ 20,841	$ 906	$ 4
Other residential mortgage-backed	24,262	1,170	23
Other commercial mortgage-backed	38,340	914	39
Corporate debt and other asset-backed	4,299	192	–
Total	$ 87,742	$3,182	$ 66

In the table above:

- CMOs represents collateralized mortgage obligations.
- 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 firm's risk of loss.
- The firm's risk of loss from retained or purchased interests is limited to the carrying value of these interests.
- Purchased interests represent senior and subordinated interests, purchased in connection with secondary market-making activities, in securitization entities in which the firm also holds retained interests.
- Substantially all of the total outstanding principal amount and total retained interests relate to securitizations during 2015 and thereafter.
- The fair value of retained interests was $3.64 billion as of September 2021 and $3.19 billion as of December 2020.

In addition to the interests in the table above, the firm had other continuing involvement in the form of derivative transactions and commitments with certain nonconsolidated VIEs. The carrying value of these derivatives and commitments was a net asset of $55 million as of September 2021 and $52 million as of December 2020, and the notional amount of these derivatives and commitments was $2.16 billion as of September 2021 and $1.43 billion as of December 2020. 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	**$3,286**	$2,993
Weighted average life (years)	**5.8**	4.7
Constant prepayment rate	**11.9%**	15.0%
Impact of 10% adverse change	**$ (7)**	$ (25)
Impact of 20% adverse change	**$ (34)**	$ (50)
Discount rate	**5.6%**	6.1%
Impact of 10% adverse change	**$ (32)**	$ (42)
Impact of 20% adverse change	**$ (84)**	$ (82)

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.
- The discount rate for retained interests that relate to U.S. government agency-issued CMOs does not include any credit loss. Expected credit loss assumptions are reflected in the discount rate for the remainder of retained interests.

The firm has other retained interests not reflected in the table above with a fair value of $352 million and a weighted average life of 3.4 years as of September 2021, and a fair value of $192 million and a weighted average life of 3.9 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 firm's maximum exposure to adverse changes in the value of these interests is the carrying value of $352 million as of September 2021 and $192 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 firm'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; guarantees; and certain of the fees the firm receives from investment funds. Certain interest rate, foreign currency and credit derivatives the firm 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 firm'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 firm'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 firm 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 firm reassesses its evaluation of whether an entity is a VIE when certain reconsideration events occur. The firm 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 firm is principally involved with VIEs through the following business activities:

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

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

Corporate Debt and Other Asset-Backed VIEs. The firm structures VIEs that issue notes to clients, purchases and sells beneficial interests issued by corporate debt and other asset-backed VIEs in connection with market-making activities, 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 firm, rather than purchasing the underlying assets. In addition, the firm may enter into derivatives, such as total return swaps, with certain corporate debt and other asset-backed VIEs, under which the firm 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 firm 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 firm may sell assets to the corporate debt and other asset-backed VIEs it structures.

Principal-Protected Note VIEs. The firm structures VIEs that issue principal-protected notes to clients. These VIEs own portfolios of assets, principally with exposure to hedge funds. Substantially all of the principal protection on the notes issued by these VIEs is provided by the asset portfolio rebalancing that is required under the terms of the notes. The firm enters into total return swaps with these VIEs under which the firm pays the VIE the return due to the principal-protected note holders and receives the return on the assets owned by the VIE. The firm may enter into derivatives with other counterparties to mitigate its risk. The firm also obtains funding through these VIEs.

Investments in Funds. The firm makes equity investments in certain investment fund VIEs it manages and is entitled to receive fees from these VIEs. The firm has generally not sold assets to, or entered into derivatives with, these VIEs.

Nonconsolidated VIEs

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

	As of	
$ in millions	**September 2021**	December 2020
Total nonconsolidated VIEs		
Assets in VIEs	**$169,664**	$148,665
Carrying value of variable interests — assets	**$ 10,126**	$ 8,624
Carrying value of variable interests — liabilities	**$ 826**	$ 888
Maximum exposure to loss:		
Retained interests	**$ 3,623**	$ 3,182
Purchased interests	**1,055**	1,041
Commitments and guarantees	**3,304**	2,455
Derivatives	**8,958**	8,343
Debt and equity	**5,142**	4,020
Total	**$ 22,082**	$ 19,041

In the table above:

- The nature of the firm's variable interests is described in the rows under maximum exposure to loss.
- The firm's exposure to the obligations of VIEs is generally limited to its interests in these entities. In certain instances, the firm 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, purchased 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	
$ in millions	**September 2021**	December 2020
Mortgage-backed		
Assets in VIEs	**$113,407**	$99,353
Carrying value of variable interests — assets	**$ 4,254**	$ 4,014
Maximum exposure to loss:		
Retained interests	**$ 3,271**	$ 2,990
Purchased interests	**983**	1,024
Commitments and guarantees	**38**	47
Derivatives	**380**	394
Total	**$ 4,672**	$ 4,455
Real estate, credit- and power-related and other investing		
Assets in VIEs	**$ 23,734**	$20,934
Carrying value of variable interests — assets	**$ 3,400**	$ 3,288
Carrying value of variable interests — liabilities	**$ 8**	$ 14
Maximum exposure to loss:		
Commitments and guarantees	**$ 1,631**	$ 1,374
Derivatives	**64**	84
Debt and equity	**3,400**	3,288
Total	**$ 5,095**	$ 4,746
Corporate debt and other asset-backed		
Assets in VIEs	**$ 19,704**	$14,077
Carrying value of variable interests — assets	**$ 2,052**	$ 913
Carrying value of variable interests — liabilities	**$ 818**	$ 874
Maximum exposure to loss:		
Retained interests	**$ 352**	$ 192
Purchased interests	**72**	17
Commitments and guarantees	**1,597**	989
Derivatives	**8,511**	7,862
Debt and equity	**1,322**	323
Total	**$ 11,854**	$ 9,383
Investments in funds		
Assets in VIEs	**$ 12,819**	$14,301
Carrying value of variable interests — assets	**$ 420**	$ 409
Maximum exposure to loss:		
Commitments and guarantees	**$ 38**	$ 45
Derivatives	**3**	3
Debt and equity	**420**	409
Total	**$ 461**	$ 457

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

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

Consolidated VIEs

The table below presents a summary of the carrying value and balance sheet classification of assets and liabilities in consolidated VIEs.

	As of	
$ in millions	**September 2021**	December 2020
Total consolidated VIEs		
Assets		
Cash and cash equivalents	**$ 394**	$ 312
Trading assets	**128**	96
Investments	**872**	880
Loans	**2,133**	2,099
Other assets	**355**	989
Total	**$3,882**	$4,376
Liabilities		
Other secured financings	**$1,180**	$1,891
Customer and other payables	**4**	28
Trading liabilities	**49**	296
Unsecured short-term borrowings	**156**	43
Unsecured long-term borrowings	**84**	226
Other liabilities	**931**	948
Total	**$2,404**	$3,432

In the table above:

- Assets and liabilities are presented net of intercompany eliminations and exclude the benefit of offsetting financial instruments that are held to mitigate the risks associated with the firm's variable interests.
- VIEs in which the firm holds a majority voting interest are excluded if (i) the VIE meets the definition of a business and (ii) the VIE's assets can be used for purposes other than the settlement of its obligations.
- Substantially all assets can only be used to settle obligations of the VIE.

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

	As of	
$ in millions	**September 2021**	December 2020
Real estate, credit-related and other investing		
Assets		
Cash and cash equivalents	**$ 268**	$ 229
Trading assets	**28**	8
Investments	**872**	880
Loans	**2,133**	2,099
Other assets	**355**	989
Total	**$3,656**	$4,205
Liabilities		
Other secured financings	**$ 158**	$ 649
Customer and other payables	**4**	28
Trading liabilities	**49**	46
Other liabilities	**931**	948
Total	**$1,142**	$1,671
Corporate debt and other asset-backed		
Assets		
Cash and cash equivalents	**$ 126**	$ 83
Trading assets	**20**	–
Total	**$ 146**	$ 83
Liabilities		
Other secured financings	**$ 620**	$ 679
Total	**$ 620**	$ 679
Principal-protected notes		
Assets		
Trading assets	**$ 80**	$ 88
Total	**$ 80**	$ 88
Liabilities		
Other secured financings	**$ 402**	$ 563
Trading liabilities	**–**	250
Unsecured short-term borrowings	**156**	43
Unsecured long-term borrowings	**84**	226
Total	**$ 642**	$1,082

In the table above:

- The majority of the assets in principal-protected notes VIEs are intercompany and are eliminated in consolidation.
- Creditors and beneficial interest holders of real estate, credit-related and other investing VIEs do not have recourse to the general credit of the firm.

Note 18.

Commitments, Contingencies and Guarantees

Commitments

The table below presents commitments by type.

	As of	
$ in millions	**September 2021**	December 2020
Commitment Type		
Commercial lending:		
Investment-grade	**$ 97,902**	$ 83,801
Non-investment-grade	**74,111**	56,757
Warehouse financing	**10,801**	9,377
Credit cards	**31,718**	21,640
Total lending	**214,532**	171,575
Risk participations	**9,992**	8,054
Collateralized agreement	**110,163**	55,278
Collateralized financing	**34,366**	35,402
Letters of credit	**375**	367
Investment	**12,625**	6,456
Other	**9,909**	7,836
Total commitments	**$391,962**	$284,968

The table below presents commitments by expiration.

	As of September 2021			
$ in millions	**Remainder of 2021**	**2022 - 2023**	**2024 - 2025**	**2026 - Thereafter**
Commitment Type				
Commercial lending:				
Investment-grade	**$ 2,981**	**$35,540**	**$34,512**	**$24,869**
Non-investment-grade	**3,300**	**18,719**	**22,195**	**29,897**
Warehouse financing	**1**	**5,065**	**4,655**	**1,080**
Credit cards	**31,718**	**–**	**–**	**–**
Total lending	**38,000**	**59,324**	**61,362**	**55,846**
Risk participations	**380**	**4,976**	**3,224**	**1,412**
Collateralized agreement	**99,421**	**10,571**	**168**	**3**
Collateralized financing	**34,114**	**251**	**–**	**1**
Letters of credit	**160**	**169**	**–**	**46**
Investment	**5,394**	**4,106**	**1,566**	**1,559**
Other	**8,722**	**1,144**	**33**	**10**
Total commitments	**$186,191**	**$80,541**	**$66,353**	**$58,877**

Lending Commitments

The firm'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 firm may syndicate portions of these commitments. In addition, commitments can expire unused or be reduced or cancelled at the counterparty's request. The firm also provides credit to consumers by issuing credit card lines.

The table below presents information about lending commitments.

	As of	
$ in millions	**September 2021**	December 2020
Held for investment	**$198,358**	$162,513
Held for sale	**13,847**	6,594
At fair value	**2,327**	2,468
Total	**$214,532**	$171,575

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 $1.07 billion (including allowance for credit losses of $833 million) as of September 2021 and $775 million (including allowance for credit losses of $557 million) as of December 2020. The estimated fair value of such lending commitments was a liability of $4.02 billion as of September 2021 and $4.05 billion as of December 2020. Had these lending commitments been carried at fair value and included in the fair value hierarchy, $2.13 billion as of September 2021 and $2.43 billion as of December 2020 would have been classified in level 2, and $1.89 billion as of September 2021 and $1.62 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 $112 million as of September 2021 and $68 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 other principal transactions.

Commercial Lending. The firm's commercial lending commitments were primarily extended to investment-grade corporate borrowers. Such commitments primarily included $119.80 billion as of September 2021 and $110.31 billion as of December 2020, related to relationship lending activities (principally used for operating and general corporate purposes) and $32.43 billion as of September 2021 and $15.81 billion as of December 2020, related to other investment banking 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 firm 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 firm's commercial lending activities, the firm 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 firm with credit loss protection on certain approved loan commitments.

Warehouse Financing. The firm 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 firm'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 firm to consumers. These credit card lines are cancellable by the firm. Credit card commitments also includes approximately $2.0 billion relating to the firm'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 firm also risk participates certain of its commercial lending commitments to other financial institutions. In the event of a risk participant's default, the firm will be responsible to fund the borrower.

Collateralized Agreement Commitments/ Collateralized Financing Commitments

Collateralized agreement commitments includes forward starting resale and securities borrowing 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 firm has entered into commitments to provide contingent financing to its clients and counterparties through resale agreements. The firm's funding of these commitments depends on the satisfaction of all contractual conditions to the resale agreement and these commitments can expire unused.

Letters of Credit

The firm has commitments under letters of credit issued by various banks which the firm provides to counterparties in lieu of securities or cash to satisfy various collateral and margin deposit requirements.

Investment Commitments

Investment commitments includes commitments to invest in private equity, real estate and other assets directly and through funds that the firm raises and manages. Investment commitments included $1.79 billion as of September 2021 and $1.69 billion as of December 2020, related to commitments to invest in funds managed by the firm. If these commitments are called, they would be funded at market value on the date of investment.

Investment commitments also included approximately $1.90 billion as of September 2021 related to the firm's commitment to acquire NN Investment Partners, a leading European asset manager with approximately $320 billion in assets under supervision, in an all-cash transaction. In addition, investment commitments included approximately $2.0 billion as of September 2021 related to the firm's commitment to acquire GreenSky, Inc. (GreenSky), a leading technology company Powering Commerce at Point of Sale® for a growing ecosystem of merchants, consumers and banks. Both acquisitions are expected to close by the end of the first quarter of 2022. The GreenSky acquisition will be an all-stock transaction in which stockholders of GreenSky and unit holders of GreenSky Holdings, LLC (GreenSky Holdings) will receive 0.03 shares of the firm's common stock for each share of GreenSky Class A common stock and each GreenSky Holdings common unit. The investment commitment in the table above represents the purchase price of the acquisition based on the closing stock price of Group Inc. as of September 2021. 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. In connection with this transaction, the firm has provided a commitment to acquire up to $800 million of loans originated by GreenSky's bank partners. This commitment is included in other commitments in the table above. In the event that the acquisition is not completed, the firm has agreed to provide a commitment to purchase up to an additional $1.00 billion of loans originated by GreenSky's bank partners. This commitment is not included in the table above.

Contingencies

Legal Proceedings. See Note 27 for information about legal proceedings.

Guarantees

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

$ in millions	Derivatives	Securities lending and clearing	Other financial guarantees
As of September 2021			
Carrying Value of Net Liability	**$ 3,222**	**$ –**	**$ 229**
Maximum Payout/Notional Amount by Period of Expiration			
Remainder of 2021	**$ 43,636**	**$12,484**	**$ 830**
2022 - 2023	**74,282**	**–**	**2,579**
2024 - 2025	**28,667**	**–**	**2,108**
2026 - thereafter	**35,591**	**–**	**681**
Total	**$182,176**	**$12,484**	**$6,198**
As of December 2020			
Carrying Value of Net Liability	$ 4,357	$ –	$ 253
Maximum Payout/Notional Amount by Period of Expiration			
2021	$ 89,202	$21,352	$1,263
2022 - 2023	56,204	–	3,304
2024 - 2025	23,389	–	2,787
2026 - thereafter	32,244	–	268
Total	$201,039	$21,352	$7,622

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 firm's commitments.
- The carrying value for derivatives included derivative assets of $1.47 billion as of September 2021 and $1.66 billion as of December 2020, and derivative liabilities of $4.69 billion as of September 2021 and $6.02 billion as of December 2020.

Derivative Guarantees. The firm enters into various derivatives that meet the definition of a guarantee under U.S. GAAP, including written equity and commodity put options, 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 firm's overall risk related to derivative activities. Disclosures about derivatives are not required if they may be cash settled and the firm has no basis to conclude it is probable that the counterparties held the underlying instruments at inception of the contract. The firm 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 firm 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 and Clearing Guarantees. Securities lending and clearing guarantees include the indemnifications and guarantees that the firm provides in its capacity as an agency lender and in its capacity as a sponsoring member of the Fixed Income Clearing Corporation.

As an agency lender, the firm 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. The maximum payout of such indemnifications was $12.48 billion as of September 2021 and $19.86 billion as of December 2020. Collateral held by the lenders in connection with securities lending indemnifications was $12.87 billion as of September 2021 and $20.39 billion as of December 2020. Because the contractual nature of these arrangements requires the firm 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 indemnifications.

As a sponsoring member of the Government Securities Division of the Fixed Income Clearing Corporation, the firm guarantees the performance of its sponsored member clients to the Fixed Income Clearing Corporation in connection with certain resale and repurchase agreements. To minimize potential losses on such guarantees, the firm obtains a security interest in the collateral that the sponsored client placed with the Fixed Income Clearing Corporation. Therefore, the risk of loss on such guarantees is minimal. There were no amounts outstanding under the guarantee as of September 2021. As of December 2020, the maximum payout on this guarantee was $1.49 billion and the related collateral held was $1.50 billion.

Other Financial Guarantees. In the ordinary course of business, the firm 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 and fund-related guarantees). 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. Other financial guarantees also include a guarantee that the firm has provided to the Government of Malaysia that it will receive at least $1.4 billion in assets and proceeds from assets seized by governmental authorities around the world related to 1Malaysia Development Berhad, a sovereign wealth fund in Malaysia (1MDB). The firm evaluates progress toward satisfying this obligation based on the report that it receives on a semi-annual basis, expected in February and August. Based on the latest report as of August 2021, approximately $450 million in assets or proceeds from assets has been returned to the Government of Malaysia in connection with this guarantee, which must be satisfied by August 18, 2025. Any amounts paid by the firm under this guarantee would be subject to reimbursement in the event the assets or proceeds received by the Government of Malaysia through August 18, 2028 exceeds $1.4 billion. See Note 27 for further information about matters related to 1MDB.

Guarantees of Securities Issued by Trusts. The firm has established trusts, including Goldman Sachs Capital I, the APEX Trusts and other entities, for the limited purpose of issuing securities to third parties, lending the proceeds to the firm and entering into contractual arrangements with the firm and third parties related to this purpose. The firm does not consolidate these entities. See Note 14 for further information about the transactions involving Goldman Sachs Capital I and the APEX Trusts. The firm effectively provides for the full and unconditional guarantee of the securities issued by these entities. Timely payment by the firm of amounts due to these entities under the guarantee, borrowing, preferred stock and related contractual arrangements will be sufficient to cover payments due on the securities issued by these entities. No subsidiary of Group Inc. guarantees the securities of Goldman Sachs Capital I or the APEX Trusts. Management believes that it is unlikely that any circumstances will occur, such as nonperformance on the part of paying agents or other service providers, that would make it necessary for the firm to make payments related to these entities other than those required under the terms of the guarantee, borrowing, preferred stock and related contractual arrangements and in connection with certain expenses incurred by these entities.

Indemnities and Guarantees of Service Providers. In the ordinary course of business, the firm 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 firm or its affiliates.

The firm 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 firm has the right to seek indemnification from these third-party service providers for certain relevant losses incurred by the firm. In addition, the firm is a member of payment, clearing and settlement networks, as well as securities exchanges around the world that may require the firm to meet the obligations of such networks and exchanges in the event of member defaults and other loss scenarios.

In connection with the firm's prime brokerage and clearing businesses, the firm agrees to clear and settle on behalf of its clients the transactions entered into by them with other brokerage firms. The firm's obligations in respect of such transactions are secured by the assets in the client's account, as well as any proceeds received from the transactions cleared and settled by the firm on behalf of the client. In connection with joint venture investments, the firm may issue loan guarantees under which it may be liable in the event of fraud, misappropriation, environmental liabilities and certain other matters involving the borrower.

The firm is unable to develop an estimate of the maximum payout under these guarantees and indemnifications. However, management believes that it is unlikely the firm 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 firm 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 firm 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 securities issuances, borrowings or derivatives. In addition, the firm 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 firm is unable to develop an estimate of the maximum payout under these guarantees and indemnifications. However, management believes that it is unlikely the firm 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.

Guarantees of Subsidiaries. Group Inc. is the entity that fully and unconditionally guarantees the securities issued by GS Finance Corp., a wholly-owned finance subsidiary of the firm. Group Inc. has guaranteed the payment obligations of Goldman Sachs & Co. LLC (GS&Co.), GS Bank USA and Goldman Sachs Paris Inc. et Cie, subject to certain exceptions. In addition, Group Inc. has provided guarantees to Goldman Sachs International (GSI) and Goldman Sachs Bank Europe SE (GSBE) related to agreements that each entity has entered into with certain of its counterparties. Furthermore, Group Inc. provided a guarantee to GS Bank USA in 2020 related to securities that GS Bank USA acquired from certain affiliated funds of Group Inc. and loans and lending commitments that GS Bank USA acquired from certain subsidiaries of Group Inc. As of September 2021, none of the securities acquired from the affiliated funds were outstanding.

Group Inc. guarantees many of the obligations of its other consolidated subsidiaries on a transaction-by-transaction basis, as negotiated with counterparties. Group Inc. is unable to develop an estimate of the maximum payout under its subsidiary guarantees. However, because these obligations are also obligations of consolidated subsidiaries, Group Inc.'s liabilities as guarantor are not separately disclosed.

Note 19.
Shareholders' Equity

Common Equity

As of both September 2021 and December 2020, the firm had 4.00 billion authorized shares of common stock and 200 million authorized shares of nonvoting common stock, each with a par value of $0.01 per share.

The firm's share repurchase program is intended to help maintain the appropriate level of common equity. The share repurchase program is effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1 and accelerated share repurchases), the amounts and timing of which are determined primarily by the firm's current and projected capital position, and capital deployment opportunities, but which may also be influenced by general market conditions and the prevailing price and trading volumes of the firm's common stock. The firm suspended stock repurchases during the first quarter of 2020 and, consistent with the FRB's requirement for all large bank holding companies (BHCs), extended the suspension of stock repurchases through the fourth quarter of 2020. The firm resumed stock repurchases in the first quarter of 2021.

The table below presents information about common stock repurchases.

	Three Months Ended September		Nine Months Ended September	
in millions, except per share amounts	**2021**	2020	**2021**	2020
Common share repurchases	**2.5**	–	**14.1**	8.2
Average cost per share	**$395.28**	$ –	**$333.61**	$236.35
Total cost of common share repurchases	**$ 1,000**	$ –	**$ 4,700**	$ 1,928

Pursuant to the terms of certain share-based compensation plans, employees may remit shares to the firm or the firm may cancel share-based awards to satisfy statutory employee tax withholding requirements. Under these plans, during the nine months ended September 2021, 1,830 shares were remitted with a total value of $0.5 million and the firm cancelled 3.4 million share-based awards with a total value of $983 million.

The table below presents common stock dividends declared.

	Three Months Ended September		Nine Months Ended September	
	2021	2020	**2021**	2020
Dividends declared per common share	**$2.00**	$1.25	**$4.50**	$3.75

On October 13, 2021, the Board of Directors of Group Inc. (Board) declared a dividend of $2.00 per common share to be paid on December 30, 2021 to common shareholders of record on December 2, 2021.

Preferred Equity

The tables below present information about the perpetual preferred stock issued and outstanding as of September 2021.

Series	Shares Authorized	Shares Issued	Shares Outstanding	Depositary Shares Per Share
A	50,000	30,000	29,999	1,000
C	25,000	8,000	8,000	1,000
D	60,000	54,000	53,999	1,000
E	17,500	7,667	7,667	N/A
F	5,000	1,615	1,615	N/A
J	46,000	40,000	40,000	1,000
K	32,200	28,000	28,000	1,000
O	26,000	26,000	26,000	25
P	66,000	60,000	60,000	25
Q	20,000	20,000	20,000	25
R	24,000	24,000	24,000	25
S	14,000	14,000	14,000	25
T	27,000	27,000	27,000	25
U	30,000	30,000	30,000	25
Total	**442,700**	**370,282**	**370,280**	

Series	Earliest Redemption Date	Liquidation Preference	Redemption Value *($ in millions)*
A	Currently redeemable	$ 25,000	**$ 750**
C	Currently redeemable	$ 25,000	**200**
D	Currently redeemable	$ 25,000	**1,350**
E	Currently redeemable	$100,000	**767**
F	Currently redeemable	$100,000	**161**
J	May 10, 2023	$ 25,000	**1,000**
K	May 10, 2024	$ 25,000	**700**
O	November 10, 2026	$ 25,000	**650**
P	November 10, 2022	$ 25,000	**1,500**
Q	August 10, 2024	$ 25,000	**500**
R	February 10, 2025	$ 25,000	**600**
S	February 10, 2025	$ 25,000	**350**
T	May 10, 2026	$ 25,000	**675**
U	August 10, 2026	$ 25,000	**750**
Total			**$9,953**

In the tables above:

- All shares have a par value of $0.01 per share and, where applicable, each share is represented by the specified number of depositary shares.
- The earliest redemption date represents the date on which each share of non-cumulative preferred stock is redeemable at the firm's option.
- Prior to redeeming preferred stock, the firm must receive approval from the FRB.
- In July 2021, the firm issued 30,000 shares of Series U 3.65% Fixed-Rate Reset Non-Cumulative Preferred Stock (Series U Preferred Stock).
- In April 2021, the firm issued 27,000 shares of Series T 3.80% Fixed-Rate Reset Non-Cumulative Preferred Stock (Series T Preferred Stock).
- The redemption price per share for Series A through F and Series Q through U Preferred Stock is the liquidation preference plus declared and unpaid dividends. The redemption price per share for Series J through P Preferred Stock is the liquidation preference plus accrued and unpaid dividends. Each share of Series E and Series F Preferred Stock is redeemable at the firm's option, subject to certain covenant restrictions governing the firm's ability to redeem the preferred stock without issuing common stock or other instruments with equity-like characteristics. See Note 14 for information about the replacement capital covenants applicable to the Series E and Series F Preferred Stock.
- All series of preferred stock are pari passu and have a preference over the firm's common stock on liquidation.
- The firm's ability to declare or pay dividends on, or purchase, redeem or otherwise acquire, its common stock is subject to certain restrictions in the event that the firm fails to pay or set aside full dividends on the preferred stock for the latest completed dividend period.

Notes to Consolidated Financial Statements (Unaudited)

In October 2021, the firm issued 30,000 shares of Series V 4.125% Fixed-Rate Reset Non-Cumulative Preferred Stock (Series V Preferred Stock). Each share of Series V Preferred Stock issued and outstanding has a liquidation preference of $25,000, is represented by 25 depositary shares and is redeemable at the firm's option beginning November 10, 2026 at a redemption price equal to $25,000 plus declared and unpaid dividends. Dividends on Series V Preferred Stock, if declared, are payable semi-annually at (i) 4.125% per annum from the issuance date to, but excluding, November 10, 2026 and, thereafter, (ii) 2.949% per annum plus the five-year treasury rate.

In the second quarter of 2021, the firm redeemed all outstanding shares of its Series N 6.30% Non-Cumulative Preferred Stock with a redemption value of $675 million ($25,000 per share), plus accrued and unpaid dividends on May 19, 2021. The difference between the redemption value and net carrying value was $20 million, which was recorded as an addition to preferred stock dividends in the second quarter of 2021.

In the first quarter of 2021, the firm redeemed all outstanding shares of its Series M 5.375% Fixed-to-Floating Rate Non-Cumulative Preferred Stock with a redemption value of $2 billion ($25,000 per share), plus accrued and unpaid dividends. The difference between the redemption value and net carrying value was $21 million, which was recorded as an addition to preferred stock dividends in the first quarter of 2021.

In 2020, the firm redeemed the remaining 14,000 outstanding shares of its Series L 5.70% Non-Cumulative Preferred Stock with a redemption value of $350 million ($25,000 per share), plus accrued and unpaid dividends. The difference between the redemption value and net carrying value was $1 million, which was recorded as an addition to preferred stock dividends in 2020.

The table below presents the dividend rates of perpetual preferred stock as of September 2021.

Series	Per Annum Dividend Rate
A	3 month LIBOR + 0.75%, with floor of 3.75%, payable quarterly
C	3 month LIBOR + 0.75%, with floor of 4.00%, payable quarterly
D	3 month LIBOR + 0.67%, with floor of 4.00%, payable quarterly
E	3 month LIBOR + 0.7675%, with floor of 4.00%, payable quarterly
F	3 month LIBOR + 0.77%, with floor of 4.00%, payable quarterly
J	5.50% to, but excluding, May 10, 2023; 3 month LIBOR + 3.64% thereafter, payable quarterly
K	6.375% to, but excluding, May 10, 2024; 3 month LIBOR + 3.55% thereafter, payable quarterly
O	5.30%, payable semi-annually, from issuance date to, but excluding, November 10, 2026; 3 month LIBOR + 3.834%, payable quarterly, thereafter
P	5.00%, payable semi-annually, from issuance date to, but excluding, November 10, 2022; 3 month LIBOR + 2.874%, payable quarterly, thereafter
Q	5.50%, payable semi-annually, from issuance date to, but excluding, August 10, 2024; 5 year treasury rate + 3.623%, payable semi-annually, thereafter
R	4.95%, payable semi-annually, from issuance date to, but excluding, February 10, 2025; 5 year treasury rate + 3.224%, payable semi-annually, thereafter
S	4.40%, payable semi-annually, from issuance date to, but excluding, February 10, 2025; 5 year treasury rate + 2.85%, payable semi-annually thereafter
T	3.80%, payable semi-annually, from issuance date to, but excluding, May 10, 2026; 5 year treasury rate + 2.969%, payable semi-annually, thereafter
U	3.65%, payable semi-annually, from issuance date to, but excluding, August 10, 2026; 5 year treasury rate + 2.915%, payable semi-annually, thereafter

In the table above, dividends on each series of preferred stock are payable in arrears for the periods specified.

The table below presents preferred stock dividends declared.

	2021		2020	
Series	*per share*	*$ in millions*	*per share*	*$ in millions*
Three Months Ended September				
A	**$ 239.58**	**$ 7**	$ 236.98	$ 7
C	**$ 255.56**	**2**	$ 252.78	2
D	**$ 255.56**	**14**	$ 252.78	14
E	**$1,022.22**	**8**	$1,022.22	8
F	**$1,022.22**	**2**	$1,022.22	2
J	**$ 343.75**	**14**	$ 343.75	13
K	**$ 398.44**	**11**	$ 398.44	11
M	**$ –**	**–**	$ 279.17	22
N	**$ –**	**–**	$ 393.75	11
Q	**$ 687.50**	**14**	$ 687.50	14
R	**$ 618.75**	**15**	$ 910.94	22
S	**$ 550.00**	**7**	$ 586.67	8
Total		**$ 94**		$134
Nine Months Ended September				
A	**$ 710.93**	**$ 21**	$ 708.34	$ 21
C	**$ 758.34**	**6**	$ 755.56	6
D	**$ 758.34**	**41**	$ 755.56	41
E	**$3,044.44**	**23**	$3,044.44	23
F	**$3,044.44**	**5**	$3,044.44	5
J	**$1,031.25**	**41**	$1,031.25	41
K	**$1,195.32**	**33**	$1,195.32	33
L	**$ –**	**–**	$ 361.54	4
M	**$ –**	**–**	$ 951.05	76
N	**$ 787.50**	**19**	$1,181.25	32
O	**$ 662.50**	**17**	$ 662.50	17
P	**$ 625.00**	**38**	$ 625.00	38
Q	**$1,375.00**	**28**	$1,577.43	32
R	**$1,237.50**	**30**	$ 910.94	22
S	**$1,100.00**	**15**	$ 586.67	8
Total		**$317**		$399

On October 7, 2021, Group Inc. declared dividends of $239.58 per share of Series A Preferred Stock, $255.56 per share of Series C Preferred Stock, $255.56 per share of Series D Preferred Stock, $343.75 per share of Series J Preferred Stock, $398.44 per share of Series K Preferred Stock, $662.50 per share of Series O Preferred Stock, $625.00 per share of Series P Preferred Stock, and $511.94 per share of Series T Preferred Stock to be paid on November 10, 2021 to preferred shareholders of record on October 26, 2021. In addition, the firm declared dividends of $1,011.11 per share of Series E Preferred Stock and $1,011.11 per share of Series F Preferred Stock to be paid on December 1, 2021 to preferred shareholders of record on November 16, 2021.

Accumulated Other Comprehensive Income/(Loss)

The table below presents changes in accumulated other comprehensive income/(loss), net of tax, by type.

$ in millions	Beginning balance	Other comprehensive income/(loss) adjustments, net of tax	Ending balance
Three Months Ended September 2021			
Currency translation	**$ (712)**	**$ (20)**	**$ (732)**
Debt valuation adjustment	**(735)**	**67**	**(668)**
Pension and postretirement liabilities	**(361)**	**–**	**(361)**
Available-for-sale securities	**(81)**	**(114)**	**(195)**
Total	**$(1,889)**	**$ (67)**	**$(1,956)**
Three Months Ended September 2020			
Currency translation	$ (677)	$ (13)	$ (690)
Debt valuation adjustment	124	(268)	(144)
Pension and postretirement liabilities	(339)	(2)	(341)
Available-for-sale securities	551	(11)	540
Total	$ (341)	$(294)	$ (635)
Nine Months Ended September 2021			
Currency translation	**$ (696)**	**$ (36)**	**$ (732)**
Debt valuation adjustment	**(833)**	**165**	**(668)**
Pension and postretirement liabilities	**(368)**	**7**	**(361)**
Available-for-sale securities	**463**	**(658)**	**(195)**
Total	**$(1,434)**	**$(522)**	**$(1,956)**
Nine Months Ended September 2020			
Currency translation	$ (616)	$ (74)	$ (690)
Debt valuation adjustment	(572)	428	(144)
Pension and postretirement liabilities	(342)	1	(341)
Available-for-sale securities	46	494	540
Total	$(1,484)	$ 849	$ (635)

Note 20.

Regulation and Capital Adequacy

The FRB is the primary regulator of Group Inc., a BHC under the U.S. Bank Holding Company Act of 1956 and a financial holding company under amendments to this Act. The firm is subject to consolidated regulatory capital requirements which are calculated in accordance with the regulations of the FRB (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 firm's regulators and could limit the firm's ability to repurchase shares, pay dividends and make certain discretionary compensation payments. The firm's capital levels are also subject to qualitative judgments by the regulators about components of capital, risk weightings and other factors. Furthermore, certain of the firm's subsidiaries are subject to separate regulations and capital requirements.

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 Dodd-Frank Act. Under the Capital Framework, the firm is an "Advanced approach" banking organization and has been designated as a global systemically important bank (G-SIB).

The Capital Framework includes the minimum risk-based capital and the capital conservation buffer requirements. The buffer must consist entirely of capital that qualifies as Common Equity Tier 1 (CET1) capital.

The firm calculates its CET1 capital, Tier 1 capital and Total capital ratios in accordance with both the Standardized and Advanced Capital Rules. Each of the ratios calculated under the Standardized and Advanced Capital Rules must meet its respective capital requirements.

Under the Capital Framework, the firm is also subject to leverage requirements which consist of a minimum Tier 1 leverage ratio and a minimum supplementary leverage ratio (SLR), as well as the SLR buffer.

Consolidated Regulatory Capital Requirements

Risk-Based Capital Ratios. The table below presents the risk-based capital requirements as of both September 2021 and December 2020.

	Standardized	Advanced
CET1 capital ratio	13.6%	9.5%
Tier 1 capital ratio	15.1%	11.0%
Total capital ratio	17.1%	13.0%

In the table above:

- Under both the Standardized and Advanced Capital Rules, 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 the G-SIB surcharge of 2.5% (Method 2) and the countercyclical capital buffer, which the FRB has set to zero percent. In addition, the capital conservation buffer requirements include the stress capital buffer (SCB) of 6.6% under the Standardized Capital Rules and a buffer of 2.5% under the Advanced Capital Rules.

- The G-SIB surcharge is updated annually based on financial data from the prior year and is generally applicable for the following year. The G-SIB surcharge is calculated using two methodologies, the higher of which is reflected in the firm's risk-based capital requirements. The first calculation (Method 1) is based on the Basel Committee's methodology which, among other factors, relies upon measures of the size, activity and complexity of each G-SIB. The second calculation (Method 2) uses similar inputs but includes a measure of reliance on short-term wholesale funding.

Based on the firm's 2021 Comprehensive Capital Analysis and Review submission, the FRB has set the SCB for the firm at 6.4% for the period from October 1, 2021 through September 30, 2022. As a result, beginning on October 1, 2021, the firm's Standardized requirements are 13.4% for the CET1 capital ratio, 14.9% for the Tier 1 capital ratio and 16.9% for the Total capital ratio.

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

$ in millions	Standardized	Advanced
As of September 2021		
CET1 capital	**$ 93,292**	**$ 93,292**
Tier 1 capital	**$102,580**	**$102,580**
Tier 2 capital	**$ 14,982**	**$ 12,625**
Total capital	**$117,562**	**$115,205**
RWAs	**$663,936**	**$672,061**
CET1 capital ratio	**14.1%**	**13.9%**
Tier 1 capital ratio	**15.5%**	**15.3%**
Total capital ratio	**17.7%**	**17.1%**
As of December 2020		
CET1 capital	$ 81,641	$ 81,641
Tier 1 capital	$ 92,730	$ 92,730
Tier 2 capital	$ 15,424	$ 13,279
Total capital	$108,154	$106,009
RWAs	$554,162	$609,750
CET1 capital ratio	14.7%	13.4%
Tier 1 capital ratio	16.7%	15.2%
Total capital ratio	19.5%	17.4%

In the table above, as permitted by the FRB, the firm 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 firm 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 firm's capital ratios.

In the third quarter of 2021, based on regulatory feedback, the firm revised certain interpretations of the Capital Rules underlying the calculation of Standardized RWAs. These revisions were reflected in the firm's capital ratios as of September 2021 and increased the firm's Standardized RWAs by approximately $23 billion and reduced both the firm's Standardized CET1 and Standardized Tier 1 capital ratios by 0.5 percentage points, and Standardized Total capital ratio by 0.7 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 firm's Standardized RWAs of $621 billion by approximately $23 billion, which would have reduced the firm's Standardized CET1 capital ratio of 14.4% by 0.5 percentage points, Standardized Tier 1 capital ratio of 15.9% by 0.6 percentage points and Standardized Total capital ratio of 18.3% by 0.7 percentage points.
- As of March 2021, this change would have increased the firm's Standardized RWAs of $595 billion by approximately $22 billion, which would have reduced the firm's Standardized CET1 capital ratio of 14.3% by 0.5 percentage points, Standardized Tier 1 capital ratio of 15.9% by 0.6 percentage points and Standardized Total capital ratio of 18.4% by 0.7 percentage points.
- As of December 2020, this change would have increased the firm's Standardized RWAs of $554 billion by approximately $23 billion, which would have reduced the firm's Standardized CET1 ratio of 14.7% by 0.6 percentage points, Standardized Tier 1 capital ratio of 16.7% by 0.6 percentage points and Standardized Total capital ratio of 19.5% by 0.8 percentage points.
- As of September 2020, this change would have increased the firm's Standardized RWAs of $535 billion by approximately $20 billion, which would have reduced the firm's Standardized CET1 capital ratio of 14.5% by 0.5 percentage points, Standardized Tier 1 capital ratio of 16.6% by 0.6 percentage points and Standardized Total capital ratio of 19.6% by 0.7 percentage points.

Leverage Ratios. The table below presents the leverage requirements.

	Requirements
Tier 1 leverage ratio	**4.0%**
SLR	**5.0%**

In the table above, the SLR requirement of 5% includes a minimum of 3% and a 2% buffer applicable to G-SIBs.

The table below presents information about leverage ratios.

$ in millions	For the Three Months Ended or as of September 2021	December 2020
Tier 1 capital	**$ 102,580**	$ 92,730
Average total assets	**$1,410,173**	$1,152,785
Deductions from Tier 1 capital	**(5,272)**	(4,948)
Average adjusted total assets	**1,404,901**	1,147,837
Impact of SLR temporary amendment	**–**	(202,748)
Average off-balance sheet exposures	**439,373**	387,848
Total leverage exposure	**$1,844,274**	$1,332,937
Tier 1 leverage ratio	**7.3%**	8.1%
SLR	**5.6%**	7.0%

In the table above:

- Average total assets represents the average daily assets for the quarter adjusted for 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 firm's SLR by approximately 1.0 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.

$ in millions	As of September 2021	December 2020
Common shareholders' equity	**$ 96,344**	$ 84,729
Impact of CECL transition	**1,059**	1,126
Deduction for goodwill	**(3,652)**	(3,652)
Deduction for identifiable intangible assets	**(478)**	(601)
Other adjustments	**19**	39
CET1 capital	**93,292**	81,641
Preferred stock	**9,953**	11,203
Deduction for investments in covered funds	**(662)**	(106)
Other adjustments	**(3)**	(8)
Tier 1 capital	**$102,580**	$ 92,730
Standardized Tier 2 and Total capital		
Tier 1 capital	**$102,580**	$ 92,730
Qualifying subordinated debt	**12,044**	12,196
Junior subordinated debt	**94**	188
Allowance for credit losses	**2,896**	3,095
Other adjustments	**(52)**	(55)
Standardized Tier 2 capital	**14,982**	15,424
Standardized Total capital	**$117,562**	$108,154
Advanced Tier 2 and Total capital		
Tier 1 capital	**$102,580**	$ 92,730
Standardized Tier 2 capital	**14,982**	15,424
Allowance for credit losses	**(2,896)**	(3,095)
Other adjustments	**539**	950
Advanced Tier 2 capital	**12,625**	13,279
Advanced Total capital	**$115,205**	$106,009

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.
- Deduction for goodwill was net of deferred tax liabilities of $674 million as of September 2021 and $680 million as of December 2020.
- Deduction for identifiable intangible assets was net of deferred tax liabilities of $19 million as of September 2021 and $29 million as of December 2020.
- Deduction for investments in covered funds represents the firm's aggregate investments in applicable covered funds, excluding investments that are subject to an extended conformance period. See Note 8 for further information about the Volcker Rule.
- Other adjustments within CET1 capital and Tier 1 capital primarily include credit valuation adjustments on derivative liabilities, the overfunded portion of the firm's defined benefit pension plan obligation net of associated deferred tax liabilities, disallowed deferred tax assets, debt valuation adjustments and other required credit risk-based deductions. Other adjustments within Advanced Tier 2 capital include eligible credit reserves.
- Qualifying subordinated debt is subordinated debt issued by Group Inc. 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 firm's subordinated debt.
- Junior subordinated debt is debt issued to a Trust. As of September 2021, 10% of this debt was included in Tier 2 capital and 90% was phased out of regulatory capital. As of December 2020, 20% of this debt was included in Tier 2 capital and 80% was phased out of regulatory capital. Junior subordinated debt is reduced by the amount of Trust Preferred securities purchased by the firm and will be fully phased out of Tier 2 capital by 2022. See Note 14 for further information about the firm's junior subordinated debt and Trust Preferred securities.

The table below presents changes in CET1 capital, Tier 1 capital and Tier 2 capital.

$ in millions	Standardized	Advanced
Nine Months Ended September 2021		
CET1 capital		
Beginning balance	**$ 81,641**	**$ 81,641**
Change in:		
Common shareholders' equity	**11,615**	**11,615**
Impact of CECL transition	**(67)**	**(67)**
Deduction for identifiable intangible assets	**123**	**123**
Other adjustments	**(20)**	**(20)**
Ending balance	**$ 93,292**	**$ 93,292**
Tier 1 capital		
Beginning balance	**$ 92,730**	**$ 92,730**
Change in:		
CET1 capital	**11,651**	**11,651**
Deduction for investments in covered funds	**(556)**	**(556)**
Preferred stock	**(1,250)**	**(1,250)**
Other adjustments	**5**	**5**
Ending balance	**102,580**	**102,580**
Tier 2 capital		
Beginning balance	**15,424**	**13,279**
Change in:		
Qualifying subordinated debt	**(152)**	**(152)**
Junior subordinated debt	**(94)**	**(94)**
Allowance for credit losses	**(199)**	**–**
Other adjustments	**3**	**(408)**
Ending balance	**14,982**	**12,625**
Total capital	**$117,562**	**$115,205**
Year Ended December 2020		
CET1 capital		
Beginning balance	$ 74,850	$ 74,850
Change in:		
Common shareholders' equity	5,667	5,667
Impact of CECL transition	1,126	1,126
Deduction for goodwill	(123)	(123)
Deduction for identifiable intangible assets	3	3
Other adjustments	118	118
Ending balance	$ 81,641	$ 81,641
Tier 1 capital		
Beginning balance	$ 85,440	$ 85,440
Change in:		
CET1 capital	6,791	6,791
Deduction for investments in covered funds	504	504
Other adjustments	(5)	(5)
Ending balance	92,730	92,730
Tier 2 capital		
Beginning balance	14,925	13,473
Change in:		
Qualifying subordinated debt	(651)	(651)
Junior subordinated debt	(96)	(96)
Allowance for credit losses	1,293	–
Other adjustments	(47)	553
Ending balance	15,424	13,279
Total capital	$108,154	$106,009

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 firm 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.
- For both Standardized and Advanced credit RWAs, the risk-weights for securitizations and equities are based on specific required formulaic approaches.

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 firm uses a single VaR model which captures risks, including those related to interest rates, equity prices, currency rates and commodity prices. 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. In addition, the daily net revenues used to determine risk management VaR exceptions (i.e., comparing the daily net revenues to the VaR measure calculated as of the end of the prior business day) include intraday activity, whereas the Capital Framework requires that intraday activity be excluded from daily net revenues when calculating regulatory VaR exceptions. Intraday activity includes bid/offer net revenues, which are more likely than not to be positive by their nature. As a result, there may be differences in the number of VaR exceptions and the amount of daily net revenues calculated for regulatory VaR compared to the amounts calculated for risk management VaR.

The firm's positional losses observed on a single day did not exceed its 99% one-day regulatory VaR 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 firm'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 firm'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 firm 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	**$147,590**	**$116,971**
Commitments, guarantees and loans	**222,978**	**178,086**
Securities financing transactions	**88,391**	**18,004**
Equity investments	**49,346**	**55,450**
Other	**74,325**	**91,181**
Total Credit RWAs	**582,630**	**459,692**
Market RWAs		
Regulatory VaR	**12,733**	**12,733**
Stressed VaR	**40,922**	**40,922**
Incremental risk	**8,325**	**8,325**
Comprehensive risk	**3,292**	**3,292**
Specific risk	**16,034**	**16,034**
Total Market RWAs	**81,306**	**81,306**
Total Operational RWAs	**–**	**131,063**
Total RWAs	**$663,936**	**$672,061**
As of December 2020		
Credit RWAs		
Derivatives	$120,292	$111,691
Commitments, guarantees and loans	176,501	151,587
Securities financing transactions	71,427	16,568
Equity investments	46,944	49,268
Other	70,274	83,599
Total Credit RWAs	485,438	412,713
Market RWAs		
Regulatory VaR	14,913	14,913
Stressed VaR	31,978	31,978
Incremental risk	7,882	7,882
Comprehensive risk	1,758	1,758
Specific risk	12,193	12,193
Total Market RWAs	68,724	68,724
Total Operational RWAs	–	128,313
Total RWAs	$554,162	$609,750

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 cash equivalents, and other assets.

The table below presents changes in RWAs.

