Annual Report
December 31, 2021

Goldman Sachs International (unlimited company)
Company Number: 02263951

INDEX

	Page No.
Part I	
Strategic Report	**2**
Introduction	2
Executive Overview	2
Business Environment	3
Results of Operations	4
Balance Sheet and Funding Sources	7
Capital Management and Regulatory Capital	8
Regulatory Matters and Other Developments	11
Principal Risks and Uncertainties	14
Risk Management	15
Overview and Structure of Risk Management	15
Liquidity Risk Management	19
Market Risk Management	22
Credit Risk Management	24
Operational Risk Management	28
Model Risk Management	30
E.U. Regulation	30
Section 172(1) Statement	30
Date of Authorisation of Issue	30

	Page No.
Part II	
Directors' Report and Audited Financial Statements	**31**
Directors' Report	31
Independent Auditors' Report	38
Income Statement	46
Statement of Comprehensive Income	46
Balance Sheet	47
Statement of Changes in Equity	48
Statement of Cash Flows	49
Notes to the Financial Statements	**50**
Note 1. General Information	50
Note 2. Basis of Preparation	50
Note 3. Summary of Significant Accounting Policies	51
Note 4. Critical Accounting Estimates and Judgements	57
Note 5. Net Revenues	58
Note 6. Net Operating Expenses	59
Note 7. Compensation and Benefits	59
Note 8. Share-Based Payments	60
Note 9. Income Tax Expense	61
Note 10. Collateralised Agreements	61
Note 11. Customer and Other Receivables	61
Note 12. Trading Assets and Liabilities	62
Note 13. Investments	62
Note 14. Other Assets	62
Note 15. Pension Arrangements	63
Note 16. Deferred Tax Assets	65
Note 17. Interests in Other Entities	66
Note 18. Collateralised Financings	66
Note 19. Customer and Other Payables	66
Note 20. Unsecured Borrowings	67
Note 21. Other Liabilities	68
Note 22. Share Capital	68
Note 23. Other Equity Instruments	68
Note 24. Statement of Cash Flows Reconciliations	69
Note 25. Financial Commitments and Contingencies	69
Note 26. Maturity of Assets and Liabilities	72
Note 27. Related Party Disclosures	72
Note 28. Financial Instruments	76
Note 29. Fair Value Measurement	78
Note 30. Financial Risk Management and Capital Management	88
Note 31. Transferred Assets	89

Introduction

Goldman Sachs International (GSI or the company) delivers a broad range of financial services to clients located worldwide. The company also operates a number of branches and representative offices across Europe, the Middle East and Africa (EMEA) to provide financial services to clients in those regions.

The company's primary regulators are the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA).

The company's ultimate parent undertaking and controlling entity is The Goldman Sachs Group, Inc. (Group Inc.). Group Inc. is a bank holding company and a financial holding company regulated by the Board of Governors of the Federal Reserve System (FRB). In relation to the company, "GS Group affiliate" means Group Inc. or any of its subsidiaries. Group Inc., together with its consolidated subsidiaries, form "GS Group". GS Group 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. The company's results prepared under United States Generally Accepted Accounting Principles (U.S. GAAP) are included in the consolidated financial statements of GS Group.

The company seeks to be the advisor of choice for its clients and a leading participant in global financial markets. As part of GS Group, the company also enters into transactions with affiliates in the normal course of business as part of its market-making activities and general operations.

The company generates revenues from the following business activities: Investment Banking; Fixed Income, Currency and Commodities (FICC); Equities; and Investment Management, which includes Asset management and Wealth management.

The company strives to maintain a work environment that fosters professionalism, excellence, diversity, cooperation among employees and high standards of business ethics. The company recognises that it needs the most talented people to deliver outstanding results for clients. A diverse workforce in terms of gender, ethnicity, sexual orientation, background, culture and education ensures the development of better ideas, products and services. For further information about Goldman Sachs' people, culture and commitment to diversity, see www.goldmansachs.com/our-commitments/diversity-and-inclusion/.

References to "the financial statements" are to the directors' report and audited financial statements as presented in Part II of this annual report.

All references to December 2021 refer to the twelve months ended, or the date, as the context requires, December 31, 2021. All references to December 2020 refer to the thirteen months ended, or the date, as the context requires, December 31, 2020. All references to November 2019 refer to the date November 30, 2019.

During the period ended December 2020, the company changed its accounting reference date from November 30 to December 31 to conform to the period used by the company for U.S. tax reporting purposes. These financial statements have been prepared for the twelve months ended December 31, 2021, with comparative information being presented for the thirteen months ended December 31, 2020. As a result, amounts presented in this annual report are not directly comparable.

Certain disclosures required by International Financial Reporting Standards (IFRS) in relation to the company's financial risk management, capital management and interest rate benchmark reform have been presented alongside other risk management and regulatory information in the strategic report. Such disclosures are identified as audited, where relevant. All other information in the strategic report is unaudited.

Executive Overview

The directors consider profit for the period, total assets and Common Equity Tier 1 (CET1) capital ratio as the company's key performance indicators.

Income Statement

The income statement is set out on page 46 of this annual report. The company's profit for the period ended December 2021 was $2.94 billion, an increase of 7% compared with the period ended December 2020.

As a result of Brexit, certain of the company's client relationships and activities were transitioned to E.U. affiliates of GS Group. This has resulted in a reduction in the company's net revenues and operating expenses attributable to this activity in 2021.

Net revenues were $10.92 billion for the period ended December 2021, 9% higher than the period ended December 2020, reflecting significantly higher net revenues in Equities, higher Investment Banking and, to a lesser extent, significantly higher Investment Management, partially offset by significantly lower net revenues in FICC.

Net operating expenses were $7.37 billion for the period ended December 2021, 14% higher than the period ended December 2020, primarily due to significantly higher transaction based expenses, higher compensation and benefits and higher management charges from GS Group affiliates.

See "Results of Operations" below for more information about net revenues and net operating expenses.

Capital Ratios

The company's CET1 capital ratio under the applicable capital framework was 10.7% as of both December 2021 and December 2020.

Balance Sheet

The balance sheet is set out on page 47 of this annual report.

As of December 2021, total assets were $1.14 trillion, a decrease of $124.44 billion from December 2020, primarily reflecting a decrease in trading assets of $240.68 billion (primarily due to a decrease in derivatives, principally as a result of a decrease in interest rate derivatives), partially offset by an increase in collateralised agreements of $116.68 billion (primarily due to changes in firm and client activity).

As of December 2021, total liabilities were $1.10 trillion, a decrease of $126.76 billion from December 2020, reflecting a decrease in trading liabilities of $237.43 billion (primarily due to a decrease in derivatives, principally as a result of a decrease in interest rate derivatives), partially offset by an increase in collateralised financings of $91.41 billion (primarily due to changes in firm and client activity) and an increase in customer and other payables of $19.36 billion (primarily due to an increase in customer credit balances and listed derivative-related balances).

As of December 2021, total shareholder's equity was $38.90 billion, an increase of $2.32 billion from December 2020, primarily reflecting the company's profit for the period ended December 2021 of $2.94 billion, partially offset by interest on Additional Tier 1 notes (AT1 notes) of $749 million.

Total level 3 financial assets were $5.76 billion as of December 2021 and $6.37 billion as of December 2020. See Note 29 to the financial statements for further information about level 3 financial assets, including changes in level 3 financial assets and related fair value measurement.

Under U.S. GAAP, as of December 2021, total assets were $575.17 billion and total liabilities were $544.49 billion. Total assets and total liabilities under U.S. GAAP differ from those reported under IFRS primarily due to the company presenting derivative balances gross under IFRS if they are not net settled in the normal course of business, even where it has a legally enforceable right to offset those balances.

Future Outlook

The directors consider that the period end financial position of the company was satisfactory. Developments that may impact or continue to impact the company include:

- **Russian Invasion of Ukraine.** The Russian invasion of Ukraine in February 2022 has led to significant disruption in financial markets and increased uncertainty in the business environment in which the company operates. In response, the company continues to proactively manage its market risk and credit risk exposures, including to Russia and Ukraine, while focusing on servicing its clients and supporting its employees. The future impact of the war on the company's operational and financial performance remains difficult to predict at this time. See "Regulatory Matters and Other Developments — Impact of Russian Invasion of Ukraine" for further information and "Risk — Credit Risk Management — Russia and Ukraine Exposure" for the company's credit and market risk exposure to Russia and Ukraine as of December 2021.
- **COVID-19.** As at the time of publication, there continues to be uncertainty regarding the impact of COVID-19 on the company's operational and financial performance. The extent of the impact will depend on future developments including the duration of the pandemic and potential future variants. See "Regulatory Matters and Other Developments — Impact of COVID-19 Pandemic" for further information.

Business Environment

In 2021, the global economy continued to recover from the impact of the COVID-19 pandemic, as the distribution of vaccines helped facilitate an increase in global economic activity. Economic activity continued to benefit from ongoing fiscal stimulus from governments and continued accommodative monetary policy from global central banks. In the second half of the year, the growth in economic activity and demand for goods and services, alongside supply chain complications, contributed to inflationary pressures. Late in the year, the surge in Omicron cases sparked renewed concerns globally, contributing to increased market volatility and increased pressures on labour supply. This may result in a negative impact on economic activity.

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 Omicron variant and other possible variants and related concerns regarding vaccine distribution, efficacy and hesitancy, as well as concerns relating to inflation, supply chain complications and geopolitical risks.

Results of Operations

Net Revenues

Net revenues include the net profit arising from transactions, with both third parties and GS Group affiliates, in securities, foreign exchange and other financial instruments, and fees and commissions. This is inclusive of associated interest and dividends.

The table below presents net revenues by business activity.

	Period Ended December	
$ in millions	**2021**	2020
Investment Banking	**$ 2,545**	$ 2,174
FICC	**2,997**	3,943
Equities	**4,094**	2,916
Investment Management	**1,283**	978
Total	**$10,919**	$10,011

Investment Banking

Investment Banking consists of:

Financial advisory. Includes strategic advisory engagements with respect to mergers and acquisitions, divestitures, corporate defence 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 and financial institution clients, including through relationship lending, middle-market lending and acquisition financing.

December 2021 versus December 2020. Net revenues in Investment Banking were $2.55 billion for the period ended December 2021, 17% higher than the period ended December 2020, primarily due to significantly higher net revenues in Underwriting and higher net revenues in Financial advisory. The increase in Underwriting reflected significantly higher net revenues in Equity underwriting, partially offset by lower net revenues in Debt underwriting. Financial advisory net revenues were higher reflecting an increase in completed mergers and acquisitions transactions.

As of December 2021, the EMEA investment banking transaction backlog was significantly higher compared with December 2020, primarily due to significantly higher estimated net revenues from potential debt underwriting transactions and potential equity underwriting transactions. Estimated net revenues from potential advisory transactions were also higher.

The backlog represents an estimate of net revenues from future transactions where the company believes that future revenue realisation is more likely than not. The changes in backlog may be a useful indicator of client activity levels which, over the long term, impact net revenues. However, the time frame for completion and corresponding revenue recognition of transactions in the backlog varies based on the nature of the engagement, as certain transactions may remain in the backlog for longer periods of time. In addition, the 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.

FICC and Equities

FICC and Equities serve the company's clients who buy and sell financial products, raise funding and manage risk. The company does this by acting as a market maker and offering expertise on a global basis. FICC and Equities make markets and facilitate client transactions in fixed income, equity, currency and commodity products. In addition, the company makes markets in, and clears client transactions on, major stock, options and futures exchanges worldwide.

The company executes a high volume of transactions for its clients in large, highly liquid markets. The company also executes transactions for its clients in less liquid markets for spreads and fees that are generally somewhat larger than those charged in more liquid markets. Additionally, the company structures and executes transactions involving customised or tailor-made products that address its clients' risk exposures, investment objectives or other complex needs, as well as derivative transactions related to client advisory and underwriting activities.

The company's net revenues 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 its inventory, and interest income and interest expense related to the holding, hedging and funding of its inventory.

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, 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, agricultural, base, precious and other metals, electricity, including renewable power, environmental products and other commodity products.

- **FICC financing.** Includes providing financing to the company's clients through structured credit, asset-backed lending and through securities purchased under agreements to resell (resale agreements).

December 2021 versus December 2020. Net revenues in FICC were $3.00 billion for the period December 2021, 24% lower than the period ended December 2020, due to significantly lower net revenues in FICC intermediation. Net revenues in FICC financing were essentially unchanged. The decrease in FICC intermediation reflected significantly lower net revenues in interest rate products and credit products and lower net revenues in currencies, partially offset by higher net revenues in commodities and mortgages. The decrease in FICC intermediation net revenues reflected strong but significantly lower client activity compared with very strong activity levels in the prior period due to high volatility amid the COVID-19 pandemic, and the transition of certain activities to other GS Group affiliates, primarily as part of GS Group's Brexit strategy. This was partially offset by the impact of improved market-making conditions on the company's inventory compared with challenging conditions in the prior period.

Equities. Equities generates revenues from intermediation and financing activities.

- **Equities intermediation.** Includes client execution activities related to making markets in equity products and commissions and fees from executing and clearing institutional client transactions on major stock, options and futures exchanges worldwide, as well as over-the-counter (OTC) transactions.

- **Equities financing.** Includes prime brokerage and other equities financing activities, including securities lending, margin lending and swaps and generates revenues primarily in the form of interest rate spreads or fees.

December 2021 versus December 2020. Net revenues in Equities were $4.09 billion for the period ended December 2021, 40% higher compared with the period ended December 2020, due to significantly higher net revenues in Equities financing and higher net revenues in Equities intermediation. The increase in Equities financing primarily reflected improved market conditions and increased activity. The increase in Equities intermediation reflected significantly higher net revenues in derivatives, partially offset by lower net revenues in cash products.

Investment Management

Investment Management includes Asset management and Wealth management.

Asset management includes direct investments made by the company, which are typically longer-term in nature, and investing services provided to GS Group affiliates or funds managed by GS Group.

Wealth management includes wealth advisory services, including portfolio management and financial counselling, brokerage and other transaction services to high-net-worth individuals and families.

December 2021 versus December 2020. Net revenues in Investment Management were $1.28 billion for the period ended December 2021, 31% higher than the period ended December 2020, primarily due to significantly higher net revenues in Asset management, partially offset by lower net revenues in Wealth management.

Geographic Data

See Note 5 to the financial statements for a summary of net revenues by geographic region.

Net Operating Expenses

Net operating expenses are primarily influenced by compensation (including the impact of the Group Inc. share price on share-based compensation), headcount and levels of business activity. Compensation and benefits include salaries, allowances, year-end discretionary compensation, amortisation of share-based compensation, changes in the fair value of share-based payment awards between grant date and delivery date and other items such as benefits. Discretionary compensation is significantly impacted by, among other factors, the level of net revenues, overall financial performance, prevailing labour markets, business mix, the structure of share-based compensation programmes and the external environment.

Where the company recognises revenues in its capacity as principal to a transaction and incurs expenses to satisfy some or all of its performance obligations under these transactions, it is required by IFRS 15 'Revenue from Contracts with Customers' (IFRS 15) to report these revenues gross of the associated expenses. Such expenses are included in transaction based and other expenses (known hereafter as "IFRS 15 expenses").

The table below presents net operating expenses and headcount.

	Period Ended December	
$ in millions	**2021**	2020
Compensation and benefits	**$3,185**	$2,825
Transaction based expenses	**2,053**	1,680
Market development	**36**	43
Communications and technology	**141**	145
Depreciation and amortisation	**210**	194
Professional fees	**163**	181
Management charges from GS Group affiliates	**1,118**	921
Other expenses	**804**	842
Operating expenses	**7,710**	6,831
Management charges to GS Group affiliates	**(343)**	(344)
Net operating expenses	**$7,367**	$6,487
Headcount at period-end	**3,844**	4,115

In the table above, compensation and benefits included a charge of $634 million for the period ended December 2021 and a charge of $259 million for the period ended December 2020 representing recharges from Group Inc. equivalent to changes in the fair value of share-based payment awards during the period.

December 2021 versus December 2020. Net operating expenses were $7.37 billion for the period ended December 2021, 14% higher than the period ended December 2020.

Compensation and benefits were $3.19 billion for the period ended December 2021, 13% higher than the period ended December 2020. Excluding the impact of recharges from Group Inc. equivalent to changes in the fair value of share-based payment awards for both periods, compensation and benefits were $2.55 billion for the period ended December 2021, 1% lower than the period ended December 2020, mainly driven by the transfer of employees to other GS Group affiliates, primarily as part of GS Group's Brexit strategy, partially offset by an increase in operating performance.

Transaction based expenses were $2.05 billion for the period ended December 2021, 22% higher than the period ended December 2020. This reflected an increase in IFRS 15 expenses and an increase in activity levels.

Management charges from GS Group affiliates were $1.12 billion for the period ended December 2021, 21% higher than the period ended December 2020, primarily due to an increase in costs charged to the company related to investment banking employees transferred to a U.K. branch of an affiliated group undertaking, as a part of GS Group's Brexit strategy, and an increase in compensation related charges.

As of December 2021, headcount was 7% lower compared with December 2020, mainly driven by the transfer of certain employees to other GS Group affiliates, primarily as part of GS Group's Brexit strategy, and the transfer of certain asset management employees to GS Group's primary EMEA asset management entity, Goldman Sachs Asset Management International.

Income Tax Expense

The company's effective tax rate was 17.3% for the period ended December 2021, which compares to the U.K. corporation tax rate applicable of 27%. The effective tax rate represents the company's income tax expense divided by its profit before taxation. This difference includes the impact of the tax effect of interest on the company's AT1 notes being recognised in income tax expense, whilst the associated interest is recognised directly in retained earnings.

Balance Sheet and Funding Sources

Balance Sheet Management

The company leverages the firmwide balance sheet management process performed at the GS Group level to manage the size and composition of its balance sheet. While the asset base of the company changes due to client activity, market fluctuations and business opportunities, the size and composition of the company's balance sheet also reflects factors including (i) overall risk tolerance, (ii) the amount of capital held and (iii) the company's funding profile, among other factors. See "Capital Management and Regulatory Capital — Capital Management" for information about the company's capital management process.

In order to ensure appropriate risk management, the company seeks to maintain a sufficiently liquid balance sheet and leverages GS Group's processes to dynamically manage its 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. GS Group prepares a balance sheet plan that combines projected total assets and composition of assets with 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.

Balance Sheet Limits. The limits are set at levels which are close to actual operating levels, rather than at levels which reflect GS Group's maximum risk appetite, in order to ensure prompt escalation and discussion among GS Group's revenue-producing units, Treasury and GS Group's independent risk oversight and control functions on a routine basis. GS Group's Firmwide Asset Liability Committee and GS Group's Risk Governance Committee review and approve balance sheet limits. Additionally, GS Group's Risk Governance Committee sets aged limits for certain financial instruments as a disincentive to hold such positions over longer periods of time. Requests for changes in limits are evaluated after giving consideration to their impact on GS Group's key metrics. Compliance with limits is monitored by the revenue-producing units and Treasury, as well as the independent risk oversight and control functions.

Monitoring of Key Metrics. Key balance sheet metrics are monitored both by business and on a GS Group basis, including asset and liability size and composition, limit utilisation and risk measures. Assets are attributed to businesses and movements resulting from new business activity, as well as market fluctuations, are reviewed and analysed.