$ in millions	Standardized	Advanced
Nine Months Ended September 2021		
RWAs		
Beginning balance	**$554,162**	**$609,750**
Credit RWAs		
Change in:		
Derivatives	**27,298**	**5,280**
Commitments, guarantees and loans	**46,477**	**26,499**
Securities financing transactions	**16,964**	**1,436**
Equity investments	**2,402**	**6,182**
Other	**4,051**	**7,582**
Change in Credit RWAs	**97,192**	**46,979**
Market RWAs		
Change in:		
Regulatory VaR	**(2,180)**	**(2,180)**
Stressed VaR	**8,944**	**8,944**
Incremental risk	**443**	**443**
Comprehensive risk	**1,534**	**1,534**
Specific risk	**3,841**	**3,841**
Change in Market RWAs	**12,582**	**12,582**
Change in Operational RWAs	**–**	**2,750**
Ending balance	**$663,936**	**$672,061**
Year Ended December 2020		
RWAs		
Beginning balance	$563,575	$544,653
Credit RWAs		
Change in:		
Derivatives	(614)	39,060
Commitments, guarantees and loans	(3,239)	17,131
Securities financing transactions	5,560	2,734
Equity investments	(9,870)	(12,624)
Other	(5,386)	5,333
Change in Credit RWAs	(13,549)	51,634
Market RWAs		
Change in:		
Regulatory VaR	5,980	5,980
Stressed VaR	1,067	1,067
Incremental risk	3,574	3,574
Comprehensive risk	365	567
Specific risk	(6,850)	(6,850)
Change in Market RWAs	4,136	4,338
Change in Operational RWAs	**–**	9,125
Ending balance	$554,162	$609,750

RWAs Rollforward Commentary

Nine Months Ended September 2021. Standardized Credit RWAs as of September 2021 increased by $97.19 billion compared with December 2020, primarily 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), an increase in derivatives (principally due to increased exposures) and an increase in securities financing transactions (principally due to increased exposures and revisions to certain interpretations of the Capital Rules noted above). Standardized Market RWAs as of September 2021 increased by $12.58 billion compared with December 2020, primarily reflecting an increase in stressed VaR (principally due to increased exposures to interest rates) and an increase in specific risk (principally due to increased exposures to securitized products).

Advanced Credit RWAs as of September 2021 increased by $46.98 billion compared with December 2020, primarily reflecting an increase in commitments, guarantees and loans (principally due to increased lending activity), an increase in other credit RWAs (principally due to increased receivables exposures) and an increase in equity investments (principally due to increased exposures as a result of gains, partially offset by sales). Advanced Market RWAs as of September 2021 increased by $12.58 billion compared with December 2020, primarily reflecting an increase in stressed VaR (principally due to increased exposures to interest rates) and an increase in specific risk (principally due to increased exposures to securitized products).

Year Ended December 2020. Standardized Credit RWAs as of December 2020 decreased by $13.55 billion compared with December 2019, primarily reflecting a decrease in equity investments (principally due to the sale of certain equity positions) and a decrease in other (principally due to decreased receivables as a result of changes in risk measurements). These decreases were partially offset by an increase in securities financing transactions (principally due to increased funding exposures). Standardized Market RWAs as of December 2020 increased by $4.14 billion compared with December 2019, primarily reflecting an increase in regulatory VaR (principally due to increased market volatility) and an increase in incremental risk (principally due to increased exposures in equities held for market-making purposes). These increases were partially offset by a decrease in specific risk (principally due to changes in risk measurements on certain exposures).

Advanced Credit RWAs as of December 2020 increased by $51.63 billion compared with December 2019, primarily reflecting an increase in derivatives (principally due to the impact of higher levels of volatility and counterparty credit risk) and an increase in commitments, guarantees and loans (principally due to increased lending activity). These increases were partially offset by a decrease in equity investments (principally due to the sale of certain equity positions). Advanced Market RWAs as of December 2020 increased by $4.34 billion compared with December 2019, primarily reflecting an increase in regulatory VaR (principally due to increased market volatility) and an increase in incremental risk (principally due to increased exposures in equities held for market-making purposes). These increases were partially offset by a decrease in specific risk (principally due to changes in risk measurements on certain exposures). Advanced Operational RWAs as of December 2020 increased by $9.13 billion compared with December 2019. The vast majority of this increase was associated with litigation and regulatory proceedings.

Bank Subsidiaries

Regulatory Capital Ratios. GS Bank USA, the firm's primary U.S. bank subsidiary, is an FDIC-insured, New York State-chartered bank and a member of the Federal Reserve System, is supervised and regulated by the FRB, the FDIC, the New York State Department of Financial Services (NYDFS) and the Consumer Financial Protection Bureau, and is subject to regulatory capital requirements that are calculated under the Capital Framework. On July 1, 2021, GS Bank USA acquired GSBE, a non-U.S. banking subsidiary of the firm, which is also subject to standalone regulatory capital requirements noted below. GS Bank USA is an Advanced approach banking organization under the Capital Framework. 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 CET1 capital. In addition, the Capital Framework includes the leverage ratio requirement.

GS Bank USA is required to calculate the 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 under the Standardized and Advanced Capital Rules is the ratio against which GS Bank USA's compliance with its risk-based capital requirements is assessed. In addition, under the regulatory framework for prompt corrective action applicable to GS Bank USA, in order to meet the quantitative requirements for a "well-capitalized" depository institution, GS Bank USA must also meet the "well-capitalized" requirements in the table below. GS Bank USA'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.

The table below presents GS Bank USA's 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 GS Bank USA's 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:

- 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 lower of the Standardized or Advanced ratio is the ratio against which GS Bank USA's compliance with the capital requirements is assessed under the risk-based Capital Rules, and therefore, the Standardized ratios applied to GS Bank USA as of both September 2021 and December 2020.
- As permitted by the FRB, GS Bank USA 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, GS Bank USA 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 GS Bank USA's Standardized risk-based capital ratios.

- The Standardized and Advanced risk-based capital ratios decreased from December 2020 to September 2021, reflecting an increase in both Credit and Market RWAs, partially offset by an increase in capital, principally due to net capital contributions and net earnings.
- In connection with the regulatory feedback the firm received in the third quarter of 2021, GS Bank USA revised certain interpretations of the Capital Rules underlying the calculation of Standardized RWAs, which increased GS Bank USA's Standardized RWAs by approximately $10 billion and reduced GS Bank USA's Standardized CET1, Standardized Tier 1 and Standardized Total capital ratios by 0.4 percentage points as of September 2021. As of December 2020, this change would have increased GS Bank USA's Standardized RWAs of $281 billion by approximately $11 billion, which would have reduced GS Bank USA'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.

The table below presents information about GS Bank USA's leverage ratios.

	For the Three Months Ended or as of	
$ in millions	**September 2021**	December 2020
Tier 1 capital	**$ 40,811**	$ 34,687
Average adjusted total assets	**$374,396**	$310,690
Total leverage exposure	**$608,770**	$381,637
Tier 1 leverage ratio	**10.9%**	11.2%
SLR	**6.7%**	9.1%

In the table above:

- 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.
- 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.
- Total leverage exposure, for the three months ended December 2020, excluded average holdings of U.S. Treasury securities and average deposits at the Federal Reserve as permitted by the FRB under a temporary amendment. The impact of this temporary amendment was an increase in GS Bank USA'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.
- 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.

The firm's principal non-U.S. bank subsidiaries, GSIB and GSBE, are also subject to regulatory capital requirements. GSIB is regulated by the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA), and GSBE is directly supervised by the European Central Bank and by BaFin and Deutsche Bundesbank in the context of the E.U. Single Supervisory Mechanism. As of both September 2021 and December 2020, GSIB and GSBE were in compliance with their regulatory capital requirements.

Other. 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.

Restrictions on Payments

Group Inc. may be limited in its ability to access capital held at certain subsidiaries as a result of regulatory, tax or other constraints. These limitations include provisions of applicable law and regulations and other regulatory restrictions that limit the ability of those subsidiaries to declare and pay dividends without prior regulatory approval. For example, the amount of dividends that may be paid by GS Bank USA are limited to the lesser of the amounts calculated under a recent earnings test and an undivided profits test. As a result of dividends paid in connection with the acquisition of GSBE in July 2021, GS Bank USA cannot currently declare any additional dividends without prior regulatory approval.

In addition, subsidiaries not subject to separate regulatory capital requirements may hold capital to satisfy local tax and legal guidelines, rating agency requirements (for entities with assigned credit ratings) or internal policies, including policies concerning the minimum amount of capital a subsidiary should hold based on its underlying level of risk.

Group Inc.'s equity investment in subsidiaries was $114.93 billion as of September 2021 and $103.80 billion as of December 2020, of which Group Inc. was required to maintain $83.57 billion as of September 2021 and $63.68 billion as of December 2020, of minimum equity capital in its regulated subsidiaries in order to satisfy the regulatory requirements of such subsidiaries.

Group Inc.'s capital invested in certain non-U.S. subsidiaries is exposed to foreign exchange risk, substantially all of which is managed through a combination of derivatives and non-U.S. denominated debt. See Note 7 for information about the firm's net investment hedges used to hedge this risk.

Note 21.

Earnings Per Common Share

Basic earnings per common share (EPS) is calculated by dividing net earnings to common by the weighted average number of common shares outstanding and RSUs for which the delivery of the underlying common stock is not subject to satisfaction of future service or performance conditions (collectively, basic shares). Diluted EPS includes the determinants of basic EPS and, in addition, reflects the dilutive effect of the common stock deliverable for RSUs for which the delivery of the underlying common stock is subject to satisfaction of future service or performance conditions.

The table below presents information about basic and diluted EPS.

	Three Months Ended September		Nine Months Ended September	
in millions, except per share amounts	**2021**	2020	**2021**	2020
Net earnings to common	**$5,284**	$3,233	**$17,342**	$4,553
Weighted average basic shares	**348.3**	355.9	**351.8**	356.5
Effect of dilutive RSUs	**5.6**	4.0	**5.1**	3.5
Weighted average diluted shares	**353.9**	359.9	**356.9**	360.0
Basic EPS	**$15.14**	$ 9.07	**$ 49.23**	$12.71
Diluted EPS	**$14.93**	$ 8.98	**$ 48.59**	$12.65

In the table above:

- Net earnings to common represents net earnings applicable to common shareholders, which is calculated as net earnings less preferred stock dividends.
- Unvested share-based awards that have non-forfeitable rights to dividends or dividend equivalents are treated as a separate class of securities under the two-class method. Distributed earnings allocated to these securities reduce net earnings to common to calculate EPS under this method. The impact of applying this methodology was a reduction in basic EPS of $0.03 for the three months ended September 2021, $0.01 for the three months ended September 2020, $0.07 for the nine months ended September 2021 and $0.06 for the nine months ended September 2020.
- Diluted EPS does not include antidilutive RSUs of approximately 0.1 million for each of the three months ended September 2021, three months ended September 2020 and nine months ended September 2020, and approximately 0.2 million for the nine months ended September 2021.

Note 22.

Transactions with Affiliated Funds

The firm has formed nonconsolidated investment funds with third-party investors. As the firm generally acts as the investment manager for these funds, it is entitled to receive management fees and, in certain cases, advisory fees or incentive fees from these funds. Additionally, the firm invests alongside the third-party investors in certain funds.

The tables below present information about affiliated funds.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Fees earned from funds	**$1,046**	$816	**$2,647**	$2,541

	As of	
$ in millions	**September 2021**	December 2020
Fees receivable from funds	**$1,021**	$ 803
Aggregate carrying value of interests in funds	**$5,372**	$5,068

The firm may periodically determine to waive certain management fees on selected money market funds to enhance the yield for investors in these funds. Management fees waived were $156 million for the three months ended September 2021, $26 million for the three months ended September 2020, $422 million for the nine months ended September 2021 and $57 million for the nine months ended September 2020.

The Volcker Rule restricts the firm from providing financial support to covered funds (as defined in the rule) after the expiration of the conformance period. As a general matter, in the ordinary course of business, the firm does not expect to provide additional voluntary financial support to any covered funds, but may choose to do so with respect to funds that are not subject to the Volcker Rule. However, any such support is not expected to be material to the results of operations of the firm.

In March 2020, GS Bank USA and unaffiliated entities purchased certificates of deposit and commercial paper from two money market funds managed by the firm. These funds are not covered funds under the Volcker Rule. GS Bank USA's purchase price of these securities was $1.84 billion, of which none were outstanding as of September 2021 and $321 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. Group Inc. provided a guarantee to GS Bank USA in connection with these securities. See Note 18 for information about guarantees provided by Group Inc. to subsidiaries.

The firm had an outstanding guarantee, as permitted under the Volcker Rule, on behalf of its funds of $87 million as of both September 2021 and December 2020. The firm has voluntarily provided this guarantee in connection with a financing agreement with a third-party lender executed by one of the firm's real estate funds that is not covered by the Volcker Rule. Except as noted above, the firm has not provided any additional financial support to its affiliated funds during either the nine months ended September 2021 or the year ended December 2020.

In addition, in the ordinary course of business, the firm may also engage in other activities with its affiliated funds, including, among others, securities lending, trade execution, market-making, custody, and acquisition and bridge financing. See Note 18 for information about the firm's investment commitments related to these funds.

Note 23.

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	**$ (13)**	$ 11	**$ (9)**	$ 234
Collateralized agreements	**(220)**	(67)	**(651)**	451
Trading assets	**1,230**	1,176	**3,553**	4,006
Investments	**358**	404	**1,243**	1,196
Loans	**1,363**	1,153	**3,878**	3,691
Other interest	**399**	255	**1,096**	1,138
Total interest income	**3,117**	2,932	**9,110**	10,716
Deposits	**319**	505	**978**	1,982
Collateralized financings	**33**	50	**41**	570
Trading liabilities	**495**	345	**1,240**	931
Short-term borrowings	**115**	124	**433**	423
Long-term borrowings	**843**	981	**2,477**	3,217
Other interest	**(252)**	(157)	**(734)**	252
Total interest expense	**1,553**	1,848	**4,435**	7,375
Net interest income	**$1,564**	$1,084	**$4,675**	$ 3,341

In the table above:

- Collateralized agreements includes rebates paid and interest income on 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 includes interest income on customer debit balances, other interest-earning assets and loans held for sale that are accounted for at the lower of cost or fair value.
- Collateralized financings consists of repurchase agreements and securities loaned.
- Short- and long-term borrowings include both secured and unsecured borrowings.
- Other interest expense includes rebates received on other interest-bearing liabilities and interest expense on customer credit balances.

Note 24.

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 firm reports interest expense related to income tax matters in provision for taxes and income tax penalties in other expenses.

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 and primarily relate to the ability to utilize losses in various tax jurisdictions. Tax assets are included in other assets and tax liabilities are included in other liabilities.

Unrecognized Tax Benefits

The firm 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 firm is subject to examination by the U.S. Internal Revenue Service (IRS) and other taxing authorities in jurisdictions where the firm has significant business operations, such as the United Kingdom, Japan, Hong Kong and various states, such as New York. The tax years under examination vary by jurisdiction. The firm does not expect completion of these audits to have a material impact on the firm's financial condition, but it may be material to operating results for a particular period, depending, in part, on the operating results for that period.

The table below presents the earliest tax years that remain subject to examination by major jurisdiction.

Jurisdiction	As of September 2021
U.S. Federal	**2011**
New York State and City	**2015**
United Kingdom	**2017**
Japan	**2016**
Hong Kong	**2015**

The firm 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 the firm 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 2011 through 2017 has been completed and the final resolution is not expected to have a material impact on the effective tax rate. 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 the years in the table above, remain open to examination by the taxing authorities. The firm believes that the liability for unrecognized tax benefits it has established is adequate in relation to the potential for additional assessments.

Note 25. Business Segments

The firm reports its activities in four business segments: Investment Banking, Global Markets, Asset Management and Consumer & Wealth Management. See Note 1 for information about the firm's business segments.

Compensation and benefits expenses in the firm's segments reflect, among other factors, the overall performance of the firm, as well as the performance of individual businesses. Consequently, pre-tax margins in one segment of the firm's business may be significantly affected by the performance of the firm's other business segments.

The firm allocates assets (including allocations of global core liquid assets and cash, secured client financing and other assets), revenues and expenses among the four business segments. Due to the integrated nature of these segments, estimates and judgments are made in allocating certain assets, revenues and expenses. The allocation process is based on the manner in which management currently views the performance of the segments.

The allocation of common shareholders' equity and preferred stock dividends to each segment is based on the estimated amount of equity required to support the activities of the segment under relevant regulatory capital requirements.

Net earnings for each segment is calculated by applying the firmwide tax rate to each segment's pre-tax earnings.

Management believes that this allocation provides a reasonable representation of each segment's contribution to consolidated net earnings to common, return on average common equity and total assets. Transactions between segments are based on specific criteria or approximate third-party rates.

Notes to Consolidated Financial Statements (Unaudited)

Segment Results

The table below presents a summary of the firm's segment results.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Investment Banking				
Non-interest revenues	**$ 3,599**	$ 1,904	**$10,755**	$ 6,614
Net interest income	**101**	65	**325**	196
Total net revenues	**3,700**	1,969	**11,080**	6,810
Provision for credit losses	**41**	171	**(229)**	1,612
Operating expenses	**1,343**	1,067	**5,161**	4,940
Pre-tax earnings	**$ 2,316**	$ 731	**$ 6,148**	$ 258
Net earnings	**$ 1,831**	$ 469	**$ 4,942**	$ 184
Net earnings to common	**$ 1,818**	$ 452	**$ 4,890**	$ 133
Average common equity	**$10,346**	$11,271	**$10,201**	$11,251
Return on average common equity	**70.3%**	16.0%	**63.9%**	1.6%
Global Markets				
Non-interest revenues	**$ 4,943**	$ 4,093	**$16,121**	$15,292
Net interest income	**668**	460	**1,971**	1,600
Total net revenues	**5,611**	4,553	**18,092**	16,892
Provision for credit losses	**(24)**	(15)	**(30)**	236
Operating expenses	**2,794**	2,542	**10,352**	10,568
Pre-tax earnings	**$ 2,841**	$ 2,026	**$ 7,770**	$ 6,088
Net earnings	**$ 2,244**	$ 1,904	**$ 6,246**	$ 4,346
Net earnings to common	**$ 2,190**	$ 1,816	**$ 6,041**	$ 4,085
Average common equity	**$46,959**	$39,960	**$44,067**	$40,542
Return on average common equity	**18.7%**	18.2%	**18.3%**	13.4%
Asset Management				
Non-interest revenues	**$ 2,174**	$ 2,717	**$11,619**	$ 4,626
Net interest income	**105**	51	**406**	147
Total net revenues	**2,279**	2,768	**12,025**	4,773
Provision for credit losses	**10**	70	**(2)**	420
Operating expenses	**823**	1,358	**4,656**	3,888
Pre-tax earnings	**$ 1,446**	$ 1,340	**$ 7,371**	$ 465
Net earnings	**$ 1,115**	$ 858	**$ 5,925**	$ 332
Net earnings to common	**$ 1,096**	$ 839	**$ 5,853**	$ 273
Average common equity	**$25,788**	$19,989	**$25,294**	$20,332
Return on average common equity	**17.0%**	16.8%	**30.9%**	1.8%
Consumer & Wealth Management				
Non-interest revenues	**$ 1,328**	$ 983	**$ 3,530**	$ 2,946
Net interest income	**690**	508	**1,973**	1,398
Total net revenues	**2,018**	1,491	**5,503**	4,344
Provision for credit losses	**148**	52	**274**	537
Operating expenses	**1,631**	1,237	**4,499**	3,680
Pre-tax earnings	**$ 239**	$ 202	**$ 730**	$ 127
Net earnings	**$ 188**	$ 136	**$ 587**	$ 91
Net earnings to common	**$ 180**	$ 126	**$ 558**	$ 62
Average common equity	**$10,740**	$ 8,519	**$10,475**	$ 7,715
Return on average common equity	**6.7%**	5.9%	**7.1%**	1.1%
Total				
Non-interest revenues	**$12,044**	$ 9,697	**$42,025**	$29,478
Net interest income	**1,564**	1,084	**4,675**	3,341
Total net revenues	**13,608**	10,781	**46,700**	32,819
Provision for credit losses	**175**	278	**13**	2,805
Operating expenses	**6,591**	6,204	**24,668**	23,076
Pre-tax earnings	**$ 6,842**	$ 4,299	**$22,019**	$ 6,938
Net earnings	**$ 5,378**	$ 3,367	**$17,700**	$ 4,953
Net earnings to common	**$ 5,284**	$ 3,233	**$17,342**	$ 4,553
Average common equity	**$93,833**	$79,739	**$90,037**	$79,840
Return on average common equity	**22.5%**	16.2%	**25.7%**	7.6%

In the table above:

- Revenues and expenses directly associated with each segment are included in determining pre-tax earnings.
- Net revenues in the firm's segments include allocations of interest income and expense to specific positions in relation to the cash generated by, or funding requirements of, such positions. Net interest is included in segment net revenues as it is consistent with how management assesses segment performance.
- Total operating expenses included net provisions for litigation and regulatory proceedings of $3.40 billion for the nine months ended September 2020, primarily reflected in Investment Banking and Global Markets.
- Overhead expenses not directly allocable to specific segments are allocated ratably based on direct segment expenses.
- The allocation of common equity among the firm's segments for both the three and nine months ended September 2021 reflected updates to the firm's attributed equity framework (effective January 1, 2021) to incorporate the impact of the SCB rule and the firm's SCB of 6.6%, which became effective on October 1, 2020 under the Standardized Approach. The average common equity balances above incorporate such impact, as well as the changes in the size and composition of assets held in each of the firm's segments that occurred during both the three and nine months ended September 2021. See Note 20 for information about the firm's updated SCB, which became effective on October 1, 2021.

The table below presents depreciation and amortization expense by segment.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Investment Banking	**$ 50**	$ 46	**$ 144**	$ 128
Global Markets	**209**	160	**571**	440
Asset Management	**153**	170	**539**	553
Consumer & Wealth Management	**97**	92	**273**	283
Total	**$509**	$468	**$1,527**	$1,404

Segment Assets

The table below presents assets by segment.

$ in millions	As of September 2021	As of December 2020
Investment Banking	**$ 141,580**	$ 116,242
Global Markets	**1,077,437**	844,606
Asset Management	**94,063**	95,751
Consumer & Wealth Management	**130,150**	106,429
Total	**$1,443,230**	$1,163,028

The table below presents gross loans by segment and loan type, and allowance for loan losses by segment.

$ in millions	As of September 2021	As of December 2020
Investment Banking		
Corporate	**$ 27,346**	$ 27,866
Loans, gross	**27,346**	27,866
Allowance for loan losses	**(918)**	(1,322)
Loans	**26,428**	26,544
Global Markets		
Corporate	**19,349**	13,248
Real estate	**26,641**	16,915
Other	**5,601**	3,499
Loans, gross	**51,591**	33,662
Allowance for loan losses	**(424)**	(448)
Loans	**51,167**	33,214
Asset Management		
Corporate	**7,412**	7,545
Real estate	**8,425**	9,125
Other	**707**	675
Loans, gross	**16,544**	17,345
Allowance for loan losses	**(752)**	(787)
Loans	**15,792**	16,558
Consumer & Wealth Management		
Wealth management	**41,775**	33,023
Installment	**3,449**	3,823
Credit cards	**6,251**	4,270
Loans, gross	**51,475**	41,116
Allowance for loan losses	**(1,238)**	(1,317)
Loans	**50,237**	39,799
Total		
Loans, gross	**146,956**	119,989
Allowance for loan losses	**(3,332)**	(3,874)
Loans	**$ 143,624**	$ 116,115

See Note 9 for further information about loans.

Geographic Information

Due to the highly integrated nature of international financial markets, the firm manages its businesses based on the profitability of the enterprise as a whole. The methodology for allocating profitability to geographic regions is dependent on estimates and management judgment because a significant portion of the firm's activities require cross-border coordination in order to facilitate the needs of the firm's clients. Geographic results are generally allocated as follows:

- Investment Banking: location of the client and investment banking team.
- Global Markets: FICC and Equities intermediation: location of the market-making desk; FICC and Equities financing (excluding prime brokerage financing): location of the desk; prime brokerage financing: location of the primary market for the underlying security.
- Asset Management (excluding Equity investments and Lending and debt investments): location of the sales team; Equity investments: location of the investment; Lending and debt investments: location of the client.
- Consumer & Wealth Management: Wealth management: location of the sales team; Consumer banking: location of the client.

The table below presents total net revenues and pre-tax earnings by geographic region.

$ in millions	2021		2020	
Three Months Ended September				
Americas	**$ 8,169**	**60%**	$ 6,873	64%
EMEA	**3,394**	**25%**	2,470	23%
Asia	**2,045**	**15%**	1,438	13%
Total net revenues	**$13,608**	**100%**	$10,781	100%
Americas	**$ 4,004**	**59%**	$ 2,926	68%
EMEA	**1,922**	**28%**	935	22%
Asia	**916**	**13%**	438	10%
Total pre-tax earnings	**$ 6,842**	**100%**	$ 4,299	100%
Nine Months Ended September				
Americas	**$28,951**	**62%**	$20,333	62%
EMEA	**11,585**	**25%**	8,031	24%
Asia	**6,164**	**13%**	4,455	14%
Total net revenues	**$46,700**	**100%**	$32,819	100%
Americas	**$13,484**	**61%**	$ 5,330	77%
EMEA	**6,012**	**27%**	1,937	28%
Asia	**2,523**	**12%**	(329)	(5)%
Total pre-tax earnings	**$22,019**	**100%**	$ 6,938	100%

In the table above:

- Asia pre-tax earnings for the nine months ended September 2020 were impacted by net provisions for litigation and regulatory proceedings.
- Substantially all of the amounts in Americas were attributable to the U.S.
- Asia includes Australia and New Zealand.

Note 26.

Credit Concentrations

The firm's concentrations of credit risk arise from its market making, client facilitation, investing, underwriting, lending and collateralized transactions, and cash management activities, and may be impacted by changes in economic, industry or political factors. These activities expose the firm to many different industries and counterparties, and may also subject the firm 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 firm seeks to mitigate credit risk by actively monitoring exposures and obtaining collateral from counterparties as deemed appropriate.

The firm measures and monitors its credit exposure based on amounts owed to the firm after taking into account risk mitigants that the firm 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 firm to offset receivables and payables with such counterparties and/or enable the firm 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	
$ in millions	**September 2021**	December 2020
U.S. government and agency obligations	**$147,262**	$187,009
Percentage of total assets	**10.2%**	16.1%
Non-U.S. government and agency obligations	**$ 58,520**	$ 59,580
Percentage of total assets	**4.1%**	5.1%

In addition, the firm had $171.94 billion as of September 2021 and $116.63 billion as of December 2020 of cash deposits held at central banks (included in cash and cash equivalents), of which $100.93 billion as of September 2021 and $52.71 billion as of December 2020 was held at the Federal Reserve.

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

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

The table below presents U.S. government and agency obligations and non-U.S. government and agency obligations that collateralize resale agreements and securities borrowed transactions.

	As of	
$ in millions	**September 2021**	December 2020
U.S. government and agency obligations	**$109,643**	$60,158
Non-U.S. government and agency obligations	**$120,984**	$68,001

In the table above:

- Non-U.S. government and agency obligations primarily consists of securities issued by the governments of the U.K. and Japan.
- Given that the firm's primary credit exposure on such transactions is to the counterparty to the transaction, the firm would be exposed to the collateral issuer only in the event of counterparty default.

Note 27.

Legal Proceedings

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

Under ASC 450, an event is "reasonably possible" if "the chance of the future event or events occurring is more than remote but less than likely" and an event is "remote" if "the chance of the future event or events occurring is slight." Thus, references to the upper end of the range of reasonably possible loss for cases in which the firm is able to estimate a range of reasonably possible loss mean the upper end of the range of loss for cases for which the firm believes the risk of loss is more than slight.

With respect to matters described below for which management has been able to estimate a range of reasonably possible loss where (i) actual or potential plaintiffs have claimed an amount of money damages, (ii) the firm is being, or threatened to be, sued by purchasers in a securities offering and is not being indemnified by a party that the firm believes will pay the full amount of any judgment, or (iii) the purchasers are demanding that the firm repurchase securities, management has estimated the upper end of the range of reasonably possible loss based on (a) in the case of (i), the amount of money damages claimed, (b) in the case of (ii), the difference between the initial sales price of the securities that the firm sold in such offering and the estimated lowest subsequent price of such securities prior to the action being commenced and (c) in the case of (iii), the price that purchasers paid for the securities less the estimated value, if any, as of September 2021 of the relevant securities, in each of cases (i), (ii) and (iii), taking into account any other factors believed to be relevant to the particular matter or matters of that type. As of the date hereof, the firm has estimated the upper end of the range of reasonably possible aggregate loss for such matters and for any other matters described below where management has been able to estimate a range of reasonably possible aggregate loss to be approximately $1.8 billion in excess of the aggregate reserves for such matters.

Management is generally unable to estimate a range of reasonably possible loss for matters other than those included in the estimate above, 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. For example, the firm's potential liabilities with respect to the investigations and reviews described below in "Regulatory Investigations and Reviews and Related Litigation" generally are not included in management's estimate of reasonably possible loss. However, management does not believe, based on currently available information, that the outcomes of such other matters will have a material adverse effect on the firm's financial condition, though the outcomes could be material to the firm's operating results for any particular period, depending, in part, upon the operating results for such period. See Note 18 for further information about mortgage-related contingencies.

1MDB-Related Matters

Between 2012 and 2013, subsidiaries of the firm acted as arrangers or purchasers of approximately $6.5 billion of debt securities of 1MDB.

On November 1, 2018, the U.S. Department of Justice (DOJ) unsealed a criminal information and guilty plea by Tim Leissner, a former participating managing director of the firm, and an indictment against Ng Chong Hwa, a former managing director of the firm. On August 28, 2018, Leissner was adjudicated guilty by the U.S. District Court for the Eastern District of New York of conspiring to launder money and to violate the U.S. Foreign Corrupt Practices Act's (FCPA) anti-bribery and internal accounting controls provisions. Ng was charged with conspiring to launder money and to violate the FCPA's anti-bribery and internal accounting controls provisions. On May 6, 2019, Ng pleaded not guilty to the DOJ's criminal charges.

On August 18, 2020, the firm announced that it entered into a settlement agreement with the Government of Malaysia to resolve the criminal and regulatory proceedings in Malaysia involving the firm, which includes a guarantee that the Government of Malaysia receives at least $1.4 billion in assets and proceeds from assets seized by governmental authorities around the world related to 1MDB.

On October 22, 2020, the firm announced that it reached settlements of governmental and regulatory investigations relating to 1MDB with the DOJ, the SEC, the FRB, the NYDFS, the FCA, the PRA, the Singapore Attorney General's Chambers, the Singapore Commercial Affairs Department, the Monetary Authority of Singapore and the Hong Kong Securities and Futures Commission. Group Inc. entered into a three-year deferred prosecution agreement with the DOJ, in which a charge against the firm, one count of conspiracy to violate the FCPA, was filed and will later be dismissed if the firm abides by the terms of the agreement. In addition, GS Malaysia pleaded guilty to one count of conspiracy to violate the FCPA, and was sentenced on June 9, 2021. In May 2021, the U.S. Department of Labor granted the firm a five-year exemption to maintain its status as a qualified professional asset manager (QPAM).

The firm has received multiple demands, beginning in November 2018, from alleged shareholders under Section 220 of the Delaware General Corporation Law for books and records relating to, among other things, the firm's involvement with 1MDB and the firm's compliance procedures. On December 13, 2019, an alleged shareholder filed a lawsuit in the Court of Chancery of the State of Delaware seeking books and records relating to, among other things, the firm's involvement with 1MDB and the firm's compliance procedures. The lawsuit was dismissed without prejudice on August 4, 2021.

On February 19, 2019, a purported shareholder derivative action relating to 1MDB was filed in the U.S. District Court for the Southern District of New York against Group Inc. and the directors at the time and a former chairman and chief executive officer of the firm. The second amended complaint filed on November 13, 2020, alleges breaches of fiduciary duties, including in connection with alleged insider trading by certain current and former directors, unjust enrichment and violations of the anti-fraud provisions of the Exchange Act, including in connection with Group Inc.'s common stock repurchases and solicitation of proxies, and seeks unspecified damages, disgorgement and injunctive relief. Defendants moved to dismiss this action on January 15, 2021.

Beginning in March 2019, the firm has also received demands from three shareholders to investigate and pursue claims against certain current and former directors and executive officers based on their oversight and public disclosures regarding 1MDB and related internal controls. In June 2019, the Board appointed a Special Committee to consider the demands and, in January 2021, the Board voted to reject them. In June 2021, the firm reached a settlement with the three shareholders. Following the Board's decision to reject the initial three demands, the firm received two additional demands from alleged shareholders (one of which is the alleged shareholder that filed the December 2019 books and records action in Delaware Chancery Court) to investigate and pursue claims related to 1MDB (and, for one of the demands, other matters) against other parties, including certain current and former directors and executive officers of the firm.

On December 20, 2018, a putative securities class action lawsuit was filed in the U.S. District Court for the Southern District of New York against Group Inc. and certain former officers of the firm alleging violations of the anti-fraud provisions of the Exchange Act with respect to Group Inc.'s disclosures and public statements concerning 1MDB and seeking unspecified damages. The plaintiffs filed the second amended complaint on October 28, 2019. On June 28, 2021, the court dismissed the claims against one of the individual defendants but denied the defendants' motion to dismiss with respect to the firm and the remaining individual defendants.

Mortgage-Related Matters

Beginning in April 2010, a number of purported securities law class actions were filed in the U.S. District Court for the Southern District of New York challenging the adequacy of Group Inc.'s public disclosure of, among other things, the firm's activities in the collateralized debt obligation market, and the firm's conflict of interest management.

The consolidated amended complaint filed on July 25, 2011, which named as defendants Group Inc. and certain current and former officers and employees of Group Inc. and its affiliates, generally alleges violations of Sections 10(b) and 20(a) of the Exchange Act and seeks monetary damages. The defendants have moved for summary judgment. On April 7, 2020, the Second Circuit Court of Appeals affirmed the district court's August 14, 2018 grant of class certification. On June 21, 2021, the United States Supreme Court vacated the judgment of the Second Circuit and remanded the case for further proceedings, and on August 26, 2021, the Second Circuit vacated the district court's grant of class certification and remanded the case for further proceedings.

Complaints were filed in the U.S. District Court for the Southern District of New York on July 25, 2019 and May 29, 2020 against Goldman Sachs Mortgage Company and GS Mortgage Securities Corp. by U.S. Bank National Association, as trustee for two residential mortgage-backed securitization trusts that issued $1.7 billion of securities. The complaints generally allege that mortgage loans in the trusts failed to conform to applicable representations and warranties and seek specific performance or, alternatively, compensatory damages and other relief. On November 23, 2020, the court granted in part and denied in part defendants' motion to dismiss the complaint in the first action and denied defendants' motion to dismiss the complaint in the second action. On January 14, 2021, amended complaints were filed in both actions.

Currencies-Related Litigation

GS&Co. and Group Inc. are among the defendants named in an action filed in the U.S. District Court for the Southern District of New York on November 7, 2018, and GSI, GSIB, Goldman Sachs Group UK Limited and GS Bank USA are among the defendants in an action filed in the High Court of England and Wales on November 11, 2020, in each case by certain direct purchasers of foreign exchange instruments that opted out of a class settlement reached with, among others, GS&Co. and Group Inc. The third amended complaint in the U.S. district court action, filed on August 3, 2020, generally alleges that the defendants violated federal antitrust law and state common law in connection with an alleged conspiracy to manipulate the foreign currency exchange markets and seeks declaratory and injunctive relief, as well as unspecified amounts of compensatory, punitive, treble and other damages. The claim in the English action is for breaches of English and E.U. competition rules from 2003 to 2013 and alleges manipulation of foreign exchange rates and bid/offer spreads, the exchange of commercially sensitive information among defendants and collusive trading.

GS&Co. is among the defendants named in a putative class action filed in the U.S. District Court for the Southern District of New York on August 4, 2021. The complaint generally asserts claims under federal antitrust law and state common law in connection with an alleged conspiracy among the defendants to manipulate auctions for foreign exchange transactions on an electronic trading platform, as well as claims under the Racketeer Influenced and Corrupt Organizations Act against certain defendants other than GS&Co. The complaint seeks declaratory and injunctive relief, as well as unspecified amounts of treble and other damages. On October 13, 2021, the defendants filed a motion to dismiss the complaint.

Banco Espirito Santo S.A. and Oak Finance

Beginning in February 2015, GSI commenced actions against Novo Banco S.A. (Novo Banco) in the English Commercial Court and the Bank of Portugal (BoP) in Portuguese Administrative Court in response to BoP's decisions in December 2014, September 2015 and December 2015 to reverse an earlier transfer to Novo Banco of an $835 million facility agreement (the Facility), structured by GSI, between Oak Finance Luxembourg S.A. (Oak Finance), a special purpose vehicle formed in connection with the Facility, and Banco Espirito Santo S.A. (BES) prior to the failure of BES. In July 2018, the English Supreme Court found that the English courts did not yet have jurisdiction over GSI's action. In July 2018, the Liquidation Committee for BES issued a decision seeking to claw back from GSI $54 million paid to GSI and $50 million paid to Oak Finance in connection with the Facility, alleging that GSI acted in bad faith in extending the Facility, including because GSI allegedly knew that BES was at risk of imminent failure. In October 2018, GSI commenced an action in Lisbon Commercial Court challenging the Liquidation Committee's decision and has since also issued a claim against the Portuguese State seeking compensation for losses of approximately $222 million related to the failure of BES, together with a contingent claim for the $104 million sought by the Liquidation Committee.

Financial Advisory Services

Group Inc. and certain of its affiliates are from time to time parties to various civil litigation and arbitration proceedings and other disputes with clients and third parties relating to the firm's financial advisory activities. These claims generally seek, among other things, compensatory damages and, in some cases, punitive damages, and in certain cases allege that the firm did not appropriately disclose or deal with conflicts of interest.

Archegos-Related Matters

GS&Co. is among the underwriters named as defendants in a putative securities class action filed on August 13, 2021 in New York Supreme Court, County of New York, relating to ViacomCBS Inc.'s (ViacomCBS) March 2021 public offerings of $1.7 billion of common stock and $1.0 billion of preferred stock. In addition to the underwriters, the defendants include ViacomCBS and certain of its officers and directors. GS&Co. underwrote 646,154 shares of common stock representing an aggregate offering price of approximately $55 million and 323,077 shares of preferred stock representing an aggregate offering price of approximately $32 million. The complaint asserts claims under the federal securities laws and alleges that the offering documents contained material misstatements and omissions, including, among other things, that the offering documents failed to disclose that Archegos Capital Management (Archegos) had substantial exposure to ViacomCBS, including through total return swaps to which certain of the underwriters, including GS&Co., were allegedly counterparties, and that such underwriters failed to disclose their exposure to Archegos. The complaint seeks rescission and compensatory damages in unspecified amounts.

Group Inc. is also a defendant in three putative securities class actions filed on October 12, 2021, October 20, 2021 and October 26, 2021, respectively, in the U.S. District Court for the Southern District of New York. The complaints allege that Group Inc., along with another financial institution, sold shares in Vipshop Holdings Ltd. (Vipshop) (in the case of the first action), GSX Techedu Inc. (Gaotu) (in the case of the second action), and Tencent Music Entertainment Group (Tencent) (in the case of the third action) based on material nonpublic information regarding the liquidation of Archegos' position in Vipshop, Gaotu and Tencent, respectively. The complaints generally assert violations of Sections 10(b), 20A and 20(a) of the Exchange Act and seek unspecified damages.

Underwriting Litigation

Firm affiliates are among the defendants in a number of proceedings in connection with securities offerings. In these proceedings, including those described below, the plaintiffs assert class action or individual claims under federal and state securities laws and in some cases other applicable laws, allege that the offering documents for the securities that they purchased contained material misstatements and omissions, and generally seek compensatory and rescissory damages in unspecified amounts, as well as rescission. Certain of these proceedings involve additional allegations.

Altice USA, Inc. GS&Co. is among the underwriters named as defendants in putative securities class actions pending in New York Supreme Court, County of Queens, and the U.S. District Court for the Eastern District of New York beginning in June 2018, relating to Altice USA, Inc.'s (Altice) $2.15 billion June 2017 initial public offering. In addition to the underwriters, the defendants include Altice and certain of its officers and directors. GS&Co. underwrote 12,280,042 shares of common stock representing an aggregate offering price of approximately $368 million. On June 26, 2020, the court dismissed the amended complaint in the state court action, and on September 4, 2020, plaintiffs moved for leave to file a consolidated amended complaint. Plaintiffs in the district court action filed a second amended complaint on October 7, 2020. On February 16, 2021, the parties reached a settlement in principle. On July 26, 2021, the plaintiffs filed a motion in the state court for preliminary approval of the settlement. Under the terms of the settlement, the firm will not be required to contribute to the settlement.

Uber Technologies, Inc. GS&Co. is among the underwriters named as defendants in several putative securities class actions filed beginning in September 2019 in California Superior Court, County of San Francisco and the U.S. District Court for the Northern District of California, relating to Uber Technologies, Inc.'s (Uber) $8.1 billion May 2019 initial public offering. In addition to the underwriters, the defendants include Uber and certain of its officers and directors. GS&Co. underwrote 35,864,408 shares of common stock representing an aggregate offering price of approximately $1.6 billion. On November 16, 2020, the court in the state court action granted defendants' motion to dismiss the consolidated amended complaint filed on February 11, 2020, and on December 16, 2020, plaintiffs appealed. On August 7, 2020, defendants' motion to dismiss the district court action was denied. On September 25, 2020, the plaintiffs in the district court action moved for class certification. On December 5, 2020, the plaintiffs in the state court action filed a complaint in the district court, which was consolidated with the existing district court action on January 25, 2021. On May 14, 2021, the plaintiffs filed a second amended complaint in the district court, purporting to add the plaintiffs from the state court action as additional class representatives. On October 1, 2021, defendants' motion to dismiss the additional class representatives from the second amended complaint was denied.

Alnylam Pharmaceuticals, Inc. GS&Co. is among the underwriters named as defendants in a putative securities class action filed on September 12, 2019 in New York Supreme Court, County of New York, relating to Alnylam Pharmaceuticals, Inc.'s (Alnylam) $805 million November 2017 public offering of common stock. In addition to the underwriters, the defendants include Alnylam and certain of its officers and directors. GS&Co. underwrote 2,576,000 shares of common stock representing an aggregate offering price of approximately $322 million. On October 30, 2020, the court denied the defendants' motion to dismiss the amended complaint filed on November 7, 2019. On February 22, 2021, the plaintiffs moved for class certification. On April 29, 2021, the Appellate Division of the Supreme Court of the State of New York for the First Department denied defendants' appeal of the New York Supreme Court's denial of the defendants' motion to dismiss the amended complaint, except with respect to one of the plaintiffs' claims against Alnylam's officers and directors. On August 31, 2021, the parties reached a settlement in principle. Under the terms of the settlement in principle, the firm will not be required to contribute to the settlement.

Venator Materials PLC. GS&Co. is among the underwriters named as defendants in putative securities class actions in Texas District Court, Dallas County, New York Supreme Court, New York County, and the U.S. District Court for the Southern District of Texas, filed beginning in February 2019, relating to Venator Materials PLC's (Venator) $522 million August 2017 initial public offering and $534 million December 2017 secondary equity offering. In addition to the underwriters, the defendants include Venator, certain of its officers and directors and certain of its shareholders. GS&Co. underwrote 6,351,347 shares of common stock in the August 2017 initial public offering representing an aggregate offering price of approximately $127 million and 5,625,768 shares of common stock in the December 2017 secondary equity offering representing an aggregate offering price of approximately $127 million. On January 21, 2020, the Texas Court of Appeals reversed the Texas District Court and dismissed the claims against the underwriter defendants, including GS&Co., in the Texas state court action for lack of personal jurisdiction. On March 22, 2021, the defendants' motion to dismiss the New York state court action was granted and the plaintiffs have filed a notice of appeal. On July 7, 2021, the court in the federal action granted in part and denied in part defendants' motion to dismiss the consolidated complaint. On August 16, 2021, the plaintiffs in the federal action filed an amended consolidated complaint.

XP Inc. GS&Co. is among the underwriters named as defendants in putative securities class actions pending in New York Supreme Court, County of New York, and the U.S. District Court for the Eastern District of York, filed beginning March 19, 2020, relating to XP Inc.'s (XP) $2.3 billion December 2019 initial public offering. In addition to the underwriters, the defendants include XP, certain of its officers and directors and certain of its shareholders. GS&Co. underwrote 19,326,218 shares of common stock in the December 2019 initial public offering representing an aggregate offering price of approximately $522 million. On August 5, 2020, defendants' motion to stay the state court action in favor of the federal court action was denied. On February 8, 2021, the state court granted the defendants' motion to dismiss the state court action, and on March 7, 2021, the district court granted the defendants' motion to dismiss the federal court action. On April 7, 2021, plaintiffs in the district court action appealed to the Second Circuit Court of Appeals.

GoHealth, Inc. GS&Co. is among the underwriters named as defendants in putative securities class actions filed beginning on September 21, 2020 and consolidated in the U.S. District Court for the Northern District of Illinois relating to GoHealth, Inc.'s (GoHealth) $914 million July 2020 initial public offering. In addition to the underwriters, the defendants include GoHealth, certain of its officers and directors and certain of its shareholders. GS&Co. underwrote 11,540,550 shares of common stock representing an aggregate offering price of approximately $242 million. On February 25, 2021, the plaintiffs filed a consolidated complaint. On April 26, 2021, the defendants filed a motion to dismiss the consolidated complaint.

Array Technologies, Inc. GS&Co. is among the underwriters named as defendants in a putative securities class action filed on May 14, 2021 in the U.S. District Court for the Southern District of New York, relating to Array Technologies, Inc.'s (Array) $1.2 billion October 2020 initial public offering of common stock, $1.3 billion December 2020 offering of common stock and $993 million March 2021 offering of common stock. In addition to the underwriters, the defendants include Array and certain of its officers and directors. GS&Co. underwrote an aggregate of 31,912,213 shares of common stock in the three offerings representing an aggregate offering price of approximately $877 million.

Skillz Inc. GS&Co. is among the underwriters named as defendants in a putative securities class action filed on October 8, 2021 in the U.S. District Court for the Northern District of California relating to Skillz Inc.'s (Skillz) approximately $883 million March 2021 public offering of common stock. In addition to the underwriters, the defendants include Skillz and certain of its officers and directors. GS&Co. underwrote 8,832,000 shares of common stock representing an aggregate offering price of approximately $212 million.

ContextLogic, Inc. GS&Co. is among the underwriters named as defendants in putative securities class actions filed beginning on May 17, 2021 in the U.S. District Court for the Northern District of California, relating to ContextLogic, Inc.'s (ContextLogic) $1.1 billion December 2020 initial public offering of common stock. In addition to the underwriters, the defendants include ContextLogic and certain of its officers and directors. GS&Co. underwrote 16,169,000 shares of common stock representing an aggregate offering price of approximately $388 million.

DiDi Global Inc. Goldman Sachs (Asia) L.L.C. (GS Asia) is among the underwriters named as defendants in putative securities class actions filed beginning on July 6, 2021 in the U.S. District Courts for the Southern District of New York and the Central District of California relating to DiDi Global Inc.'s (DiDi) $4.4 billion June 2021 initial public offering of American Depositary Shares (ADS). In addition to the underwriters, the defendants include DiDi and certain of its officers and directors. GS Asia underwrote 104,554,000 ADS representing an aggregate offering price of approximately $1.5 billion. On September 22, 2021, plaintiffs in the California action voluntarily dismissed their claims without prejudice.

Vroom Inc. GS&Co. is among the underwriters named as defendants in a putative securities class action filed on October 4, 2021 in the U.S. District Court for the Southern District of New York relating to Vroom Inc.'s (Vroom) approximately $589 million September 2020 public offering of common stock. In addition to the underwriters, the defendants include Vroom and certain of its officers and directors. GS&Co. underwrote 3,886,819 shares of common stock representing an aggregate offering price of approximately $212 million.

Zymergen Inc. GS&Co. is among the underwriters named as defendants in a putative securities class action filed on August 4, 2021 in the U.S. District Court for the Northern District of California relating to Zymergen Inc.'s (Zymergen) $575 million April 2021 initial public offering of common stock. In addition to the underwriters, the defendants include Zymergen and certain of its officers and directors. GS&Co. underwrote 5,750,345 shares of common stock representing an aggregate offering price of approximately $178 million.