Scenario Analyses. GS Group conducts scenario analyses for Group Inc. and its subsidiaries to determine how it would manage the size and composition of the balance sheet. These scenarios cover short- and long-term time horizons using various macroeconomic and GS Group-specific assumptions, based on a range of economic scenarios.

Funding Sources

The company's primary sources of funding are collateralised financings, unsecured borrowings and shareholder's equity. The company raises this funding through a number of different products, including:

- Securities sold under agreements to repurchase (repurchase agreements) and securities loaned;
- Intercompany loans from GS Group affiliates;
- Debt securities issued including notes, certificates, commercial paper and warrants; and
- Other borrowings including funded derivatives and transfers of assets accounted for as financings rather than sales.

The table below presents information about funding sources.

	As of December			
$ in millions	**2021**		2020	
Collateralised financings	**$204,539**	**63%**	$113,127	49%
Unsecured borrowings	**79,813**	**25%**	80,351	35%
Total shareholder's equity	**38,895**	**12%**	36,578	16%
Total	**$323,247**	**100%**	$230,056	100%

The company generally distributes funding products through its own sales force and third-party distributors to a large, diverse creditor base in a variety of global markets. The company believes that its relationships with external creditors are critical to its liquidity. These creditors include banks, securities lenders, corporations, pension funds, insurance companies, mutual funds and individuals. The company has imposed various internal guidelines to monitor creditor concentration across its external funding programmes.

Secured Funding. The company funds a significant amount of inventory on a secured basis, with external counterparties, as well as with GS Group affiliates. Secured funding includes collateralised financings in the balance sheet. The company may also pledge its inventory as collateral for securities borrowed under a securities lending agreement. The company also uses its own inventory to cover transactions in which the company or its clients have sold securities that have not yet been purchased. Secured funding is less sensitive to changes in Group Inc. and/or the company's credit quality than unsecured funding, due to the posting of collateral to lenders. Nonetheless, the company analyses the refinancing risk of its secured funding activities, taking into account trade tenors, maturity profiles, counterparty concentrations, collateral eligibility and counterparty rollover probabilities. The company seeks to mitigate its refinancing risk by executing term trades with staggered maturities, diversifying counterparties, raising excess secured funding and pre-funding residual risk through its Global Core Liquid Assets (GCLA).

The company seeks to raise secured funding with a term appropriate for the liquidity of the assets that are being financed, and seeks longer maturities for secured funding collateralised by asset classes that may be harder to fund on a secured basis, especially during times of market stress.

A majority of the company's secured funding for securities not eligible for inclusion in the GCLA is executed through term repurchase agreements and securities loaned contracts. The company also raises secured funding through debt securities issued, other borrowings and intercompany loans.

Unsecured Borrowings. The company has both intercompany and external unsecured borrowings.

Intercompany Unsecured Borrowings

Intercompany unsecured borrowings include loans, subordinated loans, overdrafts, debt securities issued and other borrowings. The company's unsecured intercompany loans and subordinated loans are primarily from Goldman Sachs Group UK Limited and Goldman Sachs Funding LLC (Funding IHC). Funding IHC is a wholly-owned, direct subsidiary of Group Inc. that facilitates the execution of GS Group's preferred resolution strategy. The majority of GS Group's unsecured funding is raised by Group Inc., which lends the necessary funds to Funding IHC and other subsidiaries, including the company, to meet asset financing, liquidity and capital requirements. The benefits of this approach to subsidiary funding are enhanced control and greater flexibility to meet the funding requirements of the company and other subsidiaries.

External Unsecured Borrowings

External unsecured borrowings include debt securities issued, other borrowings, bank loans and overdrafts.

Shareholder's Equity. Shareholder's equity is a stable and perpetual source of funding. See Notes 22 and 23 to the financial statements for further information.

Capital Management and Regulatory Capital

Capital adequacy is of critical importance to the company. The company has in place a comprehensive capital management policy that provides a framework, defines objectives and establishes guidelines to assist the company in maintaining the appropriate level and composition of capital in both business-as-usual and stressed conditions.

Capital Management (Audited)

The company determines the appropriate amount and composition of its capital by considering multiple factors including the company's current and future regulatory capital requirements, the results of the company's capital planning and stress testing process, the results of resolution capital models and other factors, such as rating agency guidelines, the business environment and conditions in the financial markets.

The company's capital planning and stress testing process incorporates internally designed stress tests developed in accordance with the PRA's Internal Capital Adequacy Assessment Process (ICAAP) guidelines. It is also designed to identify and measure material risks associated with business activities, including market risk, credit risk, operational risk and other risks. The company's goal is to hold sufficient capital to ensure that it remains adequately capitalised after experiencing a severe stress event. The company's assessment of capital adequacy is viewed in tandem with its assessment of liquidity adequacy and is integrated into its overall risk management structure, governance and policy framework.

In addition, as part of the company's comprehensive capital management policy, a contingency capital plan is maintained that provides a framework for analysing 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.

Regulatory Capital (Audited)

The company is subject to the U.K. capital framework, which is predominately aligned with the European Union (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. The Basel Committee is the primary global standard setter for prudential bank regulation and its member jurisdictions implement regulations based on its standards and guidelines.

The risk-based capital requirements are expressed as capital ratios that compare measures of regulatory capital to risk-weighted assets (RWAs). The CET1 capital ratio is defined as CET1 capital divided by RWAs. The Tier 1 capital ratio is defined as Tier 1 capital divided by RWAs. The total capital ratio is defined as total capital divided by RWAs.

The CET1 capital, Tier 1 capital and Total capital ratio requirements (collectively, the Pillar 1 capital requirements) are supplemented by:

- A capital conservation buffer of 2.5% of RWAs, consisting entirely of capital that qualifies as CET1 capital.
- A countercyclical capital buffer of up to 2.5% of RWAs (and also consisting entirely of CET1 capital) in order to counteract excessive credit growth. The buffer only applies to the company's exposures to certain types of counterparties based in jurisdictions which have announced a countercyclical buffer. The buffer was 5bps as of December 2021. The countercyclical capital buffer applicable to the company could change in the future and, as a result, the company's risk-based capital requirements could increase.
- The individual capital requirement under Pillar 2A (an additional amount to cover risks not adequately captured in Pillar 1). The PRA performs a periodic supervisory review of the company's ICAAP, which leads to a final determination by the PRA of the individual capital requirement under Pillar 2A. This is a point in time assessment of the minimum amount of capital the PRA considers that the company should hold.

On December 13, 2021, the Bank of England announced that effective December 13, 2022 the U.K. countercyclical capital buffer would increase to 1% of banks' exposures to U.K. borrowers and counterparties having previously been reduced from 1% to 0% in March 2020.

Regulatory Risk-Based Capital Ratios

The table below presents information about the company's minimum risk-based capital requirements.

	As of December	
	2021	2020
CET1 capital ratio	**8.1%**	8.1%
Tier 1 capital ratio	**9.9%**	10.0%
Total capital ratio	**12.4%**	12.5%

In the table above, the minimum risk-based capital requirements incorporate the Pillar 2A capital guidance received from the PRA and could change in the future.

In addition to the Pillar 2A capital requirement, the PRA also defines the forward-looking capital requirement which represents the PRA's view of the capital that the company would require to absorb losses in stressed market conditions. This is known as Pillar 2B or the "PRA buffer" and is not reflected in the requirements shown above.

The table below presents information about the company's risk-based capital ratios.

	As of December	
$ in millions	**2021**	2020
Risk-based capital and RWAs		
CET1 capital	**$ 28,810**	$ 26,962
Additional Tier 1 notes	**$ 8,300**	$ 8,300
Tier 1 capital	**$ 37,110**	$ 35,262
Tier 2 capital	**$ 5,377**	$ 5,377
Total capital	**$ 42,487**	$ 40,639
RWAs	**$269,762**	$252,355
Risk-based capital ratios		
CET1 capital ratio	**10.7%**	10.7%
Tier 1 capital ratio	**13.8%**	14.0%
Total capital ratio	**15.7%**	16.1%

In the table above:

- The company's risk-based capital ratios as of December 2021 included the company's profit after foreseeable charges for the three months ended December 2021, which have been approved to be included as regulatory capital on finalisation of these financial statements. These profits contributed approximately 16bps to the CET1 capital ratio.
- The company's Tier 1 and Total capital ratios as of December 2021 decreased compared with December 2020, primarily due to an increase in the company's RWAs, partially offset by an increase in the company's Tier 1 capital.

Certain prudential rules are subject to additional guidance and clarifications, which will be issued by the company's supervisors. All capital, RWAs and ratios are based on current interpretation, expectations and understanding of the applicable rules and may evolve as the interpretation and application is discussed with the company's regulators.

Risk-Based Capital (Audited)

The table below presents information about the company's risk-based capital.

	As of December	
$ in millions	**2021**	2020
Share capital	**$ 598**	$ 598
Share premium account	**5,568**	5,568
Retained earnings	**24,590**	22,437
Accumulated other comprehensive income	**(161)**	(325)
Deductions	**(1,785)**	(1,316)
CET1 capital	**28,810**	26,962
Additional Tier 1 notes	**8,300**	8,300
Tier 1 capital	**$37,110**	$35,262
Tier 2 capital	**5,377**	5,377
Total capital	**$42,487**	$40,639

During both the periods ended December 2021 and December 2020, the company was in compliance with the capital requirements set by the PRA.

Risk-Weighted Assets

The table below presents information about the company's RWAs.

	As of December	
$ in millions	**2021**	2020
Credit RWAs	**$137,267**	$132,441
Market RWAs	**111,604**	103,761
Operational RWAs	**20,891**	16,153
Total	**$269,762**	$252,355

In the table above:

- Credit RWAs as of December 2021 increased by $4.83 billion compared with December 2020, primarily reflecting an increase in exposure on derivatives, principally due to higher levels of volatility.
- Market RWAs as of December 2021 increased by $7.84 billion compared with December 2020, primarily reflecting an increase in standardised capital charges on collateralised financings.
- Operational RWAs as of December 2021 increased by $4.74 billion compared with December 2020, primarily reflecting an increase in net revenues, which is an input into operational RWAs under the Standardised approach.

Credit Risk. Credit RWAs are calculated based upon measures of exposure, which are then risk weighted. The exposure amount is generally based on the following:

- For on-balance-sheet assets, the carrying value; and
- For off-balance-sheet exposures, including commitments and guarantees, a credit equivalent exposure amount is calculated based on the notional amount of each exposure multiplied by a credit conversion factor.

Counterparty credit risk is a component of total credit risk, and includes credit exposure arising from derivatives, securities financing transactions and margin loans.

Market Risk. Trading book positions are subject to market risk capital requirements which are based either on predetermined levels set by regulators or on internal models. The market risk regulatory capital rules require that a firm obtains the prior written approval of its regulators before using any internal model to calculate its risk-based capital requirement.

RWAs for market risk are computed based on measures of exposures which include the following internal models: VaR; Stressed VaR (SVaR); Incremental Risk; and the Comprehensive Risk Measure (for PRA purposes this is the All Price Risk Measure and is subject to a floor). See "Market Risk Management — Risk Measures" for information about VaR. In addition, Standardised Rules, in accordance with the CRR, are used to compute RWAs for market risk for certain securitised and non-securitised positions by applying risk-weighting factors predetermined by regulators to positions after applicable netting is performed. RWAs for market risk are the sum of each of these measures multiplied by 12.5.

Operational Risk. The company's capital requirements for operational risk are currently calculated under the Standardised approach. The Standardised approach requires companies to divide their activities into eight defined business lines or categories. Each business line is assigned a beta factor which is applied to the three-year average revenues of that business line (with certain prescribed exceptions, such as extraordinary income). Expenses are not included in the calculation. The sum of the individual business line requirements is multiplied by 12.5 to derive the operational RWAs.

Concentration Risk. Under the CRR, institutions are required to monitor and control their large exposures. The large exposure framework is designed to limit the risk of over-reliance on an individual counterparty or a group of connected counterparties. There is a general limit applied to all of the institution's exposures to a single counterparty or groups of connected counterparties, which is set at 25% of eligible capital. The framework includes reporting requirements, hard limits and additional concentration capital charges for trading book large exposures. As of December 2021 and December 2020, the company had no concentration risk capital requirements.

Leverage Ratio

The company is subject to the leverage ratio framework established by the PRA. The leverage ratio compares Tier 1 capital to a measure of leverage exposure, defined as the sum of certain assets plus certain off-balance-sheet exposures (which include a measure of derivatives, securities financing transactions, commitments and guarantees), less Tier 1 capital deductions.

The company had a leverage ratio of 4.2% as of December 2021 and 4.7% as of December 2020. The leverage ratio as of December 2021 included the company's profits after foreseeable charges for the three months ended December 2021, which have been approved to be included as regulatory capital on finalisation of these financial statements. These profits contributed approximately 7 bps to the leverage ratio. The leverage ratio as of December 2021 decreased compared with December 2020, primarily due to an increase in leverage exposures, partially offset by an increase in Tier 1 capital.

The table below presents information about the company's leverage ratio.

	As of December	
$ in millions	**2021**	2020
Tier 1 capital	**$ 37,110**	$ 35,262
Leverage exposure	**$892,621**	$751,188
Leverage ratio	**4.2%**	4.7%

In October 2021, the framework was revised to set a minimum leverage ratio requirement at 3.25% that is expected to apply to the company from January 1, 2023.

Minimum Requirement for Own Funds and Eligible Liabilities

The company is subject to a minimum requirement for own funds and eligible liabilities (MREL) issued to GS Group affiliates. This requirement is subject to a transitional period which began to phase in from January 1, 2019 and became fully effective on January 1, 2022.

As of December 2021, the company's MREL was $60.68 billion, which is in excess of its minimum transitional requirement and consists of the company's total regulatory capital of $42.49 billion and eligible senior intercompany borrowings, excluding accrued interest, of $18.19 billion.

Swaps, Derivatives and Commodities Regulation

The company is a swap dealer registered with the Commodity Futures Trading Commission (CFTC) and, beginning in the fourth quarter of 2021, also became a registered security-based swap dealer with the U.S. Securities Exchange Commissions (SEC). As of December 2021, the company was subject to and in compliance with applicable capital requirements for swap dealers and security-based swap dealers.

Regulatory Matters and Other Developments

The company's businesses are subject to extensive regulation and supervision worldwide. Regulations have been adopted or are being considered by regulators and policy-makers. The expectation is that the principal areas of impact from regulatory reform for the company will be increased regulatory capital requirements and increased regulation and restriction on certain activities. However, 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 U.K. regulations.

Capital and Liquidity Requirements

The company is subject to the U.K. capital and liquidity frameworks, which are largely based on Basel III and remain predominately aligned with the E.U. capital and liquidity frameworks. The most recent amendments to the CRR and CRD (respectively, CRR II and CRD V) include changes to counterparty credit risk and the large exposures and leverage ratio frameworks which have been implemented and became applicable in the U.K. on January 1, 2022.

Risk Based Capital Ratios. The Basel Committee published standards that it described as the finalisation of the Basel III post-crisis regulatory reforms (Basel III Revisions). These standards include revisions to the framework relating to the standardised and internal model-based approaches used to calculate market risk requirements and clarifies the scope of positions subject to market risk capital requirements. They also revise the Basel Committee's standardised and internal model-based approaches for credit risk, provide a new standardised approach for operational risk capital and revise the frameworks for credit valuation adjustment (CVA) risk. Finally, the Basel III Revisions set a floor on internally modeled capital requirements at a percentage of the capital requirements under the standardised approach.

The Basel Committee framework contemplates that national regulators implement these standards by January 1, 2023, and that the new floor be phased in through January 1, 2028. In July 2020, the Basel Committee finalised further revisions to the framework for CVA risk, which are intended to align that framework with the market risk framework. The U.K. authorities have not yet released a proposal on the Basel III Revisions.

The Basel Committee has also published an updated securitisation framework which has been implemented in the U.K.

Replacement of Interbank Offered Rates (IBORs), including London Interbank Offered Rate (LIBOR)

On January 1, 2022, the publication of all EUR, CHF, JPY and GBP LIBOR (non-USD LIBOR) settings along with certain USD LIBOR settings ceased. The publication of the most commonly used USD LIBOR settings will cease after June 2023. The FCA has allowed the publication and use of synthetic rates for certain GBP and JPY LIBOR settings in legacy GBP- or JPY LIBOR-based derivative contracts through December 2022. The U.S. federal banking agencies' guidance strongly encourages banking organisations to cease using USD LIBOR.

The International Swaps and Derivatives Association (ISDA) 2020 IBOR Fallbacks Protocol (IBOR Protocol) has provided derivatives market participants with amended fallbacks for legacy and new derivative contracts to mitigate legal or economic uncertainty. Both counterparties 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 derivative contracts that incorporate the relevant terms. In April 2021, the State of New York approved legislation intended to minimise 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 USD LIBOR by providing a statutory framework to replace USD LIBOR with a benchmark rate based on the Secured Overnight Financing Rate (SOFR).

IBOR Exposure (Audited). GS Group, including the company, has facilitated an orderly transition from non-USD LIBORs to alternative risk-free reference rates for itself and its clients and continues to make progress on its transition programme as it relates to USD LIBOR.

The table below presents the company's exposure to interest rate benchmarks subject to reform.

	As of December 2021		
$ in millions	Non-derivative financial assets	Non-derivative financial liabilities	Derivative notional amount
USD LIBOR	**$758**	**$4,839**	**$8,493,783**
GBP LIBOR	**167**	**86**	**622**
Other	**10**	**36**	**229,101**
Total	**$958**	**$4,961**	**$8,723,506**

In the table above:

- Non-derivative financial assets comprise of trading cash instruments, loans and collateralised agreements. Non-derivative financial liabilities comprise of trading cash instruments, collateralised financings and unsecured borrowings.
- Non-USD IBOR derivative notionals excludes amounts for which fallbacks apply from January 1, 2022, or amounts for which all future cashflows have already been fixed, as the company has no ongoing IBOR exposure related to these transactions.
- USD-LIBOR based derivative contracts of $8.5 trillion included approximately $4.0 trillion of derivative contracts which will mature after June 2023 based on their contractual terms. A majority of such derivative contracts are with counterparties under bilateral agreements subject to the IBOR Protocol, or with central clearing counterparties or exchanges which have incorporated fallbacks consistent with the IBOR Protocol in their rulebooks and have announced that they plan to convert USD LIBOR contracts to alternative risk-free reference rates.
- Derivative notionals with exposure to other interest rate benchmarks subject to reform primarily consist of exposure to Canadian Dollar Offered Rate (CDOR), Singapore Interbank Offered Rate (SIBOR) and JPY LIBOR.

The company is engaged with its clients in order to remediate contractual agreements related to cash products where necessary and feasible. Remediation of such agreements is executed via bilateral or multilateral transaction-specific amendments depending on the nature of the transactions. In addition to managing the transition of existing LIBOR based contracts, the company has executed SOFR and Sterling Overnight Index Average-based derivative contracts to make markets and facilitate client activities.

GS Group's LIBOR transition programme continues to make progress with a focus on:

- Evaluating and monitoring the impacts of USD LIBOR settings across its businesses, including transactions and products;
- Ensuring that legacy financial instruments and contracts that continue to be impacted by the transition already contain appropriate fallback language or are being amended, either through bilateral negotiation or using industry-wide tools, such as protocols;
- Enhancements to infrastructure (for example, models and systems) to prepare for a smooth transition from USD LIBOR to alternative risk-free reference rates;
- Ensuring operational readiness to offer and support various alternative risk-free reference rate products;
- Active participation in central bank and sector working groups, including responding to industry consultations; and
- Client education and communication.

Swaps, Derivatives and Commodities Regulation

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, financial reporting and segregation requirements for security-based swap dealers, became effective.

The SEC has recently proposed additional regulations regarding security-based swaps that would, among other things, require public reporting of large positions in security-based swaps.

Impact of Russian Invasion of Ukraine

The Russian invasion of Ukraine in February 2022 has resulted in governments around the world introducing significant sanctions on Russian entities and individuals, and triggered disruption across global financial markets and increased uncertainty in the business environment in which the company operates.

In particular, there has been an unprecedented decline in equity and credit prices of Russian companies, and a sharp fall in the value of the Russian ruble compared to the U.S. dollar. The war has also triggered a sharp rise in commodity prices, notably oil and gas, base and precious metals, and agricultural products.

The company has continued to provide market-making services to its clients while managing market risk levels proactively through ongoing review of exposure limits and focusing on ways to mitigate risk. In particular, the company continues to proactively manage its market risk and credit risk exposures to both Russia and Ukraine, and more broadly to other companies with exposure to the region or to commodity prices. The company is also focused on managing its increased compliance risk from meeting all sanction requirements, and increased settlement risk from trades with Russian counterparts. See "Risk — Credit Risk Management — Russia and Ukraine Exposure" for further details of the company's credit and market risk exposure to Russia and Ukraine as of December 2021.

GS Group remains focused on providing support to its employees impacted by the war, including those of the company or of GS Group affiliates which may provide services to the company, and on supporting the humanitarian efforts of its non-profit partners.

The future impact of the war on the company remains difficult to predict. However, further escalation of the war or increases in the scope of sanctions could have adverse economic consequences, including a slowdown in economic growth, an acceleration of inflation and a reduction in client activity levels, which would likely have a negative impact on the company's operating results, financial condition, and liquidity.

Impact of COVID-19 Pandemic

Infection rates in many parts of the world spiked towards the end of 2021 and into early 2022, as the highly transmissible Omicron variant emerged in the fourth quarter and spread rapidly, while the Delta variant also remained a concern. The surge of infections has led to a renewed emphasis globally on safety measures and restrictions, as well as a greater sense of urgency regarding the distribution of vaccines and vaccine boosters, and has created a greater degree of uncertainty regarding the prospects for economic growth in 2022.

The company has continued to successfully execute on its BCP strategy since initially activating it in March 2020 in response to the emergence of the COVID-19 pandemic. The company's priority has been to safeguard its employees and to seek to ensure continuity of business operations on behalf of its clients.

In general, the market backdrop continued to be constructive during the fourth quarter of 2021 and activity levels remained solid. Volatility increased toward the end of the quarter as a result of the spike in infections, while accelerating inflation, driven by supply chain disruptions and labour shortages, and more moderated growth expectations were key macroeconomic considerations heading into 2022. The company continued to deploy its balance sheet to intermediate risk and to support the needs of clients.

While the global economy continued on the path to recovery during 2021, it is vulnerable to the risk that the Omicron variant, or other possible variants, could impede the recovery going forward by precipitating adverse economic consequences, such as a softening in consumer and business confidence and spending, 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, the company's businesses would be negatively impacted. The company 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 its employees, clients and counterparties.

Principal Risks and Uncertainties

The company faces a variety of risks that are substantial and inherent in its businesses. The principal risks and uncertainties that the company faces are: liquidity risk, market risk, credit risk, operational risk, legal and regulatory risk, competition risk, and market developments and general business environment risk. These risks have been summarised below.

These risks are primarily addressed through the company's risk management and corporate governance framework, see "Risk Management — Overview and Structure of Risk Management" and "Directors' Report — Corporate Governance" for further information. For further information about liquidity risk, market risk, credit risk and operational risk and the company's mitigants, see "Liquidity Risk Management", "Market Risk Management", "Credit Risk Management", and "Operational Risk Management", respectively. Legal and regulatory risks are primarily managed by the company's independent risk oversight and control functions, see "Risk Management — Overview and Structure of Risk Management" for further information. Market developments and general business environment risks are overseen by a series of committees, councils and working groups at both the GS Group and the company level. Competition risk is primarily managed by the company's strategy and the company's engagement with employees, see "Directors' Report — Corporate Governance — Strategy" and "Directors' Report — Corporate Governance — Stakeholder Engagement — Engagement with Employees", respectively, for further information.

Liquidity

- The company's liquidity, profitability and businesses may be adversely affected by an inability to access the debt capital markets or to sell assets.
- The company's businesses have been and may in the future be adversely affected by disruptions or lack of liquidity in the credit markets, including reduced access to credit and higher costs of obtaining credit.
- Reductions in the company's credit ratings or an increase in its credit spreads may adversely affect its liquidity and cost of funding.

Market

- The company's businesses have been and may in the future be adversely affected by conditions in the global financial markets and broader economic conditions.
- The company's businesses have been and may in the future be adversely affected by declining asset values, particularly where it has net "long" positions, receives fees based on the value of assets managed, or receives or posts collateral.

Credit

- The company's businesses, profitability and liquidity may be adversely affected by deterioration in the credit quality of or defaults by third parties.
- Concentration of risk increases the potential for significant losses in the company's market-making, underwriting, investing and financing activities.
- Derivative transactions and delayed documentation or settlements may expose the company to credit risk, unexpected risks and potential losses.

Operational

- A failure in the company's operational systems or infrastructure, or those of third parties, as well as human error, malfeasance or other misconduct, could impair the company's liquidity, disrupt its businesses, result in the disclosure of confidential information, damage its reputation and cause losses.
- A failure to protect the company's computer systems, networks and information, and its clients' information, against cyber attacks and similar threats could impair its ability to conduct its businesses, result in the disclosure, theft or destruction of confidential information, damage its reputation and cause losses.
- The company may incur losses as a result of ineffective risk management processes and strategies.
- The company may incur losses as a result of unforeseen or catastrophic events, including pandemics, terrorist attacks, extreme weather events or other natural disasters.
- Climate change could disrupt the company's businesses, adversely affect client activity levels, and the creditworthiness of its client counterparties and the company's efforts to address concerns relating to climate change could result in damage to its reputation.
- The company is reliant on Group Inc. and other GS Group affiliates for client business, various services and capital.

Legal and Regulatory

- The company's businesses and those of its clients are subject to extensive and pervasive regulation around the world.
- A failure to appropriately identify and address potential conflicts of interest could adversely affect the company's businesses.
- Substantial civil or criminal liability or significant regulatory action against the company could have material adverse financial effects, or cause it significant reputational harm, which in turn could seriously harm its business prospects.
- In conducting its business around the world, the company is subject to political, legal, regulatory and other risks that are inherent in operating in many countries.
- The application of regulatory strategies and requirements to facilitate the orderly resolution of large financial institutions could create greater risk of loss for the company's security holders.

Competition

- The company's results have been and may in the future be adversely affected by the composition of its client base.
- The financial services industry is highly competitive.
- The company's businesses would be adversely affected if it was unable to hire and retain qualified employees.

Market Developments and General Business Environment

- The company's businesses, financial condition, liquidity and results of operations have been and may in the future be adversely affected by the COVID-19 pandemic.
- The company may be adversely affected by negative publicity.
- Certain of the company's businesses, its funding instruments and financial products may be adversely affected by changes in or the discontinuance of IBORs, in particular LIBOR.
- Certain of the company's businesses and its funding instruments may be adversely affected by changes in other reference rates, currencies, indices, baskets or ETFs to which products it offers or funding it raises are linked.
- The company faces enhanced risks as new business initiatives and acquisitions lead it to engage in new activities, operate in new locations, transact with a broader array of clients and counterparties and expose it to new asset classes and new markets.

Risk Management

Risks are inherent in the company's businesses and include liquidity, market, credit, operational, model, legal, compliance, conduct, regulatory and reputational risks. The company's risks include the risks across its risk categories, regions or global businesses, as well as those which have uncertain outcomes and have the potential to materially impact the company's financial results, its liquidity and its reputation. For further information about the company's risk management processes, see "Overview and Structure of Risk Management", and for information about the company's areas of risk, see "Liquidity Risk Management", "Market Risk Management", "Credit Risk Management", "Operational Risk Management", "Model Risk Management" below and "Principal Risks and Uncertainties".

Overview and Structure of Risk Management

Overview

The company believes that effective risk management is critical to its success. Accordingly, the company has 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 the risks associated with the company's business are identified, assessed, monitored and managed.

The implementation of the company's risk governance structure and core risk management processes are overseen by Enterprise Risk, which reports to the company's chief risk officer, and is responsible for ensuring that the company's enterprise risk management framework provides the company's board of directors (known hereafter as the "Board"), the company's risk committees and senior management with a consistent and integrated approach to managing the various risks in a manner consistent with the company's risk appetite.

Together with the company's Board, an extensive cross-divisional committee structure with representation from senior management of the company is central to the risk management culture throughout the company. The company's risk management structure, consistent with GS Group, is built around three core components: governance; processes; and people.

Governance. Risk management governance starts with the company's Board, which both directly and through its committees, including the GSI Board Risk Committee, oversees the company's risk management policies and practices implemented through the enterprise risk management framework.

The company's revenue-producing units, as well as Treasury, Engineering, Human Capital Management, Operations, and Corporate and Workplace Solutions, are considered the first line of defence. They are accountable for the outcomes of the company's risk-generating activities, as well as for assessing and managing those risks within the company's risk appetite.

The company's independent risk oversight and control functions are considered as the second line of defence and provide independent assessment, oversight and challenge of the risks taken by the first line of defence, 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 as the third line of defence and reports to the GSI Board Audit Committee and administratively to GS Group's 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 GSI Board Audit Committee, senior management and regulators.

The three lines of defence 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. The company maintains various processes that are critical components of its 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.

The company has a comprehensive data collection process, including policies and procedures that require all employees to report and escalate risk events. The company's approach for risk identification and assessment is comprehensive across all risk types, is dynamic and forward-looking to reflect and adapt to the company's changing risk profile and business environment, leverages subject matter expertise, and allows for prioritisation of the company's most critical risks. The company also recognises that climate change is an emerging risk that presents both challenges and opportunities for its business. Risk management functions continue to develop the company's approach to identify and manage the risks to its assets and counterparties arising from climate change.

To effectively assess and monitor the company's risks, the company maintains a daily discipline of marking substantially all of its inventory to current market levels.

An important part of the company's risk management process is stress testing. It allows the company to quantify its exposure to tail risks, highlight potential loss concentrations, undertake risk/reward analysis, and assess and mitigate its risk positions. Stress tests are performed on a regular basis and are designed to ensure a comprehensive analysis of the company's vulnerabilities, and idiosyncratic risks combining financial and non-financial risks, including, but not limited to, credit, market, liquidity and funding, operational and compliance, strategic, systemic and emerging risks into a single combined scenario. Ad hoc stress tests are also performed in anticipation of market events or conditions. Stress testing is also used to assess capital adequacy as part of the company's capital planning and stress testing process. See "Capital Management and Regulatory Capital — Capital Management" for further information.

The company's risk reporting and monitoring processes are designed to take into account information about both existing and emerging risks, thereby enabling the company's risk committees and senior management to perform their responsibilities with the appropriate level of insight into risk exposures. Furthermore, the company's limit and threshold breach processes provide means for timely escalation. The company evaluates changes in its risk profile and businesses, including changes in business mix and jurisdictions in which it operates, by monitoring risk factors at a company-wide level.

People. The experience of the company's professionals, and their understanding of the nuances and limitations of each risk measure, guide the company in assessing exposures and maintaining them within prudent levels.

Structure

Oversight of risk in the company is ultimately the responsibility of the company's Board, who oversee risk both directly and through delegation to various committees. A series of committees within the company with specific risk management mandates covering important aspects of the company's businesses also have oversight or decision-making responsibilities. The key committees with oversight of the company's activities are described below.

GSI Board Audit Committee. The GSI Board Audit Committee assists the company's Board in the review of processes for ensuring the suitability and effectiveness of the systems and controls of the company. This committee also has responsibility for overseeing the external audit arrangements and review of internal audit activities. Its membership includes non-executive directors of the company. The GSI Board Audit Committee reports to the company's Board.

GSI Board Risk Committee. The GSI Board Risk Committee is responsible for providing advice to the company's Board on the company's overall current and future risk appetite and assisting the company's Board in overseeing the implementation of that risk appetite by senior management. This includes reviewing and advising on the company's risk strategy and oversight of the capital, liquidity and funding position of the company. Its membership includes non-executive directors of the company. The GSI Board Risk Committee reports to the company's Board.

European Management Committee (EMC). The EMC oversees the activities of GS Group in EMEA. It is chaired by the chief executive officer of the company and its membership includes senior managers from the revenue-producing divisions and independent control and support functions.

GSI Risk Committee. The GSI Risk Committee is responsible for the ongoing monitoring and control of all financial and non-financial risks associated with the company's activities. This includes reviewing key financial and risk metrics, including but not limited to profit and loss, capital (including the ICAAP), funding, liquidity, credit risk, market risk, operational risk, price verification and stress tests. The GSI Risk Committee approves market risk, credit risk, liquidity and regulatory capital limits. Its membership includes senior managers from the revenue-producing divisions and independent risk oversight and control functions. The GSI Risk Committee reports to the GSI Board Risk Committee and the company's Board.

GSI Asset Liability Committee. The GSI Asset Liability Committee reviews and approves the strategic direction for the company's 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. Its membership includes senior managers from the revenue-producing divisions and independent risk oversight and control functions. The GSI Asset Liability Committee reports to GS Group's Firmwide Asset Liability Committee and the EMC.

EMEA Conduct Committee. The EMEA Conduct Committee has oversight responsibility for conduct risk and business standards and practices in the region. Its membership includes senior managers from the revenue-producing divisions and independent risk oversight and control functions. The EMEA Conduct Committee reports to the EMC, GS Group's Firmwide Conduct Committee and the company's Board or its committees as appropriate.

GS Group Risk Governance

The comprehensive global risk governance framework in place at the GS Group level forms an integral part of the risk management process at the company. GS Group has established a series of committees with specific risk management mandates. Committees with oversight of matters relevant to the company include representation from the company's senior management. The primary GS Group risk and oversight committees are described below.

Management Committee. The Management Committee oversees the global activities of GS Group. The committee consists of the most senior leaders of GS Group, and is chaired by GS Group's chief executive officer. The chief executive officer of the company is a member of this committee.

Firmwide Enterprise Risk Committee. The Firmwide Enterprise Risk Committee is responsible for overseeing all of GS Group's financial and non-financial risks. As a part of such oversight, the committee is responsible for the ongoing review, approval and monitoring of GS Group's enterprise risk management framework, as well as its risk limits framework. This committee is co-chaired by GS Group's chief financial officer and chief risk officer, who are appointed as chairs by GS Group's chief executive officer, and reports to GS Group's Management Committee. Its membership includes representation from the company's senior management.

Firmwide Asset Liability Committee. The Firmwide Asset Liability Committee reviews and approves the strategic direction for GS Group's 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 GS Group's chief financial officer and global treasurer, who are appointed as chairs by GS Group's chief executive officer, and reports to GS Group's Management Committee. Its membership includes representation from the company's senior management.

Firmwide Client and Business Standards Committee. The Firmwide Client and Business Standards Committee is responsible for overseeing relationships with clients, client service and experience, and related business standards, as well as client-related reputational matters. This committee is chaired by GS Group's president and chief operating officer, who is appointed as chair by GS Group's chief executive officer, and reports to GS Group's Management Committee. Its membership includes representation from the company's senior management.

Conflicts Management

GS Group's senior management oversees policies related to conflicts resolution, and, in conjunction with Conflicts Resolution, Legal and Compliance, GS Group's 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. The responsibility for identifying potential conflicts, as well as complying with GS Group's policies and procedures, is shared by all GS Group employees.

As a general matter, Conflicts Resolution reviews financing and advisory engagements in Investment Banking and certain of GS Group's investing, lending and other activities. In addition, GS Group has various transaction oversight 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 the chief legal officer of GS Group who reports to the chief executive officer of GS Group. GS Group regularly assesses its policies and procedures that address conflicts of interest in an effort to conduct its business in accordance with the highest ethical standards and in compliance with all applicable laws, rules and regulations. The company's framework for conflicts resolution is consistent with, and part of, the GS Group framework.

Climate Risk Management

GS Group categorises climate risk into physical risk and transition risk. Physical risk is the risk that asset values may decline or operations may be disrupted as a result of changes in the climate, while transition risk is the risk that asset values may decline because of changes in climate policies or changes in the underlying economy due to decarbonisation.

As a global financial institution, climate-related risks manifest in different ways across GS Group's businesses and GS Group has continued to make significant enhancements to its climate risk management framework, including steps to further integrate climate into its broader risk management processes. GS Group has integrated oversight of climate-related risks into its risk management governance structure, from senior management to its board of directors and its committees, including GS Group's Risk and Public Responsibilities Committees. The Risk Committee of the GS Group board of directors oversees firmwide financial and non-financial risks, which includes climate risk, and, as part of its oversight, receives updates on GS Group's risk management approach to climate risk, including its approaches towards scenario analysis and integration into existing risk management processes. The Public Responsibilities Committee of GS Group's board of directors assists GS Group's board of directors in its oversight of GS Group's firmwide sustainability strategy and sustainability issues which affects it, including with respect to climate change.

As part of its oversight, the GS Group Public Responsibilities Committee receives periodic updates on GS Group's sustainability strategy, and also periodically reviews its governance and related policies and processes for sustainability and climate change-related risks. Senior management within Risk is responsible for the development of GS Group's climate risk programme.

GS Group has begun incorporating climate risk into its credit evaluation and underwriting processes for select industries. Climate risk factors are now evaluated as part of transaction due diligence for select loan commitments. The company's framework for climate risk management is consistent with, and part of, the GS Group framework.

Compliance Risk Management

GS Group's Compliance Risk Management Program, administered by Compliance, assesses its 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 GS Group's responses to regulatory examinations, audits and inquiries. GS Group monitors and reviews business practices to assess whether they meet or exceed minimum regulatory and legal standards in all markets and jurisdictions in which it conducts business. The company's framework for managing compliance risk is consistent with, and part of, the GS Group framework.

Capital Risk Management

Capital risk is the risk that the company's capital is insufficient to support its business activities under normal and stressed market conditions, or it faces capital reductions or RWA increases, including from new or revised rules or changes in interpretations of existing rules, and is therefore unable to meet its internal capital targets or external regulatory capital requirements. Capital adequacy is of critical importance to the company. Accordingly, the company has in place a comprehensive capital management policy that provides a framework, defines objectives and establishes guidelines to maintain an appropriate level and composition of capital in both business-as-usual and stressed conditions. The capital management framework is designed to provide it with the information needed to comprehensively manage risk, and develop and apply projected stress scenarios that capture idiosyncratic vulnerabilities with a goal of holding sufficient capital to remain adequately capitalised even after experiencing a severe stress event. See "Capital Management and Regulatory Capital" for further information about the company's capital management process.