Waterdrop Inc. GS Asia is among the underwriters named as defendants in a putative securities class action filed on September 14, 2021 in the U.S. District Court for the Southern District of New York relating to Waterdrop Inc.'s (Waterdrop) $360 million May 2021 initial public offering of ADS. In addition to the underwriters, the defendants include Waterdrop and certain of its officers and directors. GS Asia underwrote 15,300,000 ADS representing an aggregate offering price of approximately $184 million.

Investment Management Services

Group Inc. and certain of its affiliates are parties to various civil litigation and arbitration proceedings and other disputes with clients relating to losses allegedly sustained as a result of the firm's investment management services. These claims generally seek, among other things, restitution or other compensatory damages and, in some cases, punitive damages.

Securities Lending Antitrust Litigation

Group Inc. and GS&Co. are among the defendants named in a putative antitrust class action and three individual actions relating to securities lending practices filed in the U.S. District Court for the Southern District of New York beginning in August 2017. The complaints generally assert claims under federal and state antitrust law and state common law in connection with an alleged conspiracy among the defendants to preclude the development of electronic platforms for securities lending transactions. The individual complaints also assert claims for tortious interference with business relations and under state trade practices law and, in the second and third individual actions, unjust enrichment under state common law. The complaints seek declaratory and injunctive relief, as well as unspecified amounts of compensatory, treble, punitive and other damages. Group Inc. was voluntarily dismissed from the putative class action on January 26, 2018. Defendants' motion to dismiss the class action complaint was denied on September 27, 2018. Defendants' motion to dismiss the first individual action was granted on August 7, 2019. The plaintiffs in the putative class action moved for class certification on February 22, 2021. On September 30, 2021, the defendants' motion to dismiss the second and third individual actions, which were consolidated in June 2019, was granted. On October 25, 2021, the plaintiff in the second individual action appealed to the Second Circuit Court of Appeals.

Variable Rate Demand Obligations Antitrust Litigation

GS&Co. is among the defendants named in a putative class action relating to variable rate demand obligations (VRDOs), filed beginning in February 2019 under separate complaints and consolidated in the U.S. District Court for the Southern District of New York. The consolidated amended complaint, filed on May 31, 2019, generally asserts claims under federal antitrust law and state common law in connection with an alleged conspiracy among the defendants to manipulate the market for VRDOs. The complaint seeks declaratory and injunctive relief, as well as unspecified amounts of compensatory, treble and other damages. On November 2, 2020, the court granted in part and denied in part the defendants' motion to dismiss, dismissing the state common law claims against GS&Co., but denying dismissal of the federal antitrust law claims.

GS&Co. is also among the defendants named in a related putative class action filed on June 2, 2021 in the U.S. District Court for the Southern District of New York. The complaint alleges the same conspiracy in the market for VRDOs as that alleged in the consolidated amended complaint filed on May 31, 2019, and asserts federal antitrust law, state law and state common law claims against the defendants. The complaint seeks declaratory and injunctive relief, as well as unspecified amounts of compensatory, treble and other damages. On August 4, 2021, plaintiffs in the May 31, 2019 action filed an amended complaint consolidating the June 2, 2021 action with the May 31, 2019 action. On September 14, 2021, defendants filed a joint partial motion to dismiss the August 4, 2021 amended consolidated complaint.

Interest Rate Swap Antitrust Litigation

Group Inc., GS&Co., GSI, GS Bank USA and Goldman Sachs Financial Markets, L.P. are among the defendants named in a putative antitrust class action relating to the trading of interest rate swaps, filed in November 2015 and consolidated in the U.S. District Court for the Southern District of New York. The same Goldman Sachs entities also are among the defendants named in two antitrust actions relating to the trading of interest rate swaps, commenced in April 2016 and June 2018, respectively, in the U.S. District Court for the Southern District of New York by three operators of swap execution facilities and certain of their affiliates. These actions have been consolidated for pretrial proceedings. The complaints generally assert claims under federal antitrust law and state common law in connection with an alleged conspiracy among the defendants to preclude exchange trading of interest rate swaps. The complaints in the individual actions also assert claims under state antitrust law. The complaints seek declaratory and injunctive relief, as well as treble damages in an unspecified amount. Defendants moved to dismiss the class and the first individual action and the district court dismissed the state common law claims asserted by the plaintiffs in the first individual action and otherwise limited the state common law claim in the putative class action and the antitrust claims in both actions to the period from 2013 to 2016. On November 20, 2018, the court granted in part and denied in part the defendants' motion to dismiss the second individual action, dismissing the state common law claims for unjust enrichment and tortious interference, but denying dismissal of the federal and state antitrust claims. On March 13, 2019, the court denied the plaintiffs' motion in the putative class action to amend their complaint to add allegations related to 2008-2012 conduct, but granted the motion to add limited allegations from 2013-2016, which the plaintiffs added in a fourth consolidated amended complaint filed on March 22, 2019. The plaintiffs in the putative class action moved for class certification on March 7, 2019.

Commodities-Related Litigation

GSI is among the defendants named in putative class actions relating to trading in platinum and palladium, filed beginning on November 25, 2014 and most recently amended on May 15, 2017, in the U.S. District Court for the Southern District of New York. The amended complaint generally alleges that the defendants violated federal antitrust laws and the Commodity Exchange Act in connection with an alleged conspiracy to manipulate a benchmark for physical platinum and palladium prices and seek declaratory and injunctive relief, as well as treble damages in an unspecified amount. On March 29, 2020, the court granted the defendants' motions to dismiss and for reconsideration, resulting in the dismissal of all claims. On April 27, 2020, plaintiffs appealed to the Second Circuit Court of Appeals.

GS&Co., GSI, J. Aron & Company and Metro International Trade Services (Metro), a previously consolidated subsidiary of Group Inc. that was sold in the fourth quarter of 2014, are among the defendants in a number of putative class and individual actions filed beginning on August 1, 2013 and consolidated in the U.S. District Court for the Southern District of New York. The complaints generally allege violations of federal antitrust laws and state laws in connection with the storage of aluminum and aluminum trading. The complaints seek declaratory, injunctive and other equitable relief, as well as unspecified monetary damages, including treble damages. In December 2016, the district court granted defendants' motions to dismiss and on August 27, 2019, the Second Circuit vacated the district court's dismissals and remanded the case to district court for further proceedings. On July 23, 2020, the district court denied the class plaintiffs' motion for class certification, and on December 16, 2020 the Second Circuit denied leave to appeal the denial. On February 17, 2021, the district court granted defendants' motion for summary judgment with respect to the claims of most of the individual plaintiffs. On April 14, 2021, the plaintiffs appealed to the Second Circuit Court of Appeals.

In connection with the sale of Metro, the firm agreed to provide indemnities to the buyer, including for any potential liabilities for legal or regulatory proceedings arising out of the conduct of Metro's business while the firm owned it.

U.S. Treasury Securities Litigation

GS&Co. is among the primary dealers named as defendants in several putative class actions relating to the market for U.S. Treasury securities, filed beginning in July 2015 and consolidated in the U.S. District Court for the Southern District of New York. GS&Co. is also among the primary dealers named as defendants in a similar individual action filed in the U.S. District Court for the Southern District of New York on August 25, 2017. The consolidated class action complaint, filed on December 29, 2017, generally alleges that the defendants violated antitrust laws in connection with an alleged conspiracy to manipulate the when-issued market and auctions for U.S. Treasury securities and that certain defendants, including GS&Co., colluded to preclude trading of U.S. Treasury securities on electronic trading platforms in order to impede competition in the bidding process. The individual action alleges a similar conspiracy regarding manipulation of the when-issued market and auctions, as well as related futures and options in violation of the Commodity Exchange Act. The complaints seek declaratory and injunctive relief, treble damages in an unspecified amount and restitution. Defendants' motion to dismiss was granted on March 31, 2021. On May 14, 2021, plaintiffs filed an amended complaint. On June 14, 2021, defendants filed a motion to dismiss the amended complaint.

Corporate Bonds Antitrust Litigation

Group Inc. and GS&Co. are among the dealers named as defendants in a putative class action relating to the secondary market for odd-lot corporate bonds, filed on April 21, 2020 in the U.S. District Court for the Southern District of New York. The amended consolidated complaint, filed on October 29, 2020, asserts claims under federal antitrust law in connection with alleged anti-competitive conduct by the defendants in the secondary market for odd-lots of corporate bonds, and seeks declaratory and injunctive relief, as well as unspecified monetary damages, including treble and punitive damages and restitution. On October 25, 2021, the court granted defendants' motion to dismiss with prejudice.

Credit Default Swap Antitrust Litigation

Group Inc., GS&Co. and GSI are among the defendants named in a putative antitrust class action relating to the settlement of credit default swaps, filed on June 30, 2021 in the U.S. District Court for the District of New Mexico. The complaint generally asserts claims under federal antitrust law and the Commodity Exchange Act in connection with an alleged conspiracy among the defendants to manipulate the benchmark price used to value credit default swaps for settlement. The complaint also asserts a claim for unjust enrichment under state common law. The complaint seeks declaratory and injunctive relief, as well as unspecified amounts of treble and other damages.

Employment-Related Matters

On September 15, 2010, a putative class action was filed in the U.S. District Court for the Southern District of New York by three female former employees. The complaint, as subsequently amended, alleges that Group Inc. and GS&Co. have systematically discriminated against female employees in respect of compensation, promotion and performance evaluations. The complaint alleges a class consisting of all female employees employed at specified levels in specified areas by Group Inc. and GS&Co. since July 2002, and asserts claims under federal and New York City discrimination laws. The complaint seeks class action status, injunctive relief and unspecified amounts of compensatory, punitive and other damages.

On March 30, 2018, the district court certified a damages class as to the plaintiffs' disparate impact and treatment claims. On September 4, 2018, the Second Circuit Court of Appeals denied defendants' petition for interlocutory review of the district court's class certification decision and subsequently denied defendants' petition for rehearing. On September 27, 2018, plaintiffs advised the district court that they would not seek to certify a class for injunctive and declaratory relief. On March 26, 2020, the Magistrate Judge in the district court granted in part a motion to compel arbitration as to class members who are parties to certain agreements with Group Inc. and/or GS&Co. in which they agreed to arbitrate employment-related disputes. On April 16, 2020, plaintiffs submitted objections to the Magistrate Judge's order and defendants submitted conditional objections in the event that the district judge overturned any portion of the Magistrate Judge's order. On July 22, 2021, defendants filed a motion to decertify the class. On August 9, 2021, plaintiffs filed a motion for partial summary judgment as to a portion of a disparate impact claim, and defendants filed a motion for summary judgment as to plaintiff's disparate impact and treatment claims. On September 15, 2021, the district court affirmed the decision of the Magistrate Judge to compel arbitration.

Regulatory Investigations and Reviews and Related Litigation

Group Inc. and certain of its affiliates are subject to a number of other 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 and shareholder requests relating to various matters relating to the firm's businesses and operations, including:

- The securities offering process and underwriting practices;
- The firm's investment management and financial advisory services;
- Conflicts of interest;
- Research practices, including research independence and interactions between research analysts and other firm personnel, including investment banking personnel, as well as third parties;
- Transactions involving government-related financings and other matters, municipal securities, including wall-cross procedures and conflict of interest disclosure with respect to state and municipal clients, the trading and structuring of municipal derivative instruments in connection with municipal offerings, political contribution rules, municipal advisory services and the possible impact of credit default swap transactions on municipal issuers;
- Consumer lending, as well as residential mortgage lending, servicing and securitization, and compliance with related consumer laws;
- The offering, auction, sales, trading and clearance of corporate and government securities, currencies, commodities and other financial products and related sales and other communications and activities, as well as the firm's supervision and controls relating to such activities, including compliance with applicable short sale rules, algorithmic, high-frequency and quantitative trading, the firm's U.S. alternative trading system (dark pool), futures trading, options trading, when-issued trading, transaction reporting, technology systems and controls, securities lending practices, prime brokerage activities, trading and clearance of credit derivative instruments and interest rate swaps, commodities activities and metals storage, private placement practices, allocations of and trading in securities, and trading activities and communications in connection with the establishment of benchmark rates, such as currency rates;
- Compliance with the FCPA;
- The firm's hiring and compensation practices;
- The firm's system of risk management and controls; and
- Insider trading, the potential misuse and dissemination of material nonpublic information regarding corporate and governmental developments and the effectiveness of the firm's insider trading controls and information barriers.

The firm is cooperating with all such governmental and regulatory investigations and reviews.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and the Shareholders of The Goldman Sachs Group, Inc.:

Results of Review of Interim Financial Statements

We have reviewed the accompanying consolidated balance sheet of The Goldman Sachs Group, Inc. and its subsidiaries (the Company) as of September 30, 2021, the related consolidated statements of earnings, comprehensive income and changes in shareholders' 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, including the related notes (collectively referred to as the "interim financial statements"). Based on our reviews, we are not aware of any material modifications that should be made to the accompanying interim financial statements for them to be in conformity with accounting principles generally accepted in the United States of America.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheet of the Company as of December 31, 2020, and the related consolidated statements of earnings, comprehensive income, changes in shareholders' equity and cash flows for the year then ended (not presented herein), and in our report dated February 19, 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 unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying consolidated balance sheet as of December 31, 2020 is fairly stated in all material respects in relation to the consolidated balance sheet from which it has been derived.

Basis for Review Results

These interim financial statements are the responsibility of the Company's management. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our review in accordance with the standards of the PCAOB. 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 the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

/s/ PricewaterhouseCoopers LLP

New York, New York
October 29, 2021

Statistical Disclosures

Distribution of Assets, Liabilities and Shareholders' 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				
U.S.	**$ 111,594**	$ 55,851	**$ 99,735**	$ 55,314
Non-U.S.	**113,906**	72,055	**93,179**	68,199
Deposits with banks	**225,500**	127,906	**192,914**	123,513
U.S.	**220,289**	133,473	**201,353**	136,144
Non-U.S.	**148,367**	117,093	**133,384**	122,170
Collateralized agreements	**368,656**	250,566	**334,737**	258,314
U.S.	**165,341**	210,276	**173,691**	200,618
Non-U.S.	**135,757**	129,300	**135,784**	118,373
Trading assets	**301,098**	339,576	**309,475**	318,991
U.S.	**70,566**	60,650	**69,849**	52,840
Non-U.S.	**18,658**	17,554	**18,660**	17,150
Investments	**89,224**	78,204	**88,509**	69,990
U.S.	**112,818**	93,058	**103,414**	95,200
Non-U.S.	**21,652**	19,433	**21,406**	18,675
Loans	**134,470**	112,491	**124,820**	113,875
U.S.	**98,929**	56,252	**93,677**	53,966
Non-U.S.	**55,161**	44,026	**54,459**	44,700
Other interest-earning assets	**154,090**	100,278	**148,136**	98,666
Interest-earning assets	**1,273,038**	1,009,021	**1,198,591**	983,349
Cash and due from banks	**9,569**	10,418	**11,053**	10,687
Other non-interest-earning assets	**126,506**	120,849	**129,226**	114,444
Assets	**$1,409,113**	$1,140,288	**$1,338,870**	$1,108,480
Liabilities				
U.S.	**$ 239,996**	$ 205,202	**$ 220,106**	$ 183,925
Non-U.S.	**75,853**	54,819	**71,420**	51,863
Interest-bearing deposits	**315,849**	260,021	**291,526**	235,788
U.S.	**111,012**	72,344	**106,427**	75,744
Non-U.S.	**82,501**	32,435	**68,522**	34,972
Collateralized financings	**193,513**	104,779	**174,949**	110,716
U.S.	**68,803**	47,664	**71,691**	41,063
Non-U.S.	**76,562**	58,180	**73,154**	53,264
Trading liabilities	**145,365**	105,844	**144,845**	94,327
U.S.	**31,248**	32,920	**33,993**	34,811
Non-U.S.	**34,097**	22,475	**35,492**	20,528
Short-term borrowings	**65,345**	55,395	**69,485**	55,339
U.S.	**224,645**	199,900	**213,048**	200,563
Non-U.S.	**30,577**	32,624	**29,357**	30,892
Long-term borrowings	**255,222**	232,524	**242,405**	231,455
U.S.	**143,807**	123,990	**134,356**	131,000
Non-U.S.	**88,103**	65,005	**82,522**	64,910
Other interest-bearing liabilities	**231,910**	188,995	**216,878**	195,910
Interest-bearing liabilities	**1,207,204**	947,558	**1,140,088**	923,535
Non-interest-bearing deposits	**5,822**	6,931	**6,120**	6,555
Other non-interest-bearing liabilities	**92,488**	94,857	**92,997**	87,347
Liabilities	**1,305,514**	1,049,346	**1,239,205**	1,017,437
Shareholders' equity				
Preferred stock	**9,766**	11,203	**9,628**	11,203
Common stock	**93,833**	79,739	**90,037**	79,840
Shareholders' equity	**103,599**	90,942	**99,665**	91,043
Liabilities and shareholders' equity	**$1,409,113**	$1,140,288	**$1,338,870**	$1,108,480
Percentage attributable to non-U.S. operations				
Interest-earning assets	**38.77%**	39.59%	**38.12%**	39.59%
Interest-bearing liabilities	**32.11%**	28.02%	**31.62%**	27.77%

	Interest for the			
	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Assets				
U.S.	**$ 46**	$ 24	**$ 101**	$ 201
Non-U.S.	**(59)**	(13)	**(110)**	33
Deposits with banks	**(13)**	11	**(9)**	234
U.S.	**(85)**	3	**(254)**	456
Non-U.S.	**(135)**	(70)	**(397)**	(5)
Collateralized agreements	**(220)**	(67)	**(651)**	451
U.S.	**747**	805	**2,185**	2,794
Non-U.S.	**483**	371	**1,368**	1,212
Trading assets	**1,230**	1,176	**3,553**	4,006
U.S.	**210**	261	**792**	826
Non-U.S.	**148**	143	**451**	370
Investments	**358**	404	**1,243**	1,196
U.S.	**1,139**	949	**3,215**	3,093
Non-U.S.	**224**	204	**663**	598
Loans	**1,363**	1,153	**3,878**	3,691
U.S.	**329**	210	**909**	850
Non-U.S.	**70**	45	**187**	288
Other interest-earning assets	**399**	255	**1,096**	1,138
Interest-earning assets	**$3,117**	$2,932	**$9,110**	$10,716
Liabilities				
U.S.	**$ 265**	$ 411	**$ 822**	$ 1,628
Non-U.S.	**54**	94	**156**	354
Interest-bearing deposits	**319**	505	**978**	1,982
U.S.	**50**	47	**109**	504
Non-U.S.	**(17)**	3	**(68)**	66
Collateralized financings	**33**	50	**41**	570
U.S.	**214**	119	**479**	346
Non-U.S.	**281**	226	**761**	585
Trading liabilities	**495**	345	**1,240**	931
U.S.	**103**	111	**391**	392
Non-U.S.	**12**	13	**42**	31
Short-term borrowings	**115**	124	**433**	423
U.S.	**823**	948	**2,413**	3,122
Non-U.S.	**20**	33	**64**	95
Long-term borrowings	**843**	981	**2,477**	3,217
U.S.	**(188)**	(159)	**(608)**	106
Non-U.S.	**(64)**	2	**(126)**	146
Other interest-bearing liabilities	**(252)**	(157)	**(734)**	252
Interest-bearing liabilities	**$1,553**	$1,848	**$4,435**	$ 7,375
Net interest income				
U.S.	**$1,119**	$ 775	**$3,342**	$ 2,122
Non-U.S.	**445**	309	**1,333**	1,219
Net interest income	**$1,564**	$1,084	**$4,675**	$ 3,341

Statistical Disclosures

	Annualized Average Rate for the			
	Three Months Ended September		Nine Months Ended September	
	2021	2020	**2021**	2020
Assets				
U.S.	**0.16%**	0.17%	**0.14%**	0.49%
Non-U.S.	**(0.21)%**	(0.07)%	**(0.16)%**	0.06%
Deposits with banks	**(0.02)%**	0.03%	**(0.01)%**	0.25%
U.S.	**(0.15)%**	0.01%	**(0.17)%**	0.45%
Non-U.S.	**(0.36)%**	(0.24)%	**(0.40)%**	(0.01)%
Collateralized agreements	**(0.24)%**	(0.11)%	**(0.26)%**	0.23%
U.S.	**1.79%**	1.52%	**1.68%**	1.86%
Non-U.S.	**1.41%**	1.14%	**1.35%**	1.37%
Trading assets	**1.62%**	1.38%	**1.53%**	1.68%
U.S.	**1.18%**	1.71%	**1.52%**	2.09%
Non-U.S.	**3.15%**	3.24%	**3.23%**	2.88%
Investments	**1.59%**	2.06%	**1.88%**	2.28%
U.S.	**4.01%**	4.06%	**4.16%**	4.34%
Non-U.S.	**4.10%**	4.18%	**4.14%**	4.28%
Loans	**4.02%**	4.08%	**4.15%**	4.33%
U.S.	**1.32%**	1.49%	**1.30%**	2.10%
Non-U.S.	**0.50%**	0.41%	**0.46%**	0.86%
Other interest-earning assets	**1.03%**	1.01%	**0.99%**	1.54%
Interest-earning assets	**0.97%**	1.16%	**1.02%**	1.46%
Liabilities				
U.S.	**0.44%**	0.80%	**0.50%**	1.18%
Non-U.S.	**0.28%**	0.68%	**0.29%**	0.91%
Interest-bearing deposits	**0.40%**	0.77%	**0.45%**	1.12%
U.S.	**0.18%**	0.26%	**0.14%**	0.89%
Non-U.S.	**(0.08)%**	0.04%	**(0.13)%**	0.25%
Collateralized financings	**0.07%**	0.19%	**0.03%**	0.69%
U.S.	**1.23%**	0.99%	**0.89%**	1.13%
Non-U.S.	**1.46%**	1.55%	**1.39%**	1.47%
Trading liabilities	**1.35%**	1.30%	**1.14%**	1.32%
U.S.	**1.31%**	1.34%	**1.54%**	1.50%
Non-U.S.	**0.14%**	0.23%	**0.16%**	0.20%
Short-term borrowings	**0.70%**	0.89%	**0.83%**	1.02%
U.S.	**1.45%**	1.89%	**1.51%**	2.08%
Non-U.S.	**0.26%**	0.40%	**0.29%**	0.41%
Long-term borrowings	**1.31%**	1.68%	**1.37%**	1.86%
U.S.	**(0.52)%**	(0.51)%	**(0.61)%**	0.11%
Non-U.S.	**(0.29)%**	0.01%	**(0.20)%**	0.30%
Other interest-bearing liabilities	**(0.43)%**	(0.33)%	**(0.45)%**	0.17%
Interest-bearing liabilities	**0.51%**	0.78%	**0.52%**	1.07%
Interest rate spread	**0.46%**	0.38%	**0.50%**	0.39%
U.S.	**0.57%**	0.51%	**0.60%**	0.48%
Non-U.S.	**0.36%**	0.31%	**0.39%**	0.42%
Net yield on interest-earning assets	**0.49%**	0.43%	**0.52%**	0.45%

In the tables above:

- Assets, liabilities and interest are classified as U.S. and non-U.S. based on the location of the legal entity in which the assets and liabilities are held.
- Derivative instruments and commodities are included in other non-interest-earning assets and other non-interest-bearing liabilities.
- Other interest-earning assets primarily consists of receivables from customers and counterparties.
- Collateralized financings consists of securities sold under agreements to repurchase and securities loaned.
- Substantially all of the other interest-bearing liabilities consists of payables to customers and counterparties.
- Interest rates for borrowings include the effects of interest rate swaps accounted for as hedges.
- 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.
- Short- and long-term borrowings include both secured and unsecured borrowings.

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

Introduction

The Goldman Sachs Group, Inc. (Group Inc. or parent company), a Delaware corporation, together with its consolidated subsidiaries, is a leading global financial institution that delivers a broad range of financial services across investment banking, securities, investment management and consumer banking to a large and diversified client base that includes corporations, financial institutions, governments and individuals. Founded in 1869, we are headquartered in New York and maintain offices in all major financial centers around the world. We report our activities in four business segments: Investment Banking, Global Markets, Asset Management, and Consumer & Wealth Management. See "Results of Operations" for further information about our business segments.

When we use the terms "we," "us" and "our," we mean Group Inc. and its consolidated subsidiaries. When we use the term "our subsidiaries," we mean the consolidated subsidiaries of Group Inc.

Group Inc. is a bank holding company (BHC) and a financial holding company regulated by the Board of Governors of the Federal Reserve System (FRB).

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2020. References to "the 2020 Form 10-K" are to our Annual Report on Form 10-K for the year ended December 31, 2020. References to "this Form 10-Q" are to our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2021. All references to "the consolidated financial statements" or "Statistical Disclosures" are to Part I, Item 1 of this Form 10-Q. 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.

Executive Overview

Three Months Ended September 2021 versus September 2020. We generated net earnings of $5.38 billion for the third quarter of 2021, an increase of 60% compared with $3.37 billion for the third quarter of 2020. Diluted earnings per common share (EPS) was $14.93 for the third quarter of 2021, an increase of 66% compared with $8.98 for the third quarter of 2020. Annualized return on average common shareholders' equity (ROE) was 22.5% for the third quarter of 2021, compared with 16.2% for the third quarter of 2020. Book value per common share was $277.25 as of September 2021, 4.7% higher compared with June 2021 and 17.4% higher compared with December 2020.

Net revenues were $13.61 billion for the third quarter of 2021, 26% higher than the third quarter of 2020, due to significantly higher net revenues in Investment Banking, primarily reflecting strong Financial advisory and Underwriting net revenues, in Global Markets, reflecting significantly higher net revenues in Equities, and in Consumer & Wealth Management, reflecting growth in both Wealth management and Consumer banking net revenues. These increases were partially offset by lower net revenues in Asset Management, primarily driven by significantly lower net revenues in Equity investments.

Provision for credit losses was $175 million for the third quarter of 2021, compared with $278 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 $6.59 billion for the third quarter of 2021, 6% higher than the third quarter of 2020, due to higher technology expenses, professional fees, transaction based expenses and market development expenses, partially offset by significantly lower net provisions for litigation and regulatory proceedings. Our efficiency ratio (total operating expenses divided by total net revenues) for the third quarter of 2021 was 48.4%, compared with 57.5% for the third quarter of 2020.

During the third quarter of 2021, we returned $1.70 billion of capital to common shareholders, including $1.00 billion of common stock repurchases and $700 million of common stock dividends. As of September 2021, our Common Equity Tier 1 (CET1) capital ratio was 14.1% under the Standardized Capital Rules and 13.9% under the Advanced Capital Rules. See Note 20 to the consolidated financial statements for further information about our capital ratios.

We announced two strategic acquisitions during the quarter, the pending acquisition of NN Investment Partners in our Asset Management business and the pending acquisition of GreenSky, Inc. (GreenSky) in our Consumer banking business. These acquisitions accelerate our strategy to drive higher, more durable returns, and both acquisitions are expected to close by the end of the first quarter of 2022.

Nine Months Ended September 2021 versus September 2020. We generated net earnings of $17.70 billion for the first nine months of 2021, significantly higher compared with $4.95 billion for the first nine months of 2020. Diluted EPS was $48.59 for the first nine months of 2021, significantly higher compared with $12.65 for the first nine months of 2020. Annualized ROE was 25.7% for the first nine months of 2021, compared with 7.6% for the first nine months of 2020.

In the first nine months of 2020, net provisions for litigation and regulatory proceedings reduced diluted EPS by $9.46 and annualized ROE by 5.5 percentage points.

Net revenues were $46.70 billion for the first nine months of 2021, 42% higher than the first nine months of 2020, reflecting higher net revenues across all segments. Net revenues were significantly higher in Asset Management, primarily reflecting strong Equity investments and Lending and debt investments net revenues, in Investment Banking, primarily reflecting strong Financial advisory and Underwriting net revenues, and in Consumer & Wealth Management, reflecting growth in both Wealth management and Consumer banking net revenues. Net revenues were higher in Global Markets, reflecting strong net revenues in Equities, partially offset by lower net revenues in Fixed Income, Currency and Commodities (FICC) compared with a strong prior year period.

Provision for credit losses was $13 million for the first nine months of 2021, compared with $2.81 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 $24.67 billion for the first nine months of 2021, 7% higher than the first nine months of 2020, reflecting significantly higher compensation and benefits expenses (reflecting strong performance), partially offset by lower non-compensation expenses. Within non-compensation expenses, net provisions for litigation and regulatory proceedings were significantly lower, partially offset by higher transaction based expenses and higher technology expenses. Our efficiency ratio for the first nine months of 2021 was 52.8%, compared with 70.3% for the first nine months of 2020. In the first nine months of 2020, net provisions for litigation and regulatory proceedings increased our efficiency ratio by 10.3 percentage points.

During the first nine months of 2021, we returned $6.29 billion of capital to common shareholders, including $4.70 billion of common stock repurchases and $1.59 billion of common stock dividends.

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. See "Results of Operations — Segment Assets and Operating Results — Segment Operating Results" for further information about the operating environment for each of our business segments.

Critical Accounting Policies

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 use of fair value to measure financial instruments is fundamental to our risk management practices and is our most critical accounting policy.

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 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 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 1.6% as of September 2021, 1.8% as of June 2021 and 2.3% 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. Market makers and investment professionals in our revenue-producing units are responsible for pricing our financial instruments. Our 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 our 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 our 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. Our independent 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 our 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" for further information about the review and validation of our valuation models.

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 allow management to reflect the uncertain nature of economic forecasting, capture uncertainty regarding model inputs, and account for model imprecision and concentration risk. The determination of 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 our 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.

Use of Estimates

U.S. GAAP requires us to make certain estimates and assumptions. In addition to the estimates we make in connection with fair value measurements and the allowance for credit losses on loans and lending commitments held for investment and accounted for at amortized cost, the use of estimates and assumptions is also important in determining discretionary compensation accruals, the accounting for goodwill and identifiable intangible assets, provisions for losses that may arise from litigation and regulatory proceedings (including governmental investigations), and provisions for losses that may arise from tax audits.

A substantial portion of our compensation and benefits represents discretionary compensation, which is finalized at year-end. We believe the most appropriate way to allocate estimated year-end discretionary compensation among interim periods is in proportion to the net revenues earned in such periods. In addition to the level of net revenues, our overall compensation expense in any given year is also influenced by, among other factors, overall financial performance, prevailing labor markets, business mix, the structure of our share-based compensation programs and the external environment.

Goodwill is assessed for impairment annually in the fourth quarter or more frequently if events occur or circumstances change that indicate an impairment may exist. When assessing goodwill for impairment, first, a qualitative assessment can be made to determine whether it is more likely than not that the estimated fair value of a reporting unit is less than its estimated carrying value. If the results of the qualitative assessment are not conclusive, a quantitative goodwill test is performed. Alternatively, a quantitative goodwill test can be performed without performing a qualitative assessment.

Estimating the fair value of our reporting units requires judgment. Critical inputs to the fair value estimates include projected earnings and allocated equity. There is inherent uncertainty in the projected earnings. The estimated carrying value of each reporting unit reflects an allocation of total shareholders' equity and represents the estimated amount of total shareholders' equity required to support the activities of the reporting unit under currently applicable regulatory capital requirements. See Note 12 to the consolidated financial statements for further information about goodwill.

If we experience a prolonged or severe period of weakness in the business environment, financial markets, our performance or our common stock price, or additional increases in capital requirements, our goodwill could be impaired in the future.

Identifiable intangible assets are tested for impairment when events or changes in circumstances suggest that an asset's or asset group's carrying value may not be fully recoverable. Judgment is required to evaluate whether indications of potential impairment have occurred, and to test intangible assets for impairment, if required. An impairment is recognized if the estimated undiscounted cash flows relating to the asset or asset group is less than the corresponding carrying value. See Note 12 to the consolidated financial statements for further information about identifiable intangible assets.

We also estimate and provide for potential losses that may arise out of litigation and regulatory proceedings to the extent that such losses are probable and can be reasonably estimated. In addition, we estimate the upper end of the range of reasonably possible aggregate loss in excess of the related reserves for litigation and regulatory proceedings where we believe the risk of loss is more than slight. See Notes 18 and 27 to the consolidated financial statements for information about certain judicial, litigation and regulatory proceedings. Significant judgment is required in making these estimates and our final liabilities may ultimately be materially different. Our total estimated liability in respect of litigation and regulatory proceedings is determined on a case-by-case basis and represents an estimate of probable losses after considering, among other factors, the progress of each case, proceeding or investigation, our experience and the experience of others in similar cases, proceedings or investigations, and the opinions and views of legal counsel.

In accounting for income taxes, we recognize tax positions in the 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. See Note 24 to the consolidated financial statements for further information about income taxes.

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 U.S. and global economic and market conditions. See "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K for further information about the impact of economic and market conditions on our results of operations.

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, except per share amounts	**2021**	2020	**2021**	2020
Net revenues	**$13,608**	$10,781	**$46,700**	$32,819
Pre-tax earnings	**$ 6,842**	$ 4,299	**$22,019**	$ 6,938
Net earnings	**$ 5,378**	$ 3,367	**$17,700**	$ 4,953
Net earnings to common	**$ 5,284**	$ 3,233	**$17,342**	$ 4,553
Diluted EPS	**$ 14.93**	$ 8.98	**$ 48.59**	$ 12.65
ROE	**22.5%**	16.2%	**25.7%**	7.6%
ROTE	**23.8%**	17.3%	**27.2%**	8.1%
Net earnings to average assets	**1.5%**	1.2%	**1.8%**	0.6%
Return on average shareholders' equity	**20.8%**	14.8%	**23.7%**	7.3%
Average equity to average assets	**7.4%**	8.0%	**7.4%**	8.2%
Dividend payout ratio	**13.4%**	13.9%	**9.3%**	29.6%

In the table above:

- Net earnings to common represents net earnings applicable to common shareholders, which is calculated as net earnings less preferred stock dividends.
- ROE, return on average tangible common shareholders' equity (ROTE), net earnings to average assets and return on average shareholders' equity are annualized amounts.
- Average equity to average assets is calculated by dividing average total shareholders' equity by average total assets.
- Dividend payout ratio is calculated by dividing dividends declared per common share by diluted EPS.
- Annualized ROE is calculated by dividing annualized net earnings to common by average monthly common shareholders' equity. Tangible common shareholders' equity is calculated as total shareholders' equity less preferred stock, goodwill and identifiable intangible assets. Annualized ROTE is calculated by dividing annualized net earnings to common by average monthly tangible common shareholders' equity. We believe that tangible common shareholders' equity is meaningful because it is a measure that we and investors use to assess capital adequacy and that ROTE is meaningful because it measures the performance of businesses consistently, whether they were acquired or developed internally. Tangible common shareholders' equity and ROTE are non-GAAP measures and may not be comparable to similar non-GAAP measures used by other companies. Annualized return on average shareholders' equity is calculated by dividing annualized net earnings by average monthly shareholders' equity.

The table below presents our average equity and the reconciliation of average common shareholders' equity to average tangible common shareholders' equity.

	Average for the			
	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Total shareholders' equity	**$103,599**	$90,942	**$99,665**	$91,043
Preferred stock	**(9,766)**	(11,203)	**(9,628)**	(11,203)
Common shareholders' equity	**93,833**	79,739	**90,037**	79,840
Goodwill	**(4,331)**	(4,230)	**(4,332)**	(4,210)
Identifiable intangible assets	**(510)**	(605)	**(558)**	(615)
Tangible common shareholders' equity	**$ 88,992**	$74,904	**$85,147**	$75,015

Net Revenues

The table below presents our net revenues by line item.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Investment banking	**$ 3,548**	$ 1,934	**$10,564**	$ 6,409
Investment management	**2,139**	1,689	**5,840**	5,092
Commissions and fees	**860**	804	**2,766**	2,699
Market making	**3,929**	3,327	**13,096**	12,796
Other principal transactions	**1,568**	1,943	**9,759**	2,482
Total non-interest revenues	**12,044**	9,697	**42,025**	29,478
Interest income	**3,117**	2,932	**9,110**	10,716
Interest expense	**1,553**	1,848	**4,435**	7,375
Net interest income	**1,564**	1,084	**4,675**	3,341
Total net revenues	**$13,608**	$10,781	**$46,700**	$32,819

In the table above:

- Investment banking consists of revenues (excluding net interest) from financial advisory and underwriting assignments. These activities are included in our Investment Banking segment.
- Investment management consists of revenues (excluding net interest) from providing asset management services across all major asset classes to a diverse set of asset management clients (included in our Asset Management segment), as well as asset management services, wealth advisory services and certain transaction services for wealth management clients (included in our Consumer & Wealth Management segment).
- Commissions and fees consists of revenues from executing and clearing client transactions on major stock, options and futures exchanges worldwide, as well as over-the-counter (OTC) transactions. These activities are included in our Global Markets and Consumer & Wealth Management segments.
- Market making consists of revenues (excluding net interest) from client execution activities related to making markets in interest rate products, credit products, mortgages, currencies, commodities and equity products. These activities are included in our Global Markets segment.
- Other principal transactions consists of revenues (excluding net interest) from our equity investing activities, including revenues related to our consolidated investments (included in our Asset Management segment), and lending activities (included across our four segments).

Operating Environment. During the third quarter of 2021, continued economic recovery and continued monetary and fiscal support from central banks and governments globally, along with solid fundamentals in the current operating environment, provided a stable backdrop for our business activities. These factors contributed to stable equity markets, strong investment banking activity levels, and solid market-making activity levels.

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 decline in global equity markets, a decline in investment banking activity levels, and a decline in market-making activity levels, and net revenues and the provision for credit losses would likely be negatively impacted. See "Segment Assets and Operating Results — Segment Operating Results" for information about the operating environment and material trends and uncertainties that may impact our results of operations.

Three Months Ended September 2021 versus September 2020. Net revenues in the consolidated statements of earnings were $13.61 billion for the third quarter of 2021, 26% higher than the third quarter of 2020, primarily reflecting significantly higher investment banking revenues, net interest income and investment management revenues, and higher market making revenues, partially offset by lower other principal transactions revenues.

Non-Interest Revenues. Investment banking revenues in the consolidated statements of earnings were $3.55 billion for the third quarter of 2021, 83% higher than the third quarter of 2020, due to significantly higher revenues in financial advisory, reflecting an increase in completed mergers and acquisitions volumes, in equity underwriting, primarily driven by private placements, convertible offerings and initial public offerings, and in debt underwriting, reflecting an increase in leveraged finance activity.

Investment management revenues in the consolidated statements of earnings were $2.14 billion for the third quarter of 2021, 27% higher than the third quarter of 2020, primarily due to significantly higher incentive fees, driven by harvesting, and higher management and other fees, reflecting the impact of higher average assets under supervision (AUS), partially offset by higher fee waivers on money market funds.

Commissions and fees in the consolidated statements of earnings were $860 million for the third quarter of 2021, 7% higher than the third quarter of 2020, primarily reflecting an increase in our listed cash equity volumes in Asia, generally consistent with market volumes in the region.

Market making revenues in the consolidated statements of earnings were $3.93 billion for the third quarter of 2021, 18% higher than the third quarter of 2020, primarily due to significantly higher net revenues in equity products and commodities, partially offset by significantly lower net revenues in interest rate products and credit products.

Other principal transactions revenues in the consolidated statements of earnings were $1.57 billion for the third quarter of 2021, 19% lower than the third quarter of 2020, primarily reflecting significant net losses from investments in public equities during the quarter compared with net gains in the third quarter of 2020, partially offset by significantly higher net gains from investments in private equities.

Net Interest Income. Net interest income in the consolidated statements of earnings was $1.56 billion for the third quarter of 2021, 44% higher than the third quarter of 2020, reflecting a decrease in interest expense and an increase in interest income. The decrease in interest expense primarily related to deposits and long-term borrowings, both reflecting the impact of lower interest rates. The increase in interest income primarily related to loans and other interest-earning assets, both reflecting the impact of higher average balances partially offset by the impact of lower interest rates on collateralized agreements. See "Statistical Disclosures — Distribution of Assets, Liabilities and Shareholders' Equity" for further information about our sources of net interest income.

Nine Months Ended September 2021 versus September 2020. Net revenues in the consolidated statements of earnings were $46.70 billion for the first nine months of 2021, 42% higher than the first nine months of 2020, primarily reflecting significantly higher other principal transactions net revenues, investment banking net revenues and net interest income, and higher investment management net revenues.

Non-Interest Revenues. Investment banking revenues in the consolidated statements of earnings were $10.56 billion for the first nine months of 2021, 65% higher than the first nine months of 2020, primarily due to significantly higher revenues in financial advisory, reflecting a significant increase in completed mergers and acquisitions transactions, and in equity underwriting, primarily driven by strong industry-wide initial public offering activity, as well as higher revenues in debt underwriting, reflecting elevated industry-wide leveraged finance volumes.

Investment management revenues in the consolidated statements of earnings were $5.84 billion for the first nine months of 2021, 15% higher than the first nine months of 2020, primarily due to higher management and other fees, reflecting the impact of higher average assets under supervision, partially offset by higher fee waivers on money market funds.

Commissions and fees in the consolidated statements of earnings were $2.77 billion for the first nine months of 2021, slightly higher than the first nine months of 2020.

Market making revenues in the consolidated statements of earnings were $13.10 billion for the first nine months of 2021, slightly higher than the first nine months of 2020, as significantly higher net revenues in equity products (primarily in derivatives), mortgages and commodities were largely offset by significantly lower net revenues in interest rate products and credit products.

Other principal transactions revenues in the consolidated statements of earnings were $9.76 billion for the first nine months of 2021, compared with $2.48 billion for the first nine months of 2020, primarily reflecting significantly higher net gains from investments in private equities and in debt instruments, partially offset by significantly lower net gains from investments in public equities.

Net Interest Income. Net interest income in the consolidated statements of earnings was $4.68 billion for the first nine months of 2021, 40% higher than the first nine months of 2020, reflecting a decrease in interest expense related to deposits, other interest-bearing liabilities, long-term borrowings and collateralized financings, each reflecting the impact of lower interest rates, partially offset by the impact of higher average balances in trading liabilities. The decrease in interest expense was partially offset by a decrease in interest income primarily related to collateralized agreements, trading assets and deposits with banks, each reflecting the impact of lower interest rates, partially offset by the impact of higher average balances for loans. See "Statistical Disclosures — Distribution of Assets, Liabilities and Shareholders' Equity" for further information about our sources of net interest income.

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	**$175**	$278	**$13**	$2,805

Three Months Ended September 2021 versus September 2020. Provision for credit losses in the consolidated statements of earnings was $175 million for the third quarter of 2021, compared with $278 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 $13 million for the first nine months of 2021, compared with $2.81 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. Discretionary compensation is significantly impacted by, among other factors, the level of net revenues, overall financial performance, prevailing labor markets, business mix, the structure of our share-based compensation programs and the external environment.

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	**$ 3,167**	$ 3,117	**$14,473**	$10,830
Transaction based	**1,139**	1,011	**3,520**	3,055
Market development	**165**	70	**360**	312
Communications and technology	**397**	340	**1,143**	1,006
Depreciation and amortization	**509**	468	**1,527**	1,404
Occupancy	**239**	235	**727**	706
Professional fees	**433**	298	**1,137**	956
Other expenses	**542**	665	**1,781**	4,807
Total operating expenses	**$ 6,591**	$ 6,204	**$24,668**	$23,076
Headcount at period-end	**43,000**	40,900		

In the table above, 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.

Three Months Ended September 2021 versus September 2020. Operating expenses in the consolidated statements of earnings were $6.59 billion for the third quarter of 2021, 6% higher than the third quarter of 2020. Our efficiency ratio for the third quarter of 2021 was 48.4%, compared with 57.5% for the third quarter of 2020.

The increase in operating expenses compared with the third quarter of 2020 was due to higher technology expenses (included in communications and technology and depreciation and amortization), professional fees, transaction based expenses and market development expenses. These increases were partially offset by significantly lower net provisions for litigation and regulatory proceedings. Compensation and benefits expenses were slightly higher.

Net provisions for litigation and regulatory proceedings for the third quarter of 2021 were $52 million compared with $256 million for the third quarter of 2020.

As of September 2021, headcount increased 5% compared with June 2021, primarily reflecting the timing of campus hires.

Nine Months Ended September 2021 versus September 2020. Operating expenses in the consolidated statements of earnings were $24.67 billion for the first nine months of 2021, 7% higher than the first nine months of 2020. Our efficiency ratio for the first nine months of 2021 was 52.8%, compared with 70.3% for the first nine months of 2020. In the first nine months of 2020, net provisions for litigation and regulatory proceedings increased our efficiency ratio by 10.3 percentage points.

The increase in operating expenses compared with the first nine months of 2020 reflected significantly higher compensation and benefits expenses (reflecting strong performance), partially offset by lower non-compensation expenses. Within non-compensation expenses, net provisions for litigation and regulatory proceedings were significantly lower, partially offset by higher transaction based expenses and higher technology expenses (included in communications and technology and depreciation and amortization).

Net provisions for litigation and regulatory proceedings for the first nine months of 2021 were $352 million compared with $3.40 billion for the first nine months of 2020.

As of September 2021, headcount increased 6% compared with December 2020, reflecting investments in new business initiatives and an increase in technology professionals.

Provision for Taxes

The effective income tax rate for the first nine months of 2021 was 19.6%, down from the full year income tax rate of 24.2% for 2020, primarily due to a decrease in provisions for non-deductible litigation in the first nine months of 2021 compared with 2020. The increase compared with 18.8% for the first half of 2021 was primarily due to a decrease in the impact of tax benefits on the settlement of share-based awards and remeasurement of U.K. deferred tax assets in the first nine months of 2021 compared with the first half of 2021.

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 Rescue Plan includes a repeal of a provision under which U.S. affiliated groups could elect a worldwide allocation of interest expense for foreign tax credit limitation purposes for one year beginning in January 2021. Additionally, beginning in 2027, the limitation on corporate tax deductions for compensation payable to the CEO, CFO and the top three highest paid employees will be expanded to include the next five highest paid employees. 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.

The U.K. Finance Act 2021 was enacted in June 2021 and includes a six percent increase in the corporate income tax rate effective from April 2023. During the first nine months of 2021, U.K. deferred tax assets and liabilities were remeasured and a deferred tax benefit of approximately $100 million was recognized. In October 2021, a five percent reduction in the U.K. bank surcharge tax rate, effective from April 2023, was announced in the second U.K. budget of 2021. The reduction to the bank surcharge is expected to be legislated as Finance Bill 2022. The bank surcharge is currently applicable to certain of our U.K. subsidiaries and branches, including Goldman Sachs International (GSI) and Goldman Sachs International Bank (GSIB). Following Royal Assent, the associated impact of any change to the bank surcharge on U.K. deferred tax assets and liabilities could have a material impact on our effective tax rate, depending on the operating results for the quarter during which this legislation is enacted.

We expect our tax rate for 2021 to be between 20% and 21%, excluding the impact of any potential changes in current income tax rates.

Segment Assets and Operating Results

Segment Assets. The table below presents assets by segment.

$ in millions	As of September 2021	As of December 2020
Investment Banking	**$ 141,580**	$ 116,242
Global Markets	**1,077,437**	844,606
Asset Management	**94,063**	95,751
Consumer & Wealth Management	**130,150**	106,429
Total	**$1,443,230**	$1,163,028

The allocation process for segment assets is based on the activities of these segments. The allocation of assets includes allocation of global core liquid assets (GCLA) (which consists of unencumbered, highly liquid securities and cash), which is generally included within cash and cash equivalents, collateralized agreements and trading assets on our balance sheet. Due to the integrated nature of these segments, estimates and judgments are made in allocating these assets. See "Risk Management — Liquidity Risk Management" for further information about our GCLA.

Segment Operating Results. The table below presents our segment operating results.

$ in millions	Three Months Ended September 2021	Three Months Ended September 2020	Nine Months Ended September 2021	Nine Months Ended September 2020
Investment Banking				
Net revenues	**$ 3,700**	$ 1,969	**$11,080**	$ 6,810
Provision for credit losses	**41**	171	**(229)**	1,612
Operating expenses	**1,343**	1,067	**5,161**	4,940
Pre-tax earnings	**$ 2,316**	$ 731	**$ 6,148**	$ 258
Net earnings to common	**$ 1,818**	$ 452	**$ 4,890**	$ 133
Average common equity	**$10,346**	$11,271	**$10,201**	$11,251
Return on average common equity	**70.3%**	16.0%	**63.9%**	1.6%
Global Markets				
Net revenues	**$ 5,611**	$ 4,553	**$18,092**	$16,892
Provision for credit losses	**(24)**	(15)	**(30)**	236
Operating expenses	**2,794**	2,542	**10,352**	10,568
Pre-tax earnings	**$ 2,841**	$ 2,026	**$ 7,770**	$ 6,088
Net earnings to common	**$ 2,190**	$ 1,816	**$ 6,041**	$ 4,085
Average common equity	**$46,959**	$39,960	**$44,067**	$40,542
Return on average common equity	**18.7%**	18.2%	**18.3%**	13.4%
Asset Management				
Net revenues	**$ 2,279**	$ 2,768	**$12,025**	$ 4,773
Provision for credit losses	**10**	70	**(2)**	420
Operating expenses	**823**	1,358	**4,656**	3,888
Pre-tax earnings	**$ 1,446**	$ 1,340	**$ 7,371**	$ 465
Net earnings to common	**$ 1,096**	$ 839	**$ 5,853**	$ 273
Average common equity	**$25,788**	$19,989	**$25,294**	$20,332
Return on average common equity	**17.0%**	16.8%	**30.9%**	1.8%
Consumer & Wealth Management				
Net revenues	**$ 2,018**	$ 1,491	**$ 5,503**	$ 4,344
Provision for credit losses	**148**	52	**274**	537
Operating expenses	**1,631**	1,237	**4,499**	3,680
Pre-tax earnings	**$ 239**	$ 202	**$ 730**	$ 127
Net earnings to common	**$ 180**	$ 126	**$ 558**	$ 62
Average common equity	**$10,740**	$ 8,519	**$10,475**	$ 7,715
Return on average common equity	**6.7%**	5.9%	**7.1%**	1.1%
Total net revenues	**$13,608**	$10,781	**$46,700**	$32,819
Total provision for credit losses	**175**	278	**13**	2,805
Total operating expenses	**6,591**	6,204	**24,668**	23,076
Total pre-tax earnings	**$ 6,842**	$ 4,299	**$22,019**	$ 6,938
Net earnings to common	**$ 5,284**	$ 3,233	**$17,342**	$ 4,553
Average common equity	**$93,833**	$79,739	**$90,037**	$79,840
Return on average common equity	**22.5%**	16.2%	**25.7%**	7.6%

Net revenues in our segments include allocations of interest income and expense to specific positions in relation to the cash generated by, or funding requirements of, such positions. See Note 25 to the consolidated financial statements for further information about our business segments.

The allocation of common shareholders' equity and preferred stock dividends to each segment is based on the estimated amount of equity required to support the activities of the segment under relevant regulatory capital requirements. Net earnings for each segment is calculated by applying the firmwide tax rate to each segment's pre-tax earnings.

The allocation of common equity among our segments for the three and nine months ended September 2021 reflects updates to our attributed equity framework (effective January 1, 2021) to incorporate the impact of the stress capital buffer (SCB) rule and our SCB of 6.6%, which became effective on October 1, 2020 under the Standardized Approach. See "Capital Management and Regulatory Capital — Capital Management" for information about the impact of these updates on the allocation of attributed equity among our segments as of the beginning of the first quarter of 2021. The average common equity balances above incorporate such impact, as well as the changes in the size and composition of assets held in each of our segments that occurred during the three and nine months ended September 2021. See "Capital Management and Regulatory Capital — Capital Management" for information about our updated SCB, which became effective on October 1, 2021.

Compensation and benefits expenses within our segments reflect, among other factors, our overall performance, as well as the performance of individual businesses. Consequently, pre-tax margins in one segment of our business may be significantly affected by the performance of our other business segments. A description of segment operating results follows.

Investment Banking

Investment Banking generates revenues from the following:

- **Financial advisory.** Includes strategic advisory assignments with respect to mergers and acquisitions, divestitures, corporate defense activities, restructurings and spin-offs.
- **Underwriting.** Includes public offerings and private placements, including local and cross-border transactions and acquisition financing, of a wide range of securities and other financial instruments, including loans.
- **Corporate lending.** Includes lending to corporate clients, including through relationship lending, middle-market lending and acquisition financing. We also provide transaction banking services to certain of our corporate clients.

The table below presents our Investment Banking assets.

$ in millions	As of September 2021	December 2020
Cash and cash equivalents	**$ 54,044**	$ 34,730
Collateralized agreements	**25,343**	20,242
Customer and other receivables	**8,879**	2,465
Trading assets	**23,453**	29,493
Investments	**1,446**	1,078
Loans	**26,428**	26,544
Other assets	**1,987**	1,690
Total	**$141,580**	$116,242

The table below presents our Investment Banking operating results.

$ in millions	Three Months Ended September 2021	Three Months Ended September 2020	Nine Months Ended September 2021	Nine Months Ended September 2020
Financial advisory	**$ 1,648**	$ 507	**$ 4,022**	$ 1,974
Equity underwriting	**1,174**	856	**3,986**	2,291
Debt underwriting	**726**	571	**2,556**	2,144
Underwriting	**1,900**	1,427	**6,542**	4,435
Corporate lending	**152**	35	**516**	401
Net revenues	**3,700**	1,969	**11,080**	6,810
Provision for credit losses	**41**	171	**(229)**	1,612
Operating expenses	**1,343**	1,067	**5,161**	4,940
Pre-tax earnings	**2,316**	731	**6,148**	258
Provision for taxes	**485**	262	**1,206**	74
Net earnings	**1,831**	469	**4,942**	184
Preferred stock dividends	**13**	17	**52**	51
Net earnings to common	**$ 1,818**	$ 452	**$ 4,890**	$ 133
Average common equity	**$10,346**	$11,271	**$10,201**	$11,251
Return on average common equity	**70.3%**	16.0%	**63.9%**	1.6%

The table below presents our financial advisory and underwriting transaction volumes.

$ in billions	Three Months Ended September 2021	Three Months Ended September 2020	Nine Months Ended September 2021	Nine Months Ended September 2020
Announced mergers and acquisitions	**$ 454**	$ 332	**$ 1,405**	$ 578
Completed mergers and acquisitions	**$ 402**	$ 203	**$ 1,036**	$ 814
Equity and equity-related offerings	**$ 25**	$ 29	**$ 111**	$ 81
Debt offerings	**$ 78**	$ 83	**$ 265**	$ 292

In the table above:

- Volumes are per Dealogic.
- Announced and completed mergers and acquisitions volumes are based on full credit to each of the advisors in a transaction. Equity and equity-related offerings and debt offerings are based on full credit for single book managers and equal credit for joint book managers. Transaction volumes may not be indicative of net revenues in a given period. In addition, transaction volumes for prior periods may vary from amounts previously reported due to the subsequent withdrawal or a change in the value of a transaction.
- Equity and equity-related offerings includes Rule 144A and public common stock offerings, convertible offerings and rights offerings.
- Debt offerings includes non-convertible preferred stock, mortgage-backed securities, asset-backed securities and taxable municipal debt. Includes publicly registered and Rule 144A issues and excludes leveraged loans.

Operating Environment. During the third quarter of 2021, Investment Banking operated in an environment characterized by strong industry-wide activity. In mergers and acquisitions, industry-wide completed and announced volumes remained at high levels, reflecting supportive market conditions and CEO confidence. In underwriting, both industry-wide equity and debt volumes were solid, but were lower following elevated levels in the second quarter of 2021.

In the future, if market and economic conditions deteriorate, and industry-wide mergers and acquisitions volumes decline, or if industry-wide equity and debt underwriting volumes continue to decline, or credit spreads related to hedges on our relationship lending portfolio tighten, net revenues in Investment Banking would likely be negatively impacted. In addition, a deterioration in the creditworthiness of borrowers would negatively impact the provision for credit losses.

Three Months Ended September 2021 versus September 2020. Net revenues in Investment Banking were $3.70 billion for the third quarter of 2021, 88% higher than the third quarter of 2020, reflecting significantly higher net revenues in Financial advisory, Underwriting and Corporate lending.

The increase in Financial advisory net revenues reflected an increase in completed mergers and acquisitions volumes. The increase in Underwriting net revenues was due to significantly higher net revenues in both Equity underwriting, primarily driven by private placements, convertible offerings and initial public offerings, and Debt underwriting, reflecting an increase in leveraged finance activity. The increase in Corporate lending net revenues primarily reflected net gains related to middle-market lending activities.

Provision for credit losses was $41 million for the third quarter of 2021, 76% lower than the third quarter of 2020, primarily reflecting lower individual impairments, while the prior year period was positively impacted by reserve reductions from paydowns on corporate lines of credit.

Operating expenses were $1.34 billion for the third quarter of 2021, 26% higher than the third quarter of 2020, due to significantly higher compensation and benefits expenses (reflecting strong performance), partially offset by lower net provisions for litigation and regulatory proceedings. Pre-tax earnings were $2.32 billion for the third quarter of 2021, compared with $731 million for the third quarter of 2020.

As of September 2021, our investment banking transaction backlog remained elevated, but decreased compared with June 2021, due to lower estimated net revenues from potential financial advisory transactions and potential equity underwriting transactions (particularly from private placements and initial public offerings), partially offset by higher estimated net revenues in debt underwriting transactions (primarily from leveraged finance transactions).

Our backlog represents an estimate of our net revenues from future transactions where we believe that future revenue realization is more likely than not. We believe changes in our backlog may be a useful indicator of client activity levels which, over the long term, impact our net revenues. However, the time frame for completion and corresponding revenue recognition of transactions in our backlog varies based on the nature of the assignment, as certain transactions may remain in our backlog for longer periods of time. In addition, our backlog is subject to certain limitations, such as assumptions about the likelihood that individual client transactions will occur in the future. Transactions may be cancelled or modified, and transactions not included in the estimate may also occur, including underwriting transactions for which the time frame from discussion to completion has shortened in the current environment.

Nine Months Ended September 2021 versus September 2020. Net revenues in Investment Banking were $11.08 billion for the first nine months of 2021, 63% higher than the first nine months of 2020, primarily reflecting significantly higher net revenues in Underwriting and Financial advisory.

The increase in Underwriting net revenues was due to significantly higher net revenues in Equity underwriting, primarily driven by strong industry-wide initial public offerings activity, and higher net revenues in Debt underwriting, reflecting elevated industry-wide leveraged finance volumes. The increase in Financial advisory net revenues reflected a significant increase in completed mergers and acquisitions transactions. The increase in Corporate lending net revenues reflected significantly higher net interest income, primarily from middle-market lending activities.

Provision for credit losses was a net benefit of $229 million for the first nine months of 2021, compared with net provisions of $1.61 billion for the first nine months of 2020, primarily due to reserve reductions in the current year period reflecting continued improvement in the broader economic environment following challenging conditions in the first nine months of 2020 resulting from the COVID-19 pandemic.

Operating expenses were $5.16 billion for the first nine months of 2021, 4% higher than the first nine months of 2020, due to significantly higher compensation and benefits expenses (reflecting strong performance), partially offset by significantly lower net provisions for litigation and regulatory proceedings. Pre-tax earnings were $6.15 billion for the first nine months of 2021, compared with $258 million for the first nine months of 2020. Annualized ROE was 63.9% for the first nine months of 2021, compared with 1.6% for the first nine months of 2020 (which included the impact of net provisions for litigation and regulatory proceedings that reduced annualized ROE by 15.7 percentage points).

As of September 2021, our investment banking transaction backlog increased significantly compared with December 2020, due to significantly higher estimated net revenues from potential financial advisory transactions and potential debt underwriting transactions (particularly from leveraged finance and investment-grade transactions), and higher estimated net revenues from equity underwriting transactions (primarily from initial public offerings).

Global Markets

Our Global Markets segment consists of:

FICC. FICC generates revenues from intermediation and financing activities.

- **FICC intermediation.** Includes client execution activities related to making markets in both cash and derivative instruments, as detailed below.

  Interest Rate Products. Government bonds (including inflation-linked securities) across maturities, other government-backed securities, and interest rate swaps, options and other derivatives.

  Credit Products. Investment-grade and high-yield corporate securities, credit derivatives, exchange-traded funds (ETFs), bank and bridge loans, municipal securities, emerging market and distressed debt, and trade claims.

  Mortgages. Commercial mortgage-related securities, loans and derivatives, residential mortgage-related securities, loans and derivatives (including U.S. government agency-issued collateralized mortgage obligations and other securities and loans), and other asset-backed securities, loans and derivatives.

  Currencies. Currency options, spot/forwards and other derivatives on G-10 currencies and emerging-market products.

Commodities. Commodity derivatives and, to a lesser extent, physical commodities, involving crude oil and petroleum products, natural gas, base, precious and other metals, electricity, coal, agricultural and other commodity products.

For further information about market-making activities, see "Market-Making Activities" below.

- **FICC financing.** Includes providing financing to our clients through securities purchased under agreements to resell (resale agreements), and through structured credit, warehouse lending (including residential and commercial mortgage lending) and asset-backed lending, which are typically longer term in nature.

Equities. Equities generates revenues from intermediation and financing activities.

- **Equities intermediation.** We make markets in equity securities and equity-related products, including ETFs, convertible securities, options, futures and OTC derivative instruments. We also structure and make markets in derivatives on indices, industry sectors, financial measures and individual company stocks. Our exchange-based market-making activities include making markets in stocks and ETFs, futures and options on major exchanges worldwide. In addition, we generate commissions and fees from executing and clearing institutional client transactions on major stock, options and futures exchanges worldwide, as well as OTC transactions. For further information about market-making activities, see "Market-Making Activities" below.
- **Equities financing.** Includes prime brokerage and other equities financing activities, including securities lending, margin lending and swaps. We earn fees by providing clearing, settlement and custody services globally. We provide services that principally involve borrowing and lending securities to cover institutional clients' short sales and borrowing securities to cover our short sales and to make deliveries into the market. In addition, we are an active participant in broker-to-broker securities lending and third-party agency lending activities. We provide financing to our clients for their securities trading activities through margin loans that are collateralized by securities, cash or other acceptable collateral. In addition, we execute swap transactions to provide our clients with exposure to securities and indices.

Market-Making Activities

As a market maker, we facilitate transactions in both liquid and less liquid markets, primarily for institutional clients, such as corporations, financial institutions, investment funds and governments, to assist clients in meeting their investment objectives and in managing their risks. In this role, we seek to earn the difference between the price at which a market participant is willing to sell an instrument to us and the price at which another market participant is willing to buy it from us, and vice versa (i.e., bid/offer spread). In addition, we maintain (i) market-making positions, typically for a short period of time, in response to, or in anticipation of, client demand, and (ii) positions to actively manage our risk exposures that arise from these market-making activities (collectively, inventory). Our inventory is recorded in trading assets (long positions) or trading liabilities (short positions) in our consolidated balance sheets.

Our results are influenced by a combination of interconnected drivers, including (i) client activity levels and transactional bid/offer spreads (collectively, client activity), and (ii) changes in the fair value of our inventory and interest income and interest expense related to the holding, hedging and funding of our inventory (collectively, market-making inventory changes). Due to the integrated nature of our market-making activities, disaggregation of net revenues into client activity and market-making inventory changes is judgmental and has inherent complexities and limitations.

The amount and composition of our net revenues vary over time as these drivers are impacted by multiple interrelated factors affecting economic and market conditions, including volatility and liquidity in the market, changes in interest rates, currency exchange rates, credit spreads, equity prices and commodity prices, investor confidence, and other macroeconomic concerns and uncertainties.

In general, assuming all other market-making conditions remain constant, increases in client activity levels or bid/offer spreads tend to result in increases in net revenues, and decreases tend to have the opposite effect. However, changes in market-making conditions can materially impact client activity levels and bid/offer spreads, as well as the fair value of our inventory. For example, a decrease in liquidity in the market could have the impact of (i) increasing our bid/offer spread, (ii) decreasing investor confidence and thereby decreasing client activity levels, and (iii) widening of credit spreads on our inventory positions.

The table below presents our Global Markets assets.

	As of	
$ in millions	**September 2021**	December 2020
Cash and cash equivalents	**$ 107,808**	$ 86,663
Collateralized agreements	**353,698**	212,711
Customer and other receivables	**151,242**	110,473
Trading assets	**350,660**	339,349
Investments	**51,525**	52,929
Loans	**51,167**	33,214
Other assets	**11,337**	9,267
Total	**$1,077,437**	$844,606

The table below presents our Global Markets operating results.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
FICC intermediation	**$ 1,995**	$ 2,170	**$ 7,343**	$ 8,493
FICC financing	**513**	332	**1,378**	1,213
FICC	**2,508**	2,502	**8,721**	9,706
Equities intermediation	**1,920**	1,466	**6,271**	5,193
Equities financing	**1,183**	585	**3,100**	1,993
Equities	**3,103**	2,051	**9,371**	7,186
Net revenues	**5,611**	4,553	**18,092**	16,892
Provision for credit losses	**(24)**	(15)	**(30)**	236
Operating expenses	**2,794**	2,542	**10,352**	10,568
Pre-tax earnings	**2,841**	2,026	**7,770**	6,088
Provision for taxes	**597**	122	**1,524**	1,742
Net earnings	**2,244**	1,904	**6,246**	4,346
Preferred stock dividends	**54**	88	**205**	261
Net earnings to common	**$ 2,190**	$ 1,816	**$ 6,041**	$ 4,085
Average common equity	**$46,959**	$39,960	**$44,067**	$40,542
Return on average common equity	**18.7%**	18.2%	**18.3%**	13.4%

The table below presents our Global Markets net revenues by line item in the consolidated statements of earnings.

$ in millions	FICC	Equities	Global Markets
Three Months Ended September 2021			
Market making	**$1,716**	**$2,213**	**$ 3,929**
Commissions and fees	**–**	**842**	**842**
Other principal transactions	**122**	**50**	**172**
Net interest income	**670**	**(2)**	**668**
Total	**$2,508**	**$3,103**	**$ 5,611**
Three Months Ended September 2020			
Market making	$1,903	$1,424	$ 3,327
Commissions and fees	–	734	734
Other principal transactions	39	(7)	32
Net interest income	560	(100)	460
Total	$2,502	$2,051	$ 4,553
Nine Months Ended September 2021			
Market making	**$6,474**	**$6,622**	**$13,096**
Commissions and fees	**–**	**2,670**	**2,670**
Other principal transactions	**306**	**49**	**355**
Net interest income	**1,941**	**30**	**1,971**
Total	**$8,721**	**$9,371**	**$18,092**
Nine Months Ended September 2020			
Market making	$7,803	$4,993	$12,796
Commissions and fees	–	2,522	2,522
Other principal transactions	(26)	–	(26)
Net interest income	1,929	(329)	1,600
Total	$9,706	$7,186	$16,892

In the table above:

- The difference between commissions and fees and those in the consolidated statements of earnings represents commissions and fees included in our Consumer & Wealth Management segment.
- See "Net Revenues" for further information about market making revenues, commissions and fees, other principal transactions revenues and net interest income. See Note 25 to the consolidated financial statements for net interest income by business segment.
- The primary driver of net revenues for FICC intermediation was client activity.

Operating Environment. During the third quarter of 2021, Global Markets operated in an environment generally characterized by continued economic recovery and continued monetary and fiscal support from central banks and governments globally, which contributed to solid client activity levels. Market volatility was generally range-bound during the quarter, with the average daily VIX index up 2%, the average daily MOVE index up 5% and the average daily CVIX index down 5%, although volatility in commodities was heightened in oil, natural gas and power. Equity markets remained stable and at near-record levels, as the S&P 500 Index was roughly flat and the MSCI World Index decreased by 1% during the quarter. In the same time period, the yield on 10-year U.K. Gilts increased by approximately 30 basis points and the yield on 10-year U.S. Treasury securities increased by approximately 10 basis points. If macroeconomic conditions lead to a decline in activity levels or volatility, net revenues in Global Markets would likely be negatively impacted.

Three Months Ended September 2021 versus September 2020. Net revenues in Global Markets were $5.61 billion for the third quarter of 2021, 23% higher than the third quarter of 2020.

Net revenues in FICC were $2.51 billion, essentially unchanged compared with the third quarter of 2020. Net revenues in FICC financing were significantly higher, primarily from mortgage lending. Net revenues in FICC intermediation were lower, reflecting significantly lower net revenues in interest rate products, credit products and mortgages, partially offset by significantly higher net revenues in commodities and higher net revenues in currencies.

The decrease in FICC intermediation net revenues reflected the impact of less favorable market-making conditions on our inventory. The following provides information about our FICC intermediation net revenues by business, compared with results in the third quarter of 2020:

- Net revenues in interest rates products and mortgages reflected the impact of less favorable market-making conditions on our inventory.
- Net revenues in credit products primarily reflected lower client activity.
- Net revenues in commodities and currencies primarily reflected the impact of improved market-making conditions on our inventory.

Net revenues in Equities were $3.10 billion, 51% higher than the third quarter of 2020, due to significantly higher net revenues in both Equities financing, reflecting increased client activity (including higher average client balances), and Equities intermediation, reflecting significantly higher net revenues in both derivatives and cash products.

Provision for credit losses was a net benefit of $24 million for the third quarter of 2021, compared with a net benefit of $15 million for the third quarter of 2020.

Operating expenses were $2.79 billion for the third quarter of 2021, 10% higher than the third quarter of 2020, primarily reflecting higher transaction based expenses. Pre-tax earnings were $2.84 billion for the third quarter of 2021, 40% higher than the third quarter of 2020.

Nine Months Ended September 2021 versus September 2020. Net revenues in Global Markets were $18.09 billion for the first nine months of 2021, 7% higher than the first nine months of 2020.

Net revenues in FICC were $8.72 billion for the first nine months of 2021, 10% lower than the first nine months of 2020, due to lower net revenues in FICC intermediation, reflecting significantly lower net revenues in interest rate products, credit products and currencies, partially offset by significantly higher net revenues in mortgages and higher net revenues in commodities. Net revenues in FICC financing were higher, reflecting significantly higher net revenues from mortgage lending, partially offset by significantly lower net revenues from resale agreements.

The decrease in FICC intermediation net revenues reflected solid but significantly lower client activity compared with strong activity levels in the prior year period due to high volatility amid the COVID-19 pandemic. This was partially offset by the impact of improved market-making conditions on our inventory compared with challenging conditions in the prior year period. The following provides information about our FICC intermediation net revenues by business, compared with results in the first nine months of 2020:

- Net revenues in interest rate products, credit products and currencies reflected lower client activity, partially offset by the impact of improved market-making conditions on our inventory.
- Net revenues in mortgages and commodities reflected the impact of improved market-making conditions on our inventory.

Net revenues in Equities were $9.37 billion, 30% higher than the first nine months of 2020, due to significantly higher net revenues in both Equities financing, primarily reflecting increased activity (including higher average client balances), and Equities intermediation, reflecting significantly higher net revenues in both derivatives and cash products.

Provision for credit losses was a net benefit of $30 million for the first nine months of 2021, compared with net provisions of $236 million for the first nine months of 2020, primarily reflecting reserve reductions in the current year period reflecting continued improvement in the broader economic environment following challenging conditions in the first nine months of 2020 resulting from the COVID-19 pandemic.

Operating expenses were $10.35 billion for the first nine months of 2021, 2% lower than the first nine months of 2020, reflecting significantly lower net provisions for litigation and regulatory proceedings, partially offset by higher compensation and benefits expenses (reflecting strong performance) and higher transaction based expenses. Pre-tax earnings were $7.77 billion for the first nine months of 2021, 28% higher than the first nine months of 2020. Annualized ROE was 18.3% for the first nine months of 2021, compared with 13.4% for the first nine months of 2020 (which included the impact of net provisions for litigation and regulatory proceedings that reduced annualized ROE by 6.1 percentage points).

Asset Management

We manage client assets across a broad range of investment strategies and asset classes for a diverse set of institutional clients and a network of third-party distributors around the world, including equity, fixed income and alternative investments. We provide investment solutions including those managed on a fiduciary basis by our portfolio managers, as well as those managed by a variety of third-party managers. We offer our investment solutions in a variety of structures, including separately managed accounts, mutual funds, private partnerships and other comingled vehicles. These solutions begin with identifying clients' objectives and continue through portfolio construction, ongoing asset allocation and risk management and investment realization.

In addition to managing client assets, we invest in alternative investments across a range of asset classes that seek to deliver long-term accretive risk-adjusted returns. Our investing activities, which are typically longer term, include investments in corporate equity, credit, real estate and infrastructure assets.

Asset Management generates revenues from the following:

- **Management and other fees.** The majority of revenues in management and other fees consists of asset-based fees on client assets that we manage. For further information about AUS, see "Assets Under Supervision" below. The fees that we charge vary by asset class, distribution channel and the types of services provided, and are affected by investment performance, as well as asset inflows and redemptions.
- **Incentive fees.** In certain circumstances, we also receive incentive fees based on a percentage of a fund's or a separately managed account's return, or when the return exceeds a specified benchmark or other performance targets. Such fees include overrides, which consist of the increased share of the income and gains derived primarily from our private equity and credit funds when the return on a fund's investments over the life of the fund exceeds certain threshold returns.
- **Equity investments.** Our alternative investing activities relate to public and private equity investments in corporate, real estate and infrastructure assets. We also make investments through consolidated investment entities (CIEs), substantially all of which are engaged in real estate investment activities.
- **Lending and debt investments.** We invest in corporate debt and provide financing for real estate and other assets. These activities include investments in mezzanine debt, senior debt and distressed debt securities.

The table below presents our Asset Management assets.

	As of	
$ in millions	**September 2021**	December 2020
Cash and cash equivalents	**$12,905**	$ 8,635
Collateralized agreements	**5,565**	4,749
Customer and other receivables	**1,012**	1,261
Trading assets	**5,127**	6,819
Investments	**33,678**	34,386
Loans	**15,792**	16,558
Other assets	**19,984**	23,343
Total	**$94,063**	$95,751

The table below presents our Asset Management operating results.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Management and other fees	**$ 724**	$ 728	**$ 2,144**	$ 2,052
Incentive fees	**100**	28	**220**	216
Equity investments	**935**	1,423	**7,772**	2,325
Lending and debt investments	**520**	589	**1,889**	180
Net revenues	**2,279**	2,768	**12,025**	4,773
Provision for credit losses	**10**	70	**(2)**	420
Operating expenses	**823**	1,358	**4,656**	3,888
Pre-tax earnings	**1,446**	1,340	**7,371**	465
Provision for taxes	**331**	482	**1,446**	133
Net earnings	**1,115**	858	**5,925**	332
Preferred stock dividends	**19**	19	**72**	59
Net earnings to common	**$ 1,096**	$ 839	**$ 5,853**	$ 273
Average common equity	**$25,788**	$19,989	**$25,294**	$20,332
Return on average common equity	**17.0%**	16.8%	**30.9%**	1.8%

The table below presents our Equity investments net revenues by equity type and asset class.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Equity Type				
Private equity	**$ 1,753**	$ 642	**$ 7,350**	$ 1,392
Public equity	**(818)**	781	**422**	933
Total	**$ 935**	$ 1,423	**$ 7,772**	$ 2,325
Asset Class				
Real estate	**$ 677**	$ 221	**$ 1,649**	$ 1,259
Corporate	**258**	1,202	**6,123**	1,066
Total	**$ 935**	$ 1,423	**$ 7,772**	$ 2,325

The table below presents details about our Lending and debt investments net revenues.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Fair value net gains/(losses)	**$ 214**	$ 313	**$ 951**	$ (545)
Net interest income	**306**	276	**938**	725
Total	**$ 520**	$ 589	**$ 1,889**	$ 180

Operating Environment. During the third quarter of 2021, the operating environment for Asset Management reflected relatively stable equity prices and credit spreads compared with the second quarter of 2021, amid continued economic recovery and continued monetary and fiscal support from central banks and governments globally. If optimism about the economic outlook declines or the ongoing efforts to mitigate the impact of the COVID-19 pandemic are ineffective, it may lead to a decline in asset prices, widening of credit spreads, and investors transitioning to asset classes that typically generate lower fees or investors withdrawing their assets, and net revenues in Asset Management would likely be negatively impacted.

Three Months Ended September 2021 versus September 2020. Net revenues in Asset Management were $2.28 billion for the third quarter of 2021, 18% lower than the third quarter of 2020, primarily driven by significantly lower net revenues in Equity investments. In addition, net revenues in Lending and debt investments were lower, while Incentive fees were higher.

The decrease in Equity investments net revenues reflected significant net losses from investments in public equities during the quarter compared with net gains in the third quarter of 2020, partially offset by significantly higher net gains from investments in private equities, driven by company-specific events, primarily sales. The decrease in Lending and debt investments net revenues reflected lower net gains from investments in debt instruments.

Management and other fees were essentially unchanged, primarily reflecting higher fee waivers on money market funds, offset by the impact of higher average assets under supervision. The increase in Incentive fees was due to harvesting.

Provision for credit losses was $10 million for the third quarter of 2021, compared with $70 million for the third quarter of 2020.

Operating expenses were $823 million for the third quarter of 2021, 39% lower than the third quarter of 2020, reflecting significantly lower compensation and benefits expenses. Pre-tax earnings were $1.45 billion for the third quarter of 2021, 8% higher than the third quarter of 2020.

Nine Months Ended September 2021 versus September 2020. Net revenues in Asset Management were $12.03 billion for the first nine months of 2021, compared with $4.77 billion for the first nine months of 2020, primarily reflecting significantly higher net revenues in Equity investments and Lending and debt investments.

The increase in Equity investments net revenues reflected significantly higher net gains from investments in private equities, driven by company-specific events, including sales and capital raises, and improved corporate performance versus a challenging first nine months of 2020. This increase was partially offset by significantly lower net gains from investments in public equities.

The increase in Lending and debt investments net revenues reflected net gains from investments in debt instruments compared with net losses in the prior year period, and significantly higher net interest income.

The increase in Management and other fees reflected the impact of higher average assets under supervision and higher other fees, partially offset by higher fee waivers on money market funds. Incentive fees were essentially unchanged.

Provision for credit losses was a net benefit of $2 million for the first nine months of 2021, compared with net provisions of $420 million for the first nine months of 2020, primarily due to reserve reductions in the current year period reflecting continued improvement in the broader economic environment following challenging conditions in the first nine months of 2020 resulting from the COVID-19 pandemic.

Operating expenses were $4.66 billion for the first nine months of 2021, 20% higher than the first nine months of 2020, primarily reflecting significantly higher compensation and benefits expenses (reflecting strong performance). Pre-tax earnings were $7.37 billion for the first nine months of 2021, compared with $465 million for the first nine months of 2020.

Consumer & Wealth Management

Consumer & Wealth Management helps clients achieve their individual financial goals by providing a broad range of wealth advisory and banking services, including financial planning, investment management, deposit taking, and lending. Services are offered through our global network of advisors and via our digital platforms.

Wealth Management. Wealth management provides tailored wealth advisory services to clients across the wealth spectrum. We operate globally serving individuals, families, family offices, and foundations and endowments. Our relationships are established directly or introduced through corporations that sponsor financial wellness programs for their employees.

We offer personalized financial planning inclusive of income and liability management, compensation and benefits analysis, trust and estate structuring, tax optimization, philanthropic giving, and asset protection. We also provide customized investment advisory solutions, and offer structuring and execution capabilities in security and derivative products across all major global markets. We leverage a broad, open-architecture investment platform and our global execution capabilities to help clients achieve their investment goals. In addition, we offer clients a full range of private banking services, including a variety of deposit alternatives and loans that our clients use to finance investments in both financial and nonfinancial assets, bridge cash flow timing gaps or provide liquidity and flexibility for other needs.

Wealth management generates revenues from the following:

- **Management and other fees.** Includes fees related to managing assets, providing investing and wealth advisory solutions, providing financial planning and counseling services via Ayco Personal Finance Management, and executing brokerage transactions for wealth management clients.
- **Incentive fees.** In certain circumstances, we also receive incentive fees from wealth management clients based on a percentage of a fund's return, or when the return exceeds a specified benchmark or other performance targets. Such fees include overrides, which consist of the increased share of the income and gains derived primarily from our private equity and credit funds when the return on a fund's investments over the life of the fund exceeds certain threshold returns.
- **Private banking and lending.** Includes net interest income allocated to deposit-taking and net interest income earned on lending activities for wealth management clients.

Consumer Banking. Our Consumer banking business issues unsecured loans, through our digital platform, *Marcus by Goldman Sachs* (Marcus), and credit cards, to finance the purchases of goods or services. We also accept deposits through Marcus, in Goldman Sachs Bank USA (GS Bank USA) and GSIB. These deposits include savings and time deposits which provide us with a diversified source of funding. Additionally, we provide investing services through *Marcus Invest*, currently offered in the U.S.

Consumer banking revenues consist of net interest income earned on unsecured loans issued to consumers through Marcus and credit card lending activities, and net interest income allocated to consumer deposits.

The table below presents our Consumer & Wealth Management assets.

	As of	
$ in millions	**September 2021**	December 2020
Cash and cash equivalents	**$ 37,073**	$ 25,814
Collateralized agreements	**15,127**	12,518
Customer and other receivables	**10,647**	7,132
Trading assets	**13,758**	17,969
Investments	**59**	52
Loans	**50,237**	39,799
Other assets	**3,249**	3,145
Total	**$130,150**	$106,429

The table below presents our Consumer & Wealth Management operating results.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
Management and other fees	**$ 1,223**	$ 957	**$ 3,409**	$2,854
Incentive fees	**121**	7	**162**	86
Private banking and lending	**292**	201	**816**	538
Wealth management	**1,636**	1,165	**4,387**	3,478
Consumer banking	**382**	326	**1,116**	866
Net revenues	**2,018**	1,491	**5,503**	4,344
Provision for credit losses	**148**	52	**274**	537
Operating expenses	**1,631**	1,237	**4,499**	3,680
Pre-tax earnings	**239**	202	**730**	127
Provision for taxes	**51**	66	**143**	36
Net earnings	**188**	136	**587**	91
Preferred stock dividends	**8**	10	**29**	29
Net earnings to common	**$ 180**	$ 126	**$ 558**	$ 62
Average common equity	**$10,740**	$8,519	**$10,475**	$7,715
Return on average common equity	**6.7%**	5.9%	**7.1%**	1.1%

Operating Environment. During the third quarter of 2021, market and economic conditions contributed to a favorable backdrop for consumer banking and wealth management activities. Global equity prices remained stable and, in the U.S., unemployment decreased and consumer spending increased compared with the end of the second quarter of 2021, aided by continued economic recovery and continued support from central banks and governments globally. If optimism about the economic outlook declines or the ongoing efforts to mitigate the impact of the COVID-19 pandemic are ineffective, it may lead to a decline in asset prices, investors favoring asset classes that typically generate lower fees, investors withdrawing their assets and consumers withdrawing their deposits or deterioration in consumer credit, net revenues and the provision for credit losses in Consumer & Wealth Management would likely be negatively impacted.

Three Months Ended September 2021 versus September 2020. Net revenues in Consumer & Wealth Management were $2.02 billion for the third quarter of 2021, 35% higher than the third quarter of 2020.

Net revenues in Wealth management were $1.64 billion, 40% higher than the third quarter of 2020. Management and other fees were significantly higher, primarily reflecting the impact of higher average assets under supervision. Incentive fees were significantly higher, due to harvesting, and net revenues in Private banking and lending were higher, primarily reflecting higher loan balances.

Net revenues in Consumer banking were $382 million, 17% higher than the third quarter of 2020, reflecting higher credit card and deposit balances.

Provision for credit losses was $148 million for the third quarter of 2021, compared with $52 million for the third quarter of 2020, primarily reflecting increased portfolio growth in credit cards, while the prior year period was positively impacted by reserve reductions from paydowns on consumer installment loans.

Operating expenses were $1.63 billion for the third quarter of 2021, 32% higher than the third quarter of 2020, primarily reflecting significantly higher compensation and benefits expenses (reflecting strong performance). Pre-tax earnings were $239 million for the third quarter of 2021, 18% higher than the third quarter of 2020.

Nine Months Ended September 2021 versus September 2020. Net revenues in Consumer & Wealth Management were $5.50 billion for the first nine months of 2021, 27% higher than the first nine months of 2020.

Net revenues in Wealth management were $4.39 billion, 26% higher than the first nine months of 2020, due to higher Management and other fees, primarily reflecting the impact of higher average assets under supervision, and significantly higher net revenues in Private banking and lending, primarily reflecting higher loan balances. In addition, Incentive fees were higher, due to harvesting.

Net revenues in Consumer banking were $1.12 billion, 29% higher than the first nine months of 2020, reflecting higher deposit and credit card balances.

Provision for credit losses was $274 million for the first nine months of 2021, 49% lower than the first nine months of 2020, primarily due to reserve reductions in the current year period reflecting continued improvement in the broader economic environment following challenging conditions in the first nine months of 2020 resulting from the COVID-19 pandemic, partially offset by increased portfolio growth in credit cards, including approximately $185 million of provisions related to the pending acquisition of the General Motors co-branded portfolio.

Operating expenses were $4.50 billion for the first nine months of 2021, 22% higher than the first nine months of 2020, primarily reflecting significantly higher compensation and benefits expenses (reflecting strong performance). Pre-tax earnings were $730 million for the first nine months of 2021, compared with $127 million for the first nine months of 2020.

Assets Under Supervision

AUS includes our institutional clients' assets and assets sourced through third-party distributors (both included in our Asset Management segment), as well as high-net-worth clients' assets (included in our Consumer & Wealth Management segment), where we earn a fee for managing assets on a discretionary basis. This includes net assets in our mutual funds, hedge funds, credit funds, private equity funds, real estate funds, and separately managed accounts for institutional and individual investors. AUS also includes client assets invested with third-party managers, private bank deposits and advisory relationships where we earn a fee for advisory and other services, but do not have investment discretion. AUS does not include the self-directed brokerage assets of our clients.

The table below presents information about our firmwide period-end AUS by segment, asset class, distribution channel, region and vehicle.

	As of September	
$ in billions	**2021**	2020
Segment		
Asset Management	**$1,678**	$1,461
Consumer & Wealth Management	**694**	575
Total AUS	**$2,372**	$2,036
Asset Class		
Alternative investments	**$ 224**	$ 182
Equity	**569**	421
Fixed income	**940**	856
Total long-term AUS	**1,733**	1,459
Liquidity products	**639**	577
Total AUS	**$2,372**	$2,036
Distribution Channel		
Institutional	**$ 812**	$ 725
Wealth management	**694**	575
Third-party distributed	**866**	736
Total AUS	**$2,372**	$2,036
Region		
Americas	**$1,853**	$1,563
EMEA	**339**	305
Asia	**180**	168
Total AUS	**$2,372**	$2,036
Vehicle		
Separate accounts	**$1,300**	$1,120
Public funds	**776**	673
Private funds and other	**296**	243
Total AUS	**$2,372**	$2,036

In the table above:

- Liquidity products includes money market funds and private bank deposits.
- EMEA represents Europe, Middle East and Africa.

Asset classes, such as alternative investment and equity assets, typically generate higher fees relative to fixed income and liquidity product assets. The average effective management fee (which excludes non-asset-based fees) we earned on our firmwide AUS was 29 basis points for each of the three and nine months ended September 2021 and September 2020.

We earn management fees on client assets that we manage and also receive incentive fees based on a percentage of a fund's or a separately managed account's return, or when the return exceeds a specified benchmark or other performance targets. These incentive fees are recognized when it is probable that a significant reversal of such fees will not occur. Our estimated unrecognized incentive fees were $2.93 billion as of September 2021 and $1.79 billion as of December 2020. Such amounts are based on the completion of the funds' financial statements, which is generally one quarter in arrears. These fees will be recognized, assuming no decline in fair value, if and when it is probable that a significant reversal of such fees will not occur, which is generally when such fees are no longer subject to fluctuations in the market value of the assets.

The table below presents changes in our AUS.

	Three Months Ended September		Nine Months Ended September	
$ in billions	**2021**	2020	**2021**	2020
Asset Management				
Beginning balance	**$1,633**	$1,499	**$1,530**	$1,298
Net inflows/(outflows):				
Alternative investments	**3**	(3)	**9**	(6)
Equity	**3**	(5)	**1**	–
Fixed income	**27**	22	**55**	35
Total long-term AUS net inflows/(outflows)	**33**	14	**65**	29
Liquidity products	**11**	(86)	**56**	101
Total AUS net inflows/(outflows)	**44**	(72)	**121**	130
Net market appreciation/(depreciation)	**1**	34	**27**	33
Ending balance	**$1,678**	$1,461	**$1,678**	$1,461
Consumer & Wealth Management				
Beginning balance	**$ 672**	$ 558	**$ 615**	$ 561
Net inflows/(outflows):				
Alternative investments	**6**	2	**13**	2
Equity	**9**	–	**28**	–
Fixed income	**1**	2	**2**	(6)
Total long-term AUS net inflows/(outflows)	**16**	4	**43**	(4)
Liquidity products	**6**	(4)	**–**	14
Total AUS net inflows/(outflows)	**22**	–	**43**	10
Net market appreciation/(depreciation)	**–**	17	**36**	4
Ending balance	**$ 694**	$ 575	**$ 694**	$ 575
Firmwide				
Beginning balance	**$2,305**	$2,057	**$2,145**	$1,859
Net inflows/(outflows):				
Alternative investments	**9**	(1)	**22**	(4)
Equity	**12**	(5)	**29**	–
Fixed income	**28**	24	**57**	29
Total long-term AUS net inflows/(outflows)	**49**	18	**108**	25
Liquidity products	**17**	(90)	**56**	115
Total AUS net inflows/(outflows)	**66**	(72)	**164**	140
Net market appreciation/(depreciation)	**1**	51	**63**	37
Ending balance	**$2,372**	$2,036	**$2,372**	$2,036

The table below presents information about our average monthly firmwide AUS by segment and asset class.

	Average for the			
	Three Months Ended September		Nine Months Ended September	
$ in billions	**2021**	2020	**2021**	2020
Segment				
Asset Management	**$1,663**	$1,512	**$1,602**	$1,412
Consumer & Wealth Management	**688**	571	**656**	555
Total AUS	**$2,351**	$2,083	**$2,258**	$1,967
Asset Class				
Alternative investments	**$ 217**	$ 181	**$ 205**	$ 182
Equity	**569**	418	**532**	398
Fixed income	**932**	844	**911**	815
Total long-term AUS	**1,718**	1,443	**1,648**	1,395
Liquidity products	**633**	640	**610**	572
Total AUS	**$2,351**	$2,083	**$2,258**	$1,967

In addition to our AUS, we have discretion over alternative investments where we currently do not earn management fees (non-fee-earning alternative assets).

The table below presents information about our AUS for alternative assets, non-fee-earning alternative assets and total alternative assets.

$ in billions	AUS	Non-fee-earning alternative assets	Total alternative assets
As of September 2021			
Corporate equity	**$ 92**	**$ 74**	**$166**
Credit	**23**	**70**	**93**
Real estate	**19**	**45**	**64**
Hedge funds and multi-asset	**90**	**2**	**92**
Other	**–**	**1**	**1**
Total	**$224**	**$192**	**$416**
As of September 2020			
Corporate equity	$ 79	$ 42	$121
Credit	18	61	79
Real estate	16	44	60
Hedge funds and multi-asset	69	1	70
Other	–	1	1
Total	$182	$149	$331

In the table above:

- Corporate equity primarily includes private equity.
- Total alternative assets included uncalled capital that is available for future investing of $47 billion as of September 2021 and $37 billion as of September 2020.
- Non-fee-earning alternative assets primarily includes investments that we hold on our balance sheet, our unfunded commitments, unfunded commitments of our clients (where we do not charge fees on commitments), credit facilities collateralized by fund assets and employee funds. Our calculation of non-fee-earning alternative assets may not be comparable to similar calculations used by other companies.

In the beginning of 2020, we announced a strategic objective of growing our third-party alternatives business, and established targets of achieving net inflows of $100 billion and gross inflows of $150 billion for alternative assets over five years.

The table below presents information about third-party commitments raised in our alternatives business during 2020 and through the third quarter of 2021.

$ in billions	**As of September 2021**
Included in AUS	**$50**
Included in non-fee-earning alternative assets	**40**
Third-party commitments raised	**$90**

In the table above, commitments included in non-fee-earning alternative assets included approximately $27 billion which will begin to earn fees (and become AUS), if and when the commitments are drawn and assets are invested.

The table below presents information about alternative investments in our Asset Management segment that we hold on our balance sheet.

$ in billions	Loans	Debt securities	Equity securities	CIE investments and other	Total
As of September 2021					
Corporate equity	**$ –**	**$ –**	**$16**	**$ –**	**$16**
Credit	**8**	**11**	**–**	**–**	**19**
Real estate	**8**	**2**	**4**	**17**	**31**
Other	**–**	**–**	**–**	**1**	**1**
Total	**$16**	**$13**	**$20**	**$18**	**$67**
As of September 2020					
Corporate equity	$ –	$ –	$16	$ –	$16
Credit	8	11	–	–	19
Real estate	9	2	3	20	34
Other	–	–	–	1	1
Total	$17	$13	$19	$21	$70

Loans and Debt Securities. The table below presents the concentration of loans and debt securities within our alternative investments by accounting classification, region and industry.

	As of September	
$ in billions	**2021**	2020
Loans	**$16**	$17
Debt securities	**13**	13
Total	**$29**	$30
Accounting Classification		
Debt securities at fair value	**45%**	43%
Loans at amortized cost	**43%**	44%
Loans at fair value	**12%**	13%
Total	**100%**	100%
Region		
Americas	**47%**	46%
EMEA	**34%**	33%
Asia	**19%**	21%
Total	**100%**	100%
Industry		
Consumers	**4%**	4%
Financial Institutions	**8%**	8%
Healthcare	**9%**	8%
Industrials	**15%**	16%
Natural Resources & Utilities	**3%**	4%
Real Estate	**36%**	35%
Technology, Media & Telecommunications	**14%**	13%
Other	**11%**	12%
Total	**100%**	100%

Equity. The table below presents the concentration of equity securities within our alternative investments by region and industry.

	As of September	
$ in billions	**2021**	2020
Equity securities	**$20**	$19
Region		
Americas	**57%**	52%
EMEA	**23%**	16%
Asia	**20%**	32%
Total	**100%**	100%
Industry		
Financial Institutions	**14%**	23%
Healthcare	**10%**	8%
Industrials	**7%**	5%
Natural Resources & Utilities	**8%**	7%
Real Estate	**21%**	18%
Technology, Media & Telecommunications	**32%**	33%
Other	**8%**	6%
Total	**100%**	100%

In the table above:

- Equity securities included $16 billion of private equity positions as of both September 2021 and September 2020, and $4 billion as of September 2021 and $3 billion as of September 2020 of public equity positions that converted from private equity upon the initial public offerings of the underlying companies.
- The concentrations for real estate equity securities as of September 2021 were 4% for multifamily (2% as of September 2020), 4% for office (3% as of September 2020), 6% for mixed use (6% as of September 2020) and 7% for other real estate equity securities (7% as of September 2020).

The table below presents the concentration of equity securities within our alternative investments by vintage.

	Vintage
As of September 2021	
2014 or earlier	**25%**
2015 - 2017	**34%**
2018 - thereafter	**41%**
Total	**100%**
As of September 2020	
2013 or earlier	32%
2014 - 2016	35%
2017 - thereafter	33%
Total	100%

As we continue to grow our third-party alternatives business, we remain focused on our strategic objective, announced in January 2020, to reduce the capital intensity of the Asset Management segment by reducing our on-balance sheet equity investments.

The table below presents the rollforward of our equity securities from the beginning of 2020 through the third quarter of 2021.