The company has established a comprehensive governance structure to manage and oversee its day-to-day capital management activities and compliance with capital rules and related policies. The company's capital management activities are overseen by the Board and its committees. The Board is responsible for approving the company's ICAAP and the GSI Board Risk Committee approves its capital management policy. In addition, committees and members of senior management are responsible for the ongoing monitoring of the company's capital adequacy and evaluate current and future regulatory capital requirements, review the results of its capital planning and stress tests processes, and the results of its capital models, review its contingency capital plan, key capital adequacy metrics, including regulatory capital ratios, as well as capital plan metrics, such as capital distributions, outcomes and findings of calculation testing, and monitor risk limits and breaches. The company's framework for capital risk management is consistent with, and part of, the GS Group framework.

Liquidity Risk Management

Overview (Audited)

Liquidity risk is the risk that the company will be unable to fund itself or meet its liquidity needs in the event of company-specific, broader industry or market liquidity stress events. The company has in place a comprehensive and conservative set of liquidity and funding policies. The company's principal objective is to be able to fund itself and to enable its core businesses to continue to serve clients and generate revenues, even under adverse circumstances.

Treasury, which reports to GS Group's chief financial officer, has primary responsibility for developing, managing and executing GS Group's liquidity and funding strategy within its risk appetite.

Liquidity Risk, which is independent of the revenue-producing units and Treasury, and reports to GS Group's chief risk officer, has primary responsibility for assessing, monitoring and managing GS Group's liquidity risk through oversight across GS Group's global businesses and the establishment of stress testing and limits frameworks. The company's framework for managing liquidity risk is consistent with, and part of, the GS Group framework.

Liquidity Risk Management Principles (Audited)

The company manages 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 the company maintains to meet a broad range of potential cash outflows and collateral needs in a stressed environment. A primary liquidity principle is to pre-fund the company's estimated potential cash and collateral needs during a liquidity crisis and hold this liquidity in the form of unencumbered, highly liquid securities and cash. The company believes that the securities held in its 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 it to meet immediate obligations without needing to sell other assets or depend on additional funding from credit-sensitive markets.

The company's GCLA is distributed across asset types, issuers and clearing agents to provide sufficient operating liquidity to ensure timely settlement in all major markets, even in a difficult funding environment.

Asset-Liability Management. The company's liquidity risk management policies are designed to ensure the company has a sufficient amount of financing, even when funding markets experience persistent stress. The company manages maturities and diversity of funding across markets, products and counterparties, and seeks to maintain a diversified external funding profile with an appropriate tenor, taking into consideration the characteristics and liquidity profile of its assets.

The company's goal is to ensure it maintains sufficient liquidity to fund its assets and meet its contractual and contingent obligations in normal times, as well as during periods of market stress. Through the dynamic balance sheet management process, actual and projected asset balances are used to determine secured and unsecured funding requirements. In a liquidity crisis, the company would first use its GCLA in order to avoid reliance on asset sales (other than its GCLA). However, the company recognises that orderly asset sales may be prudent or necessary in a severe or persistent liquidity crisis.

Contingency Funding Plan. GS Group maintains a contingency funding plan, which has a GSI-specific addendum, to provide a framework for analysing and responding to a liquidity crisis situation or periods of market stress. The 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 the company's potential responses if assessments indicate that the company has entered a liquidity crisis, which include pre-funding for what the company estimates will be its potential cash and collateral needs, as well as utilising 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.

Stress Tests

In order to determine the appropriate size of the company's GCLA, the company models liquidity outflows over a range of scenarios and time horizons. One of the company's primary internal liquidity risk models, referred to as the Modeled Liquidity Outflow, quantifies the company's liquidity risks over a 30-day stress scenario. Other factors are considered including, but not limited to, an assessment of potential intraday liquidity needs through an additional internal liquidity risk model, referred to as the Intraday Liquidity Model, the results of the company's long-term stress testing models, resolution liquidity models and other applicable regulatory requirements and a qualitative assessment of the condition of the company, 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. GS Group and the company also perform stress tests. See "Overview and Structure of Risk Management" for information about company-wide stress tests.

Modeled Liquidity Outflow. The Modeled Liquidity Outflow is based on conducting multiple scenarios that include combinations of market-wide and GS Group-specific stress. These scenarios are characterised 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 GS Group-specific crisis potentially triggered by material losses, reputational damage, litigation and/or a ratings downgrade.

The following are key modelling elements of the company's Modeled Liquidity Outflow:

- Liquidity needs over a 30-day scenario;
- A two-notch downgrade of the long-term senior unsecured credit ratings of Group Inc. and its rated subsidiaries, including GSI;
- Changing conditions in funding markets, which limit the company's access to unsecured and secured funding; and
- A combination of contractual outflows, such as upcoming maturities of unsecured debt, and contingent outflows, including, among other things, the withdrawal of customer credit balances in the company's prime brokerage business or an increase in variation margin requirements due to adverse changes in the value of the company's exchange-traded and OTC-cleared derivatives.

Intraday Liquidity Model. The company's Intraday Liquidity Model measures the company's intraday liquidity needs using a scenario analysis characterised by the same qualitative elements as the 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. The company utilises longer-term stress tests to take a forward view on its liquidity position through prolonged stress periods in which the company experiences a severe liquidity stress and recovers in an environment that continues to be challenging.

Resolution Liquidity Models. In connection with GS Group's resolution planning efforts, GS Group has established a Resolution Liquidity Adequacy and Positioning framework, which estimates liquidity needs of its major subsidiaries, including the company, in a stressed environment. GS Group has also established a Resolution Liquidity Execution Need framework, which measures the liquidity needs of its major subsidiaries, including the company, to stabilise and wind-down following a Group Inc. bankruptcy filing in accordance with GS Group's preferred resolution strategy.

In addition, GS Group has established a triggers and alerts framework, which is designed to provide the GS Group board of directors with information needed to make an informed decision on whether and when to commence bankruptcy proceedings for Group Inc.

Limits

The company uses liquidity risk limits at various levels and across liquidity risk types to manage the size of its liquidity exposures. Limits are measured relative to acceptable levels of risk given the company's liquidity risk tolerance. The purpose of these limits is to assist senior management in monitoring and controlling the company's overall liquidity profile.

The GSI Board Risk Committee and the GSI Risk Committee approve the company's limits. Limits are reviewed frequently and amended, with required approvals, on a permanent and temporary basis, as appropriate, to reflect changing market or business conditions.

Limits are monitored by the company's Treasury and Liquidity Risk functions. 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 the company's internal liquidity risk models, described above, as well as consideration of other factors, including, but not limited to, a qualitative assessment of the condition of the company, as well as the financial markets, the company believes its liquidity position as of both December 2021 and December 2020 was appropriate. The company strictly limits its GCLA to a narrowly defined list of securities and cash because they are highly liquid, even in a difficult funding environment. The company does not include other potential sources of excess liquidity in its GCLA, such as less liquid unencumbered securities or committed credit facilities.

The table below presents information about GCLA.

	Average for the Period Ended December	
$ in millions	**2021**	2020
Overnight cash deposits	**$37,102**	$19,269
U.S. government obligations	**12,798**	14,951
Non-U.S. government obligations	**23,649**	25,590
Total	**$73,549**	$59,810

The minimum GCLA required is held by the company directly and is intended for use only by the company to meet its liquidity requirements and is assumed not to be available to Group Inc. or Funding IHC. In addition to GCLA held in the company, GS Group holds a portion of global GCLA directly at Group Inc. or Funding IHC, which in some circumstances may be additionally provided to the company or other major subsidiaries.

Other Unencumbered Assets. In addition to its GCLA, the company has 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 its GCLA. The fair value of the company's other unencumbered assets averaged $29.79 billion for the period ended December 2021 and $32.14 billion for the period ended December 2020.

Liquidity Regulatory Framework

The implementation of the Basel Committee's international framework for liquidity risk management, standards and monitoring calls for a liquidity coverage ratio (LCR) and a net stable funding ratio (NSFR).

The company is subject to a minimum LCR of 100% under the LCR rule approved by the U.K. regulatory authorities and the European Commission. The company's average monthly LCR for the trailing twelve-month period ended December 2021 exceeded the minimum requirement.

The NSFR is designed to promote medium- and long-term stable funding of the assets and off-balance sheet activities of banking organisations over a one-year time horizon. The Basel Committees' NSFR framework requires banking organisations to maintain a minimum NSFR of 100%. The company is subject to the applicable NSFR requirement in the U.K., which became effective in January 2022. As of December 2021, the company's NSFR exceeded the forthcoming minimum requirement.

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

Credit Ratings

The company relies on the debt capital markets to fund a portion of its day-to-day operations and the cost and availability of debt financing is influenced by the company's credit rating and that of Group Inc. Credit ratings are also important when the company is competing in certain markets, such as OTC derivatives, and when it seeks to engage in longer-term transactions.

The table below presents the unsecured credit ratings and outlook of the company and Group Inc.

	As of December 2021		
	Fitch	**Moody's**	**S&P**
GSI			
Short-term debt	**F1**	**P-1**	**A-1**
Long-term debt	**A+**	**A1**	**A+**
Ratings outlook	**Stable**	**Stable**	**Stable**
Group Inc.			
Short-term debt	**F1**	**P-1**	**A-2**
Long-term debt	**A**	**A2**	**BBB+**
Subordinated debt	**BBB+**	**Baa2**	**BBB-**
Trust preferred	**BBB-**	**Baa3**	**BB+**
Preferred stock	**BBB-**	**Ba1**	**BB+**
Ratings outlook	**Stable**	**Stable**	**Stable**

Certain of the company's derivatives have been transacted under bilateral agreements with counterparties who may require the company to post collateral or terminate the transactions based on changes in the credit ratings of either the company and/or Group Inc. The company assesses the impact of these bilateral agreements by determining the collateral or termination payments that would occur assuming a downgrade by all rating agencies of both Group Inc. and the company simultaneously and of each entity individually.

The table below presents the additional collateral or termination payments related to the company's net derivative liabilities under bilateral agreements that could have been called by counterparties in the event of a one- or two-notch downgrade in Group Inc.'s and/or the company's credit ratings.

	As of December	
$ in millions	**2021**	2020
Additional collateral or termination payments:		
One-notch downgrade	**$118**	$275
Two-notch downgrade	**$991**	$907

Cash Flows

As a global financial institution, the company's cash flows are complex and bear little relation to the company's profitability and net assets. Consequently, the company believes that traditional cash flow analysis is less meaningful in evaluating its 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 the company's businesses.

The statement of cash flows is set out on page 49 of this annual report.

Period Ended December 2021. The company's cash and cash equivalents, net of overdrafts and foreign exchange gains and losses on cash and cash equivalents increased by $11.40 billion to $52.41 billion at the end of December 2021, primarily due to net cash from operating activities of $10.80 billion, investing activities of $303 million and financing activities of $296 million. The net cash from financing activities of $296 million primarily reflected an increase in MREL-eligible intercompany loans of $1.50 billion, partially offset by the company paying interest of $1.20 billion on its AT1 notes, subordinated loans and MREL-eligible intercompany loans.

Period Ended December 2020. The company's cash and cash equivalents, net of overdrafts and foreign exchange gains and losses on cash and cash equivalents increased by $18.55 billion to $43.72 billion at the end of December 2020, primarily due to net cash from operating activities of $16.45 billion, investing activities of $422 million and financing activities of $1.67 billion. The net cash from financing activities of $1.67 billion primarily reflected an increase in MREL-eligible intercompany loans of $3.40 billion and receipts of $380 million from issuing share capital, partially offset by the company paying interest of $2.05 billion on its AT1 notes, subordinated loans and MREL-eligible intercompany loans.

Maturity of Financial Liabilities

See Note 30 to the financial statements for a maturity analysis of the company's financial liabilities.

Market Risk Management

Overview (Audited)

Market risk is the risk of loss in the value of the company's inventory and other financial assets and liabilities accounted for at fair value due to changes in market conditions. The company employs 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 and metals.

Market Risk, which is independent of the revenue-producing units and reports to GS Group's chief risk officer, has primary responsibility for assessing, monitoring and managing GS Group's market risk through oversight across GS Group's 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, both at the GS Group and the company level.

Market Risk Management Process (Audited)

The company's process for managing market risk includes the critical components of the risk framework described in the "Overview and Structure of Risk Management", as well as the following:

- Monitoring compliance with established market risk limits and reporting the company's exposures;
- Diversifying exposures;
- Controlling position sizes; and
- Evaluating mitigants, such as economic hedges in related securities or derivatives.

The company's framework for managing market risk is consistent with, and part of, the GS Group framework, and results are analysed by business and in aggregate, at both the GS Group and the company levels.

Risk Measures (Audited)

The company produces risk measures and monitors them against established market risk limits. These measures reflect an extensive range of scenarios and the results are aggregated at the product, business and company-wide level.

A variety of risk measures are used to estimate the size of potential losses for both moderate and more extreme market moves over both short- and long-term time horizons. Primary risk measures are VaR, which is used for shorter-term periods, and stress tests. The company's risk report details key risks, drivers and changes for each business, and is distributed daily to senior management of both the revenue-producing units and independent risk oversight and control functions.

VaR. VaR is the potential loss in value due to adverse market movements over a defined time horizon with a specified confidence level. A one-day time horizon with a 95% confidence level is typically employed. The VaR model is a single model that 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 across the company. The VaR model is applied consistently across GS Group, including the company.

VaR is analysed at the company level and a variety of more detailed levels, including by risk category and business. 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 the company's exposures and relevant risks in the VaR calculations, historical simulations with full valuation of market factors at the position level by simultaneously shocking the relevant market factors for that position are used. 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. A sample from five years of historical data is taken to generate the scenarios for the 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 estimates of potential loss. As a result, even if positions included in VaR were unchanged, 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.

The VaR measure does not include:

- Positions that are best measured and monitored using sensitivity measures; and
- The impact of changes in counterparty and GS Group's and/or the company's credit spreads on derivatives, as well as changes in GS Group's and/or the company's credit spreads on unsecured borrowings, which are designated at fair value through profit or loss.

Daily backtesting of the VaR model is performed (i.e., comparing daily net revenues for positions included in VaR to the VaR measure calculated as of the prior business day) at the GS Group and company level and for each of GS Group's businesses.

Stress Testing. Stress testing is a method of determining the effect on GS Group of various hypothetical stress scenarios. GS Group uses stress testing to examine risks of specific portfolios, as well as the potential impact of significant risk exposures across GS Group, and the impact specifically on the company. A variety of stress testing techniques to calculate the potential loss from a wide range of market moves on the company's portfolios are used, including firmwide stress tests, sensitivity analysis and scenario analysis. The results of the various stress tests are analysed together for risk management purposes. See "Overview and Structure of Risk Management" for information about company-wide stress tests.

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 GS Group's 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, it is generally assumed that positions cannot be reduced or hedged (although experience demonstrates that the company is generally able to do so).

Limits

The company uses market risk limits at various levels to manage the size of its market exposures. These limits are set based on VaR and on a range of stress tests relevant to the company's exposures.

The GSI Board Risk Committee and the GSI Risk Committee set market risk limits for the company at an entity, business and product level, consistent with the company's risk appetite.

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 the company holds and/or a temporary or permanent increase to the limit, if warranted.

Metrics (Audited)

VaR is analysed at the company level and a variety of more detailed levels, including by risk category and business. 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 the company's average daily VaR.

	Period Ended December	
$ in millions	**2021**	2020
Categories		
Interest rates	**$ 25**	$ 38
Equity prices	**27**	33
Currency rates	**12**	11
Commodity prices	**2**	2
Diversification effect	**(28)**	(30)
Total	**$ 38**	$ 54

The company's average daily VaR decreased to $38 million for the period ended December 2021 from $54 million for the period ended December 2020, primarily due to decreases in the interest rates and equity prices categories. The overall decrease was due to lower levels of volatility.

The table below presents the company's period-end VaR.

	As of December	
$ in millions	**2021**	2020
Categories		
Interest rates	**$ 26**	$ 26
Equity prices	**21**	24
Currency rates	**7**	9
Commodity prices	**2**	2
Diversification effect	**(19)**	(22)
Total	**$ 37**	$ 39

The company's period-end VaR decreased to $37 million as of December 2021 from $39 million as of December 2020, primarily due to a decrease in the equity prices category. The overall decrease was due to lower levels of volatility.

The table below presents the company's high and low VaR.

	Period Ended December			
	2021		2020	
$ in millions	**High**	**Low**	High	Low
Categories				
Interest rates	**$30**	**$19**	$ 77	$19
Equity prices	**$46**	**$20**	$118	$15
Currency rates	**$23**	**$ 5**	$ 20	$ 6
Commodity prices	**$ 5**	**$ 1**	$ 8	$ 1
Company-wide				
VaR	**$50**	**$30**	$155	$29

Sensitivity Measures (Audited)

Certain portfolios and individual positions are not included in VaR because VaR is not the most appropriate risk measure for these positions.

10% Sensitivity Measures. The market risk for positions, accounted for at fair value, that are not included in VaR is determined by estimating the potential reduction in net revenues of a 10% decline in the value of these positions. The market risk of these positions was $8.6 million as of December 2021 and $34.7 million as of December 2020.

Credit Risk Management

Overview (Audited)

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 the company holds. The company's exposure to credit risk comes mostly from client transactions in OTC derivatives. Credit risk also comes from cash placed with banks, securities financing transactions (i.e., resale and repurchase agreements and securities borrowing and lending activities), customer and other receivables and other assets. In addition, the company holds other positions that give rise to credit risk (e.g., bonds). These credit risks are captured as a component of market risk measures, which are monitored and managed by Market Risk.

Credit Risk, which is independent of the revenue-producing units and reports to GS Group's chief risk officer, has primary responsibility for assessing, monitoring and managing GS Group's credit risk through oversight across GS Group's global businesses. The company's framework for managing credit risk is consistent with the framework of GS Group, established by GS Group's Risk Governance Committee.

Credit Risk Management Process (Audited)

The process for managing credit risk includes the critical components of the company's 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 the company's credit exposures and credit concentrations;
- Assessing the likelihood that a counterparty will default on its payment obligations;
- Measuring the company's current and potential credit exposure and losses resulting from a counterparty default;
- Using credit risk mitigants, including collateral and hedging; and
- Maximising recovery through active workout and restructuring of claims.

The company also performs credit reviews, which include initial and ongoing analyses of the company's counterparties. 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.

The 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 aggregate credit risk by product, internal credit rating, industry, country and region.

Risk Measures

Credit risk is measured 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 the company after taking into account applicable netting and collateral arrangements, while potential exposure represents the company's 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.

Stress Tests

The company conducts 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, the company estimates the direct impact of the default on its sovereign credit exposures, changes to its 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. The company also performs company-wide stress tests. See "Overview and Structure of Risk Management" for information about company-wide stress tests.

Limits

Credit limits are used at various levels to manage the size and nature of the company's credit exposures. The GSI Board Risk Committee and the GSI Risk Committee approve credit risk limits at the company-wide, business and product level, consistent with the company's risk appetite. Furthermore, the GSI Risk Committee approves the framework that governs the setting of credit risk sub-limits at the company level, which is delegated to Credit Risk (through delegated authority from GS Group's Risk Governance Committee).

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 credit exposures on derivatives and securities financing transactions, the company may enter into netting agreements with counterparties that permit it to offset receivables and payables with such counterparties. The company may also reduce credit risk with counterparties by entering into agreements that enable it 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. The company monitors the fair value of the collateral to ensure that credit exposures are appropriately collateralised. The company seeks to minimise exposures where there is a significant positive correlation between the creditworthiness of counterparties and the market value of collateral received.

When the company does not have sufficient visibility into a counterparty's financial strength or when it believes a counterparty requires support from its parent company, the company may obtain third-party guarantees of the counterparty's obligations. The company may also mitigate its credit risk using credit derivatives.