$ in billions	**Total Equity**
Beginning balance	**$ 22**
Additions	**5**
Dispositions	**(16)**
Mark-ups	**9**
Ending balance	**$ 20**

CIE Investments and Other. CIE investments and other included assets held by CIEs of $17 billion as of September 2021 and $21 billion as of September 2020, which were funded with liabilities of approximately $9 billion as of September 2021 and $12 billion as of September 2020. Substantially all such liabilities were nonrecourse, thereby reducing our equity at risk.

The table below presents the concentration of CIE assets, net of financings, within our alternative investments by region and asset class.

	As of September	
$ in billions	**2021**	2020
CIE assets, net of financings	**$8**	$9
Region		
Americas	**63%**	62%
EMEA	**25%**	21%
Asia	**12%**	17%
Total	**100%**	100%
Asset Class		
Hospitality	**4%**	4%
Industrials	**11%**	8%
Multifamily	**24%**	24%
Office	**26%**	30%
Retail	**5%**	6%
Senior Housing	**14%**	12%
Student Housing	**6%**	7%
Other	**10%**	9%
Total	**100%**	100%

The table below presents the concentration of CIE assets, net of financings, within our alternative investments by vintage.

	Vintage
As of September 2021	
2014 or earlier	**2%**
2015 - 2017	**27%**
2018 - thereafter	**71%**
Total	**100%**
As of September 2020	
2013 or earlier	1%
2014 - 2016	18%
2017 - thereafter	81%
Total	100%

Geographic Data

See Note 25 to the consolidated financial statements for a summary of our total net revenues and pre-tax earnings by geographic region.

Balance Sheet and Funding Sources

Balance Sheet Management

One of our risk management disciplines is our ability to manage the size and composition of our balance sheet. While our asset base changes due to client activity, market fluctuations and business opportunities, the size and composition of our balance sheet also reflects factors, including (i) our overall risk tolerance, (ii) the amount of capital we hold and (iii) our funding profile, among other factors. See "Capital Management and Regulatory Capital — Capital Management" for information about our capital management process.

Although our balance sheet fluctuates on a day-to-day basis, our total assets at quarter-end and year-end dates are generally not materially different from those occurring within our reporting periods.

In order to ensure appropriate risk management, we seek to maintain a sufficiently liquid balance sheet and have processes in place to dynamically manage our assets and liabilities, which include (i) balance sheet planning, (ii) balance sheet limits, (iii) monitoring of key metrics and (iv) scenario analyses.

Balance Sheet Planning. We prepare a balance sheet plan that combines our projected total assets and composition of assets with our expected funding sources over a three-year time horizon. This plan is reviewed quarterly and may be adjusted in response to changing business needs or market conditions. The objectives of this planning process are:

- To develop our balance sheet projections, taking into account the general state of the financial markets and expected business activity levels, as well as regulatory requirements;
- To allow Treasury and our independent risk oversight and control functions to objectively evaluate balance sheet limit requests from our revenue-producing units in the context of our overall balance sheet constraints, including our liability profile and capital levels, and key metrics; and
- To inform the target amount, tenor and type of funding to raise, based on our projected assets and contractual maturities.

Treasury and our independent risk oversight and control functions, along with our revenue-producing units, review current and prior period information and expectations for the year to prepare our balance sheet plan. The specific information reviewed includes asset and liability size and composition, limit utilization, risk and performance measures, and capital usage.

Our consolidated balance sheet plan, including our balance sheets by business, funding projections and projected key metrics, is reviewed and approved by the Firmwide Asset Liability Committee and the Risk Governance Committee. See "Risk Management — Overview and Structure of Risk Management" for an overview of our risk management structure.

Balance Sheet Limits. The Firmwide Asset Liability Committee and the Risk Governance Committee have the responsibility to review and approve balance sheet limits. These limits are set at levels which are close to actual operating levels, rather than at levels which reflect our maximum risk appetite, in order to ensure prompt escalation and discussion among our revenue-producing units, Treasury and our independent risk oversight and control functions on a routine basis. Requests for changes in limits are evaluated after giving consideration to their impact on our key metrics. Compliance with limits is monitored by our revenue-producing units and Treasury, as well as our independent risk oversight and control functions.

Monitoring of Key Metrics. We monitor key balance sheet metrics both by business and on a consolidated basis, including asset and liability size and composition, limit utilization and risk measures. We allocate assets to businesses and review and analyze movements resulting from new business activity, as well as market fluctuations.

Scenario Analyses. We conduct various scenario analyses, including as part of the Comprehensive Capital Analysis and Review (CCAR) and U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act Stress Tests (DFAST), as well as our resolution and recovery planning. See "Capital Management and Regulatory Capital — Capital Management" for further information about these scenario analyses. These scenarios cover short- and long-term time horizons using various macroeconomic and firm-specific assumptions, based on a range of economic scenarios. We use these analyses to assist us in developing our longer-term balance sheet management strategy, including the level and composition of assets, funding and capital. Additionally, these analyses help us develop approaches for maintaining appropriate funding, liquidity and capital across a variety of situations, including a severely stressed environment.

Balance Sheet Analysis and Metrics

As of September 2021, total assets in our consolidated balance sheets were $1.44 trillion, an increase of $280.20 billion from December 2020, primarily reflecting increases in collateralized agreements of $149.51 billion (primarily reflecting the impact of our and our clients' activities), cash and cash equivalents of $55.99 billion (primarily reflecting our activity), customer and other receivables of $50.45 billion (primarily reflecting client activity), and loans of $27.51 billion (primarily reflecting increases in wealth management, residential real estate and corporate loans).

As of September 2021, total liabilities in our consolidated balance sheets were $1.34 trillion, an increase of $269.84 billion from December 2020, primarily reflecting increases in deposits of $73.08 billion (primarily reflecting increases in institutional, transaction banking, private bank, consumer, and deposit sweep programs deposits), customer and other payables of $61.46 billion (primarily reflecting client activity), collateralized financings of $54.61 billion (primarily reflecting the impact of our and our clients' activities), trading liabilities of $50.54 billion (primarily reflecting the impact of our and our clients' activities in government obligations and equities, partially offset by the impact of interest rates and currency movements on derivative instruments), and unsecured borrowings of $25.42 billion (primarily driven by new issuances partially offset by maturities).

Our total securities sold under agreements to repurchase (repurchase agreements), accounted for as collateralized financings, were $167.34 billion as of September 2021 and $126.57 billion as of December 2020, which were 7% higher as of September 2021 and 24% higher as of December 2020 than the average daily amount of repurchase agreements over the respective quarters. As of September 2021, the increase in our repurchase agreements relative to the average daily amount of repurchase agreements during the quarter resulted from higher levels of our and our clients' activities at the end of the period.

The level of our repurchase agreements fluctuates between and within periods, primarily due to providing clients with access to highly liquid collateral, such as certain government and agency obligations, through collateralized financing activities.

The table below presents information about our balance sheet and leverage ratios.

	As of	
$ in millions	**September 2021**	December 2020
Total assets	**$1,443,230**	$1,163,028
Unsecured long-term borrowings	**$ 242,780**	$ 213,481
Total shareholders' equity	**$ 106,297**	$ 95,932
Leverage ratio	**13.6x**	12.1x
Debt-to-equity ratio	**2.3x**	2.2x

In the table above:

- The leverage ratio equals total assets divided by total shareholders' equity and measures the proportion of equity and debt we use to finance assets. This ratio is different from the leverage ratios included in Note 20 to the consolidated financial statements.
- The debt-to-equity ratio equals unsecured long-term borrowings divided by total shareholders' equity.

The table below presents information about our shareholders' equity and book value per common share, including the reconciliation of common shareholders' equity to tangible common shareholders' equity.

	As of	
$ in millions, except per share amounts	**September 2021**	December 2020
Total shareholders' equity	**$106,297**	$ 95,932
Preferred stock	**(9,953)**	(11,203)
Common shareholders' equity	**96,344**	84,729
Goodwill	**(4,326)**	(4,332)
Identifiable intangible assets	**(497)**	(630)
Tangible common shareholders' equity	**$ 91,521**	$ 79,767
Book value per common share	**$ 277.25**	$ 236.15
Tangible book value per common share	**$ 263.37**	$ 222.32

In the table above:

- Tangible common shareholders' equity is calculated as total shareholders' equity less preferred stock, goodwill and identifiable intangible assets. We believe that tangible common shareholders' equity is meaningful because it is a measure that we and investors use to assess capital adequacy. Tangible common shareholders' equity is a non-GAAP measure and may not be comparable to similar non-GAAP measures used by other companies.
- Book value per common share and tangible book value per common share are based on common shares outstanding and restricted stock units granted to employees with no future service requirements and not subject to performance conditions (collectively, basic shares) of 347.5 million as of September 2021 and 358.8 million as of December 2020. We believe that tangible book value per common share (tangible common shareholders' equity divided by basic shares) is meaningful because it is a measure that we and investors use to assess capital adequacy. Tangible book value per common share is a non-GAAP measure and may not be comparable to similar non-GAAP measures used by other companies.

Funding Sources

Our primary sources of funding are deposits, collateralized financings, unsecured short- and long-term borrowings, and shareholders' equity. We seek to maintain broad and diversified funding sources globally across products, programs, markets, currencies and creditors to avoid funding concentrations.

The table below presents information about our funding sources.

	As of			
$ in millions	**September 2021**		December 2020	
Deposits	**$333,038**	**35%**	$259,962	33%
Collateralized financings	**228,558**	**24%**	173,947	22%
Unsecured short-term borrowings	**48,990**	**5%**	52,870	6%
Unsecured long-term borrowings	**242,780**	**25%**	213,481	27%
Total shareholders' equity	**106,297**	**11%**	95,932	12%
Total	**$959,663**	**100%**	$796,192	100%

Our funding is primarily raised in U.S. dollar, Euro, British pound and Japanese yen. We generally distribute our funding products through our own sales force and third-party distributors to a large, diverse creditor base in a variety of markets in the Americas, Europe and Asia. We believe that our relationships with our creditors are critical to our liquidity. Our creditors include banks, governments, securities lenders, corporations, pension funds, insurance companies, mutual funds and individuals. 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 raise deposits, including savings, demand and time deposits, from private bank clients, consumers, transaction banking clients, other institutional clients, and through internal and third-party broker-dealers. Substantially all of our deposits are raised through GS Bank USA and GSIB. See Note 13 to the consolidated financial statements for further information about our deposits.

Secured Funding. We fund a significant amount of inventory and a portion of investments on a secured basis. Secured funding includes collateralized financings in the consolidated balance sheets. We may also pledge our inventory and investments as collateral for securities borrowed under a securities lending agreement. We also use our own inventory and investments to cover transactions in which we or our clients have sold securities that have not yet been purchased. Secured funding is less sensitive to changes in our credit quality than unsecured funding, due to our posting of collateral to our lenders. Nonetheless, we analyze the refinancing risk of our secured funding activities, taking into account trade tenors, maturity profiles, counterparty concentrations, collateral eligibility and counterparty rollover probabilities. We seek to mitigate our refinancing risk by executing term trades with staggered maturities, diversifying counterparties, raising excess secured funding and pre-funding residual risk through our GCLA.

We seek to raise secured funding with a term appropriate for the liquidity of the assets that are being financed, and we seek longer maturities for secured funding collateralized by asset classes that may be harder to fund on a secured basis, especially during times of market stress. Our secured funding, excluding funding collateralized by liquid government and agency obligations, is primarily executed for tenors of one month or greater and is primarily executed through term repurchase agreements and securities loaned contracts.

The weighted average maturity of our secured funding included in collateralized financings in the consolidated balance sheets, excluding funding that can only be collateralized by liquid government and agency obligations, exceeded 120 days as of September 2021.

Assets that may be harder to fund on a secured basis during times of market stress include certain financial instruments in the following categories: mortgage and other asset-backed loans and securities, non-investment-grade corporate debt securities, equity securities and emerging market securities. Assets that are classified in level 3 of the fair value hierarchy are generally funded on an unsecured basis. See Notes 4 through 10 to the consolidated financial statements for further information about the classification of financial instruments in the fair value hierarchy and "Unsecured Long-Term Borrowings" below for further information about the use of unsecured long-term borrowings as a source of funding.

We also raise financing through other types of collateralized financings, such as secured loans and notes. GS Bank USA has access to funding from the Federal Home Loan Bank. Our outstanding borrowings against the Federal Home Loan Bank were $100 million as of September 2021 and we had no outstanding borrowings as of December 2020. 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 Short-Term Borrowings. A significant portion of our unsecured short-term borrowings was originally long-term debt that is scheduled to mature within one year of the reporting date. We use unsecured short-term borrowings, including U.S. and non-U.S. hybrid financial instruments and commercial paper, to finance liquid assets and for other cash management purposes. In accordance with regulatory requirements, Group Inc. does not issue debt with an original maturity of less than one year, other than to its subsidiaries. See Note 14 to the consolidated financial statements for further information about our unsecured short-term borrowings.

Unsecured Long-Term Borrowings. Unsecured long-term borrowings, including structured notes, are raised through syndicated U.S. registered offerings, U.S. registered and Rule 144A medium-term note programs, offshore medium-term note offerings and other debt offerings. We issue in different tenors, currencies and products to maximize the diversification of our investor base.

The table below presents our quarterly unsecured long-term borrowings maturity profile.

$ in millions	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
As of September 2021					
2022	**$ –**	**$ –**	**$ –**	**$7,767**	**$ 7,767**
2023	**$14,396**	**$7,018**	**$9,084**	**$7,820**	**38,318**
2024	**$ 8,629**	**$9,092**	**$8,939**	**$3,580**	**30,240**
2025	**$ 6,868**	**$9,831**	**$5,719**	**$5,588**	**28,006**
2026	**$ 6,231**	**$3,729**	**$6,584**	**$6,061**	**22,605**
2027 - thereafter					**115,844**
Total					**$242,780**

The weighted average maturity of our unsecured long-term borrowings as of September 2021 was approximately seven years. To mitigate refinancing risk, we seek to limit the principal amount of debt maturing over the course of any monthly, quarterly or annual time horizon. We enter into interest rate swaps to convert a portion of our unsecured long-term borrowings into floating-rate obligations to manage our exposure to interest rates. See Note 14 to the consolidated financial statements for further information about our unsecured long-term borrowings.

Shareholders' Equity. Shareholders' equity is a stable and perpetual source of funding. See Note 19 to the consolidated financial statements for further information about our shareholders' equity.

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.

Capital Management

We determine the appropriate amount and composition of our capital by considering multiple factors, including our current and future regulatory capital requirements, the results of our capital planning and stress testing process, the results of resolution capital models and other factors, such as rating agency guidelines, subsidiary capital requirements, the business environment and conditions in the financial markets.

We manage our capital requirements and the levels of our capital usage principally by setting limits on the balance sheet and/or limits on risk, in each case at both the firmwide and business levels.

We principally manage the level and composition of our capital through issuances and repurchases of our common stock.

We may issue, redeem or repurchase our preferred stock, junior subordinated debt issued to trusts and other subordinated debt or other forms of capital as business conditions warrant. Prior to such redemptions or repurchases, we must receive approval from the FRB. See Notes 14 and 19 to the consolidated financial statements for further information about our preferred stock, junior subordinated debt issued to trusts and other subordinated debt.

Capital Planning and Stress Testing Process. As part of capital planning, we project sources and uses of capital given a range of business environments, including stressed conditions. Our stress testing process is designed to identify and measure material risks associated with our business activities, including market risk, credit risk and operational risk, as well as our ability to generate revenues.

Our capital planning process incorporates an internal capital adequacy assessment with the objective of ensuring that we are appropriately capitalized relative to the risks in our businesses. We incorporate stress scenarios into our capital planning process with a goal of holding sufficient capital to ensure we remain adequately capitalized after experiencing a severe stress event. Our assessment of capital adequacy is viewed in tandem with our assessment of liquidity adequacy and is integrated into our overall risk management structure, governance and policy framework.

Our stress tests incorporate our internally designed stress scenarios, including our internally developed severely adverse scenario, and those required by the FRB, and are designed to capture our specific vulnerabilities and risks. We provide further information about our stress test processes and a summary of the results on our website as described in "Available Information."

As required by the FRB's CCAR rules, we submit an annual capital plan for review by the FRB. The purpose of the FRB's review is to ensure that we have a robust, forward-looking capital planning process that accounts for our unique risks and that permits continued operation during times of economic and financial stress.

The FRB evaluates us based, in part, on whether we have the capital necessary to continue operating under the baseline and severely adverse scenarios provided by the FRB and those developed internally. This evaluation also takes into account our process for identifying risk, our controls and governance for capital planning, and our guidelines for making capital planning decisions. In addition, the FRB evaluates our plan to make capital distributions (i.e., dividend payments and repurchases or redemptions of stock, subordinated debt or other capital securities) and issue capital, across the range of macroeconomic scenarios and firm-specific assumptions. The FRB determines the SCB applicable to us based on its own annual stress test. The SCB under the Standardized approach is calculated as (i) the difference between our starting and minimum projected CET1 capital ratios under the supervisory severely adverse scenario and (ii) our planned common stock dividends for each of the fourth through seventh quarters of the planning horizon, expressed as a percentage of risk-weighted assets (RWAs).

We submitted our 2021 CCAR capital plan in April 2021 and published a summary of our annual DFAST results in June 2021. See "Available Information." Based on our 2021 CCAR submission, the FRB reduced our SCB from 6.6% to 6.4%, resulting in a Standardized CET1 capital ratio requirement of 13.4%, which is effective for the period from October 1, 2021 through September 30, 2022. See "Share Repurchase Program" for further information about common stock repurchases and dividends.

GS Bank USA has its own capital planning process and, starting in 2022, will be required to submit its annual stress test results to the FRB. GSI, GSIB and Goldman Sachs Bank Europe SE (GSBE) also have their own capital planning and stress testing process, which incorporates internally designed stress tests developed in accordance with the guidelines of their respective regulators.

Contingency Capital Plan. As part of our comprehensive capital management policy, we maintain a contingency capital plan. Our contingency capital plan provides a framework for analyzing and responding to a perceived or actual capital deficiency, including, but not limited to, identification of drivers of a capital deficiency, as well as mitigants and potential actions. It outlines the appropriate communication procedures to follow during a crisis period, including internal dissemination of information, as well as timely communication with external stakeholders.

Capital Attribution. We assess each of our businesses' capital usage based on our internal assessment of risks, which incorporates an attribution of our relevant regulatory capital requirements. These regulatory capital requirements are allocated using our attributed equity framework, which takes into consideration our most binding capital constraints. Our most binding capital constraint is based on the results of the FRB's annual stress test, which includes the Standardized risk-based capital and leverage ratios. We review and make any necessary adjustments to our attributed equity framework each year, in January, to reflect our final CCAR results from the prior year.

On January 1, 2021, we adjusted our attributed equity framework to reflect the results of our 2020 CCAR submission. The adjusted attributed equity framework places greater emphasis on activities that generate significant stress losses and higher Standardized risk weights. As a result of this adjustment, relative to the allocation as of December 2020, the allocation of attributed equity among our segments at the start of this year changed as follows: attributed equity increased by approximately $3.7 billion for Asset Management and approximately $0.7 billion for Consumer & Wealth Management, while attributed equity decreased by approximately $2.3 billion for Global Markets and approximately $2.1 billion for Investment Banking. See "Segment Assets and Operating Results — Segment Operating Results" for information about our average quarterly attributed equity by segment.

Share Repurchase Program. We use our share repurchase program to help maintain the appropriate level of common equity. The repurchase program is effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1 and accelerated share repurchases), the amounts and timing of which are determined primarily by our current and projected capital position and our capital plan submitted to the FRB as part of CCAR. The amounts and timing of the repurchases may also be influenced by general market conditions and the prevailing price and trading volumes of our common stock.

In the third quarter of 2021, the Board of Directors of Group Inc. (Board) approved an increase in our common stock dividend from $1.25 to $2.00 per share. During the third quarter of 2021, we returned a total of $1.70 billion to shareholders, including common stock repurchases of $1.00 billion and $700 million in common stock dividends. Consistent with our capital management philosophy, we will continue prioritizing deployment of capital for our clients where returns are attractive and return any excess capital to shareholders through share repurchases and dividends.

As of September 2021, the remaining share authorization under our existing repurchase program was 35.6 million shares. See "Unregistered Sales of Equity Securities and Use of Proceeds" in Part II, Item 2 of this Form 10-Q and Note 19 to the consolidated financial statements for further information about our share repurchase program, and see above for information about our capital planning and stress testing process.

Resolution Capital Models. In connection with our resolution planning efforts, we have established a Resolution Capital Adequacy and Positioning framework, which is designed to ensure that our major subsidiaries (GS Bank USA, Goldman Sachs & Co. LLC (GS&Co.), GSI, GSIB, GSBE, Goldman Sachs Japan Co., Ltd. (GSJCL), Goldman Sachs Asset Management, L.P. and Goldman Sachs Asset Management International) have access to sufficient loss-absorbing capacity (in the form of equity, subordinated debt and unsecured senior debt) so that they are able to wind-down following a Group Inc. bankruptcy filing in accordance with our preferred resolution strategy.

In addition, we have established a triggers and alerts framework, which is designed to provide the Board with information needed to make an informed decision on whether and when to commence bankruptcy proceedings for Group Inc.

Rating Agency Guidelines

The credit rating agencies assign credit ratings to the obligations of Group Inc., which directly issues or guarantees substantially all of our senior unsecured debt obligations. GS&Co. and GSI have been assigned long- and short-term issuer ratings by certain credit rating agencies. GS Bank USA, GSIB and GSBE have also been assigned long- and short-term issuer ratings, as well as ratings on their long- and short-term bank deposits. In addition, credit rating agencies have assigned ratings to debt obligations of certain other subsidiaries of Group Inc.

The level and composition of our capital are among the many factors considered in determining our credit ratings. Each agency has its own definition of eligible capital and methodology for evaluating capital adequacy, and assessments are generally based on a combination of factors rather than a single calculation. See "Risk Management — Liquidity Risk Management — Credit Ratings" for further information about credit ratings of Group Inc., GS Bank USA, GSIB, GSBE, GS&Co. and GSI.

Consolidated Regulatory Capital

We are subject to consolidated regulatory capital requirements which are calculated in accordance with the regulations of the FRB (Capital Framework). Under the Capital Framework, we are an "Advanced approach" banking organization and have been designated as a global systemically important bank (G-SIB).

The capital requirements calculated under the Capital Framework include the capital conservation buffer requirements, which are comprised of a 2.5% buffer (under the Advanced Capital Rules), the SCB (under the Standardized Capital Rules), a countercyclical capital buffer (under both Capital Rules) and the G-SIB surcharge (under both Capital Rules). Our G-SIB surcharge is 2.5% for 2021 and 2022. We expect that our G-SIB surcharge will be 3.0% beginning in 2023. Based on financial data for the nine months ended September 2021, our current estimate is that we are above the threshold for the 3.5% G-SIB surcharge. The earliest this surcharge could be effective is January 2024. The G-SIB surcharge and countercyclical capital buffer in the future may differ due to additional guidance from our regulators and/or positional changes, and our SCB is likely to change from year to year based on the results of the annual supervisory stress tests. Our target Standardized CET1 capital ratio remains in a range between 13.0% and 13.5% (including management buffers) based upon the execution of our previously announced strategic initiatives and achievement of capital efficiencies. However, in light of our most recent SCB based on our 2021 CCAR submission, achieving this target by year-end 2022 will be challenging.

See Note 20 to the consolidated financial statements for further information about our risk-based capital ratios and leverage ratios, and the Capital Framework.

Total Loss-Absorbing Capacity (TLAC)

We are also subject to the FRB's TLAC and related requirements. Failure to comply with the TLAC and related requirements could result in restrictions being imposed by the FRB and could limit our ability to repurchase shares, pay dividends and make certain discretionary compensation payments.

The table below presents TLAC and external long-term debt requirements.

	As of	
	September 2021	December 2020
TLAC to RWAs	**21.5%**	22.0%
TLAC to leverage exposure	**9.5%**	9.5%
External long-term debt to RWAs	**8.5%**	8.5%
External long-term debt to leverage exposure	**4.5%**	4.5%

In the table above:

- As of both September 2021 and December 2020, the TLAC to RWAs requirement included (i) the 18% minimum, (ii) the 2.5% buffer, (iii) the countercyclical capital buffer, which the FRB has set to zero percent and (iv) the G-SIB surcharge (Method 1). The G-SIB surcharge (Method 1) was 1.0% as of September 2021 and 1.5% as of December 2020.
- The TLAC to leverage exposure requirement includes (i) the 7.5% minimum and (ii) the 2.0% leverage exposure buffer.

- The external long-term debt to RWAs requirement includes (i) the 6% minimum and (ii) the 2.5% G-SIB surcharge (Method 2).
- The external long-term debt to total leverage exposure is the 4.5% minimum.

The table below presents information about our TLAC and external long-term debt ratios.

	For the Three Months Ended or as of	
$ in millions	**September 2021**	December 2020
TLAC	**$ 283,881**	$ 242,730
External long-term debt	**$ 166,200**	$ 139,200
RWAs	**$ 672,061**	$ 609,750
Leverage exposure	**$1,844,274**	$1,332,937
TLAC to RWAs	**42.2%**	39.8%
TLAC to leverage exposure	**15.4%**	18.2%
External long-term debt to RWAs	**24.7%**	22.8%
External long-term debt to leverage exposure	**9.0%**	10.4%

In the table above:

- TLAC includes common and preferred stock, and eligible long-term debt issued by Group Inc. Eligible long-term debt represents unsecured debt, which has a remaining maturity of at least one year and satisfies additional requirements.
- External long-term debt consists of eligible long-term debt subject to a haircut if it is due to be paid between one and two years.
- RWAs represent Advanced RWAs as of both September 2021 and December 2020. In accordance with the TLAC rules, the higher of Advanced or Standardized RWAs are used in the calculation of TLAC and external long-term debt ratios and applicable requirements.
- Leverage exposure consists of average adjusted total assets and certain off-balance sheet exposures. Leverage exposure for the three months ended December 2020 excluded average holdings of U.S. Treasury securities and average deposits at the Federal Reserve as permitted by the FRB under a temporary amendment. This temporary amendment had the effect of increasing the TLAC to leverage exposure ratio and the external long-term debt to leverage ratio. The impact of this temporary amendment was an increase to the TLAC to leverage exposure ratio of 2.4 percentage points and the external long-term debt to leverage exposure ratio of 1.3 percentage points for the three months ended December 2020. The amendment permitting this exclusion expired on April 1, 2021.

See "Business — Regulation" in Part I, Item 1 of the 2020 Form 10-K for further information about TLAC.

Subsidiary Capital Requirements

Many of our subsidiaries, including our bank and broker-dealer subsidiaries, are subject to separate regulation and capital requirements of the jurisdictions in which they operate.

Bank Subsidiaries. GS Bank USA is our primary U.S. banking subsidiary and GSIB and GSBE are our primary non-U.S. banking subsidiaries. These entities are subject to regulatory capital requirements. See Note 20 to the consolidated financial statements for further information about the regulatory capital requirements of our bank subsidiaries.

U.S. Regulated Broker-Dealer Subsidiaries. GS&Co. is our primary U.S. regulated broker-dealer subsidiary and is subject to regulatory capital requirements, including those imposed by the SEC and the Financial Industry Regulatory Authority, Inc. In addition, GS&Co. is a registered futures commission merchant and is subject to regulatory capital requirements imposed by the CFTC, the Chicago Mercantile Exchange and the National Futures Association. Rule 15c3-1 of the SEC and Rule 1.17 of the CFTC specify uniform minimum net capital requirements, as defined, for their registrants, and also effectively require that a significant part of the registrants' assets be kept in relatively liquid form. GS&Co. has elected to calculate its minimum capital requirements in accordance with the "Alternative Net Capital Requirement" as permitted by Rule 15c3-1.

GS&Co. had regulatory net capital, as defined by Rule 15c3-1, of $19.67 billion as of September 2021 and $22.38 billion as of December 2020, which exceeded the amount required by $15.52 billion as of September 2021 and $18.45 billion as of December 2020. In addition to its alternative minimum net capital requirements, GS&Co. is also required to hold tentative net capital in excess of $1 billion and net capital in excess of $500 million in accordance with the market and credit risk standards of Appendix E of Rule 15c3-1. GS&Co. is also required to notify the SEC in the event that its tentative net capital is less than $5 billion. As of both September 2021 and December 2020, GS&Co. had tentative net capital and net capital in excess of both the minimum and the notification requirements.

Non-U.S. Regulated Broker-Dealer Subsidiaries. Our principal non-U.S. regulated broker-dealer subsidiaries include GSI and GSJCL.

GSI, our U.K. broker-dealer, is regulated by the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA). GSI is subject to the U.K. capital framework, which is predominantly aligned with the E.U. capital framework prescribed in the amended E.U. Capital Requirements Directive (CRD) and the E.U. Capital Requirements Regulation (CRR). These capital regulations are largely based on the Basel Committee on Banking Supervision's (Basel Committee) capital framework for strengthening international capital standards (Basel III).

The table below presents GSI's risk-based capital requirements.

	As of	
	September 2021	December 2020
Risk-based capital requirements		
CET1 capital ratio	**8.1%**	8.1%
Tier 1 capital ratio	**9.9%**	10.0%
Total capital ratio	**12.3%**	12.5%

In the table above, the risk-based capital requirements incorporate capital guidance received from the PRA and could change in the future.

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

	As of	
$ in millions	**September 2021**	December 2020
Risk-based capital and risk-weighted assets		
CET1 capital	**$ 28,345**	$ 26,962
Tier 1 capital	**$ 36,645**	$ 35,262
Tier 2 capital	**$ 5,377**	$ 5,377
Total capital	**$ 42,022**	$ 40,639
RWAs	**$278,483**	$252,355
Risk-based capital ratios		
CET1 capital ratio	**10.2%**	10.7%
Tier 1 capital ratio	**13.2%**	14.0%
Total capital ratio	**15.1%**	16.1%

In the table above, CET1 capital, Tier 1 capital and Total capital as of September 2021 include GSI's profits after foreseeable charges for the three months ended September 2021 (which will be finalized upon verification by GSI's external auditors and approval by the PRA for inclusion in risk-based capital). These profits contributed approximately 25 basis points to the risk-based capital ratios.

GSI will become subject to a PRA-required leverage ratio that is expected to become effective in January 2022 and is similar to the E.U. capital framework's minimum 3% leverage ratio requirement. GSI had a leverage ratio of 4.0% as of September 2021 and 4.7% as of December 2020. Tier 1 capital as of September 2021 included GSI's profits after foreseeable charges for the three months ended September 2021 (which will be finalized upon verification by GSI's external auditors and approval by the PRA for inclusion in risk-based capital). These profits contributed approximately 7 basis points to the leverage ratio. This leverage ratio is based on our current interpretation and understanding of this rule and may evolve as we discuss the interpretation and application of the U.K. leverage ratio framework with GSI's regulators.

GSI is also subject to a minimum requirement for own funds and eligible liabilities issued to affiliates. This requirement is subject to a transitional period which began to phase in from January 2019 and will become fully effective beginning in January 2022. As of both September 2021 and December 2020, GSI was in compliance with this requirement.

GSJCL, our Japanese broker-dealer, is regulated by Japan's Financial Services Agency. GSJCL and certain other non-U.S. subsidiaries are also subject to capital requirements promulgated by authorities of the countries in which they operate. As of both September 2021 and December 2020, these subsidiaries were in compliance with their local capital requirements.

Regulatory and Other Matters

Regulatory Matters

Our businesses are subject to extensive regulation and supervision worldwide. Regulations have been adopted or are being considered by regulators and policy makers worldwide. Given that many of the new and proposed rules are highly complex, the full impact of regulatory reform will not be known until the rules are implemented and market practices develop under the final regulations.

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. Our subsidiaries subject to these rules were compliant with the relevant requirements as of the effective date.

See "Business — Regulation" in Part I, Item 1 of the 2020 Form 10-K for further information about the laws, rules and regulations and proposed laws, rules and regulations that apply to us and our operations.

Other Matters

Replacement of Interbank Offered Rates (IBORs), including 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 (SOFR). 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.

We have 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 continue to make progress on our transition program. As part of this transition, we continue to actively engage with our regulators and clients, as well as participate in central bank and sector working groups. The majority of our LIBOR risk exposure is to USD LIBOR, which is primarily in connection with our derivative contracts and to a lesser extent our unsecured debt, preferred stock and loan portfolio. For non-USD LIBOR, substantially all of our risk exposure is in connection with derivative contracts. Our derivative contracts are primarily with counterparties under bilateral agreements which adhere to the IBOR Protocol or with central clearing counterparties which have incorporated fallbacks consistent with the IBOR Protocol in their rule books and have announced that they plan, and have begun, to convert all LIBOR contracts to alternative risk-free reference rates before LIBOR cessation. We continue to monitor the potential legislative developments as they relate to unsecured debt and preferred stock and will take actions designed to facilitate an orderly transition. We are also engaged with our clients in order to remediate our loan agreements through bilateral amendments. We have also issued debt and deposits linked to SOFR and Sterling Overnight Index Average (SONIA) and executed SOFR- and SONIA-based derivative contracts to make markets and facilitate client activities. When appropriate, we continue to execute transactions in the market to reduce our LIBOR exposures arising from hedges to our fixed-rate debt issuances and replace them with alternative risk-free reference rate exposures. See "Regulatory and Other Matters – Other Matters" in Part II, Item 7 of the 2020 Form 10-K for further information about our transition program.

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.

We have continued to successfully execute on our Business Continuity Planning (BCP) strategy since initially activating it in the first quarter of 2020 in response to the emergence of the COVID-19 pandemic. Our priority has been to safeguard our employees and to seek to ensure continuity of business operations on behalf of our clients. Our business continuity response to the COVID-19 pandemic is managed by a central team, which is led by our chief administrative officer and chief medical officer, and includes senior management within Risk and the chief operating officers across all regions and businesses. We remain focused on facilitating the safe return of our employees to our offices, as circumstances permit, and employees in a number of our locations around the world have returned to the office to varying degrees, including a majority of employees in the U.S. Given that the situation regarding COVID-19 varies geographically, our approach to transitioning back to the office is tailored to each location, and it evolves as the specific conditions and requirements of each location change.

Our systems and infrastructure have been robust throughout the COVID-19 pandemic, enabling us to conduct our activities without disruption. Communication throughout our organization has remained active during the pandemic and our risk management processes have continued to operate in a rigorous and disciplined manner.

We maintained high liquidity levels during the third quarter of 2021, as our GCLA averaged $356 billion. We have continued to access our traditional funding sources in the normal course and service our debt and other obligations on a timely basis. See "Balance Sheet and Funding Sources" and "Risk Management — Liquidity Risk Management" for further information.

Accounting estimates, particularly those made in connection with determining the allowance for credit losses and the fair value of certain level 3 assets, 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 and Note 4 to the consolidated financial statements for further information about fair value measurements.

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, creditworthiness of counterparties and borrowers, and the amount of our AUS. 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 our employees, clients and counterparties. For further information about the risks associated with the COVID-19 pandemic, see "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K.

Off-Balance Sheet Arrangements and Contractual Obligations

Off-Balance Sheet Arrangements

In the ordinary course of business, we enter into various types of off-balance sheet arrangements. Our involvement in these arrangements can take many different forms, including:

- Purchasing or retaining residual and other interests in special purpose entities, such as mortgage-backed and other asset-backed securitization vehicles;
- Holding senior and subordinated debt, interests in limited and general partnerships, and preferred and common stock in other nonconsolidated vehicles;
- Entering into interest rate, foreign currency, equity, commodity and credit derivatives, including total return swaps; and
- Providing guarantees, indemnifications, commitments, letters of credit and representations and warranties.

We enter into these arrangements for a variety of business purposes, including securitizations. The securitization vehicles that purchase mortgages, corporate bonds, and other types of financial assets are critical to the functioning of several significant investor markets, including the mortgage-backed and other asset-backed securities markets, since they offer investors access to specific cash flows and risks created through the securitization process.

We also enter into these arrangements to underwrite client securitization transactions; provide secondary market liquidity; make investments in performing and nonperforming debt, distressed loans, power-related assets, equity securities, real estate and other assets; provide investors with credit-linked and asset-repackaged notes; and receive or provide letters of credit to satisfy margin requirements and to facilitate the clearance and settlement process.

The table below presents where information about our various off-balance sheet arrangements may be found in this Form 10-Q. In addition, see Note 3 to the consolidated financial statements for information about our consolidation policies.

Off-Balance Sheet Arrangement	Disclosure in Form 10-Q
Variable interests and other obligations, including contingent obligations, arising from variable interests in nonconsolidated variable interest entities (VIEs)	See Note 17 to the consolidated financial statements.
Guarantees, letters of credit, and lending and other commitments	See Note 18 to the consolidated financial statements.
Derivatives	See "Risk Management — Credit Risk Management — Credit Exposures — OTC Derivatives" and Notes 4, 5, 7 and 18 to the consolidated financial statements.

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, interest payments and operating lease 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 24 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	**$ 24,057**	$ 26,433
Financings and borrowings:		
Secured long-term	**$ 9,585**	$ 12,537
Unsecured long-term	**$242,780**	$213,481
Interest payments	**$ 46,333**	$ 44,073
Operating lease payments	**$ 3,031**	$ 3,268

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	$ –	$12,392	$ 7,284	$ 4,381
Financings and borrowings:				
Secured long-term	$ –	$ 4,316	$ 2,184	$ 3,085
Unsecured long-term	$ –	$46,085	$58,246	$138,449
Interest payments	$1,368	$10,474	$ 8,140	$ 26,351
Operating lease payments	$ 71	$ 612	$ 509	$ 1,839

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 Note 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.
- As of September 2021, unsecured long-term borrowings had maturities extending through 2065, consisted principally of senior borrowings, and included $7.21 billion of adjustments to the carrying value of certain unsecured long-term borrowings resulting from the application of hedge accounting. See Note 14 to the consolidated financial statements for further information about our unsecured long-term borrowings.
- As of September 2021, the difference between aggregate contractual principal amount and the related fair value of long-term other secured financings for which the fair value option was elected was not material.
- As of September 2021, the fair value of unsecured long-term borrowings, for which the fair value option was elected, exceeded the related aggregate contractual principal amount by $290 million.
- Interest payments represents estimated future contractual interest payments related to unsecured long-term borrowings, secured long-term financings and time deposits based on applicable interest rates as of September 2021, and includes stated coupons, if any, on structured notes.
- Operating lease payments includes lease commitments for office space that expire on various dates through 2069. Certain agreements are subject to periodic escalation provisions for increases in real estate taxes and other charges. See Note 15 to the consolidated financial statements for further information about our operating lease liabilities.

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 global 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 "Overview and Structure of Risk Management," and for information about our areas of risk, see "Liquidity Risk Management," "Market Risk Management," "Credit Risk Management," "Operational Risk Management" and "Model Risk Management" and "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K.

Overview and Structure of Risk Management

Overview

We believe that effective risk management is critical to our success. Accordingly, we have established an enterprise risk management framework that employs a comprehensive, integrated approach to risk management, and is designed to enable comprehensive risk management processes through which we identify, assess, monitor and manage the risks we assume in conducting our activities. Our risk management structure is built around three core components: governance, processes and people.

Governance. Risk management governance starts with the Board, which both directly and through its committees, including its Risk Committee, oversees our risk management policies and practices implemented through the enterprise risk management framework. The Board is also responsible for the annual review and approval of our risk appetite statement. The risk appetite statement describes the levels and types of risk we are willing to accept or to avoid, in order to achieve our objectives included in our strategic business plan, while remaining in compliance with regulatory requirements. The Board reviews our strategic business plan and is ultimately responsible for overseeing and providing direction about our strategy and risk appetite.

The Board receives regular briefings on firmwide risks, including liquidity risk, market risk, credit risk, operational risk and model risk, from our independent risk oversight and control functions, including the chief risk officer, and on compliance risk and conduct risk from Compliance, on legal and regulatory enforcement matters from the chief legal officer, and on other matters impacting our reputation from the chair of our Firmwide Client and Business Standards Committee and our Firmwide Reputational Risk Committee. The chief risk officer reports to our chief executive officer and to the Risk Committee of the Board. As part of the review of the firmwide risk portfolio, the chief risk officer regularly advises the Risk Committee of the Board of relevant risk metrics and material exposures, including risk limits and thresholds established in our risk appetite statement.

The implementation of our risk governance structure and core risk management processes are overseen by Enterprise Risk, which reports to our chief risk officer, and is responsible for ensuring that our enterprise risk management framework provides the Board, our risk committees and senior management with a consistent and integrated approach to managing our various risks in a manner consistent with our risk appetite.

Our revenue-producing units, as well as Treasury, Engineering, Human Capital Management, Operations, and Corporate and Workplace Solutions, are considered our first line of defense. They are accountable for the outcomes of our risk-generating activities, as well as for assessing and managing those risks within our risk appetite.

Our independent risk oversight and control functions are considered our second line of defense and provide independent assessment, oversight and challenge of the risks taken by our first line of defense, as well as lead and participate in risk committees. Independent risk oversight and control functions include Compliance, Conflicts Resolution, Controllers, Legal, Risk and Tax.

Internal Audit is considered our third line of defense and our director of Internal Audit reports to the Audit Committee of the Board and administratively to our chief executive officer. Internal Audit includes professionals with a broad range of audit and industry experience, including risk management expertise. Internal Audit is responsible for independently assessing and validating the effectiveness of key controls, including those within the risk management framework, and providing timely reporting to the Audit Committee of the Board, senior management and regulators.

The three lines of defense structure promotes the accountability of first line risk takers, provides a framework for effective challenge by the second line and empowers independent review from the third line.

Processes. We maintain various processes that are critical components of our risk management framework, including (i) risk identification and assessment, (ii) risk appetite, limit and threshold setting, (iii) risk reporting and monitoring, and (iv) risk decision-making.

- **Risk Identification and Assessment.** We believe that the identification and assessment of our risks is a critical step in providing our Board and senior management transparency and insight into the range and materiality of our risks. We have a comprehensive data collection process, including firmwide policies and procedures that require all employees to report and escalate risk events. Our approach for risk identification and assessment is comprehensive across all risk types, is dynamic and forward-looking to reflect and adapt to our changing risk profile and business environment, leverages subject matter expertise, and allows for prioritization of our most critical risks.

  To effectively assess our risks, we maintain a daily discipline of marking substantially all of our inventory to current market levels. We carry our inventory at fair value, with changes in valuation reflected immediately in our risk management systems and in net revenues. We do so because we believe this discipline is one of the most effective tools for assessing and managing risk and that it provides transparent and realistic insight into our inventory exposures.

  An important part of our risk management process is firmwide stress testing. It allows us to quantify our exposure to tail risks, highlight potential loss concentrations, undertake risk/reward analysis, and assess and mitigate our risk positions. Firmwide stress tests are performed on a regular basis and are designed to ensure a comprehensive analysis of our vulnerabilities and idiosyncratic risks combining financial and nonfinancial risks, including, but not limited to, credit, market, liquidity and funding, operational and compliance, strategic, systemic and emerging risks into a single combined scenario. We also perform ad hoc stress tests in anticipation of market events or conditions. Stress tests are also used to assess capital adequacy as part of our capital planning and stress testing process. See "Capital Management and Regulatory Capital — Capital Management" for further information.

- **Risk Appetite, Limit and Threshold Setting.** We apply a rigorous framework of limits and thresholds to control and monitor risk across transactions, products, businesses and markets. The Board, directly or indirectly through its Risk Committee, approves limits and thresholds included in our risk appetite statement at firmwide, business and product levels. In addition, the Firmwide Enterprise Risk Committee is responsible for approving our risk limits framework, subject to the overall limits approved by the Risk Committee of the Board, and monitoring these limits.

  The Risk Governance Committee is responsible for approving limits at firmwide, business and product levels. Certain limits may be set at levels that will require periodic adjustment, rather than at levels that reflect our maximum risk appetite. This fosters an ongoing dialogue about risk among our first and second lines of defense, committees and senior management, as well as rapid escalation of risk-related matters. Additionally, through delegated authority from the Risk Governance Committee, Market Risk sets limits at certain product and desk levels, and Credit Risk sets limits for individual counterparties, counterparties and their subsidiaries, industries and countries. Limits are reviewed regularly and amended on a permanent or temporary basis to reflect changing market conditions, business conditions or risk tolerance.

- **Risk Reporting and Monitoring.** Effective risk reporting and risk decision-making depends on our ability to get the right information to the right people at the right time. As such, we focus on the rigor and effectiveness of our risk systems, with the objective of ensuring that our risk management technology systems provide us with complete, accurate and timely information. Our risk reporting and monitoring processes are designed to take into account information about both existing and emerging risks, thereby enabling our risk committees and senior management to perform their responsibilities with the appropriate level of insight into risk exposures. Furthermore, our limit and threshold breach processes provide means for timely escalation. We evaluate changes in our risk profile and our businesses, including changes in business mix or jurisdictions in which we operate, by monitoring risk factors at a firmwide level.

- **Risk Decision-Making.** Our governance structure provides the protocol and responsibility for decision-making on risk management issues and ensures implementation of those decisions. We make extensive use of risk committees that meet regularly and serve as an important means to facilitate and foster ongoing discussions to manage and mitigate risks.

  We maintain strong and proactive communication about risk and we have a culture of collaboration in decision-making among our first and second lines of defense, committees and senior management. While our first line of defense is responsible for management of their risk, we dedicate extensive resources to our second line of defense in order to ensure a strong oversight structure and an appropriate segregation of duties. We regularly reinforce our strong culture of escalation and accountability across all functions.

People. Even the best technology serves only as a tool for helping to make informed decisions in real time about the risks we are taking. Ultimately, effective risk management requires our people to interpret our risk data on an ongoing and timely basis and adjust risk positions accordingly. The experience of our professionals, and their understanding of the nuances and limitations of each risk measure, guides us in assessing exposures and maintaining them within prudent levels.

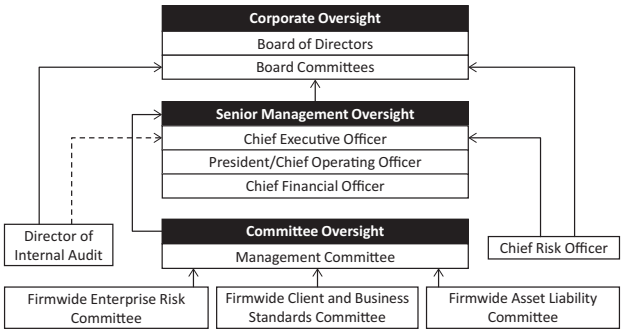
We reinforce a culture of effective risk management, consistent with our risk appetite, in our training and development programs, as well as in the way we evaluate performance, and recognize and reward our people. Our training and development programs, including certain sessions led by our most senior leaders, are focused on the importance of risk management, client relationships and reputational excellence. As part of our performance review process, we assess reputational excellence, including how an employee exercises good risk management and reputational judgment, and adheres to our code of conduct and compliance policies. Our review and reward processes are designed to communicate and reinforce to our professionals the link between behavior and how people are recognized, the need to focus on our clients and our reputation, and the need to always act in accordance with our highest standards.

Structure

Ultimate oversight of risk is the responsibility of our Board. The Board oversees risk both directly and through its committees, including its Risk Committee. We have a series of committees with specific risk management mandates that have oversight or decision-making responsibilities for risk management activities. Committee membership generally consists of senior managers from both our first and second lines of defense. We have established procedures for these committees to ensure that appropriate information barriers are in place. Our primary risk committees, most of which also have additional sub-committees, councils or working groups, are described below. In addition to these committees, we have other risk committees that provide oversight for different businesses, activities, products, regions and entities. All of our committees have responsibility for considering the impact on our reputation of the transactions and activities that they oversee.

Membership of our risk committees is reviewed regularly and updated to reflect changes in the responsibilities of the committee members. Accordingly, the length of time that members serve on the respective committees varies as determined by the committee chairs and based on the responsibilities of the members.

The chart below presents an overview of our risk management governance structure.