Credit Exposures (Audited)

The company's credit exposures are described further below.

Cash and Cash Equivalents. Cash and cash equivalents include both interest-bearing and non-interest-bearing deposits. To mitigate the risk of credit loss, the company places substantially all of its deposits with highly rated banks and central banks.

Collateralised Agreements. The company bears credit risk related to collateralised agreements only to the extent that cash advanced to the counterparty exceeds the value of the collateral received. The company's credit exposure on these transactions is therefore significantly lower than the amounts recorded in the balance sheet, which represent fair values or contractual value before consideration of collateral received. The company also has credit exposure on collateralised financings, which are liabilities on its balance sheet, to the extent that the value of collateral pledged to the counterparty for these transactions exceeds the amount of cash or collateral received.

Customer and Other Receivables. The company is exposed to credit risk from its customer and other receivables through its receivables from broker/dealers and clearing organisations and receivables from customer. These primarily consist of receivables related to cash collateral paid to counterparties and clearing organisations in respect of derivative financial instrument liabilities. Customer and other receivables also includes collateralised receivables related to customer securities transactions, which generally have minimal credit risk due to both the value of the collateral received and the short-term nature of these receivables.

Trading Assets. Trading assets includes trading cash instruments and derivatives. In the tables below, trading cash instruments are included in the gross exposure; however, to the extent that they have been captured by market risk they are removed to arrive at net credit exposure. Derivatives are reported at fair value on a gross by counterparty basis in the company's financial statements unless the company has a current legal right of set-off and also intends to settle on a net basis. OTC derivatives are risk managed using the risk processes, measures and limits described above.

Investments. Investments includes debt instruments and equity securities. In the tables below, investments are included in the gross exposure; however, to the extent that they have been captured by market risk they are removed to arrive at net credit exposure.

Loans. Loans includes loans held for investment. In the tables below, loans are included in the gross exposure; however, to the extent that they have been captured by market risk they are removed to arrive at net credit exposure. In addition to the mitigants quantified in "Financial Instruments Measured at Fair Value" below, the company may also obtain credit protection on certain loans through credit derivatives, which can be single name or index-based contracts, to mitigate the credit risk associated with certain lending activity.

Other Assets. The company is exposed to credit risk from its other assets primarily through its intercompany loans and other miscellaneous receivables.

Credit Risk Exposure (Audited)

The table below presents the company's gross credit exposure to financial assets and net credit exposure after taking account of assets captured by market risk in the company's risk management process, counterparty netting (i.e., the netting of financial assets and liabilities for a given counterparty when a legal right of set-off exists under an enforceable netting agreement), and cash and security collateral received and cash collateral posted under credit support agreements, which management considers when determining credit risk.

$ in millions	Fair value	Amortised cost	Total
As of December 2021			
Gross credit exposure	**$ 922,314**	**$219,426**	**$1,141,740**
Net credit exposure	**$ 26,181**	**$ 81,886**	**$ 108,067**
As of December 2020			
Gross credit exposure	$1,083,006	$183,571	$1,266,577
Net credit exposure	$ 28,367	$ 64,235	$ 92,602

Financial Instruments Measured at Fair Value. The table below presents the company's gross credit exposure to financial assets measured at fair value through profit or loss and net credit exposure after taking account of assets captured by market risk in the company's risk management process, counterparty netting, and cash and security collateral received and cash collateral posted under credit support agreements, which management considers when determining credit risk.

$ in millions	Collateralised agreements	Trading assets	Investments	Loans	Other assets	Total
As of December 2021						
Gross credit exposure	**$ 178,279**	**$ 742,238**	**$ 399**	**$ 398**	**$1,000**	**$ 922,314**
Assets captured by market risk	**–**	**(94,498)**	**(399)**	**–**	**–**	**(94,897)**
Counterparty netting	**(25,179)**	**(563,180)**	**–**	**(107)**	**–**	**(588,466)**
Cash collateral	**–**	**(40,420)**	**–**	**–**	**–**	**(40,420)**
Security collateral received	**(151,339)**	**(21,011)**	**–**	**–**	**–**	**(172,350)**
Net credit exposure	**$ 1,761**	**$ 23,129**	**$ –**	**$ 291**	**$1,000**	**$ 26,181**
As of December 2020						
Gross credit exposure	$ 92,619	$ 982,919	$ 888	$ 567	$6,013	$1,083,006
Assets captured by market risk	–	(83,083)	(888)	–	–	(83,971)
Counterparty netting	(19,790)	(807,180)	–	(215)	–	(827,185)
Cash collateral	–	(49,190)	–	–	–	(49,190)
Security collateral received	(71,995)	(22,137)	–	(161)	–	(94,293)
Net credit exposure	$ 834	$ 21,329	$ –	$ 191	$6,013	$ 28,367

The table below presents the company's gross credit exposure to financial assets measured at fair value through profit or loss by internally determined public rating agency equivalents and other credit metrics.

	As of December	
$ in millions	**2021**	2020
AAA	**$ 19,446**	$ 16,789
AA	**75,942**	64,833
A	**616,425**	789,934
BBB	**74,945**	79,858
BB or lower	**40,032**	40,199
Unrated	**95,524**	91,393
Total	**$922,314**	$1,083,006

In the table above, the company's unrated gross credit exposure includes assets captured by market risk. The company's net unrated credit exposure was $419 million as of December 2021 and $794 million as of December 2020, which are financial assets for which the company has not assigned an internally determined public rating agency equivalent.

Financial Instruments Measured at Amortised Cost. The company's financial assets measured at amortised cost are set out in Note 28 to the financial statements. These amounts represent the company's gross credit exposure to financial assets measured at amortised cost. See "Risk Mitigants" above for information about collateral and other credit enhancements that mitigate credit risk on these financial assets.

The company's financial assets measured at amortised cost were all classified within stage 1 of the company's impairment model, namely, they were not credit-impaired on initial recognition and there has been no significant increase in credit risk since initial recognition as of December 2021 and December 2020. The expected credit losses (ECL) on these financial assets were not material as of December 2021 and December 2020. There have been no significant changes in estimation techniques or significant assumptions made during the reporting period.

The table below presents the company's gross credit exposure to financial assets measured at amortised cost by internally determined public rating agency equivalents and other credit metrics.

	As of December	
$ in millions	**2021**	2020
AAA	**$ 2,214**	$ 2,578
AA	**60,627**	52,950
A	**113,605**	81,432
BBB	**16,646**	17,414
BB or lower	**24,479**	27,274
Unrated	**1,855**	1,923
Total	**$219,426**	$183,571

In the table above, the company's unrated gross credit exposure relates to financial assets for which the company has not assigned an internally determined public rating agency equivalent.

Commitments and Contingencies. In addition to credit risk on financial assets, the company also has credit exposure in respect of contingent and forward starting collateralised agreements. The company's gross credit exposure related to these activities is $141.02 billion as of December 2021 and $61.98 billion as of December 2020. However, this will be mitigated by collateral of approximately $139.65 billion as of December 2021 and approximately $61.40 billion as of December 2020 if these commitments are fulfilled. As a result, the company's net credit exposure to these commitments was approximately $1.37 billion as of December 2021 and approximately $580 million as of December 2020.

Credit Concentrations (Audited)

The company's concentrations to credit risk arise from its market making, client facilitation, investing, underwriting, lending and collateralised transactions, and cash management activities, and may be impacted by changes in economic, industry or political factors. These activities expose the company to many different industries and counterparties, and may also subject the company 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 company seeks to mitigate credit risk by actively monitoring aggregate exposures against limits on individual entities and their consolidating groups, as well as countries and industries, and obtaining collateral from counterparties as deemed appropriate.

The company measures and monitors its credit exposure based on amounts owed to the company after taking into account risk mitigants that management 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 company to offset receivables and payables with such counterparties and/or enable the company to obtain collateral on an upfront or contingent basis.

Collateral obtained by the company related to derivative assets is principally cash and is held by the company or a third-party custodian. Collateral obtained by the company related to collateralised agreement transactions is primarily government and agency obligations and equities.

The table below presents the company's net credit exposure to financial assets by industry and region.

	As of December	
$ in millions	**2021**	2020
Credit Exposure by Industry		
Funds	**$ 8,221**	$ 6,599
Financial Institutions	**35,408**	34,767
Sovereign	**52,436**	42,760
Natural Resources & Utilities	**6,209**	1,470
Diversified Industrials	**641**	1,362
Other (including Special Purpose Vehicles)	**5,152**	5,644
Total	**$108,067**	$92,602
Credit Exposure by Region		
EMEA	**$ 83,531**	$64,381
Americas	**16,403**	18,937
Asia	**8,133**	9,284
Total	**$108,067**	$92,602

Russia and Ukraine Exposure

The company's exposures to Russia and Ukraine as of December 2021 are described below. 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 the company's long and short positions due to changes in market prices.

Russia Exposure. As of December 2021, the company's total third-party credit exposure to Russia was $264 million, of which the majority was to non-sovereign counterparties or borrowers. Such exposure consisted of $133 million related to OTC derivatives, $57 million related to loans and lending commitments and $58 million related to secured receivables. These credit exposures are before the application of certain credit risk mitigants as the current value of these mitigants is uncertain. The company also had intercompany credit exposure to Russia of $205 million, mainly in the form of an intercompany loan with a GS Group affiliate located in Russia.

In addition, as of December 2021, the company's total market exposure relating to Russian issuers or underliers (primarily sovereign) was $(458) million. Such exposure consisted of $163 million related to debt, $(531) million related to credit derivatives and $(90) million related to equities.

Ukraine Exposure. As of December 2021, the company's total credit exposure to Ukraine was not material and its total market exposure relating to Ukrainian issuers or underliers (primarily sovereign) was $166 million.

Operational Risk Management

Overview (Audited)

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes, people, systems or from external events. The company's 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:

- Execution, delivery and process management;
- Business disruption and system failures;
- Employment practices and workplace safety;
- Clients, products and business practices;
- Damage to physical assets;
- Internal fraud; and
- External fraud.

Operational Risk, which is independent of revenue-producing units, and reports to GS Group's chief risk officer, has primary responsibility for developing and implementing a formalised framework for assessing, monitoring and managing operational risk with the goal of maintaining GS Group's exposure to operational risk at levels that are within its risk appetite. The company's framework for managing operational risk is consistent with, and part of, the GS Group framework.

Operational Risk Management Process (Audited)

The company's process for managing operational risk includes the critical components of the company's risk management framework described in the "Overview and Structure of Risk Management", including a comprehensive data collection process, as well as company-wide policies and procedures, for operational risk events.

Top-down and bottom-up approaches are combined to manage and measure operational risk. From a top-down perspective, senior management assesses company-wide and business-level operational risk profiles. From a bottom-up perspective, the first and second lines of defence are responsible for risk identification and risk management on a day-to-day basis, including escalating operational risks and risk events to senior management.

The company has a comprehensive control framework designed to provide a well-controlled environment to minimise operational risks. The EMEA Operational Risk and Resilience Committee is responsible for overseeing operational risk of the company, and for ensuring the company's business and operational resilience.

The operational risk management framework is designed to comply with the operational risk measurement rules under Basel III and has evolved based on the changing needs of the company's businesses and regulatory guidance.

Policies are in place that require all employees to report and escalate operational risk events. When operational risk events are identified, policies require that the events be documented and analysed to determine whether changes are required in the systems and/or processes to further mitigate the risk of future events.

Operational risk management applications are used to capture, analyse, aggregate and report operational risk event data and key metrics. One of the company's key risk identification and assessment tools is an operational risk and control self-assessment process, which is performed by the company's 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 analysed to evaluate operational risk exposures and identify businesses, activities or products with heightened levels of operational risk.

Risk Measurement

The company's operational risk exposure is measured using both statistical modelling and scenario analyses, which involve qualitative and quantitative assessments of internal and external operational risk event data and internal control factors for each of the company's businesses.

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. The company also performs company-wide stress tests. See "Overview and Structure of Risk Management" for information about company-wide 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. The company manages 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 the company's data and systems, leading to an adverse impact to the company, its reputation, its clients and/or the broader financial system. The company seeks to minimise the occurrence and impact of unauthorised access, disruption or use of information and/or information systems. The company deploys and operates preventive and detective controls and processes to mitigate emerging and evolving information security and cyber security threats, including monitoring the company's network for known vulnerabilities and signs of unauthorised attempts to access its data and systems. There is increased information risk through diversification of the company's data across external service providers, including use of a variety of cloud-provided or -hosted services and applications.

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 the company's behalf. These risks may include legal, regulatory, information security, reputational, operational or any other risks inherent in engaging a third party. The company identifies, manages and reports key third-party risks and conducts due diligence across multiple risk domains, including information security and cyber security, resilience and additional third-party dependencies. GS Group's Third-Party Risk Program monitors, reviews and reassesses third-party risks on an ongoing basis.

Business Resilience Risk. Business resilience risk is the risk of disruption to the company's critical processes. The company monitors threats and assesses risks and seeks to ensure its state of readiness in the event of a significant operational disruption to the normal operations of its critical functions or their dependencies, such as critical facilities, systems, third parties, data and/or personnel. The company approaches 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 programme is comprehensive, consistent across GS Group and up-to-date, incorporating new information, techniques and technologies as and when they become available, and the company's 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.

Model Risk Management

Overview (Audited)

Model risk is the potential for adverse consequences from decisions made based on model outputs that may be incorrect or used inappropriately. The company relies on quantitative models across its business activities primarily to value certain financial assets and liabilities, to monitor and manage its risk, and to measure and monitor the company's regulatory capital.

Model Risk, which is independent of the revenue-producing units, model developers, model owners and model users, and reports to GS Group's chief risk officer, has primary responsibility for assessing, monitoring and managing GS Group's model risk through oversight across GS Group's global businesses, and provides periodic updates to senior management, risk committees and GS Group's Risk Committee of the Board. The company's framework for managing model risk is consistent with, and part of, GS Group's framework.

GS Group's model risk management framework is managed through a governance structure and risk management controls, which encompass standards designed to ensure it maintains a comprehensive model inventory, including risk assessment and classification, sound model development practices, independent review and model-specific usage controls. GS Group's Firmwide Model Risk Control Committee oversees the model risk management framework.

Model Review and Validation Process

Model Risk consists of quantitative professionals who perform an independent review, validation and approval of the 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.

The company regularly refines and enhances its models to reflect changes in market or economic conditions and its 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, suitability of calculation techniques, accuracy in reflecting the characteristics of the related product and its significant risks, and sensitivity to input parameters and assumptions, as well as the scope of testing performed by the model developers.

See "Liquidity Risk Management", "Market Risk Management", "Credit Risk Management", and "Operational Risk Management" for further information about the company's use of models within these areas.

E.U. Regulation

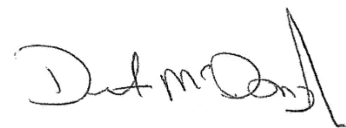
The company lists debt instruments on certain E.U. trading venues and as a result the E.U. Transparency Directive and Delegated Regulation 2019/815 on European Single Electronic Format (ESEF Regulation) apply to the company.

Section 172(1) Statement

The directors have included the Section 172(1) statement in the directors' report, consistent with corporate governance disclosures.

Date of Authorisation of Issue

The strategic report was authorised for issue by the Board on March 7, 2022.



By order of the Board
D. W. McDonogh
Director
March 21, 2022

The directors present their report and the audited financial statements for the period ended December 2021.

Introduction

In accordance with section 414A of the Companies Act 2006, the directors have prepared a strategic report, which is included in Part I of this annual report and which contains a review of the company's businesses and a description of the principal risks and uncertainties facing the company. The directors have chosen to disclose the company's risk management objectives and policies, including exposures to market risk, credit risk and liquidity risk, and the future outlook of the company in the strategic report in accordance with section 414C(11) of the Companies Act 2006.

Accounting Reference Date

During the period ended December 2020, the company changed its accounting reference date from November 30 to December 31 to conform to the period used by the company for U.S. tax reporting purposes. These financial statements have been prepared for the twelve months ended December 31, 2021, with comparative information being presented for the thirteen months ended December 31, 2020. As a result, amounts presented in this annual report are not directly comparable.

Corporate Governance

The company has a robust corporate governance framework which is embedded in its approach to running its business. This framework aligns with legal and regulatory requirements and guidance issued by various bodies as relevant to the company and as appropriate for its business and shareholding structure. As a wholly-owned subsidiary within GS Group, the company also aligns its corporate governance with that of GS Group. While the company does not formally apply any single corporate governance code, its governance arrangements are broadly consistent with the Financial Reporting Council (FRC) Wates Corporate Governance Principles for Large Private Companies.

Role of the Board. The Board has overall responsibility for the management of the company. As part of this role, the Board approves and oversees implementation of the *company's* strategic objectives, risk strategy and internal governance. The Board monitors the integrity of the *company's* accounting and financial reporting systems including financial and operational controls and regulatory compliance and has oversight of senior management.

Purpose, Values and Culture. Whilst some of these areas of responsibility are delegated to Board committees, the Board as a whole is responsible for overseeing the company's strategic direction and culture.

The purpose of GS Group as a whole is to advance sustainable economic growth and financial opportunity across the globe. As a subsidiary within GS Group, the company is aligned to this purpose.

The company strives to maintain a work environment that fosters professionalism, excellence, diversity, cooperation among employees and high standards of business ethics. The company recognises that it needs the most talented people to deliver outstanding results for clients. A diverse workforce in terms of gender, ethnicity, sexual orientation, background, culture and education ensures the development of better ideas, products and services.

The Board recognises the importance of maintaining and developing the culture of the company, and does so by setting the 'tone from the top' and overseeing how culture and values are fostered by the management of the company. The Board receives regular updates on culture, conduct and diversity and inclusion from management.

GS Group maintains a Code of Business Conduct and Ethics, which was updated in March 2021, supplemented by 14 Business Principles, and a compendium of internal policies to inform and guide employees in their roles.

Strategy. GS Group's focus is on delivering sustainable, long-term returns for its shareholders through a strategy that revolves around its clients. Its strategy comprises three core objectives:

- To grow and strengthen its existing franchise: to capture higher wallet share across a wider range of clients.
- To diversify its products and services: to build a more durable source of earnings.
- To operate more efficiently: so that it can drive higher margins and returns across the organisation.

The company's strategy, aligned with that of GS Group, is implemented by the executive management of the company with Board oversight. The chief executive officer of the company updates the Board on the company's performance against its strategic objectives at board meetings.

Composition of the Board. The directors collectively possess a broad range of skills, backgrounds, experience and knowledge appropriate for the effective oversight of the company's business. The roles of the chair of the Board and the chief executive officer are held by different individuals.

The Board considers that the size and structure of the Board is appropriate to oversee the businesses conducted by the company. As of December 2021, the Board is comprised of ten directors, five of whom are independent. The company has Audit, Risk, Nominations and Remuneration Board Committees.

The Board Nominations Committee is responsible for identifying and recommending qualified candidates for Board membership and utilises a Succession Planning Framework which sets out the process and criteria, which include a consideration of board diversity, for the selection of new directors. The use of a skills matrix enables the experience and expertise of the Board both individually and as a whole to be assessed. New directors are provided with a comprehensive and bespoke induction programme. The chair of the Board oversees an ongoing training and development programme for the directors to enhance their knowledge and engagement.

The Board Nominations Committee oversees the effectiveness of the Board, its Committees and their chairs and members, and evaluates this annually. It also reviews the size, structure and composition of the Board, including the balance of independent and non-independent directors.

The approach to directors' conflicts of interest and the anticipated time commitment required is discussed with each director on their joining the Board and reviewed annually as part of the fitness and propriety assessment process. All the directors meet the applicable regulatory requirements for the number of directorships they are permitted to hold.

Responsibilities and Accountability. The company's governance model fully incorporates the Senior Managers and Certification Regime.

The Board is supported by various Board Committees, each with a charter setting out its duties and the responsibilities delegated to it. The Committees are comprised of non-executives only to enable them to provide oversight and challenge to management. The chairs of these board Committees report to the Board on the proceedings and recommendations of the Committees. Certain matters are reserved for decision by the Board alone.

Further details of the GSI Board Risk Committee and GSI Board Audit Committee are set out in the "Overview and Structure of Risk Management — Structure" section of the strategic report.

Opportunity and Risk. The company believes that effective risk management is critical to its success, and so has established an enterprise risk management framework that employs a comprehensive, integrated approach to risk management, and through which the risks associated with the company's businesses are identified, assessed, monitored and managed. The company's risk management structure is built around three core components: governance; processes; and people.

Risk management governance starts with the Board, which both directly and through its committees, including the GSI Board Risk Committee and the GSI Risk Committee, oversee the company's risk management policies and practices implemented through the enterprise risk management framework. The Board is responsible for the annual review and approval of the company's risk appetite statement, which describes the levels and types of risk it is willing to accept, in order to achieve the objectives included in its strategic business plan, while remaining in compliance with regulatory requirements. The company's strategy set out above is aligned with that of GS Group and the Board is ultimately responsible for overseeing and providing direction about the company's strategic business plan and risk appetite.

The chief risk officer reports to the GSI Board Risk Committee. As part of the review of the firmwide risk portfolio, the chief risk officer regularly advises the GSI Board Risk Committee of relevant risk metrics and material exposures, including risk limits and thresholds established in the company's risk appetite statement.

Further details of the GSI Board Risk Committee are set out in the "Overview and Structure of Risk Management — Structure" section of the strategic report.

Remuneration Framework. Attracting and retaining talent is fundamental to GS Group's long-term success as a firm. Compensation, when structured appropriately, is an important way of attracting, retaining and incentivising talent and in reinforcing GS Group's culture. GS Group's remuneration philosophy is reflected in the Goldman Sachs Compensation Principles as posted on the Goldman Sachs public website. In particular, effective remuneration practices should: (i) Encourage a real sense of teamwork and communication, binding individual short-term interests to the institution's long-term interests; (ii) Evaluate performance on a multi-year basis; (iii) Discourage excessive or concentrated risk-taking; (iv) Allow an institution to attract and retain proven talent; and (v) Align aggregate remuneration for GS Group with performance over the cycle.

The company develops remuneration policies and practices in accordance with applicable regulatory rules whilst ensuring that these are aligned so far as possible with the Goldman Sachs Compensation Principles. Employees share in performance-based incentive schemes.

The GSI Board Remuneration Committee oversees the development and implementation of these remuneration policies and practices.

Stakeholder Engagement. The company's stakeholders include its shareholder, employees, suppliers, clients, regulators and the communities and environment in which it operates.

Engagement with Shareholder

The company is a wholly-owned subsidiary of Group Inc. As such its purpose, culture, values and strategies are aligned with those of its ultimate shareholder. The Board receives regular updates on GS Group strategy. Chairs of Board Committees meet regularly with their counterparts on the GS Group board of directors. The company's chief executive officer is a member of GS Group's Management Committee and one non-executive director is a member of GS Group's board of directors.

Engagement with Employees

The company considers its employees as its greatest asset and the Board is responsible for overseeing the company's engagement with them. This includes regular updates from management on various metrics, including on diversity and inclusion.

Senior management engaged with employees in various ways during the period including firmwide or regional 'Town Halls', where questions are solicited in advance and feedback gathered afterwards; Talks at GS with external and internal speakers; periodic employee feedback; email and voicemail communications and manager engagement at a divisional level. Employees are invited to watch quarterly earnings announcements and receive internal briefings so that they are made aware of the financial and economic factors affecting the performance of the company. A sophisticated firmwide intranet further enables employees to be engaged.

The company supports the diversity and inclusion initiatives of GS Group and is committed to sustaining a work environment where its people feel comfortable bringing their authentic selves to work and are empowered to reach their full potential. GS Group has a range of initiatives in place to increase diverse representation at all levels and foster inclusion. Various affinity groups for employees are supported by the company. In September 2021, the company met its commitment, as a signatory to the U.K. Race at Work Charter and the U.K. Women in Finance Charter, of women professionals comprising 30% of the senior talent (vice presidents and above) by 2023.

With respect to the COVID-19 pandemic, the company's priority remains to safeguard its employees and to seek to ensure continuity of business operations on behalf of its clients. Throughout the year, the company has invested in supporting its employees working remotely and is focused on ensuring that employees are able to safely work from its offices. Senior management make regular announcements to employees on the latest governmental and public health advice on COVID-19 and continue to monitor employee sentiment around the company's management of the pandemic to inform its decisions as to the type of support to make available.

Engagement with Other Stakeholders

Clients – the chief executive officer of the company regularly meets with clients and hosts and participates in client events. The Board as a whole regularly receives updates from management on client engagement.

Suppliers – GS Group has globally consistent standards and procedures for the on-boarding, use and payment of external suppliers (vendors). In partnering with GS Group to deliver on its objectives, suppliers are required to meet business, compliance and financial stability requirements and adhere to GS Group's vendor code of conduct, which describes the expectations GS Group has of its suppliers to conduct business responsibly. Suppliers in industries perceived to be of higher risk in relation to environmental, social and governance (ESG) or modern slavery and human trafficking are subject to enhanced due diligence and monitoring. The company reports its activities on this within its annual Modern Slavery Act statement, which is reviewed and approved by the Board. GS Group has a long history of working with small and diverse businesses as part of its vendor diversity programme and has implemented strategies to promote greater diversity within its supplier base and remains committed to its goal to increase spend with small and diverse suppliers by 50% by 2025 (from its 2020 baseline).

Regulators – the company has an active dialogue with its regulators. Senior management and directors meet with regulators on a frequent basis.

Environment – GS Group has a global approach to sustainability through its platform for sustainable finance. GS Group's approach to sustainable finance is focused on two long-term imperatives: advancing the climate transition by helping industries usher in, and thrive in, a low-carbon economy; and driving inclusive growth by leveraging its business capabilities to improve access and affordability and to advance economic empowerment. GS Group has announced a target to deploy $750 billion in sustainable financing, investing and advisory activity by the beginning of 2030, in which the company will play a part.

As part of its ESG framework, GS Group's Corporate and Workplace Solutions division looks to reduce the environmental impact of GS Group's global operations and supply chain, through operational resiliency; ensuring facilities adhere to the highest levels of environmentally sustainable standards; carbon footprint and energy usage reduction initiatives; the sourcing of sustainably produced goods and resource conservation. This approach is applied consistently across all entities in GS Group including the company. GS Group has been carbon neutral across its operations and business travel since 2015, and met its 2020 goal of procuring 100% of electricity from renewable sources.

Communities – the company supports its communities in many ways, with global initiatives coordinated through the Office of Corporate Engagement. These include the 10,000 Small Businesses entrepreneurship programme which helps small business owners create jobs and economic opportunity by providing access to education, capital and business support services, and the 10,000 Women programme which fosters economic growth by providing women entrepreneurs with a business and management education, mentoring and networking, and access to capital. Charitable initiatives include Goldman Sachs Gives, which supports innovative ideas, solving economic and social issues, and enabling progress in underserved communities, and the Community Teamworks volunteering initiative which enables the company's employees to contribute their ideas, time and expertise to drive tangible progress in communities through work in partnership with non-profit organisations.

Internal Control over Financial Reporting. Management of the company is responsible for establishing and maintaining adequate internal control over financial reporting. The company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the company's financial statements for external reporting purposes in accordance with IFRS.

The company's internal control over financial reporting includes policies and procedures that pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets; provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS, and that receipts and expenditures are being made only in accordance with authorisations of management and the directors of the company; and provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use or disposition of the company's assets that could have a material effect on the company's financial statements.

Section 172(1) Statement

Under section 172 of the Companies Act 2006, the directors of the company are required to act in the way they consider, in good faith, would be most likely to promote the success of the company for the benefit of its stakeholders as a whole. In doing this, section 172 requires a director to have regard, among other matters, to: the likely consequences of any decision in the long term; the interests of the company's employees; the need to foster the company's business relationships with clients, suppliers and others; the impact of the company's operations on the community and the environment; the desirability of the company maintaining a reputation for high standards of business conduct; and the need to act fairly with stakeholders of the company.

The directors give careful consideration to the factors set out above in discharging their duties under section 172 and they inform the directors' decision-making as a board. The company endorses GS Group's updated Code of Business Conduct and Ethics set out on the Goldman Sachs public website and looks to conduct its business in accordance with the highest ethical standards and in compliance with all applicable laws, rules and regulations.

The directors are committed to effective engagement with all of the company's stakeholders. They recognise that building strong relationships with these stakeholders will help the company deliver its strategy in line with its long-term values, and operate the business in a sustainable way. The Board seeks to understand and balance the relative interests and priorities of each group and to have regard to these, as appropriate, in their discussions and in the decision-making process. As part of this, the Board receives regular updates from the chief executive officer of the company on his interactions with clients and how these are shaping the company's strategy. It also receives feedback from the company's shareholder. A rigorous agenda setting process for Board meetings ensures topics relevant to stakeholders are brought to the Board in a frequent and timely manner.

In addition, the Board may receive training and other information to further develop its understanding of key issues impacting the company's stakeholders. The Board is further supported by the GSI Board Audit Committee, the GSI Board Risk Committee and the GSI Board Remuneration Committee who consider in more detail the systems and controls in place in relation to engagement with stakeholders.

More details about the company's engagement with its stakeholders can be found in "Corporate Governance — Stakeholder Engagement" above.

Carbon, Energy and Business Travel Consumption and Reporting

The company's main sources of Greenhouse Gas (GHG) emissions are the operation of office facilities, dedicated data centres and business travel. Carbon neutrality is a priority for the operation of GS Group and its supply chain. In 2015, GS Group achieved carbon neutrality in its operations and business travel, ahead of its 2020 goal announced in 2009 and the offices and data centres utilised by the company in the U.K. source 100% renewable electricity. GS Group has expanded its operational carbon commitment to include its supply chain, targeting net-zero carbon emissions by 2030. More information on GS Group's sustainability efforts, including its sustainable finance strategy, energy consumption and carbon emissions can be found in the annual Goldman Sachs Sustainability Report, available at www.goldmansachs.com/s/sustainability-report.

Streamlined Energy and Carbon Reporting (SECR). The tables below present the company's U.K. energy consumption and associated GHG emissions, as well as normalisation metrics for the purposes of SECR. As multiple GS Group subsidiaries occupy the same office space, the U.K. energy consumption and associated Scope 1 and 2 GHG emissions across GS Group have been allocated to the company based on the company's U.K. headcount, less any employees seconded to other GS Group U.K. entities, as a proportion of GS Group's total U.K. headcount.

The table below presents the company's energy consumption.

	Twelve Months Ended December	
MWh	**2021**	2020
Total energy consumption	**48,292**	50,305

The table below presents the company's GHG emissions.

	Twelve Months Ended December	
tCO_2e	**2021**	2020
Scope 1: Direct emissions		
Direct	**1,728**	1,840
Scope 2: Indirect emissions		
Location - indirect	**8,449**	9,626
Market - indirect	**–**	–
Scope 3: Other indirect emissions - Business travel		
Commercial air	**838**	2,958
Ground transportation	**24**	21
Totals		
Scope 1, 2 (location)	**10,177**	11,466
Scope 1, 2 (location) and 3 business travel	**11,039**	14,445
Scope 1, 2 (market) and 3 business travel	**2,590**	4,819

The table below presents the company's normalisation metrics.

	Twelve Months Ended December	
tCO_2e/U.K. employee	**2021**	2020
Scope 1, 2 (location)	**2.9**	3.1

The company's energy consumption and scope 1 and 2 GHG emissions have decreased during the twelve months ended December 2021 in comparison to the twelve months ended December 2020 primarily due a decrease in the company's share of U.K. headcount and the closure of two U.K. premises as a part of the continued rationalisation of GS Group's London campus, partially offset by an increase in occupancy rates as more employees returned to the office following the easing of COVID-19 restrictions. Scope 3 business travel GHG emissions have decreased during the twelve months ended December 2021 in comparison to the twelve months ended December 2020 primarily due to a significant reduction in business travel as a result of the COVID-19 pandemic and the transfer of certain employees to other GS Group affiliates.

GS Group's GHG emissions are calculated in line with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (revised edition). The boundaries of the GHG inventory are defined using the operational control approach and cover the emissions GS Group is responsible for across Scope 1, 2 and material Scope 3 business travel. The emissions are calculated using the conversion factors for the respective year published by the Department for Business, Energy & Industrial Strategy.

GS Group gathers data from its operations on an ongoing basis, with primary evidence sourced from office managers and managed centrally via GS Group's GHG Emissions Reporting Operating Procedure. GS Group ensures the accuracy of its environmental metrics and data collection processes by maintaining a robust internal inventory management plan, continuously enhancing its carbon accounting methodology and obtaining third party verification of its Scope 1, 2 and Scope 3 business travel emissions.

Maximising Energy Efficiency

GS Group's strategy to maximise energy efficiency is to occupy more energy efficient real estate, consolidate space and use more efficient technology equipment. As of December 2021, 84% of Goldman Sachs' U.K. rentable square footage holds BREEAM certification.

During the period ended December 2021, GS Group continued to maximise the operational efficiency of its real estate, focusing on increasing the efficiency of power and cooling systems and utilising more efficient technology equipment.

Employment of Disabled Persons

Applications for employment by disabled persons are fully and fairly considered with regard to the aptitudes and abilities of each applicant. Efforts are made to enable any employees who become disabled during employment to continue their careers within GS Group. Training, career development and promotion of disabled persons are, to the extent possible, identical to that of other employees who are not disabled.

Dividends

The directors do not recommend the payment of an ordinary dividend for the period ended December 2021. No dividends were paid in the period ended December 2020.

Charitable Contributions

The company made donations to charity of $12 million for the period ended December 2021 and $57 million for the period ended December 2020. This included donations of $10 million for the period ended December 2021 and $52 million for the period ended December 2020 to Goldman Sachs Gives (UK), a registered charity, for general charitable purposes in England and Wales.

Exchange Rate

The British pound/U.S. dollar exchange rate was £/$1.3535 as of December 2021 and £/$1.3653 as of December 2020. The average rate for the period ended December 2021 was £/$1.3739 and for the period ended December 2020 was £/$1.2950.

Disclosure of Information to Auditors

In the case of each of the persons who are directors of the company at the date when this report was approved:

- So far as each of the directors is aware, there is no relevant audit information of which the company's auditors are unaware; and
- Each of the directors has taken all the steps that they ought to have taken as a director to make themselves aware of any relevant audit information and to establish that the company's auditors are aware of that information.

Independent Auditors

The company has passed a resolution to re-appoint PricewaterhouseCoopers LLP as auditors of the company for financial periods commencing on or after January 1, 2021.

Statement of Directors' Responsibilities in Respect of the Financial Statements

The directors are responsible for preparing the annual report and the financial statements in accordance with applicable law and regulation.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have prepared the financial statements in accordance with U.K.-adopted international accounting standards.

The company has also prepared financial statements in accordance with International Financial Reporting Standards (IFRS) adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the E.U.

Under company law, directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period. In preparing the financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently;
- State whether applicable U.K.-adopted international accounting standards and IFRS adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the E.U. have been followed, subject to any material departures disclosed and explained in the financial statements;
- Make judgements and estimates that are reasonable and prudent; and
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

The directors are responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are also responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006.

The directors are responsible for:

- The maintenance and integrity of the company's financial statements on the Goldman Sachs website.
- Presenting the financial statements in compliance with the requirements set out in the Delegated Regulation 2019/815 on European Single Electronic Format (ESEF Regulation).

Legislation in the U.K. governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Directors' Report

Directors' Confirmations

Each of the directors, whose names and functions are listed in "Directors" below, confirm that to the best of their knowledge:

- The financial statements, which have been prepared in accordance with U.K.-adopted international accounting standards and IFRS adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the E.U., give a true and fair view of the assets, liabilities, financial position and profit or loss of the company; and
- The strategic report includes a fair review of the development and performance of the business and the position of the company, together with a description of the principal risks and uncertainties that the company faces.

Directors

The directors of the company who served throughout the period and to the date of this report, except where noted, were:

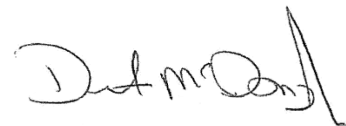
Name
J. M. D. Barroso, Chair
S. A. Boyle (resigned December 31, 2021)
C. Cripps
R. J. Gnodde, Chief executive officer
Lord Grabiner QC (resigned May 31, 2021)
S. P. Gyimah
N. Harman
D. W. McDonogh
T. L. Miller OBE
E. E. Stecher
M. O. Winkelman

The appointment of L. A. Donnelly and N. Pathmanabhan was approved by the Board on November 18, 2021 subject to regulatory approval.

No director had, at the period end, any interest requiring note herein.

Date of Authorisation of Issue

The financial statements were authorised for issue by the Board on March 7, 2022.



By order of the Board
D. W. McDonogh
Director
March 21, 2022

Independent auditors’ report to the member of Goldman Sachs International (unlimited company)

Report on the audit of the financial statements

Opinion

In our opinion, Goldman Sachs International’s financial statements:

- give a true and fair view of the state of the company’s affairs as at December 31, 2021 and of its profit and cash flows for the year then ended;
- have been properly prepared in accordance with UK-adopted international accounting standards; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual Report, which comprise: balance sheet as at December 31, 2021; income statement, statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

Separate opinion in relation to international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union

As explained in Note 2 ‘Basis of Preparation’ to the financial statements, the company, in addition to applying UK-adopted international accounting standards, has also applied international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

In our opinion, the company financial statements have been properly prepared in accordance with international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (“ISAs (UK)”), International Standards on Auditing issued by the International Auditing and Assurance Standards Board (“ISAs”) and applicable law. Our responsibilities under ISAs (UK) and ISAs are further described in the Auditors’ responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the Financial Reporting Council (“FRC”)’s Ethical Standard, as applicable to other listed entities of public interest, and the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by either the FRC’s Ethical Standard or Article 5(1) of Regulation (EU) No 537/2014 were not provided.

Other than those disclosed in Note 6 ‘Net Operating Expenses’ to the financial statements, we have provided no non-audit services to the company or its controlled undertakings in the period under audit.

Our audit approach

Overview

Audit scope.

- We perform a full scope audit of the financial statements of the company as a whole as a single component. The scope of the audit and the nature, timing and extent of audit procedures were determined by our risk assessment, the financial significance of financial statement line items and qualitative factors (including history of misstatement through fraud or error). In particular, we looked at where the directors made subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Key audit matters.

- Valuation of financial assets and liabilities held at fair value. Refer to Note 29 'Fair Value Measurement' in the financial statements.

Materiality.