Management Committee. The Management Committee oversees our global activities. It provides this oversight directly and through authority delegated to committees it has established. This committee consists of our most senior leaders, and is chaired by our chief executive officer. Most members of the Management Committee are also members of other committees. The following are the committees that are principally involved in firmwide risk management.

Firmwide Enterprise Risk Committee. The Firmwide Enterprise Risk Committee is responsible for overseeing all of our financial and nonfinancial risks. As part of such oversight, the committee is responsible for the ongoing review, approval and monitoring of our enterprise risk management framework, as well as our risk limits framework. This committee is co-chaired by our chief financial officer and our chief risk officer, who are appointed as chairs by our chief executive officer, and reports to the Management Committee. The following are the primary committees or councils that report to the Firmwide Enterprise Risk Committee:

- **Firmwide Risk Council.** The Firmwide Risk Council is responsible for the ongoing monitoring of relevant financial risks and related risk limits at the firmwide, business and product levels. This council is co-chaired by the chairs of the Firmwide Enterprise Risk Committee.
- **Firmwide New Activity Committee.** The Firmwide New Activity Committee is responsible for reviewing new activities and for establishing a process to identify and review previously approved activities that are significant and that have changed in complexity and/or structure or present different reputational and suitability concerns over time to consider whether these activities remain appropriate. This committee is co-chaired by the controller and chief accounting officer, and the head of Operations and Platform Engineering for the Global Markets Division, who are appointed as chairs by the chairs of the Firmwide Enterprise Risk Committee.
- **Firmwide Operational Risk and Resilience Committee.** The Firmwide Operational Risk and Resilience Committee is responsible for overseeing operational risk, and for ensuring our business and operational resilience. To assist the Firmwide Operational Risk and Resilience Committee in carrying out its mandate, other risk committees with dedicated oversight for technology-related risks, including cyber security matters, report into the Firmwide Operational Risk and Resilience Committee. This committee is co-chaired by our chief administrative officer and the head of Operational Risk, who are appointed as chairs by the chairs of the Firmwide Enterprise Risk Committee.

- **Firmwide Conduct Committee.** The Firmwide Conduct Committee is responsible for the ongoing approval and monitoring of the frameworks and policies which govern our conduct risks. Conduct risk is the risk that our people fail to act in a manner consistent with our Business Principles and related core values, policies or codes, or applicable laws or regulations, thereby falling short in fulfilling their responsibilities to us, our clients, colleagues, other market participants or the broader community. This committee is chaired by our chief legal officer, who is appointed as chair by the chairs of the Firmwide Enterprise Risk Committee.
- **Risk Governance Committee.** The Risk Governance Committee (through delegated authority from the Firmwide Enterprise Risk Committee) is responsible for the ongoing approval and monitoring of risk frameworks, policies and parameters related to our core risk management processes, as well as limits, at firmwide, business and product levels. In addition, this committee reviews the results of stress tests and scenario analyses. To assist the Risk Governance Committee in carrying out its mandate, a number of other risk committees with dedicated oversight for stress testing, model risks and Volcker Rule compliance report into the Risk Governance Committee. This committee is chaired by our chief risk officer, who is appointed as chair by the chairs of the Firmwide Enterprise Risk Committee.

Firmwide Client and Business Standards Committee. The Firmwide Client and Business Standards Committee is responsible for overseeing relationships with our clients, client service and experience, and related business standards, as well as client-related reputational matters. This committee is chaired by our president and chief operating officer, who is appointed as chair by the chief executive officer, and reports to the Management Committee. This committee periodically provides updates to, and receives guidance from, the Public Responsibilities Committee of the Board.

The following committees report jointly to the Firmwide Enterprise Risk Committee and the Firmwide Client and Business Standards Committee:

- **Firmwide Reputational Risk Committee.** The Firmwide Reputational Risk Committee is responsible for assessing reputational risks arising from transactions that have been identified as having potential heightened reputational risk pursuant to the criteria established by the Firmwide Reputational Risk Committee and as determined by committee leadership. This committee is chaired by our president and chief operating officer, who is appointed as chair by the chief executive officer, and the vice-chairs are our chief legal officer and the chair of Conflicts Resolution, who are appointed as vice-chairs by the chair of the Firmwide Reputational Risk Committee. This committee periodically provides updates to, and receives guidance from, the Public Responsibilities Committee of the Board.
- **Firmwide Suitability Committee.** The Firmwide Suitability Committee is responsible for setting standards and policies for product, transaction and client suitability and providing a forum for consistency across functions, regions and products on suitability assessments. This committee also reviews suitability matters escalated from other committees. This committee is co-chaired by our chief compliance officer, and the co-head of EMEA FICC sales, who are appointed as chairs by the chair of the Firmwide Client and Business Standards Committee.
- **Firmwide Investment Policy Committee.** The Firmwide Investment Policy Committee periodically reviews our investing and lending activities on a portfolio basis, including review of risk management and controls, and sets business standards and policies for these types of investments. This committee is co-chaired by the head of our Asset Management Division, a co-head of our Global Markets Division and the chief risk officer, who are appointed as chairs by our president and chief operating officer and our chief financial officer.
- **Firmwide Capital Committee.** The Firmwide Capital Committee provides approval and oversight of debt-related transactions, including principal commitments of our capital. This committee aims to ensure that business, reputational and suitability standards for underwritings and capital commitments are maintained on a global basis. This committee is co-chaired by the head of Credit Risk and the head of Americas Leveraged Finance, who are appointed as chairs by the chairs of the Firmwide Enterprise Risk Committee.

- **Firmwide Commitments Committee.** The Firmwide Commitments Committee reviews our underwriting and distribution activities with respect to equity and equity-related product offerings, and sets and maintains policies and procedures designed to ensure that legal, reputational, regulatory and business standards are maintained on a global basis. In addition to reviewing specific transactions, this committee periodically conducts general strategic reviews of sectors and products and establishes policies in connection with transaction practices. This committee is co-chaired by the co-head of the Industrials Group in our Investment Banking Division, the chief underwriting officer for EMEA, and a managing director in our Investment Banking Division, who are appointed as chairs by the chair of the Firmwide Client and Business Standards Committee.

Firmwide Asset Liability Committee. The Firmwide Asset Liability Committee reviews and approves the strategic direction for our financial resources, including capital, liquidity, funding and balance sheet. This committee has oversight responsibility for asset liability management, including interest rate and currency risk, funds transfer pricing, capital allocation and incentives, and credit ratings. This committee makes recommendations as to any adjustments to asset liability management and financial resource allocation in light of current events, risks, exposures, and regulatory requirements and approves related policies. This committee is co-chaired by our chief financial officer and our global treasurer, who are appointed as chairs by our chief executive officer, and reports to the Management Committee.

Conflicts Management

Conflicts of interest and our approach to dealing with them are fundamental to our client relationships, our reputation and our long-term success. The term "conflict of interest" does not have a universally accepted meaning, and conflicts can arise in many forms within a business or between businesses. The responsibility for identifying potential conflicts, as well as complying with our policies and procedures, is shared by all of our employees.

We have a multilayered approach to resolving conflicts and addressing reputational risk. Our senior management oversees policies related to conflicts resolution, and, in conjunction with Conflicts Resolution, Legal and Compliance, the Firmwide Client and Business Standards Committee, and other internal committees, formulates policies, standards and principles, and assists in making judgments regarding the appropriate resolution of particular conflicts. Resolving potential conflicts necessarily depends on the facts and circumstances of a particular situation and the application of experienced and informed judgment.

As a general matter, Conflicts Resolution reviews financing and advisory assignments in Investment Banking and certain of our investing, lending and other activities. In addition, we have various transaction oversight committees, such as the Firmwide Capital, Commitments and Suitability Committees and other committees that also review new underwritings, loans, investments and structured products. These groups and committees work with internal and external counsel and Compliance to evaluate and address any actual or potential conflicts. The head of Conflicts Resolution reports to our chief legal officer, who reports to our chief executive officer.

We regularly assess our policies and procedures that address conflicts of interest in an effort to conduct our business in accordance with the highest ethical standards and in compliance with all applicable laws, rules and regulations.

Compliance Risk Management

Compliance risk is the risk of legal or regulatory sanctions, material financial loss or damage to our reputation arising from our failure to comply with the requirements of applicable laws, rules and regulations, and our internal policies and procedures. Compliance risk is inherent in all activities through which we conduct our businesses. Our Compliance Risk Management Program, administered by Compliance, assesses our compliance, regulatory and reputational risk; monitors for compliance with new or amended laws, rules and regulations; designs and implements controls, policies, procedures and training; conducts independent testing; investigates, surveils and monitors for compliance risks and breaches; and leads our responses to regulatory examinations, audits and inquiries. We monitor and review business practices to assess whether they meet or exceed minimum regulatory and legal standards in all markets and jurisdictions in which we conduct business.

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 firm-specific, 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.

Treasury, which reports to our chief financial officer, has primary responsibility for developing, managing and executing our liquidity and funding strategy within our risk appetite.

Liquidity Risk, which is independent of our revenue-producing units and Treasury, and reports to our chief risk officer, has primary responsibility for assessing, monitoring and managing our liquidity risk through firmwide oversight across our global businesses and the establishment of stress testing and limits frameworks.

Liquidity Risk Management Principles

We manage liquidity risk according to three principles: (i) hold sufficient excess liquidity in the form of GCLA to cover outflows during a stressed period, (ii) maintain appropriate Asset-Liability Management and (iii) maintain a viable Contingency Funding Plan.

GCLA. GCLA is liquidity that we maintain to meet a broad range of potential cash outflows and collateral needs in a stressed environment. A primary liquidity principle is to pre-fund our estimated potential cash and collateral needs during a liquidity crisis and hold this liquidity in the form of unencumbered, highly liquid securities and cash. We believe that the securities held in our GCLA would be readily convertible to cash in a matter of days, through liquidation, by entering into repurchase agreements or from maturities of resale agreements, and that this cash would allow us to meet immediate obligations without needing to sell other assets or depend on additional funding from credit-sensitive markets.

Our GCLA reflects the following principles:

- The first days or weeks of a liquidity crisis are the most critical to a company's survival;
- Focus must be maintained on all potential cash and collateral outflows, not just disruptions to financing flows. Our businesses are diverse, and our liquidity needs are determined by many factors, including market movements, collateral requirements and client commitments, all of which can change dramatically in a difficult funding environment;
- During a liquidity crisis, credit-sensitive funding, including unsecured debt, certain deposits and some types of secured financing agreements, may be unavailable, and the terms (e.g., interest rates, collateral provisions and tenor) or availability of other types of secured financing may change and certain deposits may be withdrawn; and
- As a result of our policy to pre-fund liquidity that we estimate may be needed in a crisis, we hold more unencumbered securities and have larger funding balances than our businesses would otherwise require. We believe that our liquidity is stronger with greater balances of highly liquid unencumbered securities, even though it increases our total assets and our funding costs.

We maintain our GCLA across Group Inc., Goldman Sachs Funding LLC (Funding IHC) and Group Inc.'s major broker-dealer and bank subsidiaries, asset types and clearing agents to provide us with sufficient operating liquidity to ensure timely settlement in all major markets, even in a difficult funding environment. In addition to the GCLA, we maintain cash balances and securities in several of our other entities, primarily for use in specific currencies, entities or jurisdictions where we do not have immediate access to parent company liquidity.

Asset-Liability Management. Our liquidity risk management policies are designed to ensure we have a sufficient amount of financing, even when funding markets experience persistent stress. We manage the maturities and diversity of our funding across markets, products and counterparties, and seek to maintain a diversified funding profile with an appropriate tenor, taking into consideration the characteristics and liquidity profile of our assets.

Our approach to asset-liability management includes:

- Conservatively managing the overall characteristics of our funding book, with a focus on maintaining long-term, diversified sources of funding in excess of our current requirements. See "Balance Sheet and Funding Sources — Funding Sources" for further information;
- Actively managing and monitoring our asset base, with particular focus on the liquidity, holding period and ability to fund assets on a secured basis. We assess our funding requirements and our ability to liquidate assets in a stressed environment while appropriately managing risk. This enables us to determine the most appropriate funding products and tenors. See "Balance Sheet and Funding Sources — Balance Sheet Management" for further information about our balance sheet management process and "— Funding Sources — Secured Funding" for further information about asset classes that may be harder to fund on a secured basis; and

- Raising secured and unsecured financing that has a long tenor relative to the liquidity profile of our assets. This reduces the risk that our liabilities will come due in advance of our ability to generate liquidity from the sale of our assets. Because we maintain a highly liquid balance sheet, the holding period of certain of our assets may be materially shorter than their contractual maturity dates.

Our goal is to ensure that we maintain sufficient liquidity to fund our assets and meet our contractual and contingent obligations in normal times, as well as during periods of market stress. Through our dynamic balance sheet management process, we use actual and projected asset balances to determine secured and unsecured funding requirements. Funding plans are reviewed and approved by the Firmwide Asset Liability Committee. In addition, our independent risk oversight and control functions analyze, and the Firmwide Asset Liability Committee reviews, our consolidated total capital position (unsecured long-term borrowings plus total shareholders' equity) so that we maintain a level of long-term funding that is sufficient to meet our long-term financing requirements. In a liquidity crisis, we would first use our GCLA in order to avoid reliance on asset sales (other than our GCLA). However, we recognize that orderly asset sales may be prudent or necessary in a severe or persistent liquidity crisis.

Subsidiary Funding Policies

The majority of our unsecured funding is raised by Group Inc., which provides the necessary funds to Funding IHC and other subsidiaries, some of which are regulated, to meet their asset financing, liquidity and capital requirements. In addition, Group Inc. provides its regulated subsidiaries with the necessary capital to meet their regulatory requirements. The benefits of this approach to subsidiary funding are enhanced control and greater flexibility to meet the funding requirements of our subsidiaries. Funding is also raised at the subsidiary level through a variety of products, including deposits, secured funding and unsecured borrowings.

Our intercompany funding policies assume that a subsidiary's funds or securities are not freely available to its parent, Funding IHC or other subsidiaries unless (i) legally provided for and (ii) there are no additional regulatory, tax or other restrictions. In particular, many of our subsidiaries are subject to laws that authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to Group Inc. or Funding IHC. Regulatory action of that kind could impede access to funds that Group Inc. needs to make payments on its obligations. Accordingly, we assume that the capital provided to our regulated subsidiaries is not available to Group Inc. or other subsidiaries and any other financing provided to our regulated subsidiaries is not available to Group Inc. or Funding IHC until the maturity of such financing.

Group Inc. has provided substantial amounts of equity and subordinated indebtedness, directly or indirectly, to its regulated subsidiaries. For example, as of September 2021, Group Inc. had $36.96 billion of equity and subordinated indebtedness invested in GS&Co., its principal U.S. registered broker-dealer; $44.52 billion invested in GSI, a regulated U.K. broker-dealer; $2.66 billion invested in GSJCL, a regulated Japanese broker-dealer; $44.47 billion invested in GS Bank USA, a regulated New York State-chartered bank; and $4.27 billion invested in GSIB, a regulated U.K. bank. Group Inc. also provides financing, directly or indirectly, in the form of: $112.49 billion of unsubordinated loans (including secured loans of $54.73 billion) and $20.04 billion of collateral and cash deposits to these entities, substantially all of which was to GS&Co., GSI, GSJCL and GS Bank USA, as of September 2021. In addition, as of September 2021, Group Inc. had significant amounts of capital invested in and loans to its other regulated subsidiaries.

Contingency Funding Plan. We maintain a contingency funding plan to provide a framework for analyzing and responding to a liquidity crisis situation or periods of market stress. Our contingency funding plan outlines a list of potential risk factors, key reports and metrics that are reviewed on an ongoing basis to assist in assessing the severity of, and managing through, a liquidity crisis and/or market dislocation. The contingency funding plan also describes in detail our potential responses if our assessments indicate that we have entered a liquidity crisis, which include pre-funding for what we estimate will be our potential cash and collateral needs, as well as utilizing secondary sources of liquidity. Mitigants and action items to address specific risks which may arise are also described and assigned to individuals responsible for execution.

The contingency funding plan identifies key groups of individuals and their responsibilities, which include fostering effective coordination, control and distribution of information, implementing liquidity maintenance activities and managing internal and external communication, all of which are critical in the management of a crisis or period of market stress.

Stress Tests

In order to determine the appropriate size of our GCLA, we model liquidity outflows over a range of scenarios and time horizons. One of our primary internal liquidity risk models, referred to as the Modeled Liquidity Outflow, quantifies our liquidity risks over a 30-day stress scenario. We also consider other factors, including, but not limited to, an assessment of our potential intraday liquidity needs through an additional internal liquidity risk model, referred to as the Intraday Liquidity Model, the results of our long-term stress testing models, our resolution liquidity models and other applicable regulatory requirements and a qualitative assessment of our condition, as well as the financial markets. The results of the Modeled Liquidity Outflow, the Intraday Liquidity Model, the long-term stress testing models and the resolution liquidity models are reported to senior management on a regular basis. We also perform firmwide stress tests. See "Overview and Structure of Risk Management" for information about firmwide stress tests.

Modeled Liquidity Outflow. Our Modeled Liquidity Outflow is based on conducting multiple scenarios that include combinations of market-wide and firm-specific stress. These scenarios are characterized by the following qualitative elements:

- Severely challenged market environments, which includes low consumer and corporate confidence, financial and political instability, and adverse changes in market values, including potential declines in equity markets and widening of credit spreads; and
- A firm-specific crisis potentially triggered by material losses, reputational damage, litigation and/or a ratings downgrade.

The following are key modeling elements of our Modeled Liquidity Outflow:

- Liquidity needs over a 30-day scenario;
- A two-notch downgrade of our long-term senior unsecured credit ratings;
- Changing conditions in funding markets, which limit our access to unsecured and secured funding;
- No support from additional government funding facilities. Although we have access to various central bank funding programs, we do not assume reliance on additional sources of funding in a liquidity crisis; and
- A combination of contractual outflows, such as upcoming maturities of unsecured debt, and contingent outflows, including, but not limited to, the withdrawal of customer credit balances in our prime brokerage business, increase in variation margin requirements due to adverse changes in the value of our exchange-traded and OTC-cleared derivatives, and withdrawals of deposits that have no contractual maturity.

Intraday Liquidity Model. Our Intraday Liquidity Model measures our intraday liquidity needs using a scenario analysis characterized by the same qualitative elements as our Modeled Liquidity Outflow. The model assesses the risk of increased intraday liquidity requirements during a scenario where access to sources of intraday liquidity may become constrained.

Long-Term Stress Testing. We utilize longer-term stress tests to take a forward view on our liquidity position through prolonged stress periods in which we experience a severe liquidity stress and recover in an environment that continues to be challenging. We are focused on ensuring conservative asset-liability management to prepare for a prolonged period of potential stress, seeking to maintain a diversified funding profile with an appropriate tenor, taking into consideration the characteristics and liquidity profile of our assets.

Resolution Liquidity Models. In connection with our resolution planning efforts, we have established our Resolution Liquidity Adequacy and Positioning framework, which estimates liquidity needs of our major subsidiaries in a stressed environment. The liquidity needs are measured using our Modeled Liquidity Outflow assumptions and include certain additional inter-affiliate exposures. We have also established our Resolution Liquidity Execution Need framework, which measures the liquidity needs of our major subsidiaries to stabilize and wind-down following a Group Inc. bankruptcy filing in accordance with our preferred resolution strategy.

In addition, we have established a triggers and alerts framework, which is designed to provide the Board with information needed to make an informed decision on whether and when to commence bankruptcy proceedings for Group Inc.

Limits

We use liquidity risk limits at various levels and across liquidity risk types to manage the size of our liquidity exposures. Limits are measured relative to acceptable levels of risk given our liquidity risk tolerance. See "Overview and Structure of Risk Management" for information about the limit approval process.

Limits are monitored by Treasury and Liquidity Risk. Liquidity Risk is responsible for identifying and escalating to senior management and/or the appropriate risk committee, on a timely basis, instances where limits have been exceeded.

GCLA and Unencumbered Metrics

GCLA. Based on the results of our internal liquidity risk models, described above, as well as our consideration of other factors, including, but not limited to, a qualitative assessment 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.

	Average for the Three Months Ended	
$ in millions	**September 2021**	June 2021
Denomination		
U.S. dollar	**$233,010**	$217,977
Non-U.S. dollar	**123,067**	111,427
Total	**$356,077**	$329,404
Asset Class		
Overnight cash deposits	**$199,545**	$171,007
U.S. government obligations	**110,081**	106,708
U.S. agency obligations	**10,015**	8,227
Non-U.S. government obligations	**36,436**	43,462
Total	**$356,077**	$329,404
Entity Type		
Group Inc. and Funding IHC	**$ 60,510**	$ 53,327
Major broker-dealer subsidiaries	**112,961**	102,593
Major bank subsidiaries	**182,606**	173,484
Total	**$356,077**	$329,404

In the table above:

- The U.S. dollar-denominated GCLA consists of (i) 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 (ii) certain overnight U.S. dollar cash deposits.
- The non-U.S. dollar-denominated GCLA consists of non-U.S. government obligations (only unencumbered German, French, Japanese and U.K. government obligations) and certain overnight cash deposits in highly liquid currencies.

We maintain our GCLA to enable us to meet current and potential liquidity requirements of our parent company, Group Inc., and its subsidiaries. Our Modeled Liquidity Outflow and Intraday Liquidity Model incorporate a requirement for Group Inc., as well as a standalone requirement for each of our major broker-dealer and bank subsidiaries. Funding IHC is required to provide the necessary liquidity to Group Inc. during the ordinary course of business, and is also obligated to provide capital and liquidity support to major subsidiaries in the event of our material financial distress or failure. Liquidity held directly in each of our major broker-dealer and bank subsidiaries is intended for use only by that subsidiary to meet its liquidity requirements and is assumed not to be available to Group Inc. or Funding IHC unless (i) legally provided for and (ii) there are no additional regulatory, tax or other restrictions. In addition, the Modeled Liquidity Outflow and Intraday Liquidity Model also incorporate a broader assessment of standalone liquidity requirements for other subsidiaries and we hold a portion of our GCLA directly at Group Inc. or Funding IHC to support such requirements.

Other Unencumbered Assets. In addition to our GCLA, we have a significant amount of other unencumbered cash and financial instruments, including other government obligations, high-grade money market securities, corporate obligations, marginable equities, loans and cash deposits not included in our GCLA. The fair value of our unencumbered assets averaged $256.84 billion for the three months ended September 2021 and $249.61 billion for the three months ended June 2021. We do not consider these assets liquid enough to be eligible for our GCLA.

Liquidity Regulatory Framework

As a BHC, 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 (HQLA) to expected net cash outflows under an acute, short-term liquidity stress scenario. Eligible HQLA excludes HQLA held by subsidiaries that is in excess of their minimum requirement and is subject to transfer restrictions. We are required to maintain a minimum LCR of 100%. We expect that fluctuations in client activity, business mix and the market environment will impact our LCR.

The table below presents information about our average daily LCR.

	Average for the Three Months Ended	
$ in millions	**September 2021**	June 2021
Total HQLA	**$344,351**	$318,525
Eligible HQLA	**$249,915**	$238,397
Net cash outflows	**$196,664**	$172,895
LCR	**127%**	138%

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. The rule also requires disclosure of the ratio on a semi-annual basis and a description of the banking organization's stable funding sources beginning in 2023. Our NSFR as of September 2021 exceeded the minimum requirement.

The following provides information about our subsidiary liquidity regulatory requirements:

- **GS Bank USA.** GS Bank USA is subject to a minimum LCR of 100% under the LCR rule approved by the U.S. federal bank regulatory agencies. As of September 2021, GS Bank USA's LCR exceeded the minimum requirement. The NSFR requirement described above also applies to GS Bank USA. As of September 2021, GS Bank USA's NSFR exceeded the minimum requirement.
- **GSI.** GSI is subject to a minimum LCR of 100% under the LCR rule approved by the U.K. regulatory authorities. GSI's average monthly LCR for the trailing twelve-month period ended September 2021 exceeded the minimum requirement. GSI will become subject to the applicable NSFR requirement in the U.K., which is expected to become effective in January 2022.
- **Other Subsidiaries.** We monitor local regulatory liquidity requirements of our subsidiaries to ensure compliance. For many of our subsidiaries, these requirements either have changed or are likely to change in the future due to the implementation of the Basel Committee's framework for liquidity risk measurement, standards and monitoring, as well as other regulatory developments.

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

We rely on the short- and long-term debt capital markets to fund a significant portion of our day-to-day operations and the cost and availability of debt financing is influenced by our credit ratings. Credit ratings are also important when we are competing in certain markets, such as OTC derivatives, and when we seek to engage in longer-term transactions. See "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K for information about the risks associated with a reduction in our credit ratings.

The table below presents the unsecured credit ratings and outlook of Group Inc.

	As of September 2021				
	DBRS	**Fitch**	**Moody's**	**R&I**	**S&P**
Short-term debt	**R-1 (middle)**	**F1**	**P-1**	**a-1**	**A-2**
Long-term debt	**A (high)**	**A**	**A2**	**A**	**BBB+**
Subordinated debt	**A**	**BBB+**	**Baa2**	**A-**	**BBB-**
Trust preferred	**A**	**BBB-**	**Baa3**	**N/A**	**BB**
Preferred stock	**BBB (high)**	**BBB-**	**Ba1**	**N/A**	**BB**
Ratings outlook	**Stable**	**Stable**	**Stable**	**Stable**	**Stable**

In the table above:

- The ratings and outlook are by DBRS, Inc. (DBRS), Fitch, Inc. (Fitch), Moody's Investors Service (Moody's), Rating and Investment Information, Inc. (R&I), and Standard & Poor's Ratings Services (S&P).
- The ratings for trust preferred relate to the guaranteed preferred beneficial interests issued by Goldman Sachs Capital I.
- The DBRS, Fitch, Moody's and S&P ratings for preferred stock include the APEX issued by Goldman Sachs Capital II and Goldman Sachs Capital III.

The table below presents the unsecured credit ratings and outlook of GS Bank USA, GSIB, GSBE, GS&Co. and GSI.

	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**
GSIB			
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	**A+**	**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**
GS&Co.			
Short-term debt	**F1**	**N/A**	**A-1**
Long-term debt	**A+**	**N/A**	**A+**
Ratings outlook	**Stable**	**N/A**	**Stable**
GSI			
Short-term debt	**F1**	**P-1**	**A-1**
Long-term debt	**A+**	**A1**	**A+**
Ratings outlook	**Stable**	**Stable**	**Stable**

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

- Our liquidity, market, credit and operational risk management practices;
- Our level and variability of earnings;
- Our capital base;
- Our franchise, 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.

Certain of our derivatives have been transacted under bilateral agreements with counterparties who may require us to post collateral or terminate the transactions based on changes in our credit ratings. We manage our GCLA to ensure we would, among other potential requirements, be able to make the additional collateral or termination payments that may be required in the event of a two-notch reduction in our long-term credit ratings, as well as collateral that has not been called by counterparties, but is available to them.

See Note 7 to the consolidated financial statements for further information about derivatives with credit-related contingent features and the additional collateral or termination payments related to our net derivative liabilities under bilateral agreements that could have been called by counterparties in the event of a one- or two-notch downgrade in our credit ratings.

Cash Flows

As a global financial institution, our cash flows are complex and bear little relation to our net earnings and net assets. Consequently, we believe that traditional cash flow analysis is less meaningful in evaluating our liquidity position than the liquidity and asset-liability management policies described above. Cash flow analysis may, however, be helpful in highlighting certain macro trends and strategic initiatives in our businesses.

Nine Months Ended September 2021. Our cash and cash equivalents increased by $55.99 billion to $211.83 billion at the end of the third quarter of 2021, due to net cash provided by financing activities, partially offset by net cash used for operating activities and investing activities. The net cash provided by financing activities primarily reflected an increase in net deposits, principally reflecting increases in institutional, transaction banking, private bank, consumer and deposit sweep programs deposits, and net issuances of unsecured long-term borrowings. The net cash used for operating activities primarily reflected an increase in collateralized transactions (an increase in collateralized agreements, partially offset by an increase in collateralized financings), partially offset by an increase in trading liabilities. The net cash used for investing activities primarily reflected purchases of investments and an increase in net lending activities, partially offset by sales and paydowns of investments.

Nine Months Ended September 2020. Our cash and cash equivalents increased by $19.66 billion to $153.20 billion at the end of the third quarter of 2020, due to net cash provided by financing activities, partially offset by net cash used for operating activities and investing activities. The net cash provided by financing activities primarily reflected an increase in net deposits, reflecting increases in consumer, transaction banking and private bank deposits. The net cash used for operating activities primarily reflected an increase in trading assets, net customer and other receivables and payables, and collateralized transactions (an increase in collateralized agreements and a decrease in collateralized financings), partially offset by an increase in trading liabilities as a result of our activities and our clients' activities. The net cash used for investing activities reflected an increase in net loans and net purchases of investments, reflecting an increase in U.S. government obligations accounted for as available-for-sale.

Market Risk Management

Overview

Market risk is the risk of loss in the value of our inventory, investments, loans and other financial assets and liabilities accounted for at fair value 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. Since these positions are accounted for at fair value, they fluctuate on a daily basis, with the related gains and losses included in the consolidated statements of earnings. 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;
- Currency rate risk: results from exposures to changes in spot prices, forward prices and volatilities of currency rates; and
- Commodity price risk: results from exposures to changes in spot prices, forward prices and volatilities of commodities, such as crude oil, petroleum products, natural gas, electricity, and precious and base metals.

Market Risk, which is independent of our revenue-producing units and reports to our chief risk officer, has primary responsibility for assessing, monitoring and managing our market risk through firmwide oversight across our global businesses.

Managers in revenue-producing units and Market Risk discuss market information, positions and estimated loss scenarios on an ongoing basis. Managers in revenue-producing units are accountable for managing risk within prescribed limits. These managers have in-depth knowledge of their positions, markets and the instruments available to hedge their exposures.

Market Risk Management Process

Our process for managing market risk includes the critical components of our risk management framework described in the "Overview and Structure of Risk Management," as well as the following:

- Monitoring compliance with established market risk limits and reporting our exposures;
- Diversifying exposures;
- Controlling position sizes; and
- Evaluating mitigants, such as economic hedges in related securities or derivatives.

Our market risk management systems enable us to perform an independent calculation of Value-at-Risk (VaR) and stress measures, capture risk measures at individual position levels, attribute risk measures to individual risk factors of each position, report many different views of the risk measures (e.g., by desk, business, product type or entity) and produce ad hoc analyses in a timely manner.

Risk Measures

We produce risk measures and monitor them against established market risk limits. These measures reflect an extensive range of scenarios and the results are aggregated at product, business and firmwide levels.

We use a variety of risk measures to estimate the size of potential losses for both moderate and more extreme market moves over both short- and long-term time horizons. Our primary risk measures are VaR, which is used for shorter-term periods, and stress tests. Our risk reports detail key risks, drivers and changes for each desk and business, and are distributed daily to senior management of both our revenue-producing units and our independent risk oversight and control functions.

Value-at-Risk. VaR is the potential loss in value due to adverse market movements over a defined time horizon with a specified confidence level. For assets and liabilities included in VaR, see "Financial Statement Linkages to Market Risk Measures." We typically employ a one-day time horizon with a 95% confidence level. We use a single VaR model, which captures risks, including interest rates, equity prices, currency rates and commodity prices. As such, VaR facilitates comparison across portfolios of different risk characteristics. VaR also captures the diversification of aggregated risk at the firmwide level.

We are aware of the inherent limitations to VaR and therefore use a variety of risk measures in our market risk management process. Inherent limitations to VaR include:

- VaR does not estimate potential losses over longer time horizons where moves may be extreme;
- VaR does not take account of the relative liquidity of different risk positions; and
- Previous moves in market risk factors may not produce accurate predictions of all future market moves.

To comprehensively capture our exposures and relevant risks in our VaR calculation, we use historical simulations with full valuation of market factors at the position level by simultaneously shocking the relevant market factors for that position. These market factors include spot prices, credit spreads, funding spreads, yield curves, volatility and correlation, and are updated periodically based on changes in the composition of positions, as well as variations in market conditions. We sample from five years of historical data to generate the scenarios for our VaR calculation. The historical data is weighted so that the relative importance of the data reduces over time. This gives greater importance to more recent observations and reflects current asset volatilities, which improves the accuracy of our estimates of potential loss. As a result, even if our positions included in VaR were unchanged, our VaR would increase with increasing market volatility and vice versa.

Given its reliance on historical data, VaR is most effective in estimating risk exposures in markets in which there are no sudden fundamental changes or shifts in market conditions.

Our VaR measure does not include:

- Positions that are best measured and monitored using sensitivity measures; and
- The impact of changes in counterparty and our own credit spreads on derivatives, as well as changes in our own credit spreads on financial liabilities for which the fair value option was elected.

We perform daily backtesting of our VaR model (i.e., comparing daily net revenues for positions included in VaR to the VaR measure calculated as of the prior business day) at the firmwide level and for each of our businesses and major regulated subsidiaries.

Stress Testing. Stress testing is a method of determining the effect of various hypothetical stress scenarios. We use stress testing to examine risks of specific portfolios, as well as the potential impact of our significant risk exposures. We use a variety of stress testing techniques to calculate the potential loss from a wide range of market moves on our portfolios, including firmwide stress tests, sensitivity analysis and scenario analysis. The results of our various stress tests are analyzed together for risk management purposes. See "Overview and Structure of Risk Management" for information about firmwide stress tests.

Sensitivity analysis is used to quantify the impact of a market move in a single risk factor across all positions (e.g., equity prices or credit spreads) using a variety of defined market shocks, ranging from those that could be expected over a one-day time horizon up to those that could take many months to occur. We also use sensitivity analysis to quantify the impact of the default of any single entity, which captures the risk of large or concentrated exposures.

Scenario analysis is used to quantify the impact of a specified event, including how the event impacts multiple risk factors simultaneously. For example, for sovereign stress testing we calculate potential direct exposure associated with our sovereign positions, as well as the corresponding debt, equity and currency exposures associated with our non-sovereign positions that may be impacted by the sovereign distress. When conducting scenario analysis, we often consider a number of possible outcomes for each scenario, ranging from moderate to severely adverse market impacts. In addition, these stress tests are constructed using both historical events and forward-looking hypothetical scenarios.

Unlike VaR measures, which have an implied probability because they are calculated at a specified confidence level, there may not be an implied probability that our stress testing scenarios will occur. Instead, stress testing is used to model both moderate and more extreme moves in underlying market factors. When estimating potential loss, we generally assume that our positions cannot be reduced or hedged (although experience demonstrates that we are generally able to do so).

Limits

We use market risk limits at various levels to manage the size of our market exposures. These limits are set based on VaR and on a range of stress tests relevant to our exposures. See "Overview and Structure of Risk Management" for information about the limit approval process.

Market Risk is responsible for monitoring these limits, and identifying and escalating to senior management and/or the appropriate risk committee, on a timely basis, instances where limits have been exceeded (e.g., due to positional changes or changes in market conditions, such as increased volatilities or changes in correlations). Such instances are remediated by a reduction in the positions we hold and/or a temporary or permanent increase to the limit.

Metrics

We analyze VaR at the firmwide 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 four risk categories. This effect arises because the four market risk categories are not perfectly correlated.

The table below presents our average daily VaR.

	Three Months Ended			Nine Months Ended September	
$ in millions	**September 2021**	June 2021	September 2020	**2021**	2020
Categories					
Interest rates	**$ 58**	$ 64	$ 72	**$ 60**	$ 77
Equity prices	**40**	48	55	**46**	57
Currency rates	**12**	13	22	**12**	26
Commodity prices	**22**	22	26	**22**	20
Diversification effect	**(52)**	(57)	(84)	**(53)**	(82)
Total	**$ 80**	$ 90	$ 91	**$ 87**	$ 98

Our average daily VaR decreased to $80 million for the three months ended September 2021 from $90 million for the three months ended June 2021, primarily due to lower levels of volatility. The total decrease of $10 million was primarily driven by decreases in the equity prices and interest rates categories, partially offset by a decrease in the diversification effect.

Our average daily VaR decreased to $80 million for the three months ended September 2021 from $91 million for the three months ended September 2020, due to lower levels of volatility, partially offset by increased exposures. The total decrease of $11 million was primarily driven by decreases in the equity prices, interest rates and currency rates categories, partially offset by a decrease in the diversification effect.

Our average daily VaR decreased to $87 million for the nine months ended September 2021 from $98 million for the nine months ended September 2020, due to lower levels of volatility, partially offset by increased exposures. The total decrease of $11 million was primarily driven by decreases in the interest rates, currency rates and equity prices categories, partially offset by a decrease in the diversification effect.

The table below presents our period-end VaR.

	As of		
$ in millions	**September 2021**	June 2021	September 2020
Categories			
Interest rates	**$ 57**	$ 74	$ 60
Equity prices	**37**	41	46
Currency rates	**9**	16	17
Commodity prices	**31**	25	20
Diversification effect	**(47)**	(61)	(62)
Total	**$ 87**	$ 95	$ 81

Our period-end VaR decreased to $87 million as of September 2021 from $95 million as of June 2021, primarily due to lower levels of volatility. The total decrease of $8 million was driven by decreases in the interest rates, currency rates and equity prices categories, partially offset by a decrease in the diversification effect and an increase in the commodity prices category.

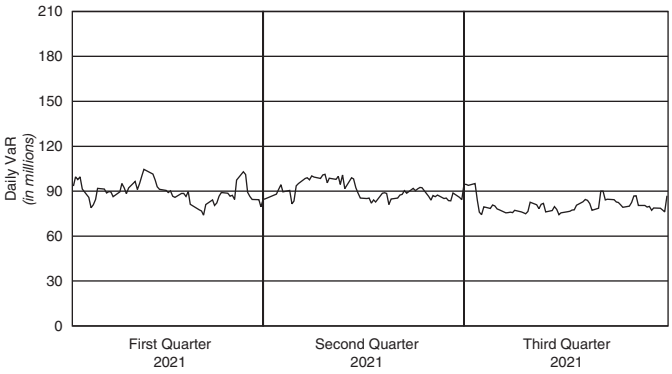
Our period-end VaR increased to $87 million as of September 2021 from $81 million as of September 2020, due to increased exposures, partially offset by lower levels of volatility. The total increase of $6 million was primarily driven by a decrease in the diversification effect and an increase in the commodity prices category, partially offset by decreases in the equity prices and currency rates categories.

During the nine months ended September 2021, the firmwide VaR risk limit was not exceeded, raised or reduced, and there were no permanent or temporary changes to the firmwide VaR risk limit. During 2020, the firmwide VaR risk limit was exceeded on 16 occasions (all of which occurred during the first half of 2020), primarily due to higher levels of volatility. There were no permanent changes to the firmwide VaR risk limit during this period. However, there were temporary increases to the firmwide VaR risk limit as a result of the market environment in 2020.

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	**$74**	**$50**	$ 74	$58	$ 99	$59
Equity prices	**$48**	**$33**	$ 57	$37	$ 75	$42
Currency rates	**$16**	**$ 8**	$ 17	$10	$ 32	$16
Commodity prices	**$33**	**$15**	$ 32	$15	$ 37	$17
Firmwide						
VaR	**$95**	**$74**	$101	$81	$125	$77

The chart below presents our daily VaR for the nine months ended September 2021.



The table below presents, by number of business days, the frequency distribution of our daily net revenues for positions included in VaR.

	Three Months Ended September		Nine Months Ended September	
$ in millions	**2021**	2020	**2021**	2020
>$100	**13**	4	**47**	44
$75 - $100	**11**	9	**39**	30
$50 - $75	**11**	21	**30**	34
$25 - $50	**10**	17	**26**	39
$0 - $25	**11**	8	**31**	25
$(25) - $0	**7**	3	**14**	9
$(50) - $(25)	**–**	2	**–**	4
$(75) - $(50)	**–**	–	**–**	2
$(100) - $(75)	**–**	–	**–**	2
<$(100)	**1**	–	**1**	–
Total	**64**	64	**188**	189

Daily net revenues for positions included in VaR are compared with VaR calculated as of the end of the prior business day. Net losses incurred on a single day for such positions exceeded our 95% one-day VaR (i.e., a VaR exception) on one occasion during the three months ended September 2021 and did not exceed our 95% one-day VaR during the three months ended September 2020.

During periods in which we have significantly more positive net revenue days than net revenue loss days, we expect to have fewer VaR exceptions because, under normal conditions, our business model generally produces positive net revenues. In periods in which our franchise revenues are adversely affected, we generally have more loss days, resulting in more VaR exceptions. The daily net revenues for positions included in VaR used to determine VaR exceptions reflect the impact of any intraday activity, including bid/offer net revenues, which are more likely than not to be positive by their nature.

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		
$ in millions	**September 2021**	June 2021	September 2020
Equity	**$2,034**	$2,096	$1,760
Debt	**2,385**	2,429	2,391
Total	**$4,419**	$4,525	$4,151

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 private and restricted public equity securities, including interests in funds that invest in corporate equities and real estate and interests in hedge funds.
- Debt positions include interests in funds that invest in corporate mezzanine and senior debt instruments, loans backed by commercial and residential real estate, corporate bank loans and other corporate debt, including acquired portfolios of distressed loans.
- 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.

Credit and Funding Spread Sensitivity on Derivatives and Financial Liabilities. VaR excludes the impact of changes in counterparty credit spreads, our own credit spreads and unsecured funding spreads on derivatives, as well as changes in our own credit spreads (debt valuation adjustment) on financial liabilities for which the fair value option was elected. The estimated sensitivity to a one basis point increase in credit spreads (counterparty and our own) and unsecured funding spreads on derivatives (including hedges) was a loss of $2 million as of both September 2021 and June 2021. In addition, the estimated sensitivity to a one basis point increase in our own credit spreads on financial liabilities for which the fair value option was elected was a gain of $32 million as of September 2021 and $31 million as of June 2021. However, the actual net impact of a change in our own credit spreads is also affected by the liquidity, duration and convexity (as the sensitivity is not linear to changes in yields) of those financial liabilities for which the fair value option was elected, as well as the relative performance of any hedges undertaken.

Interest Rate Sensitivity. Loans accounted for at amortized cost were $126.03 billion as of September 2021 and $116.04 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 $880 million as of September 2021 and $826 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. See Note 9 to the consolidated financial statements for further information about loans accounted for at amortized cost.

Other Market Risk Considerations

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

Direct investments in real estate are accounted for at cost less accumulated depreciation. See Note 12 to the consolidated financial statements for further information about other assets.

Financial Statement Linkages to Market Risk Measures

We employ a variety of risk measures, each described in the respective sections above, to monitor market risk across the consolidated balance sheets and consolidated statements of earnings. The related gains and losses on these positions are included in market making, other principal transactions, interest income and interest expense in the consolidated statements of earnings, and debt valuation adjustment in the consolidated statements of comprehensive income.

The table below presents certain assets and liabilities in our consolidated balance sheets and the market risk measures used to assess those assets and liabilities.

Assets or Liabilities	Market Risk Measures
Collateralized agreements, at fair value	VaR
Customer and other receivables, at fair value	10% Sensitivity Measures
Trading assets	VaR Credit Spread Sensitivity
Investments, at fair value	VaR 10% Sensitivity Measures
Loans	VaR 10% Sensitivity Measures Interest Rate Sensitivity
Deposits, at fair value	VaR Credit Spread Sensitivity
Collateralized financings, at fair value	VaR
Trading liabilities	VaR Credit Spread Sensitivity
Unsecured borrowings, at fair value	VaR Credit Spread Sensitivity

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 OTC derivatives and loans and lending commitments. Credit risk also comes from cash placed with banks, securities financing transactions (i.e., resale and repurchase agreements and securities borrowing and lending activities) and customer and other receivables.

Credit Risk, which is independent of our revenue-producing units and reports to our chief risk officer, has primary responsibility for assessing, monitoring and managing our credit risk through firmwide oversight across our global businesses. In addition, we hold other positions that give rise to credit risk (e.g., bonds and secondary bank loans). These credit risks are captured as a component of market risk measures, which are monitored and managed by Market Risk. We also enter into derivatives to manage market risk exposures. Such derivatives also give rise to credit risk, which is monitored and managed by Credit Risk.

Credit Risk Management Process

Our process for managing credit risk includes the critical components of our risk management framework described in the "Overview and Structure of Risk Management," as well as the following:

- Monitoring compliance with established credit risk limits and reporting our credit exposures and credit concentrations;
- Establishing or approving underwriting standards;
- Assessing the likelihood that a counterparty will default on its payment obligations;
- Measuring our current and potential credit exposure and losses resulting from a counterparty default;
- Using credit risk mitigants, including collateral and hedging; and
- Maximizing recovery through active workout and restructuring of claims.

We also perform credit reviews, which include initial and ongoing analyses of our counterparties. For substantially all of our credit exposures, the core of our process is an annual counterparty credit review. A credit review is an independent analysis of the capacity and willingness of a counterparty to meet its financial obligations, resulting in an internal credit rating. The determination of internal credit ratings also incorporates assumptions with respect to the nature of and outlook for the counterparty's industry, and the economic environment. Senior personnel, with expertise in specific industries, inspect and approve credit reviews and internal credit ratings.

Our risk assessment process may also include, where applicable, reviewing certain key metrics, including, but not limited to, delinquency status, collateral values, FICO credit scores and other risk factors.

Our credit risk management systems capture credit exposure to individual counterparties and on an aggregate basis to counterparties and their subsidiaries. These systems also provide management with comprehensive information about our aggregate credit risk by product, internal credit rating, industry, country and region.

Risk Measures

We measure our credit risk based on the potential loss in the event of non-payment by a counterparty using current and potential exposure. For derivatives and securities financing transactions, current exposure represents the amount presently owed to us after taking into account applicable netting and collateral arrangements, while potential exposure represents our estimate of the future exposure that could arise over the life of a transaction based on market movements within a specified confidence level. Potential exposure also takes into account netting and collateral arrangements. For loans and lending commitments, the primary measure is a function of the notional amount of the position.

Stress Tests

We conduct regular stress tests to calculate the credit exposures, including potential concentrations that would result from applying shocks to counterparty credit ratings or credit risk factors (e.g., currency rates, interest rates, equity prices). These shocks cover a wide range of moderate and more extreme market movements, including shocks to multiple risk factors, consistent with the occurrence of a severe market or economic event. In the case of sovereign default, we estimate the direct impact of the default on our sovereign credit exposures, changes to our credit exposures arising from potential market moves in response to the default, and the impact of credit market deterioration on corporate borrowers and counterparties that may result from the sovereign default. Unlike potential exposure, which is calculated within a specified confidence level, stress testing does not generally assume a probability of these events occurring. We also perform firmwide stress tests. See "Overview and Structure of Risk Management" for information about firmwide stress tests.

To supplement these regular stress tests, as described above, we also conduct tailored stress tests on an ad hoc basis in response to specific market events that we deem significant. We also utilize these stress tests to estimate the indirect impact of certain hypothetical events on our country exposures, such as the impact of credit market deterioration on corporate borrowers and counterparties along with the shocks to the risk factors described above. The parameters of these shocks vary based on the scenario reflected in each stress test. We review estimated losses produced by the stress tests in order to understand their magnitude, highlight potential loss concentrations, and assess and mitigate our exposures where necessary.

Limits

We use credit risk limits at various levels, as well as underwriting standards to manage the size and nature of our credit exposures. Limits for industries and countries are based on our risk appetite and are designed to allow for regular monitoring, review, escalation and management of credit risk concentrations. See "Overview and Structure of Risk Management" for information about the limit approval process.

Credit Risk is responsible for monitoring these limits, and identifying and escalating to senior management and/or the appropriate risk committee, on a timely basis, instances where limits have been exceeded.