- Overall materiality: $355,000,000 (2020: $258,000,000) based on 1% of total Tier 1 capital resources (2020: 0.75%).
- Performance materiality: $266,000,000 (2020: $194,000,000).

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

This is not a complete list of all risks identified by our audit.

The impact of COVID-19 on the financial statements, which was a key audit matter last year, is no longer included because of the limited impact on the company's operations and the markets in which it trades. Otherwise, the key audit matters below are consistent with last year.

Key audit matter	How our audit addressed the key audit matter
Valuation of financial assets and liabilities held at fair value ***Refer to Note 29 'Fair Value Measurement' in the financial statements.*** In accordance with the accounting policies set out in Note 3 'Summary of Significant Accounting Policies' to the financial statements, the majority of financial assets and liabilities are recorded in the balance sheet at fair value and changes in fair value are recorded in net revenues. Total financial assets and liabilities at fair value were $922.31 billion and $880.41 billion, respectively, as at December 31, 2021. The audit of the valuation of financial assets and liabilities required significant audit resources and is an area of estimation uncertainty and therefore represents a key audit matter. The fair values for substantially all of the company's financial assets and liabilities measured at fair value detailed in Note 29 'Fair Value Measurement' are based on observable prices and inputs and are classified in levels 1 and 2 of the fair value hierarchy. The valuations of derivative financial instruments are calculated by financial models using a variety of inputs. Most of the company's derivatives are traded in active markets and external observable inputs are available to support management's valuations. The company also enters into complex and less liquid cash and derivative financial instruments where a limited or no active market exists. In these instances, there is less observable evidence to support the valuations and hence there is greater estimation uncertainty. When one or more valuation inputs are unobservable and significant, the financial instrument is classified as level 3 in the valuation hierarchy. Level 3 financial assets and liabilities measured at fair value were $5.76 billion and $18.24 billion, respectively, as at December 31, 2021. We performed a risk assessment of the financial instruments held by the company using our industry experience and knowledge of the company's business. We used this analysis to identify areas of greater judgement and focus our testing. We concluded that the higher assessed risks of material misstatement relate to the valuation of certain credit and equity derivative financial instruments classified as level 3. Within credit derivatives, this included the valuation of a portfolio of financial instruments sensitive to secured funding spreads, the methodology for which involves a number of assumptions in developing the estimate, and within equity derivatives, a portfolio of financial instruments sensitive to correlations which are unobservable.	We understood and evaluated the design and tested the operational effectiveness of key controls over the valuation of financial assets and liabilities. These controls included: • Validation of new and existing models by a specialist team within the risk function, as well as access and change management controls in respect of models in use; • The price verification process performed by the Controller's function using prices and model inputs sourced from third parties; and • Calculation and approval of key valuation adjustments. We noted no significant exceptions in the design or operating effectiveness of these controls, and we determined we could rely on these controls for the purposes of our audit. In addition, we performed the substantive testing described below. We tested the valuation of a sample of cash instruments to third party sources. We utilised internal valuation experts to revalue a sample of derivative and cash financial instruments, including level 3 instruments, using independent models. In relation to a portfolio of credit derivatives in level 3, we utilised our internal valuation experts to: • Assess the appropriateness of fair value by identifying alternative funding spreads using external sources and evaluating the difference in valuation; • Test management's valuation inputs to external sources; and • Reperform the valuation of a sample of positions using management's inputs and our own model. Additionally, we valued a sample of level 3 equity derivatives and, to the extent available, independently sourced inputs, such as correlation. For samples where we utilised management's inputs to revalue the instruments, we assessed the reasonableness of the inputs used. We evaluated the methodology and underlying assumptions used to determine valuation adjustments. We tested a sample of valuation adjustments as at the period-end. Based on the work performed, we found management's estimates of the fair value of financial assets and liabilities to be supported by the evidence obtained. We performed testing to validate that management had allocated derivative financial instruments to the appropriate level within the fair value hierarchy in line with the established policy, and that the policy classifications were appropriate. We read and assessed the disclosures in Note 29 'Fair Value Measurement' regarding significant unobservable inputs and the fair value hierarchy and found them to be appropriate.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the company, the accounting processes and controls, and the industry in which it operates.

The company provides a variety of financial services to clients worldwide. The company also operates a number of branches and representative offices across Europe, the Middle East and Africa to provide financial services to clients in those regions. We consider the company and its branches to represent a single audit component. Traders based in overseas group locations enter into transactions on behalf of the company. In these circumstances, certain internal controls relevant to financial reporting operate in those locations. In addition, there are a number of centralised functions operated by the ultimate parent company, The Goldman Sachs Group, Inc., in the U.S. or in group shared service centres in other locations that are relevant to the audit of the company. We determined the scope of the work required in each of these locations and issued instructions to PwC network firms. We interacted regularly with the firms responsible for the work throughout the course of the audit. This included reviewing key working papers and discussing and challenging the results of work in higher risk areas of the audit. We concluded that the procedures performed on our behalf were sufficient for the purposes of issuing our opinion.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

Overall materiality	$355,000,000 (2020: $258,000,000).
How we determined it	1% of total Tier 1 capital resources (2020: 0.75% of Tier 1 capital resources)
Rationale for benchmark applied	The immediate and ultimate parent companies, management, certain creditors (e.g. note holders) and the company's regulators are the primary users of the financial statements. The level of Tier 1 capital resources is a key area of focus for these users. We have increased the percentage threshold applied in 2021 to 1% as this is more consistent with our normal approach when referencing net assets, which are closely correlated to Tier 1 capital resources, as the benchmark. The actual threshold at the year end is slightly below 1%, as materiality was calculated using the entity's capital resources at the planning stage of the audit.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% (2020: 75%) of overall materiality, amounting to $266,000,000 (2020: $194,000,000) for the company financial statements.

In determining the performance materiality, we considered a number of factors - the history of misstatements, risk assessment and aggregation risk and the effectiveness of controls - and concluded that an amount at the upper end of our normal range was appropriate.

We agreed with those charged with governance that we would report to them misstatements identified during our audit above $17,750,000 (2020: $12,900,000) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the company's ability to continue to adopt the going concern basis of accounting included:

- Performing a risk assessment to identify factors that could impact the going concern basis of accounting;
- Evaluating the company's current financial position and financial forecasts;
- Understanding and evaluating the company's current capital and liquidity position and reviewing the results of stress testing performed by management of both liquidity and regulatory capital, including considering the severity of the stress scenarios that were used;
- Considering the results of procedures performed by the group auditor to support the going concern assessment for The Goldman Sachs Group Inc.; and
- Evaluating the adequacy of the disclosures made in the financial statements in relation to going concern.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the company's ability to continue as a going concern.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic Report and Directors' Report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic Report and Directors' Report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic Report and Directors' Report for the year ended December 31, 2021 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic Report and Directors' Report.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors' Responsibilities in respect of the financial statements, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

The directors are responsible for presenting the financial statements in compliance with the requirements set out in the Delegated Regulation 2019/815 on European Single Electronic Format (ESEF Regulation).

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) and ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the company and industry, we identified that the principal risks of non-compliance with laws and regulations related to rules of the Financial Conduct Authority ("FCA"), Prudential Regulation Authority ("PRA") and equivalent local laws and regulations applicable to other countries in which the company operates, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Companies Act 2006 and corporate tax legislation. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to the posting of inappropriate journal entries and management bias through the manipulation of the valuation of financial instruments held at fair value. Audit procedures performed by the engagement team included:

- Discussions with management, including Internal Audit, and those charged with governance in relation to known or suspected instances of non-compliance with laws and regulations and fraud;
- Evaluating and testing of the operating effectiveness of management's controls designed to prevent and detect fraud in financial reporting;
- Assessing matters reported on the company's whistleblowing helpline and the results of management's investigation of such matters;
- Reviewing key correspondence with regulatory authorities (the FCA and the PRA);
- Identifying and testing journal entries, in particular any journal entries posted by senior management;
- Testing of information security controls relating to system access and change management;
- Challenging assumptions and judgments made by management in their significant accounting estimates, in particular in relation to the valuation of financial assets and liabilities held at fair value; and
- Incorporating unpredictability into the nature, timing and/or extent of our testing.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements in accordance with ISAs (UK) is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

As part of an audit in accordance with ISAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the company to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the company audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

It is also our responsibility to assess whether the financial statements have been prepared, in all material respects, in compliance with the requirements laid down in the ESEF Regulation.

Use of this report

This report, including the opinions, has been prepared for and only for the company's member as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- We have not obtained all the information and explanations we require for our audit; or
- Adequate accounting records have not been kept by the company, or returns adequate for our audit have not been received from branches not visited by us; or
- Certain disclosures of directors' remuneration specified by law are not made; or
- The financial statements are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Report on other legal and regulatory requirements

We have checked the compliance of the financial statements of the company as at December 31, 2021 with the relevant statutory requirements set out in the ESEF Regulation that are applicable to financial statements. That is, for the company:

- The financial statements are prepared in a valid xHTML format.

In our opinion, the financial statements of the company as at December 31, 2021, identified as gsinternational-12-31-21-financial-statements.xhtml, have been prepared, in all material respects, in compliance with the requirements laid down in the ESEF Regulation.

Other matter

In the event that the English version of this report and a translation of it into a language other than English differ, the English version shall prevail.

Jonathan Holloway (Senior Statutory Auditor)
for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London
March 22, 2022

Income Statement

$ in millions	Note	Period Ended December 2021	2020[1,2]
Gains or losses from financial instruments at fair value through profit or loss		**$ 7,711**	$ 7,729
Fees and commissions		**3,703**	3,191
Other income		**–**	76
Non-interest income		**11,414**	10,996
Interest income from financial instruments measured at fair value through profit or loss		**2,211**	2,657
Interest income from financial instruments measured at amortised cost		**1,237**	1,539
Interest expense from financial instruments measured at fair value through profit or loss		**(2,062)**	(2,419)
Interest expense from financial instruments measured at amortised cost		**(1,881)**	(2,762)
Net interest expense		**(495)**	(985)
Net revenues	5	**10,919**	10,011
Net operating expenses	6	**(7,367)**	(6,487)
Profit before taxation		**3,552**	3,524
Income tax expense	9	**(615)**	(769)
Profit for the financial period		**$ 2,937**	$ 2,755

1. The comparative period was for the thirteen months ended December 2020. See Note 2 for further details.
2. Interest expense from financial instruments measured at fair value through profit or loss and interest expense from financial instruments measured at amortised cost for the period ended December 2020 have been restated, with no change to total interest expense. See Note 5 for further details.

Net revenues and profit before taxation of the company are derived from continuing operations in the current and prior periods.

Statement of Comprehensive Income

$ in millions	Note	Period Ended December 2021	2020[1]
Profit for the financial period		**$2,937**	$2,755
Other comprehensive income			
Items that will not be reclassified subsequently to profit or loss			
Actuarial gain/(loss) relating to the pension scheme	15	**113**	(76)
Debt valuation adjustment	20	**54**	(183)
U.K. deferred tax attributable to the components of other comprehensive income	16	**(51)**	62
U.K. current tax attributable to the components of other comprehensive income		**13**	11
Other comprehensive income/(loss) for the financial period, net of tax		**129**	(186)
Total comprehensive income for the financial period		**$3,066**	$2,569

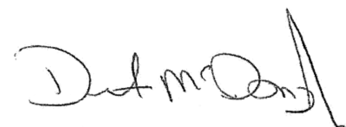
1. The comparative period was for the thirteen months ended December 2020. See Note 2 for further details.

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

Balance Sheet

		As of December	
$ in millions	Note	**2021**	2020
Assets			
Cash and cash equivalents	24	**$ 52,422**	$ 43,833
Collateralised agreements	10	**257,366**	140,682
Customer and other receivables	11	**86,135**	90,380
Trading assets (includes $34,271 and $27,295 pledged as collateral)	12	**742,238**	982,919
Investments (includes $13 and $62 pledged as collateral)	13	**399**	888
Loans		**398**	567
Other assets	14	**4,462**	8,589
Total assets		**$1,143,420**	$1,267,858
Liabilities			
Collateralised financings	18	**$ 204,539**	$ 113,127
Customer and other payables	19	**119,883**	100,519
Trading liabilities	12	**694,982**	932,414
Unsecured borrowings	20	**79,813**	80,351
Other liabilities	21	**5,308**	4,869
Total liabilities		**1,104,525**	1,231,280
Shareholder's equity			
Share capital	22	**598**	598
Share premium account		**5,568**	5,568
Other equity instruments	23	**8,300**	8,300
Retained earnings		**24,590**	22,437
Accumulated other comprehensive income		**(161)**	(325)
Total shareholder's equity		**38,895**	36,578
Total liabilities and shareholder's equity		**$1,143,420**	$1,267,858

The financial statements were approved by the Board on March 7, 2022 and signed on its behalf by:



D. W. McDonogh
Director
March 21, 2022

The accompanying notes are an integral part of these financial statements.
Company number: 02263951

Statement of Changes in Equity

		Period Ended December	
$ in millions	**Note**	**2021**	2020[1]
Share capital			
Beginning balance		**$ 598**	$ 590
Shares issued	22	**–**	8
Ending balance		**598**	598
Share premium account			
Beginning balance		**5,568**	5,196
Shares issued	22	**–**	372
Ending balance		**5,568**	5,568
Other equity instruments			
Beginning balance		**8,300**	8,300
Ending balance		**8,300**	8,300
Retained earnings			
Beginning balance		**22,437**	20,336
Profit for the financial period		**2,937**	2,755
Transfer of realised debt valuation adjustment into retained earnings, net of tax	20	**(35)**	(29)
Non-cash capital contribution	21	**–**	126
Interest on Additional Tier 1 notes	23	**(749)**	(751)
Share-based payments		**482**	459
Management recharge related to share-based payments		**(482)**	(459)
Ending balance		**24,590**	22,437
Accumulated other comprehensive income			
Beginning balance		**(325)**	(168)
Other comprehensive income/(loss)		**129**	(186)
Transfer of realised debt valuation adjustment into retained earnings, net of tax	20	**35**	29
Ending balance		**(161)**	(325)
Total shareholder's equity		**$38,895**	$36,578

1. The comparative period was for the thirteen months ended December 2020. See Note 2 for further details.

No dividends were paid in the period ended December 2021 and the period ended December 2020.

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

Statement of Cash Flows

		Period Ended December	
$ in millions	**Note**	**2021**	2020[1]
Cash flows from operating activities			
Cash generated from operations	24	**$11,320**	$16,938
Taxation received		**7**	7
Taxation paid		**(528)**	(492)
Net cash from operating activities		**10,799**	16,453
Cash flows from investing activities			
Proceeds from sales of intangible assets		**–**	7
Capital expenditure for property, leasehold improvements and equipment and intangible assets		**(291)**	(272)
Purchase of investments		**(1,309)**	(223)
Proceeds from sales of investments		**1,903**	910
Net cash from investing activities		**303**	422
Cash flows from financing activities			
Increase in MREL-eligible intercompany loans	24	**1,500**	3,400
Interest paid on Additional Tier 1 notes	24	**(749)**	(751)
Interest paid on subordinated loans and MREL-eligible intercompany loans	24	**(451)**	(1,300)
Receipts from issuing share capital	22	**–**	380
Payments for lease liabilities		**(4)**	(57)
Net cash from financing activities		**296**	1,672
Net increase in cash and cash equivalents, net of overdrafts		**11,398**	18,547
Cash and cash equivalents, net of overdrafts, beginning balance		**43,718**	22,359
Foreign exchange gains/(losses) on cash and cash equivalents, net of overdrafts		**(2,708)**	2,812
Cash and cash equivalents, net of overdrafts, ending balance	24	**$52,408**	$43,718

1. The comparative period was for the thirteen months ended December 2020. See Note 2 for further details.

See Note 21 for information about non-cash activities.

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

Note 1.

General Information

The company is a private unlimited company and is incorporated and domiciled in England and Wales. The address of its registered office is Plumtree Court, 25 Shoe Lane, London, EC4A 4AU, United Kingdom.

The company's immediate parent undertaking is Goldman Sachs Group UK Limited (GSG UK), a company incorporated and domiciled in England and Wales. GSG UK together with its consolidated subsidiaries forms "GSG UK Group".

The ultimate controlling undertaking and the parent company of the smallest and largest group for which consolidated financial statements are prepared is The Goldman Sachs Group, Inc., a company incorporated in the United States of America. Copies of its consolidated financial statements, as well as certain regulatory filings, for example Quarterly Reports on Form 10-Q and the Annual Report on Form 10-K, that provide further information about GS Group and its business activities, can be obtained from Investor Relations, 200 West Street, New York, NY 10282, United States of America, GS Group's principal place of business, or at www.goldmansachs.com/investor-relations.

Basel III Pillar 3 Disclosures

The company is included in the consolidated Pillar 3 disclosures of GSG UK, as required by the U.K. capital framework. GSG UK's December 2021 Pillar 3 disclosures will be made available in conjunction with the publication of its consolidated financial information at www.goldmansachs.com/disclosures.

Country-by-Country Reporting

The company is included in the consolidated country-by-country reporting disclosures of GSG UK, as required by the Capital Requirements (Country-by-Country Reporting) Regulations 2013. GSG UK's December 2021 Country-by-Country Reporting will be made available by December 31, 2022 at www.goldmansachs.com/disclosures.

Note 2.

Basis of Preparation

Statement of Compliance

These financial statements have been prepared in accordance with U.K.-adopted international accounting standards, the requirements of the Companies Act 2006, as applicable to companies reporting under those standards, and International Financial Reporting Standards (IFRS) adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the E.U. (IFRS as it applies in the E.U.).

In the prior period, the company's financial statements were prepared in accordance with international accounting standards, the requirements of the Companies Act 2006, as applicable to companies reporting under those standards, and IFRS as it applies in the E.U.

As of December 2020, IFRS as it applies in the E.U. was incorporated into U.K. law and became U.K.-adopted international accounting standards, with future changes being subject to endorsement by the U.K. Endorsement Board. As required by the Companies Act 2006, from January 1, 2021, the company applied the requirements of U.K.-adopted international accounting standards instead of international accounting standards. This change had no impact on the company's recognition, measurement or disclosure as U.K.-adopted international accounting standards were consistent with international accounting standards as of December 2021.

As of December 2021, U.K.-adopted international accounting standards were consistent with IFRS as it applies in the E.U.

These financial statements have been prepared under the historical cost basis (modified as explained in "Financial Assets and Liabilities" and "Pension Arrangements" below).

Going Concern

These financial statements have been prepared on a going concern basis. The directors are satisfied that the company has sufficient capital and resources to continue to operate for the foreseeable future. In reaching this conclusion, the directors have considered the financial results of the company, its capital management activities and liquidity as set out in Part I of this annual report.

Consolidation

The company has elected not to prepare consolidated financial statements as permitted by section 402 of the Companies Act 2006 as its subsidiaries are not material for the purpose of giving a true and fair view. These financial statements are individual financial statements.

Accounting Reference Date

During the period ended December 2020, the company changed its accounting reference date from November 30 to December 31 to conform to the period used by the company for U.S. tax reporting purposes. These financial statements have been prepared for the twelve months ended December 31, 2021, with comparative information being presented for the thirteen months ended December 31, 2020. As a result, amounts presented in this annual report are not directly comparable.

Note 3.