Risk Mitigants

To reduce our credit exposures on derivatives and securities financing transactions, we may enter into netting agreements with counterparties that permit us to offset receivables and payables with such counterparties. We may also reduce credit risk with counterparties by entering into agreements that enable us to obtain collateral from them on an upfront or contingent basis and/or to terminate transactions if the counterparty's credit rating falls below a specified level. We monitor the fair value of the collateral to ensure that our credit exposures are appropriately collateralized. We seek to minimize exposures where there is a significant positive correlation between the creditworthiness of our counterparties and the market value of collateral we receive.

For loans and lending commitments, depending on the credit quality of the borrower and other characteristics of the transaction, we employ a variety of potential risk mitigants. Risk mitigants include collateral provisions, guarantees, covenants, structural seniority of the bank loan claims and, for certain lending commitments, provisions in the legal documentation that allow us to adjust loan amounts, pricing, structure and other terms as market conditions change. The type and structure of risk mitigants employed can significantly influence the degree of credit risk involved in a loan or lending commitment.

When we do not have sufficient visibility into a counterparty's financial strength or when we believe a counterparty requires support from its parent, we may obtain third-party guarantees of the counterparty's obligations. We may also mitigate our credit risk using credit derivatives or participation agreements.

Credit Exposures

As of September 2021, our aggregate credit exposure increased as compared with December 2020, primarily reflecting increases in cash deposits with central banks 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 central banks. Our credit exposure to counterparties that defaulted during the nine months ended September 2021 was lower as compared with our credit exposure to counterparties that defaulted during the same prior year period, and such exposure was primarily related to loans and lending commitments. Our credit exposure to counterparties that defaulted during the nine months ended September 2021 remained low, representing less than 1% of our total credit exposure. Estimated losses associated with these defaults have been recognized in earnings. Our credit exposures are described further below.

Cash and Cash Equivalents. Our credit exposure on cash and cash equivalents arises from our unrestricted cash, and includes both interest-bearing and non-interest-bearing deposits. To mitigate the risk of credit loss, we place substantially all of our deposits with highly rated banks and central banks.

The table below presents our credit exposure from unrestricted cash and cash equivalents, and the concentration by industry, region and internally determined public rating agency equivalents.

	As of	
$ in millions	**September 2021**	December 2020
Cash and Cash Equivalents	**$187,120**	$131,324
Industry		
Financial Institutions	**7%**	11%
Sovereign	**93%**	89%
Total	**100%**	100%
Region		
Americas	**58%**	45%
EMEA	**33%**	41%
Asia	**9%**	14%
Total	**100%**	100%
Credit Quality (Credit Rating Equivalent)		
AAA	**63%**	44%
AA	**25%**	38%
A	**11%**	17%
BBB	**1%**	1%
Total	**100%**	100%

The table above excludes cash segregated for regulatory and other purposes of $24.71 billion as of September 2021 and $24.52 billion as of December 2020.

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	**$ 65,200**	$ 64,850
Collateral (not netted under U.S. GAAP)	**(17,530)**	(18,990)
Net credit exposure	**$ 47,670**	$ 45,860
Industry		
Consumer & Retail	**2%**	4%
Diversified Industrials	**8%**	23%
Financial Institutions	**11%**	12%
Funds	**15%**	12%
Healthcare	**1%**	2%
Municipalities & Nonprofit	**5%**	6%
Natural Resources & Utilities	**37%**	11%
Sovereign	**8%**	14%
Technology, Media & Telecommunications	**10%**	12%
Other (including Special Purpose Vehicles)	**3%**	4%
Total	**100%**	100%
Region		
Americas	**54%**	62%
EMEA	**37%**	30%
Asia	**9%**	8%
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.

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	**$ 27,658**	**$ 13,359**	**$ 41,017**
1 - 5 years	**22,137**	**12,323**	**34,460**
Greater than 5 years	**65,130**	**6,646**	**71,776**
Total	**114,925**	**32,328**	**147,253**
Netting	**(88,989)**	**(10,594)**	**(99,583)**
Net credit exposure	**$ 25,936**	**$ 21,734**	**$ 47,670**
As of December 2020			
Less than 1 year	$ 22,332	$ 12,507	$ 34,839
1 - 5 years	23,927	16,486	40,413
Greater than 5 years	77,653	8,958	86,611
Total	123,912	37,951	161,863
Netting	(101,691)	(14,312)	(116,003)
Net credit exposure	$ 22,221	$ 23,639	$ 45,860

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	**$ 694**	**$ 5,280**	**$ 11,544**	**$ 10,140**	**$ 27,658**
1 - 5 years	**929**	**2,998**	**9,605**	**8,605**	**22,137**
Greater than 5 years	**13,326**	**5,759**	**24,399**	**21,646**	**65,130**
Total	**14,949**	**14,037**	**45,548**	**40,391**	**114,925**
Netting	**(12,677)**	**(9,816)**	**(37,666)**	**(28,830)**	**(88,989)**
Net credit exposure	**$ 2,272**	**$ 4,221**	**$ 7,882**	**$ 11,561**	**$ 25,936**
As of December 2020					
Less than 1 year	$ 532	$ 4,146	$ 11,440	$ 6,214	$ 22,332
1 - 5 years	1,069	4,189	10,976	7,693	23,927
Greater than 5 years	16,550	7,403	28,410	25,290	77,653
Total	18,151	15,738	50,826	39,197	123,912
Netting	(14,364)	(11,230)	(44,529)	(31,568)	(101,691)
Net credit exposure	$ 3,787	$ 4,508	$ 6,297	$ 7,629	$ 22,221

	Non-Investment-Grade / Unrated		
$ in millions	BB or lower	Unrated	Total
As of September 2021			
Less than 1 year	**$ 12,465**	**$ 894**	**$ 13,359**
1 - 5 years	**12,267**	**56**	**12,323**
Greater than 5 years	**6,538**	**108**	**6,646**
Total	**31,270**	**1,058**	**32,328**
Netting	**(10,546)**	**(48)**	**(10,594)**
Net credit exposure	**$ 20,724**	**$ 1,010**	**$ 21,734**
As of December 2020			
Less than 1 year	$ 11,541	$ 966	$ 12,507
1 - 5 years	16,274	212	16,486
Greater than 5 years	8,844	114	8,958
Total	36,659	1,292	37,951
Netting	(14,114)	(198)	(14,312)
Net credit exposure	$ 22,545	$ 1,094	$ 23,639

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	**$ 54,107**	**$164,422**	**$218,529**
Wealth management	**41,775**	**4,051**	**45,826**
Commercial real estate	**21,707**	**6,005**	**27,712**
Residential real estate	**13,359**	**3,018**	**16,377**
Consumer:			
Installment	**3,449**	**11**	**3,460**
Credit cards	**6,251**	**31,718**	**37,969**
Other	**6,308**	**5,307**	**11,615**
Total, gross	**146,956**	**214,532**	**361,488**
Allowance for loan losses	**(3,332)**	**(833)**	**(4,165)**
Total	**$143,624**	**$213,699**	**$357,323**
As of December 2020			
Corporate	$ 48,659	$135,818	$184,477
Wealth management	33,023	3,103	36,126
Commercial real estate	20,290	4,268	24,558
Residential real estate	5,750	1,900	7,650
Consumer:			
Installment	3,823	4	3,827
Credit cards	4,270	21,640	25,910
Other	4,174	4,842	9,016
Total, gross	119,989	171,575	291,564
Allowance for loan losses	(3,874)	(557)	(4,431)
Total	$116,115	$171,018	$287,133

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 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	**$54,107**	**$164,422**	**$218,529**
Industry			
Consumer & Retail	**6%**	**12%**	**11%**
Diversified Industrials	**15%**	**21%**	**20%**
Financial Institutions	**8%**	**7%**	**7%**
Funds	**19%**	**3%**	**7%**
Healthcare	**7%**	**10%**	**9%**
Natural Resources & Utilities	**8%**	**17%**	**15%**
Real Estate	**6%**	**5%**	**5%**
Technology, Media & Telecommunications	**20%**	**20%**	**20%**
Other (including Special Purpose Vehicles)	**11%**	**5%**	**6%**
Total	**100%**	**100%**	**100%**
Region			
Americas	**56%**	**74%**	**69%**
EMEA	**36%**	**24%**	**27%**
Asia	**8%**	**2%**	**4%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
AAA	**–**	**1%**	**1%**
AA	**1%**	**4%**	**3%**
A	**5%**	**15%**	**13%**
BBB	**20%**	**38%**	**33%**
BB or lower	**74%**	**41%**	**49%**
Other metrics/unrated	**–**	**1%**	**1%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Corporate	$48,659	$135,818	$184,477
Industry			
Consumer & Retail	7%	14%	12%
Diversified Industrials	17%	17%	17%
Financial Institutions	10%	6%	7%
Funds	13%	3%	6%
Healthcare	7%	12%	11%
Natural Resources & Utilities	12%	18%	16%
Real Estate	8%	6%	6%
Technology, Media & Telecommunications	17%	19%	19%
Other (including Special Purpose Vehicles)	9%	5%	6%
Total	100%	100%	100%
Region			
Americas	60%	70%	67%
EMEA	31%	28%	29%
Asia	9%	2%	4%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
AAA	–	1%	1%
AA	–	5%	4%
A	6%	19%	15%
BBB	13%	36%	30%
BB or lower	80%	38%	49%
Other metrics/unrated	1%	1%	1%
Total	100%	100%	100%

In the table above, credit exposure excludes $2.76 billion as of September 2021 and $3.20 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. These 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	**$41,775**	**$4,051**	**$45,826**
Region			
Americas	**86%**	**96%**	**87%**
EMEA	**11%**	**4%**	**10%**
Asia	**3%**	**–**	**3%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**71%**	**57%**	**70%**
Non-investment-grade	**13%**	**14%**	**13%**
Other metrics/unrated	**16%**	**29%**	**17%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Wealth Management	$33,023	$3,103	$36,126
Region			
Americas	88%	99%	89%
EMEA	10%	1%	9%
Asia	2%	–	2%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	67%	58%	66%
Non-investment-grade	16%	21%	17%
Other metrics/unrated	17%	21%	17%
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.

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	**$21,707**	**$6,005**	**$27,712**
Region			
Americas	**75%**	**82%**	**77%**
EMEA	**19%**	**8%**	**16%**
Asia	**6%**	**10%**	**7%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**16%**	**16%**	**16%**
Non-investment-grade	**82%**	**77%**	**81%**
Other metrics/unrated	**2%**	**7%**	**3%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Commercial Real Estate	$20,290	$4,268	$24,558
Region			
Americas	71%	65%	70%
EMEA	19%	10%	18%
Asia	10%	25%	12%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	9%	13%	10%
Non-investment-grade	86%	87%	86%
Other metrics/unrated	5%	–	4%
Total	100%	100%	100%

In the table above, credit exposure includes loans and lending commitments of $9.66 billion as of September 2021 and $7.88 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 $361 million as of September 2021 and $503 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 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	**$13,359**	**$3,018**	**$16,377**
Region			
Americas	**92%**	**67%**	**87%**
EMEA	**5%**	**23%**	**8%**
Asia	**3%**	**10%**	**5%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**9%**	**36%**	**14%**
Non-investment-grade	**83%**	**64%**	**79%**
Other metrics/unrated	**8%**	**–**	**7%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Residential Real Estate	$ 5,750	$1,900	$ 7,650
Region			
Americas	88%	98%	91%
EMEA	9%	2%	7%
Asia	3%	–	2%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	11%	2%	9%
Non-investment-grade	67%	93%	73%
Other metrics/unrated	22%	5%	18%
Total	100%	100%	100%

In the table above:

- Credit exposure includes loans and lending commitments of $12.80 billion as of September 2021 and $5.71 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 $8.96 billion as of September 2021 and $5.57 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 and credit card 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	**$6,308**	**$5,307**	**$11,615**
Region			
Americas	**88%**	**92%**	**90%**
EMEA	**10%**	**6%**	**8%**
Asia	**2%**	**2%**	**2%**
Total	**100%**	**100%**	**100%**
Credit Quality (Credit Rating Equivalent)			
Investment-grade	**43%**	**87%**	**63%**
Non-investment-grade	**40%**	**13%**	**28%**
Other metrics/unrated	**17%**	**–**	**9%**
Total	**100%**	**100%**	**100%**
As of December 2020			
Other	$4,174	$4,842	$ 9,016
Region			
Americas	81%	98%	90%
EMEA	17%	–	8%
Asia	2%	2%	2%
Total	100%	100%	100%
Credit Quality (Credit Rating Equivalent)			
Investment-grade	44%	94%	71%
Non-investment-grade	23%	6%	14%
Other metrics/unrated	33%	–	15%
Total	100%	100%	100%

In the table above:

- Credit exposure includes loans and lending commitments extended to clients who warehouse assets of $9.64 billion as of September 2021 and $7.28 billion as of December 2020.
- Other metrics/unrated primarily includes consumer and credit card 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 $307 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 and securities borrowed 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 and securities loaned 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. and non-U.S. government and agency obligations.

The table below presents our credit exposure from securities financing transactions and the concentration by industry, region and internally determined public rating agency equivalents.

	As of	
$ in millions	**September 2021**	December 2020
Securities Financing Transactions	**$37,049**	$30,190
Industry		
Financial Institutions	**37%**	39%
Funds	**28%**	24%
Municipalities & Nonprofit	**6%**	5%
Sovereign	**28%**	30%
Other (including Special Purpose Vehicles)	**1%**	2%
Total	**100%**	100%
Region		
Americas	**37%**	33%
EMEA	**45%**	46%
Asia	**18%**	21%
Total	**100%**	100%
Credit Quality (Credit Rating Equivalent)		
AAA	**11%**	15%
AA	**31%**	28%
A	**36%**	40%
BBB	**9%**	10%
BB or lower	**13%**	5%
Unrated	**–**	2%
Total	**100%**	100%

The table above reflects both netting agreements and collateral that we consider when determining credit risk.

Other Credit Exposures. We are exposed to credit risk from our receivables from brokers, dealers and clearing organizations and customers and counterparties. Receivables from brokers, dealers and clearing organizations primarily consist of initial margin placed with clearing organizations and receivables related to sales of securities 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 securities settlements. Receivables from customers and counterparties generally consist of collateralized receivables related to customer securities transactions and generally have minimal credit risk due to both the value of the collateral received and the short-term nature of these receivables.

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	**$54,838**	$56,429
Industry		
Financial Institutions	**82%**	85%
Funds	**11%**	9%
Other (including Special Purpose Vehicles)	**7%**	6%
Total	**100%**	100%
Region		
Americas	**51%**	54%
EMEA	**41%**	35%
Asia	**8%**	11%
Total	**100%**	100%
Credit Quality (Credit Rating Equivalent)		
AAA	**4%**	5%
AA	**47%**	48%
A	**26%**	27%
BBB	**8%**	8%
BB or lower	**14%**	11%
Unrated	**1%**	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.

Country Exposures. High external funding needs and inconsistent monetary policy have led to significant depreciation of the Turkish Lira, prompting concerns about foreign exchange reserves and economic instability. As of September 2021, our total credit exposure to Turkey was $2.27 billion, which was to non-sovereign counterparties or borrowers. Such exposure consisted of $1.38 billion related to OTC derivatives, $180 million related to loans and lending commitments and $709 million related to secured receivables. After taking into consideration the benefit of hedges and Turkish corporate and sovereign collateral, and other risk mitigants provided by Turkish counterparties, our net credit exposure was $338 million. In addition, our total market exposure to Turkey as of September 2021 was $80 million, primarily to non-sovereign issuers or underliers. Such exposure consisted of $199 million related to debt, $(245) million related to credit derivatives and $126 million related to equities.

Liquidity pressures prompted the Argentine government to default and restructure local and foreign obligations in 2020. Economic challenges persist and the country still needs to secure new financial terms with the IMF. As of September 2021, our total credit exposure to Argentina was $124 million, which was to non-sovereign counterparties or borrowers, and was primarily related to loans and lending commitments. In addition, our total market exposure to Argentina as of September 2021 was $91 million, primarily to sovereign issuers or underliers. Such exposure consisted of $95 million related to debt, $(34) million related to credit derivatives and $30 million related to equities.

The restructuring of Lebanon's sovereign debt and sharp currency depreciation have led to concerns about its financial and political stability. As of September 2021, our total credit and market exposure to Lebanon was not material.

Zambia's sovereign debt default and liquidity pressures aggravated by the COVID-19 pandemic have led to concerns about the country's financial stability. As of September 2021, our total credit and market exposure to Zambia was not material.

Venezuela has delayed payments on its sovereign debt and is experiencing deep economic and social crises. As of September 2021, our total credit and market exposure to Venezuela was not material.

We have a comprehensive framework to monitor, measure and assess our country exposures and to determine our risk appetite. We determine the country of risk by the location of the counterparty, issuer or underlier's assets, where they generate revenue, the country in which they are headquartered, the jurisdiction where a claim against them could be enforced, and/or the government whose policies affect their ability to repay their obligations. We monitor our credit exposure to a specific country both at the individual counterparty level, as well as at the aggregate country level. See "Stress Tests" for information about stress tests that are designed to estimate the direct and indirect impact of events involving the above countries.

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 $2.82 billion ($526 million of loans and $2.29 billion of lending commitments). Such exposure included $2.21 billion of exposure to non-investment-grade counterparties ($526 million related to loans and $1.68 billion related to lending commitments), of which 69% 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 $1.60 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 $95 million, which was to non-investment-grade counterparties. After taking into consideration the benefit of $62 million of hedges, our net credit exposure was $2.85 billion. As of September 2021, our market exposure related to gaming and lodging companies was $(296) million, substantially all of which was to non-investment-grade issuers or underliers. Such exposure consisted of $(126) million related to debt, $(483) million related to credit derivatives and $313 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 $1.71 billion ($572 million of loans and $1.14 billion of lending commitments) to non-investment-grade counterparties, of which 86% 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 $193 million ($151 million to investment-grade counterparties and $42 million to non-investment-grade counterparties). After taking into consideration the benefit of $238 million of hedges, our net credit exposure was $1.67 billion. As of September 2021, our market exposure related to airline companies was $82 million, substantially all of which was to non-investment-grade issuers or underliers. Such exposure consisted of $147 million related to debt, $(203) million related to credit derivatives and $138 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.

Potential types of loss events related to internal and external operational risk include:

- Clients, products and business practices;
- Execution, delivery and process management;
- Business disruption and system failures;
- Employment practices and workplace safety;
- Damage to physical assets;
- Internal fraud; and
- External fraud.

Operational Risk, which is independent of our revenue-producing units and reports to our chief risk officer, has primary responsibility for developing and implementing a formalized framework for assessing, monitoring and managing operational risk with the goal of maintaining our exposure to operational risk at levels that are within our risk appetite.

Operational Risk Management Process

Our process for managing operational risk includes the critical components of our risk management framework described in the "Overview and Structure of Risk Management," including a comprehensive data collection process, as well as firmwide policies and procedures, for operational risk events.

We combine top-down and bottom-up approaches to manage and measure operational risk. From a top-down perspective, our senior management assesses firmwide and business-level operational risk profiles. From a bottom-up perspective, our first and second lines of defense are responsible for risk identification and risk management on a day-to-day basis, including escalating operational risks to senior management.

We maintain a comprehensive control framework designed to provide a well-controlled environment to minimize operational risks. The Firmwide Operational Risk and Resilience Committee is responsible for overseeing operational risk, and for ensuring our business and operational resilience.

Our operational risk management framework is in part designed to comply with the operational risk measurement rules under the Capital Framework and has evolved based on the changing needs of our businesses and regulatory guidance.

We have established policies that require all employees to report and escalate operational risk events. When operational risk events are identified, our policies require that the events be documented and analyzed to determine whether changes are required in our systems and/or processes to further mitigate the risk of future events.

We use operational risk management applications to capture and organize operational risk event data and key metrics. One of our key risk identification and assessment tools is an operational risk and control self-assessment process, which is performed by our managers. This process consists of the identification and rating of operational risks, on a forward-looking basis, and the related controls. The results from this process are analyzed to evaluate operational risk exposures and identify businesses, activities or products with heightened levels of operational risk.

Risk Measurement

We measure our operational risk exposure using both statistical modeling and scenario analyses, which involve qualitative and quantitative assessments of internal and external operational risk event data and internal control factors for each of our businesses. Operational risk measurement also incorporates an assessment of business environment factors, including:

- Evaluations of the complexity of our business activities;
- The degree of automation in our processes;
- New activity information;
- The legal and regulatory environment; and
- Changes in the markets for our products and services, including the diversity and sophistication of our customers and counterparties.

The results from these scenario analyses are used to monitor changes in operational risk and to determine business lines that may have heightened exposure to operational risk. These analyses are used in the determination of the appropriate level of operational risk capital to hold. We also perform firmwide stress tests. See "Overview and Structure of Risk Management" for information about firmwide stress tests.

Types of Operational Risks

Increased reliance on technology and third-party relationships has resulted in increased operational risks, such as information and cyber security risk, third-party risk and business resilience risk. We manage those risks as follows:

Information and Cyber Security Risk. Information and cyber security risk is the risk of compromising the confidentiality, integrity or availability of our data and systems, leading to an adverse impact to us, our reputation, our clients and/or the broader financial system. We seek to minimize the occurrence and impact of unauthorized access, disruption or use of information and/or information systems. We deploy and operate preventive and detective controls and processes to mitigate emerging and evolving information security and cyber security threats, including monitoring our network for known vulnerabilities and signs of unauthorized attempts to access our data and systems. There is increased information risk through diversification of our data across external service providers, including use of a variety of cloud-provided or -hosted services and applications. See "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K for further information about information and cyber security risk.

Third-Party Risk. Third-party risk, including vendor risk, is the risk of an adverse impact due to reliance on third parties performing services or activities on our behalf. These risks may include legal, regulatory, information security, reputational, operational or any other risks inherent in engaging a third party. We identify, manage and report key third-party risks and conduct due diligence across multiple risk domains, including information security and cyber security, resilience and additional third-party dependencies. The Third-Party Risk Program monitors, reviews and reassesses third-party risks on an ongoing basis. See "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K for further information about third-party risk.

Business Resilience Risk. Business resilience risk is the risk of disruption to our critical processes. We monitor threats and assess risks and seek to ensure our state of readiness in the event of a significant operational disruption to the normal operations of our critical functions or their dependencies, such as critical facilities, systems, third parties, data and/or personnel. We approach BCP through the lens of business and operational resilience. The resilience framework defines the fundamental principles for BCP and crisis management to ensure that critical functions can continue to operate in the event of a disruption. The business continuity program is comprehensive, consistent firmwide and up-to-date, incorporating new information, techniques and technologies as and when they become available, and our resilience recovery plans incorporate and test specific and measurable recovery time objectives in accordance with local market best practices and regulatory requirements, and under specific scenarios. See "Regulatory and Other Matters — Other Matters" for information about the impact of the COVID-19 pandemic. See "Business — Business Continuity and Information Security" in Part I, Item 1 of the 2020 Form 10-K for further information about business continuity.

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.

Model Risk, which is independent of our revenue-producing units, model developers, model owners and model users, and reports to our chief risk officer, has primary responsibility for assessing, monitoring and managing our model risk through firmwide oversight across our global businesses, and provides periodic updates to senior management, risk committees and the Risk Committee of the Board.

Our model risk management framework is managed through a governance structure and risk management controls, which encompass standards designed to ensure we maintain a comprehensive model inventory, including risk assessment and classification, sound model development practices, independent review and model-specific usage controls. The Firmwide Model Risk Control Committee oversees our model risk management framework.

Model Review and Validation Process

Model Risk consists of quantitative professionals who perform an independent review, validation and approval of our models. This review includes an analysis of the model documentation, independent testing, an assessment of the appropriateness of the methodology used, and verification of compliance with model development and implementation standards.

We regularly refine and enhance our models to reflect changes in market or economic conditions and our business mix. All models are reviewed on an annual basis, and new models or significant changes to existing models and their assumptions are approved prior to implementation.

The model validation process incorporates a review of models and trade and risk parameters across a broad range of scenarios (including extreme conditions) in order to critically evaluate and verify:

- The model's conceptual soundness, including the reasonableness of model assumptions, and suitability for intended use;
- The testing strategy utilized by the model developers to ensure that the models function as intended;
- The suitability of the calculation techniques incorporated in the model;
- The model's accuracy in reflecting the characteristics of the related product and its significant risks;
- The model's consistency with models for similar products; and
- The model's sensitivity to input parameters and assumptions.

See "Critical Accounting Policies — Fair Value — Review of Valuation Models," "Liquidity Risk Management," "Market Risk Management," "Credit Risk Management" and "Operational Risk Management" for further information about our use of models within these areas.

Available Information

Our internet address is www.goldmansachs.com and the investor relations section of our website is located at www.goldmansachs.com/investor-relations, where we make available, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as well as proxy statements, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Also posted on our website, and available in print upon request of any shareholder to our Investor Relations Department (Investor Relations), are our certificate of incorporation and by-laws, charters for our Audit, Risk, Compensation, Corporate Governance and Nominating, and Public Responsibilities Committees, our Policy Regarding Director Independence Determinations, our Policy on Reporting of Concerns Regarding Accounting and Other Matters, our Corporate Governance Guidelines, our Code of Business Conduct and Ethics governing our directors, officers and employees, and our Sustainability Report. Within the time period required by the SEC, we will post on our website any amendment to the Code of Business Conduct and Ethics and any waiver applicable to any executive officer, director or senior financial officer.

Our website also includes information about (i) purchases and sales of our equity securities by our executive officers and directors; (ii) disclosure relating to certain non-GAAP financial measures (as defined in the SEC's Regulation G) that we may make public orally, telephonically, by webcast, by broadcast or by other means; (iii) DFAST results; (iv) the public portion of our resolution plan submission; (v) our Pillar 3 disclosure; and (vi) our average daily LCR.

Investor Relations can be contacted at The Goldman Sachs Group, Inc., 200 West Street, 29th Floor, New York, New York 10282, Attn: Investor Relations, telephone: 212-902-0300, e-mail: gs-investor-relations@gs.com. We use the following, as well as other social media channels, to disclose public information to investors, the media and others:

- Our website (www.goldmansachs.com);
- Our Twitter account (twitter.com/GoldmanSachs); and
- Our Instagram account (instagram.com/GoldmanSachs).

Our officers may use similar social media channels to disclose public information. It is possible that certain information we or our officers post on our website and on social media could be deemed material, and we encourage investors, the media and others interested in Goldman Sachs to review the business and financial information we or our officers post on our website and on the social media channels identified above. The information on our website and those social media channels is not incorporated by reference into this Form 10-Q.

Forward-Looking Statements

We have included in this Form 10-Q, and our management may make, statements that may constitute "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. 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, liquidity and capital actions 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, liquidity and capital actions to differ from those in these statements include, among others, those described below and in "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K.

These statements may relate to, among other things, (i) our future plans and results, including our target ROE, ROTE, efficiency ratio and CET1 capital ratio, and how they can be achieved, (ii) trends in or growth opportunities for our businesses, including the timing, costs, profitability, benefits and other aspects of business and strategic initiatives and their impact on our efficiency ratio, (iii) our level of future compensation expense, including as a percentage of both operating expenses and revenues net of provision for credit losses, (iv) our investment banking transaction backlog, (v) our expected interest income and interest expense, (vi) our expense savings and strategic locations initiatives, (vii) expenses we may incur, including future litigation expense and expenses from investing in our consumer and transaction banking businesses, (viii) the projected growth of our deposits and other funding, asset liability management and funding strategies and related interest expense savings, (ix) our business initiatives, including transaction banking and new consumer financial products, (x) our planned 2021 benchmark debt issuances, (xi) the amount, composition and location of GCLA we expect to hold, (xii) our credit exposures, (xiii) our expected provisions for credit losses (including those related to our planned co-branded credit card relationship with General Motors), (xiv) the adequacy of our allowance for credit losses, (xv) the projected growth of our installment loan and credit card businesses, (xvi) the objectives and effectiveness of our BCP strategy, information security program, risk management and liquidity policies, (xvii) our resolution plan and strategy and their implications for stakeholders, (xviii) the design and effectiveness of our resolution capital and liquidity models and triggers and alerts framework, (xix) the results of stress tests, (xx) the effect of changes to regulations, and our future status, activities or reporting under banking and financial regulation, (xxi) our expected tax rate, (xxii) the future state of our liquidity and regulatory capital ratios, and our prospective capital distributions (including dividends and repurchases), (xxiii) our expected SCB and G-SIB surcharge, (xxiv) legal proceedings, governmental investigations or other contingencies, (xxv) the asset recovery guarantee and our remediation activities related to our 1Malaysia Development Berhad (1MDB) settlements, (xxvi) the replacement of IBORs and our transition to alternative risk-free reference rates, (xxvii) the impact of the COVID-19 pandemic on our business, results, financial position and liquidity, (xxviii) the effectiveness of our management of our human capital, including our diversity goals, (xxix) our plans for our people to return to our offices, (xxx) future inflation and (xxxi) our announced acquisitions of the General Motors co-branded credit card portfolio, NN Investment Partners and GreenSky.

Statements about our target ROE, ROTE, efficiency ratio and expense savings, and how they can be achieved, are based on our current expectations regarding our business prospects and are subject to the risk that we may be unable to achieve our targets due to, among other things, changes in our business mix, lower profitability of new business initiatives, increases in technology and other costs to launch and bring new business initiatives to scale, and increases in liquidity requirements.

Statements about our target ROE, ROTE and CET1 capital ratio, and how they can be achieved, are based on our current expectations regarding the capital requirements applicable to us and are subject to the risk that our actual capital requirements may be higher than currently anticipated because of, among other factors, changes in the regulatory capital requirements applicable to us resulting from changes in regulations or the interpretation or application of existing regulations or changes in the nature and composition of our activities.

Statements about the timing, costs, profitability, benefits and other aspects of business and expense savings initiatives, the level and composition of more durable revenues 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 with durable revenues.

Statements about the level of future compensation expense, including as a percentage of both operating expenses and revenues net of provision for credit losses, and our efficiency ratio as our platform business initiatives reach scale are subject to the risks that the compensation and other costs to operate our businesses, including platform initiatives, may be greater than currently expected.

Statements about our investment banking transaction backlog are subject to the risk that such transactions may be modified or may not be completed at all and related net revenues may not be realized or may be materially less than expected. Important factors that could have such a result include, for underwriting transactions, a decline or weakness in general economic conditions, an outbreak of hostilities, volatility in the securities markets or an adverse development with respect to the issuer of the securities and, for financial advisory transactions, a decline in the securities markets, an inability to obtain adequate financing, an adverse development with respect to a party to the transaction or a failure to obtain a required regulatory approval. For information about other important factors that could adversely affect our investment banking transactions, see "Risk Factors" in Part I, Item 1A of the 2020 Form 10-K.

Statements about the projected growth of our deposits and other funding, asset liability management and funding strategies and related interest expense savings, and our installment loan and credit card businesses, are subject to the risk that actual growth and savings 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 planned 2021 benchmark debt issuances and the amount, composition and location of GCLA we expect to hold are subject to the risk that actual issuances and GCLA levels may differ, possibly materially, from that currently expected due to changes in market conditions, business opportunities or our funding and projected liquidity needs.

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 our future effective income tax rate are subject to the risk that it may differ from the anticipated rate indicated in such statements, possibly materially, due to, among other things, changes in the tax rates applicable to us, changes in our earnings mix, our profitability and entities in which we generate profits, the assumptions we have made in forecasting our expected tax rate, as well as any corporate tax legislation that may be enacted or any guidance that may be issued by the U.S. Internal Revenue Service.

Statements about the future state of our liquidity and regulatory capital ratios (including our SCB and G-SIB surcharge), and our prospective capital distributions (including dividends and repurchases), are subject to the risk that our actual liquidity, regulatory capital ratios and capital distributions may differ, possibly materially, from what is currently expected due to, among other things, the need to use capital to support clients, increased regulatory requirements resulting from changes in regulations or the interpretation or application of existing regulations, results of applicable supervisory stress tests and changes to the composition of our balance sheet.

Statements about the risk exposure related to the asset recovery guarantee provided to the Government of Malaysia are subject to the risk that the actual value of assets and proceeds from assets seized and returned to the Government of Malaysia may be less than currently anticipated. Statements about the progress or the status of remediation activities relating to 1MDB are based on our expectations regarding our current remediation plans. Accordingly, our ability to complete the remediation activities may change, possibly materially, from what is currently expected.

Statements about our objectives in management of our human capital, including our diversity goals, 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 our 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, NN Investment Partners 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, NN Investment Partners and GreenSky, into our business may be more difficult, time-consuming or expensive than expected.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Quantitative and qualitative disclosures about market risk are set forth in "Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management" in Part I, Item 2 of this Form 10-Q.

Item 4. Controls and Procedures

As of the end of the period covered by this report, an evaluation was carried out by our management, with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of the end of the period covered by this report. In addition, no change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) occurred during the quarter ended September 2021 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

We are involved in a number of judicial, regulatory and arbitration proceedings concerning matters arising in connection with the conduct of our businesses. Many of these proceedings are in early stages, and many of these cases seek an indeterminate amount of damages. We have estimated the upper end of the range of reasonably possible aggregate loss for matters where we have been able to estimate a range and we believe, based on currently available information, that the results of matters where we have not been able to estimate a range of reasonably possible loss, in the aggregate, will not have a material adverse effect on our financial condition, but may be material to our operating results in a given period. Given the range of litigation and investigations presently under way, our litigation expenses may remain high. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Use of Estimates" in Part I, Item 2 of this Form 10-Q. See Notes 18 and 27 to the consolidated financial statements in Part I, Item 1 of this Form 10-Q for information about our reasonably possible aggregate loss estimate and judicial, regulatory and legal proceedings.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The table below presents purchases made by or on behalf of Group Inc. or any "affiliated purchaser" (as defined in Rule 10b-18(a)(3) under the Exchange Act) of our common stock during the three months ended September 2021.

	Total Shares Purchased	Average Price Paid Per Share	Total Shares Purchased as Part of a Publicly Announced Program	Maximum Shares That May Yet Be Purchased Under the Program
July	**367,802**	**$370.75**	**367,802**	**37,767,629**
August	**2,162,058**	**$399.45**	**2,162,058**	**35,605,571**
September	**–**	**–**	**–**	**35,605,571**
Total	**2,529,860**		**2,529,860**	

Since the beginning of 2000, our Board has approved a repurchase program authorizing repurchases of up to 605 million shares of our common stock. The repurchase program is effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1 and accelerated share repurchases), the amounts and timing of which are determined primarily by our current and projected capital position, but which may also be influenced by general market conditions and the prevailing price and trading volumes of our common stock. The repurchase program has no set expiration or termination date.

Item 5. Other Information

Amendment and Restatement of By-Laws

Effective October 28, 2021, the Board adopted amendments to our Amended and Restated By-Laws (By-Laws) to make certain technical clarifications and conforming revisions primarily to update the By-Laws in line with developments in Delaware General Corporation Law. Such changes include clarifying certain procedures relating to quorum and the fixing of record dates for stockholders meetings, clarifying that preferred stock series may have terms that alter election procedures for directors and eliminating gender-specific language throughout. The foregoing summary does not purport to be complete and is qualified in its entirety by reference to our Amended and Restated By-Laws, which are attached hereto as Exhibit 3.1 and incorporated by reference herein.

Item 6. Exhibits

Exhibits

3.1	Amended and Restated By-Laws of The Goldman Sachs Group, Inc., amended as of October 28, 2021.
15.1	Letter re: Unaudited Interim Financial Information.
31.1	Rule 13a-14(a) Certifications.
32.1	Section 1350 Certifications (This information is furnished and not filed for purposes of Sections 11 and 12 of the Securities Act of 1933 and Section 18 of the Securities Exchange Act of 1934).
101	Pursuant to Rules 405 and 406 of Regulation S-T, the following information is formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) the Consolidated Statements of Earnings for the three and nine months ended September 30, 2021 and September 30, 2020, (ii) the Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2021 and September 30, 2020, (iii) the Consolidated Balance Sheets as of September 30, 2021 and December 31, 2020, (iv) the Consolidated Statements of Changes in Shareholders' Equity for the three and nine months ended September 30, 2021 and September 30, 2020, (v) the Consolidated Statements of Cash Flows for the nine months ended September 30, 2021 and September 30, 2020, (vi) the notes to the Consolidated Financial Statements and (vii) the cover page.
104	Cover Page Interactive Data File (formatted in iXBRL in Exhibit 101).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

THE GOLDMAN SACHS GROUP, INC.

By:	/s/	Stephen M. Scherr
Name:		Stephen M. Scherr
Title:		Chief Financial Officer (Principal Financial Officer)
Date:		October 29, 2021

By:	/s/	Sheara Fredman
Name:		Sheara Fredman
Title:		Chief Accounting Officer (Principal Accounting Officer)
Date:		October 29, 2021

Exhibit 3.1

As Amended and Restated as of October 28, 2021

AMENDED AND RESTATED

BY-LAWS

OF

THE GOLDMAN SACHS GROUP, INC.

ARTICLE I

Stockholders

Section 1.1 Annual Meetings. An annual meeting of stockholders shall be held for the election of directors at such date, time and place (if any), either within or without the State of Delaware as may be designated by the Board of Directors from time to time. Any other business properly brought before the meeting may be transacted at the annual meeting.

Section 1.2 Special Meetings. (a) Special meetings of stockholders may be called at any time by, and only by, (1) the Board of Directors or (2) solely to the extent required by Section 1.2(b), the Secretary of the Corporation. Each special meeting shall be held at such date, time and place (if any) either within or without the State of Delaware as may be stated in the notice of the meeting.

(b) A special meeting of the stockholders shall be called by the Secretary upon the written request of the holders of record of not less than twenty-five percent of the voting power of all outstanding shares of common stock of the Corporation (the "Requisite Percent"), subject to the following:

(1) In order for a special meeting upon stockholder request (a "Stockholder Requested Special Meeting") to be called by the Secretary, one or more written requests for a special meeting (each, a "Special Meeting Request," and collectively, the "Special Meeting Requests") stating the purpose of the special meeting and the matters proposed to be acted upon thereat must be signed and dated by the Requisite Percent of record holders of common stock of the Corporation (or their duly authorized agents), must be delivered to the Secretary at the principal executive offices of the Corporation and must set forth:

(i) in the case of any director nominations proposed to be presented at such Stockholder Requested Special Meeting, the information required by the third paragraph of Section 1.11(b);

(ii) in the case of any matter (other than a director nomination) proposed to be conducted at such Stockholder Requested Special Meeting, the information required by the fourth paragraph of Section 1.11(b); and

(iii) an agreement by the requesting stockholder(s) to notify the Corporation immediately in the case of any disposition prior to the record date for the Stockholder Requested Special Meeting of shares of common stock of the Corporation owned of record and an acknowledgement that any such disposition shall be deemed a revocation of such Special Meeting Request to the extent of such disposition, such that the number of shares disposed of shall not be included in determining whether the Requisite Percent has been reached.

The Corporation will provide the requesting stockholder(s) with notice of the record date for the determination of stockholders entitled to vote at the Stockholder Requested Special Meeting. Each requesting stockholder is required to update the notice delivered pursuant to this Section not later than ten business days after such record date to provide any material changes in the foregoing information as of such record date.

In determining whether a special meeting of stockholders has been requested by the record holders of shares representing in the aggregate at least the Requisite Percent, multiple Special Meeting Requests delivered to the Secretary will be considered together only if each such Special Meeting Request (i) identifies substantially the same purpose or purposes of the special meeting and substantially the same matters proposed to be acted on at the special meeting (in each case as determined in good faith by the Board of Directors), and (ii) has been dated and delivered to the Secretary within sixty days of the earliest dated of such Special Meeting Requests. If the record holder is not the signatory to the Special Meeting Request, such Special Meeting Request will not be valid unless documentary evidence is supplied to the Secretary at the time of delivery of such Special Meeting Request (or within ten business days thereafter) of such signatory's authority to execute the Special Meeting Request on behalf of the record holder. Any requesting stockholder may revoke their or its Special Meeting Request at any time by written revocation delivered to the Secretary at the principal executive offices of the Corporation; provided, however, that if following such revocation (or any deemed revocation pursuant to Section 1.2(b)(1)(iii)), the unrevoked valid Special Meeting Requests represent in the aggregate less than the Requisite Percent, there shall be no requirement to hold a special meeting. The first date on which unrevoked valid Special Meeting Requests constituting not less than the Requisite Percent shall have been delivered to the Corporation is referred to herein as the "Request Receipt Date".

(2) A Special Meeting Request shall not be valid if:

(i) the Special Meeting Request relates to an item of business that is not a proper subject for stockholder action under applicable law;

(ii) the Request Receipt Date is during the period commencing ninety days prior to the first anniversary of the date of the immediately preceding annual meeting and ending on the date of the next annual meeting;

(iii) the purpose specified in the Special Meeting Request is not the election of directors and an identical or substantially similar item (as determined in good faith by the Board of Directors, a "Similar Item") was presented at any meeting of stockholders held within the twelve months prior to the Request Receipt Date; or

(iv) a Similar Item is included in the Corporation's notice as an item of business to be brought before a stockholder meeting that has been called but not yet held or that is called for a date within ninety days of the Request Receipt Date.

(3) A Stockholder Requested Special Meeting shall be held at such date and time as may be fixed by the Board of Directors; provided, however, that the Stockholder Requested Special Meeting shall be called for a date not more than ninety days after the Request Receipt Date.

(4) Business transacted at any Stockholder Requested Special Meeting shall be limited to (A) the purpose(s) stated in the valid Special Meeting Request(s) received from the Requisite Percent of record holders and (B) any additional matters that the Board of Directors determines to include in the Corporation's notice of the meeting. If none of the stockholders who submitted the Special Meeting Request appears or sends a qualified representative to present the matters to be presented for consideration that were specified in the Stockholder Meeting Request, the Corporation need not present such matters for a vote at such meeting, notwithstanding that proxies in respect of such matter may have been received by the Corporation.

Section 1.3 Notice of Meetings. Whenever stockholders are required or permitted to take any action at a meeting, a notice of the meeting shall be given which shall state the place (if any), date and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Unless otherwise required by law, the certificate of incorporation or these by-laws, the notice of any meeting shall be given not less than ten nor more than sixty days before the date of the meeting to each stockholder entitled to vote at such meeting. Such notice shall be deemed to be given (i) if mailed, when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation; (ii) if sent by electronic mail, when delivered to an electronic mail address at which the stockholder has consented to receive such notice; and (iii) if posted on an electronic network together with a separate notice to the stockholder of such specific posting, upon the later to occur of (A) such posting and (B) the giving of such separate notice of such posting. If given by any other means, notice shall be deemed given as provided by applicable law. Notice shall be deemed to have been given to all stockholders of record who share an address if notice is given in accordance with the "householding" rules set forth in Rule 14a-3(e) under the Securities Exchange Act of 1934 (the "Exchange Act") and Section 233 of the Delaware General Corporation Law.

Section 1.4 Adjournments. Any meeting of stockholders, annual or special, may be adjourned from time to time, for any reason or no reason, to reconvene at the same or some other place (if any), and notice need not be given of any such adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. To the fullest extent provided by law, the Board of Directors may postpone, reschedule or cancel any previously scheduled annual or special meeting of stockholders.

Section 1.5 Quorum. At each meeting of stockholders, except where otherwise required by law, the certificate of incorporation or these by-laws, the holders of a majority of the outstanding shares of stock entitled to vote on a matter at the meeting, present in person or represented by proxy, shall constitute a quorum. For purposes of the foregoing, where a separate vote by class or classes is required for any matter, the holders of a majority of the outstanding shares of such class or classes, present in person or represented by proxy, shall constitute a quorum to take action with respect to that vote on that matter. Two or more classes or series of stock shall be considered a single class if the holders thereof are entitled to vote together as a single class at the meeting. In the absence of a quorum of the holders of any class or classes of stock entitled to vote on a matter, the meeting of such class or classes may be adjourned from time to time, by the chair of the meeting or by the affirmative vote of the holders of the shares of such class or classes which are present in person or by proxy and entitled to vote thereon, in each case in the manner provided by Sections 1.4 and 1.6 of these by-laws until a quorum of such class shall be so present or represented. Shares of capital stock shall neither be entitled to vote nor counted for quorum purposes if such shares belong to (i) the Corporation, (ii) another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation is held, directly or indirectly, by the Corporation or (iii) any other entity, if a majority of the voting power of such other entity is otherwise controlled, directly or indirectly, by the Corporation; provided, however, that the foregoing shall not limit the right of the Corporation to vote stock, including but not limited to its own stock, held by it in a fiduciary capacity.

Section 1.6 Organization. Meetings of stockholders shall be presided over by a chair of the meeting, who shall be the Chairman of the Board, if any, or in the absence of a Chairman of the Board, the Lead Director, if any, or, in the absence of the Lead Director, a chair of the meeting designated by the Board

of Directors, or in the absence of such designation, by a chair chosen at the meeting. A Secretary, or in the absence of a Secretary an Assistant Secretary, shall act as secretary of the meeting, but in the absence of a Secretary and any Assistant Secretary, the chair of the meeting may appoint any person to act as secretary of the meeting.

The order of business at each such meeting shall be as determined by the chair of the meeting. The chair of the meeting shall have the right and authority to convene and (for any or no reason) to recess and/or adjourn the meeting of stockholders without a vote of stockholders and to prescribe such rules, regulations and procedures and to do all such acts and things as are necessary or desirable for the proper conduct of the meeting and are not inconsistent with any rules or regulations adopted by the Board of Directors pursuant to the provisions of the certificate of incorporation, including the establishment of procedures for the maintenance of order and safety, limitations on the time allotted to questions or comments on the affairs of the Corporation, restrictions on entry to such meeting after the time prescribed for the commencement thereof and the opening and closing of the voting polls for each item upon which a vote is to be taken. The date and time of the opening of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting.

Section 1.7 Inspectors. Prior to any meeting of stockholders, the Board of Directors, a Chairman of the Board, the Lead Director, or any officer designated by the Board shall appoint one or more inspectors to act at such meeting and make a written report thereof and may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at the meeting of stockholders, the chair of the meeting shall appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of their duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of their ability. The inspectors shall ascertain the number of shares outstanding and the voting power of each, determine the shares represented at the meeting and the validity of proxies and ballots, count all votes and ballots, determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors and certify their determination of the number of shares represented at the meeting and their count of all votes and ballots. The inspectors may appoint or retain other persons to assist them in the performance of their duties. No ballot, proxy or vote, nor any revocation thereof or change thereto, shall be accepted by the inspectors after the closing of the polls. In determining the validity and counting of proxies and ballots, the inspectors shall be limited to an examination of the proxies, any envelopes submitted therewith, any information provided by a stockholder who submits a proxy by electronic transmission from which it can be determined that the proxy was authorized by the stockholder, ballots and the regular books and records of the Corporation, and they may also consider other reliable information for the limited purpose of reconciling proxies and ballots submitted by or on behalf of banks, brokers, their nominees or similar persons which represent more votes than the holder of a proxy is authorized by the record owner to cast or more votes than the stockholder holds of record. If the inspectors consider other reliable information for such purpose, they shall, at the time they make their certification, specify the precise information considered by them, including the person or persons from whom they obtained the information, when the information was obtained, the means by which the information was obtained and the basis for the inspectors' belief that such information is accurate and reliable.

Section 1.8 Voting; Proxies. Unless otherwise provided in the certificate of incorporation, each stockholder entitled to vote at any meeting of stockholders shall be entitled to one vote for each share of stock held by such stockholder which has voting power upon the matter in question. If the certificate of incorporation provides for more or less than one vote for any share on any matter, every reference in these by-laws to a majority or other proportion of shares of stock shall refer to such majority or other proportion of the votes of such shares of stock. Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A duly executed

proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power, regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the Corporation generally. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by filing an instrument in writing revoking the proxy or another duly executed proxy bearing a later date with a Secretary. Voting at meetings of stockholders need not be by written ballot unless so directed by the chair of the meeting or the Board of Directors. In all matters, unless otherwise required by law, rule or regulation applicable to the Corporation or the certificate of incorporation or these by-laws (including, without limitation, Section 2.2), the affirmative vote of not less than a majority of shares present in person or represented by proxy at the meeting and entitled to vote on such matter, with all shares of common stock of the Corporation and other stock of the Corporation entitled to vote on such matter considered for this purpose as a single class, shall be the act of the stockholders. Where a separate vote by class or classes is required, the affirmative vote of the holders of not less than a majority (or, in the case of an election of directors, a plurality) of shares present in person or represented by proxy at the meeting by stockholders in that class or classes entitled to vote on such matter shall be the act of such class or classes, except as otherwise required by law, rule or regulation or the certificate of incorporation or these by-laws. For purposes of this Section 1.8, votes cast "for" or "against" and "abstentions" with respect to such matter shall be counted as shares of stock of the Corporation entitled to vote on such matter, while "broker nonvotes" (or other shares of stock of the Corporation similarly not entitled to vote) shall not be counted as shares entitled to vote on such matter.

Section 1.9 Fixing Date for Determination of Stockholders of Record. In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date will be the same date for determining stockholders who are entitled to vote at the meeting unless otherwise specified, and which date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty nor less than ten days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date (which shall, unless otherwise specified, be the same date for notice and voting) for the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty days prior to the action for which a record date is being established. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 1.10 List of Stockholders Entitled to Vote. A Secretary shall prepare and make, at least ten days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least ten days prior to the meeting, either at a place within the municipality where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the meeting during the whole time thereof and may be inspected by any stockholder who is present.

Section 1.11 Advance Notice of Stockholder Nominees for Director and Other Stockholder Proposals. (a) The matters to be considered and brought before any annual or special meeting of stockholders of the Corporation (other than a Stockholder Requested Special Meeting) shall be limited to only such matters, including the nomination and election of directors, as shall be brought properly before such meeting in compliance with the procedures set forth in this Section 1.11 and in Section 1.12, as the case may be.

(b) For any matter to be properly brought before any annual meeting of stockholders, the matter must be (1) specified in the notice of annual meeting given by or at the direction of the Board of Directors, (2) otherwise brought before the annual meeting by or at the direction of the Board of Directors, (3) brought before the annual meeting in the manner specified in this Section 1.11(b) (i) by a stockholder that holds of record stock of the Corporation entitled to vote at the annual meeting on such matter (including any election of a director) or (ii) by a person (a "Nominee Holder") that holds such stock through a nominee or "street name" holder of record of such stock and can demonstrate to the Corporation such indirect ownership of, and such Nominee Holder's entitlement to direct the vote of, such stock on such matter or (4) brought before the annual meeting in accordance with Section 1.12.

In addition to any other requirements under applicable law, the certificate of incorporation and these by-laws, and except as provided in Section 1.12, persons nominated by stockholders for election as directors of the Corporation and any other proposals by stockholders shall be properly brought before an annual meeting of stockholders only if notice of any such matter to be presented by a stockholder at such meeting (a "Stockholder Notice") shall be delivered to a Secretary at the principal executive office of the Corporation not less than ninety nor more than one hundred and twenty days prior to the first anniversary date of the annual meeting for the preceding year; provided, however, that if and only if the annual meeting is not scheduled to be held within a period that commences thirty days before and ends thirty days after such anniversary date (an annual meeting date outside such period being referred to herein as an "Other Meeting Date"), such Stockholder Notice shall be given in the manner provided herein by the later of (i) the close of business on the date ninety days prior to such Other Meeting Date or (ii) the close of business on the tenth day following the date on which such Other Meeting Date is first publicly announced or disclosed.

Any stockholder desiring to nominate any person or persons (as the case may be) for election as a director or directors of the Corporation at an annual meeting of stockholders pursuant to this Section 1.11 shall deliver, as part of such Stockholder Notice, a statement in writing setting forth the name of the person or persons to be nominated, the number and class of all shares of each class of stock of the Corporation owned of record and beneficially by each such person, as reported to such stockholder by such person, the factual information regarding each such person required by paragraphs (a), (e) and (f) of Item 401 of Regulation S-K adopted by the Securities and Exchange Commission, each such person's signed consent to serve as a director of the Corporation if elected, such stockholder's name and address, the number and class of all shares of each class of stock of the Corporation owned of record and/or beneficially by such stockholder and, in the case of a Nominee Holder, evidence establishing such Nominee Holder's indirect ownership of stock and entitlement to direct the vote of such stock for the election of directors at the annual meeting. The Corporation may require any proposed director nominee to furnish such other information as it may reasonably require to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation and to comply with applicable law. If a stockholder is entitled to vote only for a specific class or category of directors at a meeting (annual or special), such stockholder's right to nominate one or more individuals for election as a director at the meeting shall be limited to such class or category of directors. The number of nominees a stockholder or Nominee Holder may nominate for election at the annual meeting shall not exceed the number of directors to be elected at such annual meeting.

Any stockholder who gives a Stockholder Notice of any matter (other than a nomination for director or as provided in Section 1.12) proposed to be brought before an annual meeting of stockholders shall deliver, as part of such Stockholder Notice, the text of the proposal to be presented and a brief written statement of the reasons why such stockholder favors the proposal and setting forth such stockholder's name and address, the number and class of all shares of each class of stock of the Corporation owned of record and/or beneficially by such stockholder, any material interest of such stockholder in the matter proposed (other than as a stockholder), if applicable, and, in the case of a Nominee Holder, evidence establishing such Nominee Holder's indirect ownership of stock and entitlement to direct the vote of such stock on the matter proposed at the annual meeting.

As used in these by-laws (other than for purposes of Section 1.12), shares "beneficially owned" shall mean all shares which such person is deemed to beneficially own pursuant to Rules 13d-3 and 13d-5 under the Exchange Act.

Notwithstanding any provision of this Section 1.11 to the contrary, in the event that the number of directors to be elected to the Board of Directors of the Corporation at the next annual meeting of stockholders is increased by virtue of an increase in the size of the Board of Directors and either all of the nominees for director at the next annual meeting of stockholders or the size of the increased Board of Directors is not publicly announced or disclosed by the Corporation at least one hundred days prior to the first anniversary of the preceding year's annual meeting, a Stockholder Notice shall also be considered timely under this Section 1.11, but only with respect to nominees to stand for election at the next annual meeting as the result of any new positions created by such increase, if it shall be delivered to a Secretary at the principal executive office of the Corporation not later than the close of business on the tenth day following the first day on which all such nominees or the size of the increased Board of Directors shall have been publicly announced or disclosed.

(c) For any matter to be properly brought before a special meeting of stockholders, the matter must be set forth in the Corporation's notice of such meeting given by or at the direction of the Board of Directors or by the Secretary of the Company pursuant to Section 1.2(a)(ii). In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any stockholder entitled to vote for the election of such director(s) at such meeting may nominate a person or persons (as the case may be) for election to such position(s) as are specified in the Corporation's notice of such meeting, but only if a Stockholder Notice containing the information required by the third paragraph of Section 1.11(b) hereof shall be delivered to a Secretary at the principal executive office of the Corporation not later than the close of business on the tenth day following the first day on which the date of the special meeting and either the names of all nominees proposed by the Board of Directors to be elected at such meeting or the number of directors to be elected shall have been publicly announced or disclosed.

(d) For purposes of this Section 1.11, a matter shall be deemed to have been "publicly announced or disclosed" if such matter is disclosed in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission.

(e) In no event shall the postponement or adjournment of an annual meeting already publicly noticed or a special meeting, or any announcement thereof, commence a new period (or extend any period) for the giving of notice as provided in this Section 1.11. This Section 1.11 shall not apply to (1) any stockholder proposal made pursuant to, and in compliance with, Rule 14a-8 under the Exchange Act, (2) any nomination of a director in an election in which only the holders of one or more series of Preferred Stock of the Corporation issued pursuant to Article FOURTH of the certificate of incorporation are entitled to vote (unless otherwise provided in the terms of such stock), (3) any director nomination pursuant to Section 1.12 or (4) any Stockholder Requested Special Meeting except as specifically provided in Section 1.2(b).

(f) The chair of any meeting of stockholders, in addition to making any other determinations that may be appropriate to the conduct of the meeting, shall have the power and duty to determine whether notice of nominees and other matters proposed to be brought before a meeting has been duly given in the manner provided in this Section 1.11 or Section 1.2, as applicable and, if not so given, shall direct and declare at the meeting that such nominees and other matters shall not be considered.

Section 1.12 Stockholder Nominations Included in the Corporation's Proxy Materials.

(a) Inclusion of Proxy Access Nominee in Proxy Statement. Subject to the provisions of this Section 1.12, if expressly requested in the relevant Nomination Notice (as defined below), the Corporation shall include in its proxy statement for any annual meeting of stockholders (but not at any special meeting of stockholders):

(1) the name of any person nominated for election (the "Proxy Access Nominee"), which shall also be included on the Corporation's form of proxy and ballot, by any Nominating Stockholder (as defined below);

(2) disclosure about the Proxy Access Nominee and the Nominating Stockholder required under the rules of the Securities and Exchange Commission or other applicable law to be included in the proxy statement;

(3) any statement included by the Nominating Stockholder in the Nomination Notice for inclusion in the proxy statement in support of the Proxy Access Nominee's election to the Board of Directors (subject, without limitation, to Section 1.12(e)(ii)), if such statement does not exceed 500 words; and

(4) any other information that the Corporation or the Board of Directors determines, in their discretion, to include in the proxy statement relating to the nomination of the Proxy Access Nominee, including, without limitation, (i) any statement in opposition to the nomination, (ii) any of the information provided pursuant to this Section 1.12 and (iii) any solicitation materials or related information with respect to the Proxy Access Nominee.

For purposes of this Section 1.12, any determination to be made by the Board of Directors may be made by the Board of Directors, a committee of the Board or any officer of the Corporation designated by the Board of Directors or a committee of the Board and any such determination shall be final and binding on the Corporation, any Eligible Holder, any Nominating Stockholder, any Proxy Access Nominee and any other person so long as made in good faith (without any further requirements). The chair of any annual meeting of stockholders, in addition to making any other determinations that may be appropriate to the conduct of the meeting, shall have the power and duty to determine whether a Proxy Access Nominee has been nominated in accordance with the requirements of this Section 1.12 and, if not so nominated, shall direct and declare at the meeting that such Proxy Access Nominee shall not be considered.

(b) Maximum Number of Proxy Access Nominees.

(1) The Corporation shall not be required to include in the proxy statement for an annual meeting of stockholders more Proxy Access Nominees than that number of directors constituting the greater of (i) two or (ii) twenty percent of the total number of directors of the Corporation on the last day on which a Nomination Notice may be submitted pursuant to this

Section 1.12 (rounded down to the nearest whole number) (the "Maximum Number"). In the event that one or more vacancies for any reason occurs on the Board of Directors after the deadline set forth in Section 1.12(d) below but before the date of the annual meeting, and the Board of Directors resolves to reduce the size of the board in connection therewith, the Maximum Number shall be calculated based on the number of directors in office as so reduced. The Maximum Number for a particular annual meeting shall be reduced by (i) Proxy Access Nominees who are subsequently withdrawn, (ii) Proxy Access Nominees that the Board of Directors itself decides to nominate for election at such annual meeting and (iii) the number of incumbent directors of the Corporation who had been Proxy Access Nominees with respect to any of the preceding two annual meetings of stockholders and whose reelection at the upcoming annual meeting is being recommended by the Board of Directors.

(2) If the number of Proxy Access Nominees pursuant to this Section 1.12 for any annual meeting of stockholders exceeds the Maximum Number then, promptly upon notice from the Corporation, each Nominating Stockholder will select one Proxy Access Nominee for inclusion in the proxy statement until the Maximum Number is reached, going in order of the amount (largest to smallest) of the ownership position as disclosed in each Nominating Stockholder's Nomination Notice, with the process repeated if the Maximum Number is not reached after each Nominating Stockholder has selected one Proxy Access Nominee. If, after the deadline for submitting a Nomination Notice as set forth in Section 1.12(d), a Nominating Stockholder becomes ineligible or withdraws its nomination or a Proxy Access Nominee becomes unwilling to serve on the Board of Directors, whether before or after the mailing of the definitive proxy statement, then the nomination shall be disregarded, and the Corporation (i) shall not be required to include in its proxy statement or on any ballot or form of proxy the disregarded Proxy Access Nominee or any successor or replacement nominee proposed by the Nominating Stockholder or by any other Nominating Stockholder and (ii) may otherwise communicate to its stockholders, including without limitation by amending or supplementing its proxy statement or ballot or form of proxy, that the Proxy Access Nominee will not be included as a Proxy Access Nominee in the proxy statement or on any ballot or form of proxy and will not be voted on at the annual meeting.

(c) Eligibility of Nominating Stockholder.

(1) An "Eligible Holder" is a person who has either (i) been a record holder of the shares of common stock used to satisfy the eligibility requirements in this Section 1.12(c) continuously for the three-year period specified in Section 1.12(c)(2) below or (ii) provides to a Secretary of the Corporation, within the time period referred to in Section 1.12(d), evidence of continuous ownership of such shares for such three-year period from one or more securities intermediaries in a form that the Board of Directors determines would be deemed acceptable for purposes of a shareholder proposal under Rule 14a-8(b)(2) under the Exchange Act (or any successor rule).

(2) An Eligible Holder or group of up to fifteen Eligible Holders may submit a nomination in accordance with this Section 1.12 only if the person or group (in the aggregate) has continuously owned at least the Minimum Number (as defined below) of shares of the Corporation's common stock throughout the three-year period preceding and including the date of submission of the Nomination Notice, and continues to own at least the Minimum Number through the date of the annual meeting. Each Eligible Holder or group of up to fifteen Eligible Holders that submits a nomination in accordance with this Section 1.12 and has satisfied, as determined by the Board of Directors, all applicable conditions and complied with all applicable procedures set forth in this Section 1.12 is a "Nominating Stockholder". A group of funds that are (i) under common management and investment control, (ii) under common management and funded primarily by a

single employer or (iii) a "group of investment companies," as such term is defined in Section 12(d)(1)(G)(ii) of the Investment Company Act of 1940, as amended, shall be treated as one Eligible Holder if such Eligible Holder shall provide together with the Nomination Notice documentation reasonably satisfactory to the Corporation that demonstrates that the funds meet the criteria set forth in clauses (i), (ii) or (iii) of this Section 1.2(c)(2). For the avoidance of doubt, in the event of a nomination by a Nominating Stockholder that includes more than one Eligible Holder, any and all requirements and obligations for an individual Eligible Holder that are set forth in this Section 1.12, including the minimum holding period, shall apply to each individual Eligible Holder comprising the Nominating Stockholder; provided, however, that the Minimum Number shall apply to the ownership of the Nominating Stockholder in the aggregate. Should any Eligible Holder withdraw from a group of Eligible Holders constituting a Nominating Stockholder at any time prior to the annual meeting of stockholders, the Nominating Stockholder shall only be deemed to own the shares held by the remaining Eligible Holders. As used in this Section 1.12, any reference to a "group" or "group of Eligible Holders" refers to any Nominating Stockholder that consists of more than one Eligible Holder and to all the Eligible Holders that make up such Nominating Stockholder.

(3) The "Minimum Number" of shares of the Corporation's common stock means three percent of the number of outstanding shares of common stock as of the most recent date for which such amount is given in any filing by the Corporation with the Securities and Exchange Commission prior to the submission of the Nomination Notice.

(4) For purposes of this Section 1.12, an Eligible Holder "owns" only those outstanding shares of the Corporation as to which the Eligible Holder possesses both (i) the full voting and investment rights pertaining to the shares and (ii) the full economic interest in (including the opportunity for profit and risk of loss on) such shares; provided that the number of shares calculated in accordance with clauses (i) and (ii) shall not include any shares (A) sold by such Eligible Holder or any of its affiliates in any transaction that has not been settled or closed, (B) purchased by such Eligible Holder or any of its affiliates but the purchase has not yet been settled or closed, (C) borrowed by such Eligible Holder or any of its affiliates for any purpose or purchased by such Eligible Holder or any of its affiliates pursuant to an agreement to resell or subject to any other obligation to resell to another person, or (D) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by such Eligible Holder or any of its affiliates, whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of the Corporation, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of (x) reducing in any manner, to any extent or at any time in the future, such Eligible Holder's or any of its affiliates' full right to vote or direct the voting of any such shares, and/or (y) hedging, offsetting, or altering to any degree, gain or loss arising from the full economic ownership of such shares by such Eligible Holder or any of its affiliates.

An Eligible Holder "owns" shares held in the name of a nominee or other intermediary so long as the Eligible Holder retains the right to instruct how the shares are voted with respect to the election of directors and possesses the full economic interest in the shares. An Eligible Holder's ownership of shares shall be deemed to continue during any period in which the Eligible Holder has delegated any voting power by means of a proxy, power of attorney, or other similar instrument or arrangement that is revocable at any time by the Eligible Holder. An Eligible Holder's ownership of shares shall be deemed to continue during any period in which the Eligible Holder has loaned such shares provided that the Eligible Holder has the power to recall such loaned shares within a reasonable period of time and will recall such loaned shares as of the date of the annual meeting. The terms "owned," "owning" and other variations of the word "own" shall have correlative meanings. Whether outstanding shares of the Corporation are "owned" for these purposes shall be determined by the Board of Directors.

(5) No Eligible Holder shall be permitted to be a part of more than one group of Eligible Holders constituting a Nominating Stockholder, and if any Eligible Holder appears as a member of more than one group, such Eligible Holder shall be deemed to be a member of the group of Eligible Holders that has the largest ownership position as reflected in the Nomination Notice.

(6) Any Eligible Holder (including each Eligible Holder whose stock ownership is counted as part of a group for the purposes of qualifying as a Nominating Stockholder) whose Proxy Access Nominee is elected as a director at the annual meeting of stockholders will not be eligible to nominate or participate in the nomination of a Proxy Access Nominee for the following two annual meetings of stockholders pursuant to this Section 1.12 other than nominating (either individually or as a part of a group constituting a Nominating Stockholder) a Proxy Access Nominee previously nominated and elected pursuant to this Section 1.12 by such Eligible Holder or a group of Eligible Holders of which such Eligible Holder was a member.

(d) Nomination Notice. To nominate a Proxy Access Nominee, the Nominating Stockholder must, no earlier than one hundred and fifty days and no later than one hundred and twenty days before the anniversary of the date that the Corporation mailed its proxy statement for the prior year's annual meeting of stockholders, submit to a Secretary of the Corporation at the principal executive office of the Corporation all of the following information and documents (collectively, the "Nomination Notice"); provided, however, that if and only if the annual meeting is scheduled for an Other Meeting Date, the Nomination Notice shall be given in the manner provided herein by the later of (x) one hundred and fifty days prior to such Other Meeting Date and (y) the tenth day following the date such Other Meeting Date is first publicly announced or disclosed:

(1) A Schedule 14N (or any successor form) relating to the Proxy Access Nominee, completed and filed with the Securities and Exchange Commission by the Nominating Stockholder as applicable, in accordance with Securities and Exchange Commission rules;

(2) A written notice of the nomination of such Proxy Access Nominee that includes the following additional information, agreements, representations and warranties by the Nominating Stockholder (including each group member):

(i) the information required with respect to the nomination of directors pursuant to Section 1.11(b) of these by-laws;

(ii) the details of any relationship that existed within the past three years and that would have been described pursuant to Item 6(e) of Schedule 14N (or any successor item) if it existed on the date of submission of the Schedule 14N;

(iii) a representation and warranty that the Nominating Stockholder did not acquire, and is not holding, securities of the Corporation for the purpose or with the effect of influencing or changing control of the Corporation;

(iv) a representation and warranty that the Proxy Access Nominee's candidacy or, if elected, Board membership would not violate applicable state or federal law or the rules of any stock exchange on which the Corporation's securities are traded;

(v) a representation and warranty that the Proxy Access Nominee:

(A) is not aware of any direct or indirect relationship the Proxy Access Nominee has with the Corporation other than those relationships that have been deemed categorically immaterial pursuant to the Corporation's Policy Regarding Director Independence Determinations as most recently published on its website and otherwise qualifies as independent under the bright-line rules of the primary stock exchange on which the Corporation's securities are traded;

(B) is not aware of any information that would make the Proxy Access Nominee fail to meet the audit committee and compensation committee independence requirements under the rules of the primary stock exchange on which the Corporation's securities are traded;

(C) is not aware of any information that would make the Proxy Access Nominee fail to be a "non-employee director" for the purposes of Rule 16b-3 under the Exchange Act (or any successor rule);

(D) is not aware of any information that would make the Proxy Access Nominee fail to be an "outside director" for the purposes of Section 162(m) of the Internal Revenue Code (or any successor provision); and

(E) is not and has not been subject to any event specified in Rule 506(d)(1) of Regulation D (or any successor rule) under the Securities Act of 1933 or Item 401(f) of Regulation S-K (or any successor rule) under the Exchange Act, without reference to whether the event is material to an evaluation of the ability or integrity of the Proxy Access Nominee;

(vi) a representation and warranty that the Nominating Stockholder satisfies the eligibility requirements set forth in Section 1.12(c) and has provided evidence of ownership to the extent required by Section 1.12(c)(1);

(vii) a representation and warranty that the Nominating Stockholder intends to continue to satisfy the eligibility requirements described in Section 1.12(c) through the date of the annual meeting and currently intends in good faith to continue to hold the Minimum Number of shares for at least one year following the annual meeting; provided, however, that any Nominating Stockholder that is a registered open-end mutual fund under the Investment Company Act of 1940, and that seeks to replicate an index, will not violate this requirement as a result of changes to its common stock holdings in response to changes in the index or weightings of the securities in the index;

(viii) a statement detailing whether the Proxy Access Nominee is experienced in matters of risk management for purposes of Regulation YY of the Federal Reserve Board;

(ix) details of any position of the Proxy Access Nominee as an officer or director of any competitor (that is, any entity that produces products or provides services that compete with or are alternatives to the principal products produced or services provided by the Corporation or its affiliates) of the Corporation, within the three years preceding the submission of the Nomination Notice;

(x) details of any relationship between the Proxy Access Nominee and any entity that would require disclosure on Schedule 13D as if the Proxy Access Nominee was required to file a Schedule 13D with respect to the company;

(xi) details of any shares of the Corporation owned by the Proxy Access Nominee that are (A) pledged by the Proxy Access Nominee or otherwise subject to a lien, charge or other encumbrance or (B) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by such Proxy Access Nominee, whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of the Corporation, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of (x) reducing in any manner, to any extent or at any time in the future, such Proxy Access Nominee's full right to vote or direct the voting of any such shares, and/or (y) hedging, offsetting, or altering to any degree, gain or loss arising from the full economic ownership of such shares by such Proxy Access Nominee;

(xii) details of any compensatory, payment or other financial agreement, arrangement or understanding with any person or entity in connection with service or action as a director of the Corporation;

(xiii) a representation and warranty that the Nominating Stockholder will not engage in a "solicitation" within the meaning of Rule 14a-1(l) (without reference to the exception in Section 14a-(l)(2)(iv)) (or any successor rules) with respect to the annual meeting, other than with respect to its Proxy Access Nominee or any nominee of the Board of Directors;

(xiv) a representation and warranty that the Nominating Stockholder will not use any proxy card other than the Corporation's proxy card in soliciting stockholders in connection with the election of a Proxy Access Nominee at the annual meeting;

(xv) if desired, a statement for inclusion in the proxy statement in support of the Proxy Access Nominee's election to the Board of Directors, provided that such statement shall not exceed 500 words and shall fully comply with Section 14 of the Exchange Act and the rules and regulations thereunder, including Rule 14a-9; and

(xvi) in the case of a nomination by a Nominating Stockholder comprised of a group, the designation by all such Eligible Holders of one Eligible Holder that is authorized to act on behalf of the Nominating Stockholder with respect to matters relating to the nomination, including withdrawal of the nomination;

(3) An executed agreement, in a form deemed satisfactory by the Board of Directors, pursuant to which the Nominating Stockholder (including in the case of a group, each Eligible Holder in that group) agrees:

(i) to comply with all applicable laws, rules and regulations in connection with the nomination, solicitation and election;

(ii) to file any written solicitation or other communication with the Corporation's stockholders relating to one or more of the Corporation's directors or director nominees or any Proxy Access Nominee with the Securities and Exchange Commission, regardless of whether any such filing is required under rule or regulation or whether any exemption from filing is available for such materials under any rule or regulation;

(iii) to assume all liability stemming from an action, suit or proceeding concerning any actual or alleged legal or regulatory violation arising out of any communication by the Nominating Stockholder with the Corporation, its stockholders or any other person in connection with the nomination or election of directors, including, without limitation, the Nomination Notice;

(iv) to indemnify and hold harmless (jointly with all other Eligible Holders, in the case of a group of Eligible Holders) the Corporation and each of its directors, officers and employees individually against any liability, loss, damages, expenses or other costs (including attorneys' fees) incurred in connection with any threatened or pending action, suit or proceeding, whether legal, administrative or investigative, against the Corporation or any of its directors, officers or employees arising out of or relating to a failure or alleged failure of the Nominating Stockholder to comply with, or any breach or alleged breach of, its obligations, agreements or representations under this Section 1.12;

(v) in the event that any information included in the Nomination Notice, or any other communication by the Nominating Stockholder (including with respect to any Eligible Holder included in a group), with the Corporation, its stockholders or any other person in connection with the nomination or election ceases to be true and accurate in all material respects (or due to a subsequent development omits a material fact necessary to make the statements made not misleading), or that the Nominating Stockholder (including any Eligible Holder included in a group) has failed to continue to satisfy the eligibility requirements described in Section 1.12(c), to promptly (and in any event within 48 hours of discovering such misstatement or omission) notify the Corporation and any other recipient of such communication of the misstatement or omission in such previously provided information and of the information that is required to correct the misstatement or omission; and

(4) An executed agreement, in a form deemed satisfactory by the Board of Directors, by the Proxy Access Nominee:

(i) to provide to the Corporation such other information, including completion of the Corporation's director questionnaire, as it may reasonably request;

(ii) that the Proxy Access Nominee has read and agrees, if elected, to serve as a member of the Board of Directors, to adhere to the Corporation's Corporate Governance Guidelines and Code of Business Conduct and Ethics and any other Corporation policies and guidelines applicable to directors; and

(iii) that the Proxy Access Nominee is not and will not become a party to any agreement, arrangement or understanding with any person or entity as to how the Proxy Access Nominee would vote or act on any issue or question as a director.

The information and documents required by this Section 1.12(d) shall be (i) provided with respect to and executed by each Eligible Holder or, in the case of a Nominating Stockholder comprised of a group of Eligible Holders, each Eligible Holder in that group; and (ii) provided with respect to the persons specified in Instruction 1 to Items 6(c) and (d) of Schedule 14N (or any successor item) in the case of a Nominating Stockholder or Eligible Holder that is an entity. The Nomination Notice shall be deemed submitted on the date on which all the information and documents referred to in this Section 1.12(d) (other than such information and documents contemplated to be provided after the date the Nomination Notice is provided) have been delivered to or, if sent by mail, received by a Secretary of the Corporation.

(e) Exceptions.

(1) Notwithstanding anything to the contrary contained in this Section 1.12, the Corporation may omit from its proxy statement any Proxy Access Nominee and any information concerning such Proxy Access Nominee (including a Nominating Stockholder's statement in support) and no vote on such Proxy Access Nominee will occur (notwithstanding that proxies in respect of such vote may have been received by the Corporation), and the Nominating Stockholder may not, after the last day on which a Nomination Notice would be timely, cure in any way any defect preventing the nomination of the Proxy Access Nominee, if:

(i) the Corporation receives a notice pursuant to Section 1.11(b) of these by-laws that any stockholder intends to nominate a candidate for director at the annual meeting;

(ii) if another person is engaging in a "solicitation" within the meaning of Rule 14a-1(l) under the Exchange Act in support of the election of any individual as a director at the applicable annual meeting of stockholders other than a nominee of the Board of Directors and other than as permitted by this Section 1.12;

(iii) the Nominating Stockholder or the designated Eligible Holder that is authorized to act on behalf of the Nominating Stockholder, as applicable, or any qualified representative thereof, does not appear at the annual meeting of stockholders to present the nomination submitted pursuant to this Section 1.12 or the Nominating Stockholder withdraws its nomination;

(iv) the Board of Directors determines that such Proxy Access Nominee's nomination or election to the Board of Directors would result in the Corporation violating or failing to be in compliance with the Corporation's by-laws or certificate of incorporation or any applicable law, rule or regulation to which the Corporation is subject, including any rules or regulations of any stock exchange on which the Corporation's securities are traded;

(v) the Proxy Access Nominee was nominated for election to the Board of Directors pursuant to this Section 1.12 at one of the Corporation's two preceding annual meetings of stockholders and either (A) withdrew or became ineligible or (B) received a vote of less than twenty percent of the shares of common stock entitled to vote for such Proxy Access Nominee;

(vi) the Proxy Access Nominee (A) is an officer or director of a competitor, as defined for purposes of Section 8 of the Clayton Antitrust Act of 1914, as amended or (B) is a director, trustee, officer or employee with management functions for any depository institution, depository institution holding company or entity that has been designated as a Systemically Important Financial Institution, each as defined in the Depository Institution Management Interlocks Act, provided, however, that this clause (B) shall apply only so long as the Corporation is subject to compliance with Section 164 of the Dodd-Frank Wall Street Reform and Consumer Protection Act; or

(vii) the Corporation is notified, or the Board of Directors determines, that a Nominating Stockholder has failed to continue to satisfy the eligibility requirements described in Section 1.12(c), any of the representations and warranties made in the Nomination Notice cease to be true and accurate in all material respects (or omit a material fact necessary to make the statement not misleading), the Proxy Access Nominee becomes unwilling or unable to serve on the Board of Directors or any material violation or breach occurs of the obligations, agreements, representations or warranties of the Nominating Stockholder or the Proxy Access Nominee under this Section 1.12.

(2) Notwithstanding anything to the contrary contained in this Section 1.12, the Corporation may omit from its proxy statement, or may supplement or correct, any information, including all or any portion of the statement in support of the Proxy Access Nominee included in the Nomination Notice, if the Board of Directors determines that:

(i) such information is not true in all material respects or omits a material statement necessary to make the statements made not misleading;

(ii) such information directly or indirectly impugns character, integrity or personal reputation of, or directly or indirectly makes charges concerning improper, illegal or immoral conduct or associations, without factual foundation, with respect to any person; or

(iii) the inclusion of such information in the proxy statement would otherwise violate the Securities and Exchange Commission proxy rules or any other applicable law, rule or regulation.

ARTICLE II

Board of Directors

Section 2.1 Powers; Number; Qualifications. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors, except as may be otherwise required by law or provided in the certificate of incorporation. The number of directors of the Corporation shall be fixed only by resolution of the Board of Directors from time to time. Notwithstanding the foregoing, in the event the holders of any class or series of stock are entitled by the certificate of incorporation to elect one or more directors, then the number of directors that may be elected by such holders voting separately as a class shall be in addition to the number fixed by resolution of the Board of Directors. Directors need not be stockholders at the time of election or appointment.

Section 2.2 Election; Term of Office; Vacancies. Directors elected at each annual or special meeting of stockholders shall hold office until the next annual meeting of stockholders, and until their successors are elected and qualified or until their earlier resignation or removal. Subject to the terms of any one or more series of Preferred Stock, each director shall be elected by a majority of the votes cast for or against the director at any meeting for the election of directors, provided that if the number of director nominees exceeds the number of directors to be elected, the directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at any such meeting and entitled to vote on the election of directors. If an incumbent director is nominated at an annual meeting of stockholders but is not elected, the director shall immediately tender their resignation to the Board of Directors. Vacancies and newly created directorships resulting from any increase in the authorized number of directors (other than any directors elected in the manner described in the next sentence) or from any other cause shall be filled by, and only by, a majority of the directors then in office, although less than a quorum, or by the sole remaining director. Subject to the terms of any one or more series of Preferred Stock, whenever the holders of any class or classes of stock or series thereof are entitled by the certificate of incorporation to elect one or more directors, vacancies and newly created directorships of such class or classes or series may be filled by, and only by, a majority of the directors elected by such class or classes or series then in office, or by the sole remaining director so elected. Subject to the terms of any one or more series of Preferred Stock, any director elected or appointed to fill a vacancy or a newly created directorship shall hold office until the next annual meeting of stockholders, and until their successor is elected and qualified or until their earlier resignation or removal.

Section 2.3 Regular Meetings. Regular meetings of the Board of Directors may be held at such places (if any) within or without the State of Delaware and at such times as the Board may from time to time determine, and if so determined notice thereof need not be given.

Section 2.4 Special Meetings. Special meetings of the Board of Directors may be held at any time or place (if any) within or without the State of Delaware whenever called by the Board, by a Chairman of the Board, if any, by a Vice Chairman of the Board, if any, by a Chairperson of the Corporate Governance and Nominating Committee, if any, by a Lead Director, if any, by a Chief Executive Officer, if any, by a President, if any, by a Chief Operating Officer, if any, or by any two directors. Reasonable notice thereof shall be given by the person or persons calling the meeting.

Section 2.5 Participation in Meetings by Remote Communication Permitted. Unless otherwise restricted by the certificate of incorporation or these by-laws, members of the Board of Directors, or any committee designated by the Board, may participate in a meeting of the Board or of such committee, as the case may be, by means of conference telephone, video or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to this by-law shall constitute presence in person at such meeting.

Section 2.6 Quorum; Vote Required for Action. Unless the certificate of incorporation or these by-laws provide otherwise, at each meeting of the Board of Directors, a majority of the number of directors equal to (i) the total number of directors fixed by resolution of the board of directors (including any vacancies) plus (ii) the number of directors elected by a holder or holders of Preferred Stock voting separately as a class, as described in the fourth paragraph of Article EIGHTH of the certificate of incorporation (including any vacancies), shall constitute a quorum for the transaction of business. The vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board unless the certificate of incorporation or these by-laws shall require a vote of a greater number. In case at any meeting of the Board a quorum shall not be present, the members or a majority of the members of the Board present may adjourn the meeting from time to time until a quorum shall be present.

Section 2.7 Organization. Meetings of the Board of Directors shall be presided over by a Chairman of the Board, if any, or in the absence of a Chairman of the Board, by a Lead Director, if any, or in the absence of a Lead Director, by a chair chosen at the meeting. A Secretary, or in the absence of a Secretary an Assistant Secretary, shall act as secretary of the meeting, but in the absence of a Secretary and any Assistant Secretary the chair of the meeting may appoint any person to act as secretary of the meeting.

Section 2.8 Action by Directors Without a Meeting. Unless otherwise restricted by the certificate of incorporation or these by-laws, any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting if all members of the Board or of such committee, as the case may be, then in office consent thereto in writing, including by electronic transmission. After an action is taken, the consent or consents shall be filed with the minutes of proceedings of the Board or committee in accordance with applicable law.

Section 2.9 Compensation of Directors. Unless otherwise restricted by the certificate of incorporation or these by-laws, the Board of Directors shall have the authority to fix the compensation of directors.

Section 2.10 Director Resignation and Removal. (a) Any director may resign at any time upon notice in writing, including by electronic transmission, to the Board of Directors or to a Chairman of the Board, a Lead Director, a Chairperson of the Corporate Governance and Nominating Committee or a Secretary. Such resignation shall take effect at the time specified therein and, unless otherwise specified therein (and except for a resignation described in Section 2.10(b) below), no acceptance of such resignation shall be necessary to make it effective. No director may be removed except as provided in the certificate of incorporation.

(b) In the case of a resignation required to be tendered under Section 2.2 of these by-laws, the Board of Directors will determine, through a process managed by the Corporate Governance and Nominating Committee and excluding the incumbent director in question, whether to accept the resignation at or before its next regularly scheduled Board meeting after the date of the meeting for the election of directors. Absent a significant reason for the director to remain on the Board of Directors, the Board shall accept the resignation. The Board's decision and an explanation of any determination not to accept the director's resignation shall be disclosed promptly in a Form 8-K filed with the United States Securities and Exchange Commission.

ARTICLE III

Committees

Section 3.1 Committees. The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors or in these by-laws, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by law to be submitted to stockholders for approval (other than the election or removal of directors) or (ii) adopting, amending or repealing these by-laws.

Section 3.2 Committee Rules. Unless the Board of Directors otherwise provides, each committee designated by the Board may adopt, amend and repeal rules for the conduct of its business. In the absence of a provision by the Board or a provision in the rules of such committee to the contrary, a majority of the entire authorized number of members of such committee shall constitute a quorum for the transaction of business, the vote of a majority of the members present at a meeting at the time of such vote if a quorum is then present shall be the act of such committee, and in other respects each committee shall conduct its business in the same manner as the Board conducts its business pursuant to Article II of these by-laws.

ARTICLE IV

Officers

Section 4.1 Officers; Election or Appointment. The Board of Directors shall take such action as may be necessary from time to time to ensure that the Corporation has such officers as may be necessary under the Delaware General Corporation Law. In addition, the Board of Directors at any time and from time to time may elect (i) one or more Chairmen of the Board and/or one or more Vice Chairmen of the Board from among its members, (ii) one or more Chief Executive Officers, one or more Presidents, one or more Chief Operating Officers, and/or one or more Chief Financial Officers (iii) one or more Vice Presidents, one or more Treasurers and/or one or more Secretaries and/or (iv) one or more other officers,

including, without limitation, Assistants or Deputies to any position, in the case of each of (i), (ii), (iii) and (iv) if and to the extent the Board deems desirable. The Board of Directors may give any officer such further designations or alternate titles as it considers desirable. In addition, the Board of Directors at any time and from time to time may authorize any officer of the Corporation to appoint one or more officers of the kind described in clauses (iii) and (iv) above. Any number of offices may be held by the same person and directors may hold any office unless the certificate of incorporation or these by-laws otherwise provide.

Section 4.2 Term of Office; Resignation; Removal; Vacancies. Unless otherwise provided in the resolution of the Board of Directors electing or authorizing the appointment of any officer, each officer shall hold office until their successor is elected or appointed and qualified or until their earlier resignation or removal. Any officer may resign at any time upon notice in writing, including by electronic transmission, to the Board or to such person or persons as the Board may designate. Such resignation shall take effect at the time specified therein, and unless otherwise specified therein no acceptance of such resignation shall be necessary to make it effective. The Board may remove any officer with or without cause at any time. Any officer authorized by the Board to appoint a person to hold an office of the Corporation may also remove such person from such office with or without cause at any time, unless otherwise provided in the resolution of the Board providing such authorization. Any such removal shall be without prejudice to the contractual rights of such officer, if any, with the Corporation, but the election or appointment of an officer shall not of itself create contractual rights. Any vacancy occurring in any office of the Corporation by death, resignation, removal or otherwise may be filled by the Board at any regular or special meeting or by an officer authorized by the Board to appoint a person to hold such office.

Section 4.3 Powers and Duties. The officers of the Corporation shall have such powers and duties in the management of the Corporation as shall be stated in these by-laws or in a resolution of the Board of Directors which is not inconsistent with these by-laws and, to the extent not so stated, as generally pertain to their respective offices, subject to the control of the Board. A Secretary or such other officer appointed to do so by the Board shall have the duty to record the proceedings of the meetings of the stockholders, the Board of Directors and any committees in a book to be kept for that purpose. The Board may require any officer, agent or employee to give security for the faithful performance of their duties.

ARTICLE V

Stock

Section 5.1 Certificates; Uncertificated Shares. The shares of stock in the Corporation shall be represented by certificates, provided that the Board of Directors of the Corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to any such shares represented by a certificate theretofore issued until such certificate is surrendered to the Corporation. Every holder of stock represented by certificates shall be entitled to have a certificate signed by or in the name of the Corporation by any two authorized officers, which shall include, without limitation, a Chairman or Vice Chairman of the Board, a President or Vice President, a Chief Executive Officer, a Chief Financial Officer, a Chief Legal Officer or General Counsel, a Treasurer or Global Treasurer, an Assistant Treasurer, a Secretary or an Assistant Secretary, representing the number of shares of stock in the Corporation owned by such holder. In case any officer, transfer agent or registrar who has signed a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue. Certificates representing shares of stock of the Corporation may bear such legends regarding restrictions on transfer or other matters as any officer or officers of the Corporation may determine to be appropriate and lawful.

If the Corporation is authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock, provided that, except as otherwise required by law, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of such class or series of stock and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated shares of any class or series of stock, the Corporation shall send to the registered owner thereof a written notice containing the information required by law to be set forth or stated on certificates representing shares of such class or series or a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of such class or series and the qualifications, limitations or restrictions of such preferences and/or rights.

Except as otherwise provided by law or these by-laws, the rights and obligations of the holders of uncertificated shares and the rights and obligations of the holders of certificates representing stock of the same class and series shall be identical.

Section 5.2 Lost, Stolen or Destroyed Stock Certificates; Issuance of New Certificates. The Corporation may issue a new certificate of stock in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate.

ARTICLE VI

Miscellaneous

Section 6.1 Fiscal Year. The fiscal year of the Corporation shall be determined by the Board of Directors.

Section 6.2 Seal. The Corporation may have a corporate seal which shall have the name of the Corporation inscribed thereon and shall be in such form as may be approved from time to time by the Board of Directors. The corporate seal may be used by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

Section 6.3 Waiver of Notice of Meetings of Stockholders, Directors and Committees. Whenever notice is required to be given by law or under any provision of the certificate of incorporation or these by-laws, a written waiver thereof (including by electronic transmission), signed or given by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors or members of a committee of directors need be specified in any waiver of notice unless so required by the certificate of incorporation or these by-laws.

Section 6.4 Indemnification. The Corporation shall indemnify to the full extent permitted by law any person made or threatened to be made a party to any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person or such person's testator or intestate is or was a member of the Board of Directors of the Corporation, an officer of the Corporation appointed by resolution of the Board of Directors, or a member of the Shareholders' Committee acting pursuant to the Amended and Restated Shareholders' Agreement, dated as of May 7, 1999, among the Corporation and the Covered Persons listed on Appendix A thereto, as amended from time to time. Expenses, including attorneys' fees, incurred by any such person in defending any such action, suit or proceeding shall be paid or reimbursed by the Corporation promptly upon demand by such person and, if any such demand is made in advance of the final disposition of any such action, suit or proceeding, promptly upon receipt by the Corporation of an undertaking of such person to repay such expenses if it shall ultimately be determined that such person is not entitled to be indemnified by the Corporation. The rights provided to any person by this by-law shall be enforceable against the Corporation by such person, who shall be presumed to have relied upon it in serving or continuing to serve in such capacity. In addition, the rights provided to any person by this by-law shall survive the termination of such person as any such member or officer. No amendment of this by-law shall impair the rights of any person arising at any time with respect to events occurring prior to such amendment.

Notwithstanding anything contained in this Section 6.4, except for proceedings to enforce rights provided in this Section 6.4, the Corporation shall not be obligated under this Section 6.4 to provide any indemnification or any payment or reimbursement of expenses to any person in connection with a proceeding (or part thereof) initiated by such person (which shall not include counterclaims or crossclaims initiated by others) unless the Board of Directors has authorized or consented to such proceeding (or part thereof) in a resolution adopted by the Board of Directors.

To the extent authorized from time to time in a resolution adopted by the Board of Directors (including a resolution authorizing officers of the Corporation to grant such rights), the Corporation may provide to any one or more persons, including without limitation any employee or other agent of the Corporation, or any director, officer, employee, agent, trustee, member, stockholder, partner, incorporator or liquidator of any subsidiary of the Corporation or any other enterprise, rights of indemnification and/or to receive payment or reimbursement of expenses, including attorneys' fees, with any such rights subject to the terms, conditions and limitations established pursuant to the Board resolution. Nothing in this Section 6.4 shall limit the power of the Corporation or the Board of Directors to provide rights of indemnification and to make payment and reimbursement of expenses, including attorneys' fees, to any person otherwise than pursuant to this Section 6.4.

Section 6.5 Interested Directors; Quorum. No contract or transaction between the Corporation and one or more of its directors or officers, or between the Corporation and any other corporation, partnership, limited liability company, joint venture, trust, association or other unincorporated organization or other entity in which one or more of its directors or officers serve as directors, officers, trustees or in a similar capacity or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the Board of Directors or committee thereof which authorizes the contract or transaction, or solely because their votes are counted for such purpose, if: (i) the material facts as to their relationship or interest and as to the contract or transaction are disclosed or are known to the Board or the committee, and the Board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; (ii) the material facts as to their relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by a vote of the stockholders; or (iii) the contract or transaction is fair as to the Corporation as of the time it is authorized, approved or ratified, by the Board, a committee thereof or the stockholders. Common or interested directors may be counted in determining the presence of a quorum at a meeting of the Board of Directors or of a committee which authorizes the contract or transaction.

Section 6.6 Form of Records. Any records maintained by the Corporation in the regular course of its business, including its stock ledger, books of account and minute books, may be kept on, or by means of, or be in the form of, any information storage device, method or one or more electronic networks or data bases (including one or more distributed networks) , provided that the records so kept can be converted into clearly legible form within a reasonable time and otherwise be compliant with the requirements of applicable law.

The Corporation shall so convert any records so kept upon the request of any person entitled to inspect the same.

Section 6.7 Laws and Regulations; Close of Business. (a) For purposes of these by-laws, any reference to a statute, rule or regulation of any governmental body means such statute, rule or regulation (including any successor thereto) as the same may be amended from time to time.

(b) Any reference in these by-laws to the close of business on any day shall be deemed to mean 5:00 P.M. New York time on such day, whether or not such day is a business day.

Section 6.8 Amendment of By-Laws. These by-laws may be amended, modified or repealed, and new by-laws may be adopted at any time, by the Board of Directors. Stockholders of the Corporation may adopt additional by-laws and amend, modify or repeal any by-law whether or not adopted by them, but only in accordance with Article SIXTH of the certificate of incorporation.

EXHIBIT 15.1

October 29, 2021

Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: The Goldman Sachs Group, Inc.
Registration Statements on Form S-8
(No. 333-80839)
(No. 333-42068)
(No. 333-106430)
(No. 333-120802)
(No. 333-235973)

Registration Statements on Form S-4
(No. 333-260413)

Registration Statements on Form S-3
(No. 333-253421)

Commissioners:

We are aware that our report dated October 29, 2021 on our review of the consolidated balance sheet of The Goldman Sachs Group, Inc. and its subsidiaries (the Company) as of September 30, 2021, and the related consolidated statements of earnings, comprehensive income and changes in shareholders' equity for the three and nine months ended September 30, 2021 and 2020, and the consolidated statements of cash flows for the nine months ended September 30, 2021 and 2020 included in the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2021 is incorporated by reference in the registration statements referred to above. Pursuant to Rule 436(c) under the Securities Act of 1933 (the Act), such report should not be considered a part of such registration statements, and is not a report within the meaning of Sections 7 and 11 of the Act.

Very truly yours,

/s/ PricewaterhouseCoopers LLP

EXHIBIT 31.1

CERTIFICATIONS

I, David M. Solomon, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 of The Goldman Sachs Group, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: October 29, 2021

/s/ David M. Solomon

Name: David M. Solomon
Title: Chief Executive Officer

CERTIFICATIONS

I, Stephen M. Scherr, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 of The Goldman Sachs Group, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: October 29, 2021

/s/ Stephen M. Scherr

Name: Stephen M. Scherr
Title: Chief Financial Officer

EXHIBIT 32.1

Certification

Pursuant to 18 U.S.C. § 1350, the undersigned officer of The Goldman Sachs Group, Inc. (the Company) hereby certifies that the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 (the Report) fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: October 29, 2021

/s/ David M. Solomon

Name: David M. Solomon
Title: Chief Executive Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350 and is not being filed as part of the Report or as a separate disclosure document.

Certification

Pursuant to 18 U.S.C. § 1350, the undersigned officer of The Goldman Sachs Group, Inc. (the Company) hereby certifies that the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 (the Report) fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: October 29, 2021

/s/ Stephen M. Scherr

Name: Stephen M. Scherr
Title: Chief Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350 and is not being filed as part of the Report or as a separate disclosure document.