Summary of Significant Accounting Policies

New Standards, Amendments and Interpretations

Amendments to IFRS 9 'Financials Instruments' (IFRS 9), IAS 39 'Financial Instruments: Recognition and Measurement' (IAS 39), IFRS 7 'Financial Instruments: Disclosures' (IFRS 7), IFRS 4 'Insurance Contracts' (IFRS 4) and IFRS 16 'Leases' (IFRS 16). On January 1, 2021, "Interest Rate Benchmark Reform – Phase 2" became effective and was applied by the company. The amendments introduced the following changes:

- Practical expedients for changes in contractual cash flows (IFRS 9, IFRS 4 and IFRS 16).
- Relief from discontinuing hedge account requirements (IFRS 9 and IAS 39).
- Disclosure requirements (IFRS 7).

The company utilised the practical expedient for modifications to amortised cost instruments which allows the benchmark interest rate change to be reflected prospectively by updating the effective interest rate of the instrument, with no immediate gain or loss, when the change is a direct consequence of the reform and occurs on an economically equivalent basis. The relief from discontinuing hedge accounting requirements was not utilised. The practical expedients in IFRS 4 and IFRS 16 were not relevant for the company. See "Regulatory Matters and Other Developments — Replacement of Interbank Offered Rates (IBORs), including London Interbank Offered Rate (LIBOR)" for new disclosures required by IFRS 7.

Accounting Policies

Revenue Recognition. Net revenues include the net profit arising from transactions, with both third parties and affiliates, in derivatives, securities and other financial instruments, and fees and commissions. This is inclusive of associated interest and dividends.

Financial Assets and Liabilities Measured at Fair Value Through Profit or Loss

Financial assets and liabilities measured at fair value through profit or loss are recognised at fair value with realised and unrealised gains and losses, as well as associated interest and dividend income and expenses included in net revenues, with the exception of changes in the fair value of financial liabilities designated at fair value through profit or loss attributable to own credit spreads (debt valuation adjustment or DVA), which is recognised in other comprehensive income, unless this would create or enlarge an accounting mismatch in profit or loss. Financial assets are marked to bid prices and financial liabilities are marked to offer prices. Fair value measurements do not include transaction costs. The company measures certain financial assets and liabilities as a portfolio (i.e., based on its net exposure to market and/or credit risks).

Unrealised gains and losses related to the change in fair value of financial assets and liabilities measured at fair value through profit or loss are recognised from trade date in net revenues or other comprehensive income in the case of DVA.

Contractual interest is included in interest income and expense for all instruments other than hybrid financial instruments at fair value through profit or loss, for which contractual interest is included in gains and losses from financial instruments measured at fair value through profit or loss.

Revenue from Contracts with Clients

Revenues earned from contracts with clients for services, such as investment banking, investment management, and execution and clearing (contracts with clients) are recognised when the performance obligations related to the underlying transaction are completed.

If the company is principal to the transaction, the company recognises revenue on contracts with clients, gross of expenses incurred to satisfy some or all of its performance obligations. The company is principal to the transaction if it has the primary obligation to provide the service to the client. The company satisfies the performance obligation by itself, or by engaging other GS Group affiliates to satisfy some or all of its performance obligations on its behalf. Such revenue is recognised in net revenues and expenses incurred are recognised in net operating expenses.

Net revenues are recognised as follows:

- **Investment Banking**

  Fees from financial advisory and underwriting engagements are recognised in profit and loss when the services related to the underlying transactions are completed under the terms of the engagement.

- **Investment Management**

  Management fees are recognised on an accrual basis and are generally calculated as a percentage of a fund or a separately managed account's average net asset value. All management fees are recognised over the period that the related service is provided.

  Incentive fees are calculated as a percentage of a fund's return or a percentage of a fund's excess return above a specified benchmark or other performance target.

- **Commissions and Fees**

  Revenue from commissions and fees from executing and clearing client transactions on stock, options and futures markets, as well as OTC transactions is recognised in net revenues on the day the trade is executed.

Segment Reporting. The directors manage the company's business activities as a single operating segment and accordingly no segmental reporting has been provided.

Short-Term Employee Benefits. Short-term employee benefits, such as wages and salaries, are measured on an undiscounted basis and accrued as an expense over the period in which the employee renders the service to the company. Provision is made for discretionary year-end compensation whether to be paid in cash or share-based awards where, as a result of company policy and past practice, a constructive obligation exists at the balance sheet date.

Share-Based Payments. Group Inc. issues awards in the form of restricted stock units (RSUs) to the company's employees in exchange for employee services. Awards are classified as equity settled and hence the cost of share-based transactions with employees is 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 amortised over the relevant service period. Expected forfeitures are included in determining share-based employee compensation expense.

Group Inc. generally issues new shares of common stock upon delivery of share-based awards. Cash dividend equivalents, unless prohibited by regulation, are generally paid on outstanding RSUs. The company has also entered into a chargeback agreement with Group Inc. under which it is committed to pay to Group Inc. (a) the grant-date fair value of those awards and (b) subsequent movements in the fair value of those awards between the grant date and delivery to employees. As a result, the share-based payment transaction and chargeback agreement, in aggregate, gives rise to a total charge to the income statement based on the grant-date fair value of the awards adjusted for subsequent movements in the fair value of those awards prior to delivery.

Current and Deferred Taxation. Current tax is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the company operates and generates taxable income.

Deferred tax is recognised in respect of all temporary differences that have originated, but not reversed at the balance sheet date, where transactions or events have occurred at that date that will result in an obligation to pay more tax or a right to pay less tax in the future with the following exceptions:

- Deferred tax assets are recognised only to the extent that it is more likely than not that there will be suitable taxable profits from which the future reversal of the underlying temporary differences can be deducted.
- Deferred tax is measured on an undiscounted basis at the tax rates that are expected to apply in the periods in which temporary differences reverse, based on tax rates and laws enacted or substantively enacted at the balance sheet date.

Current tax and deferred tax is generally recognised in the income statement or directly in other comprehensive income according to where the associated gain or loss was recognised. The income tax on interest on AT1 notes is recognised in the income statement.

Dividends. Final equity dividends are recognised as a liability and deducted from equity in the period in which the dividends are approved by the company's shareholder. Interim equity dividends are recognised and deducted from equity when paid.

Cash and Cash Equivalents. This includes cash at bank and highly liquid overnight deposits held in the ordinary course of business.

Foreign Currencies. The company's financial statements are presented in U.S. dollars, which is also the company's functional currency.

Transactions denominated in foreign currencies are translated into U.S. dollars at rates of exchange ruling on the date the transaction occurred. Monetary assets and liabilities, and non-monetary assets and liabilities measured at fair value, denominated in foreign currencies are translated into U.S. dollars at rates of exchange ruling at the balance sheet date. Foreign exchange gains and losses are recognised in profit before taxation.

Financial Assets and Liabilities.

Recognition and Derecognition

Financial assets and liabilities, other than cash instruments purchased or sold in regular way transactions, are recognised when the company becomes party to the contractual provisions of the instrument. Financial assets are derecognised when the contractual rights to the cash flows from the financial asset expire or if the company transfers the financial asset and the transfer qualifies for derecognition. A transferred financial asset qualifies for derecognition if the company transfers substantially all the risks and rewards of ownership of the financial asset or if the company neither transfers nor retains substantially all the risks and rewards of ownership of the financial asset but does not retain control. Financial liabilities are derecognised only when they are extinguished, i.e., when the obligation specified in the contract is discharged or cancelled or expires.

Cash instruments purchased or sold in regular way transactions are recognised and derecognised using settlement date accounting.

Classification and Measurement: Financial Assets

The company classifies financial assets as subsequently measured at amortised cost or fair value through profit or loss on the basis of both the company's business model for managing financial assets and the contractual cash flow characteristics of the financial assets. The business model reflects how the company manages particular groups of assets in order to generate future cash flows. Where the company's business model is to hold the assets to collect contractual cash flows, the company subsequently assesses whether the financial assets' cash flows represent solely payments of principal and interest. Financial assets with embedded derivatives (hybrid instruments) are also subject to the same assessment.

- **Financial assets measured at amortised cost.** Financial assets that are held for the collection of contractual cash flows and have cash flows that represent solely payments of principal and interest are measured at amortised cost. The company considers whether the cash flows represent basic lending arrangements, and where contractual terms introduce exposure to risk or volatility inconsistent with a basic lending arrangement, the financial asset is mandatorily measured at fair value through profit or loss (see below). Financial assets measured at amortised cost are initially measured at fair value plus transaction costs and subsequently at amortised cost using the effective interest method. The effective interest method is a method of calculating the amortised cost of a financial instrument and allocating the interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset or, when appropriate, a shorter period to the net carrying value of the financial asset. When calculating the effective interest rate, the company estimates cash flows considering all contractual terms of the financial asset but does not consider future credit losses. Finance revenue is recorded in net revenues. Financial assets measured at amortised cost include:
  - Cash and cash equivalents;
  - Certain collateralised agreements, which consists of certain resale agreements and substantially all securities borrowed;
  - Customer and other receivables; and
  - Certain other assets, which consists of certain intercompany loans and substantially all miscellaneous receivables and other.
- **Financial assets mandatorily measured at fair value through profit or loss.** Financial assets that are not held for the collection of contractual cash flows and/or do not have cash flows that represent solely payments of principal and interest are mandatorily measured at fair value through profit or loss. Financial assets mandatorily measured at fair value are initially measured at fair value with transaction costs expensed in the income statement. Such financial assets are subsequently measured at fair value with gains or losses recognised in net revenues. Financial assets mandatorily measured at fair value include:
  - Certain collateralised agreements, which consists of substantially all resale agreements and certain securities borrowed;
  - Trading assets, which consists of trading cash instruments and derivative instruments;
  - Investments;
  - Loans; and
  - Certain other assets, which consists of certain intercompany loans.

Classification and Measurement: Financial Liabilities

The company classifies its financial liabilities into the below categories based on the purpose for which they were acquired or originated.

- **Financial liabilities held for trading.** Financial liabilities held for trading are initially measured at fair value and subsequently at fair value through profit or loss, with gains or losses recognised in net revenues. Financial liabilities held for trading include trading liabilities, which consists of:
  - Trading cash instruments; and
  - Derivative instruments.
- **Financial liabilities designated at fair value through profit or loss.** The company designates certain financial liabilities at fair value through profit or loss. Financial liabilities designated at fair value through profit or loss are initially measured at fair value and subsequently at fair value through profit or loss, with DVA being recognised in other comprehensive income, if it does not create or enlarge an accounting mismatch, and the remaining changes in the fair value being recognised in net revenues. Amounts recognised in other comprehensive income attributable to own credit spreads are not subsequently transferred to the income statement, even upon derecognition of the financial liability. The primary reasons for designating such financial liabilities at fair value through profit or loss are:
  - To eliminate or significantly reduce a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities or recognising the gains and losses on them on different bases; and

- The group of financial liabilities, or financial assets and liabilities, is managed and its performance evaluated on a fair value basis.

Financial liabilities designated at fair value through profit or loss include:

- The majority of repurchase agreements;
- Securities loaned within FICC;
- Secured debt securities issued, intercompany loans and other borrowings, which consists of hybrid financial instruments and transfers of assets accounted for as financings rather than sales; and
- Certain unsecured borrowings, which consists of certain debt securities issued, certain other borrowings, certain intercompany loans and prepaid commodity contracts.

Hybrid financial instruments are instruments that contain bifurcatable embedded derivatives. If the company 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 amortised cost, adjusted for the effective portion of any fair value hedges. If the company does not elect to bifurcate, the entire hybrid financial instrument is designated at fair value through profit or loss.

- **Financial liabilities measured at amortised cost.** Financial liabilities measured at amortised cost are initially measured at fair value plus transaction costs and subsequently measured at amortised cost using the effective interest method. See "Financial assets measured at amortised cost" above for further information on the effective interest method. Finance costs, including discounts allowed on issue, are recorded in net interest income and interest expense. Financial liabilities measured at amortised cost include:

- Certain repurchase agreements and substantially all securities loaned;
- Customer and other payables;
- Certain unsecured borrowings that have not been designated at fair value through profit or loss; and
- Other liabilities, which primarily consists of compensation and benefits and accrued expenses and other.

Impairment

The company assesses the expected credit losses associated with financial assets measured at amortised cost on a forward-looking basis in accordance with the provisions of IFRS 9. Expected credit losses are recorded in net revenues. As of both December 2021 and December 2020, the company's expected credit losses were not material.

The company's impairment model is based on changes in credit quality since initial recognition of financial assets measured at amortised cost and incorporates the following three stages:

- **Stage 1.** Financial assets measured at amortised cost that are not credit-impaired on initial recognition and where there has been no significant increase in credit risk since initial recognition. The ECL is measured at an amount equal to the expected credit losses that result from default events possible within the next twelve months.
- **Stage 2.** Financial assets measured at amortised cost where there has been a significant increase in credit risk since initial recognition, however not yet deemed to be credit-impaired. The ECL is measured based on expected credit losses on a lifetime basis.
- **Stage 3.** Financial assets measured at amortised cost that are in default, or are defined as credit-impaired. The ECL is measured based on expected credit losses on a lifetime basis.

Determination of the relevant staging for each financial asset is dependent on the definition of 'significant increase in credit risk' (stage 1 to stage 2) and the definition of 'credit-impaired' (stage 3). The company considers a financial asset to have experienced a significant increase in credit risk when certain quantitative or qualitative conditions are met. The company considers a financial asset to be credit-impaired when it meets Credit Risk's definition of default, which is either when the company considers that the obligor is unlikely to pay its credit obligations to the company in full, without recourse by the company to actions such as realising security (if held), or the obligor has defaulted on a payment and/or is past due more than 90 days.

The ECL is determined by projecting the probability of default, loss given default and exposure at default for each individual exposure. To calculate expected credit losses these three components are multiplied together and discounted back to the reporting date. The discount rate used in the ECL calculation is the original effective interest rate. The probability of default represents the likelihood of a borrower defaulting on its financial obligation. The loss given default is the company's expectation of the extent of loss on the default exposure, and takes into consideration amongst other things, collateral on the financial asset. The exposure at default is the amount the company expects to be owed at the time the financial obligation defaults. The company uses internal credit risk ratings that reflect the assessment of the probability of default of individual counterparties. The company uses multiple macroeconomic scenarios within the ECL calculation, the weightings for which are subject to ongoing internal review and approval.

The ECL model takes into account the weighted average of a range of forecasts of future economic conditions. The forecasts include baseline, favourable and adverse economic scenarios over a three-year period. To the extent the company has financial assets in Stage 2 or Stage 3 which have an expected life beyond three years, the model reverts to historical loss information based on a non-linear modelled approach. The company applies judgement in weighing individual scenarios each quarter based on a variety of factors, including internally derived economic outlook, market consensus, recent macroeconomic conditions and industry trends.

Forward-looking information, such as key economic variables impacting credit risk and expected credit losses, is incorporated into both the assessment of staging and the calculation of ECL.

The company writes off financial assets, in whole or in part, when it has concluded that there is no reasonable expectation of recovery.

Classification of Financial Liabilities and Equity

Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements. A financial liability is any liability that is a contractual obligation to deliver cash or another financial asset to another entity; or to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavourable to the entity. An equity instrument is any contract that evidences a residual interest in the assets of the entity after deducting all liabilities. Instruments are evaluated to determine if they contain both liability and equity components. The initial carrying value of a compound financial instrument is allocated first to the liability component, measured at fair value, and the equity is assigned the residual amount.

Offsetting Financial Assets and Liabilities

Financial assets and liabilities are offset and the net amount presented in the balance sheet where there is:

- Currently a legally enforceable right to set-off the recognised amounts; and
- Intent to settle on a net basis or to realise the asset and settle the liability simultaneously.

Where these conditions are not met, financial assets and liabilities are presented on a gross basis in the balance sheet.

Fair Value Measurement

See Note 29 for details about the fair value measurement of the company's financial assets and liabilities.

Fair Value Hedges

The company applies hedge accounting under IAS 39 for certain interest rate swaps used to manage the interest rate exposure of certain fixed-rate unsecured long-term and short-term borrowings. To qualify for hedge accounting, the derivative hedge must be highly effective at reducing the risk from the exposure being hedged. Additionally, the company must formally document the hedging relationship at inception and test the hedging relationship to ensure the derivative hedge continues to be highly effective over the life of the hedging relationship.

The company applies a statistical method that utilises regression analysis when assessing the effectiveness of its fair value 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%. Possible sources of ineffectiveness on these hedges include:

- Differences in timing of cash flows between the hedged item and hedging instrument.
- Differences in discounting between the hedged item and the hedging instrument, as cash collateralised derivatives are discounted using Overnight Indexed Swap discount curves, which are not consistently applied to the hedged item.
- Counterparty credit risk impacting fair value movements on uncollateralised interest rate swaps but not the underlying hedged item.

For qualifying fair value hedges, gains or losses on derivatives and the change in fair value of the hedged item attributable to the hedged risk are included in net revenues. 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 amortised over the remaining life of the hedged item using the effective interest method.

Collateralised Agreements and Collateralised Financings

Collateralised agreements include resale agreements and securities borrowed. Collateralised financings include repurchase agreements, securities loaned, secured debt securities issued, intercompany loans and other borrowings. See “Classification and Measurement: Financial Assets” and “Classification and Measurement: Financial Liabilities” above for details on the classification and measurement of these instruments. Collateral received or posted can be in the form of cash or securities. Cash collateral is recognised/derecognised when received/paid. Collateral posted by the company in the form of securities is not derecognised from the balance sheet, whilst collateral received in the form of securities is not recognised in the balance sheet. If collateral received is subsequently sold, the obligation to return the collateral and the cash received are recognised in the balance sheet.

Pension Arrangements. The company is a sponsor of a defined contribution pension plan, and a hybrid pension plan for the benefit of certain employees. The hybrid pension plan has both a defined benefit section (the Plan) and a defined contribution section. These are accounted for as follows:

- For the defined contribution pension plan and the defined contribution section of the hybrid pension plan, the contributions payable for the period are charged to net operating expenses. Differences between contributions payable for the period and contributions actually paid are shown as either accruals or prepayments in the balance sheet.
- For the Plan, the amounts charged to net operating expenses are any past service costs, administration costs and any gains or losses on settlements and curtailments. These amounts are included in compensation and benefits. The net interest is included in net interest income/(expense). Actuarial gains and losses are recognised immediately in other comprehensive income. Plan assets are measured at fair value and Plan liabilities are measured on an actuarial basis using the projected unit credit method and discounted at a rate equivalent to the current rate of return on a high-quality corporate bond of equivalent currency and term to the Plan liabilities. Full actuarial valuations are obtained at least triennially and updated at each balance sheet date. Any surplus or deficit of Plan assets over Plan liabilities is recognised in the balance sheet as an asset (surplus) or liability (deficit).

Property, Leasehold Improvements and Equipment. Property, leasehold improvements and equipment are stated at cost less accumulated depreciation and provision for impairment. Fixtures, fittings and equipment are depreciated on a straight-line basis over their estimated useful lives, which is between 3 to 7 years. Leasehold improvements are depreciated over the shorter of the useful economic life of the asset or the remaining life of the lease when the asset is brought into use. Depreciation is included in net operating expenses. Depreciation policies are reviewed on an annual basis.

Intangible Assets. Intangible assets are stated at cost less accumulated amortisation and provision for impairment. Subject to the recognition criteria in IAS 38 ‘Intangible Assets’ being met, costs incurred during the period that are directly attributable to the development or improvement of new business application software are capitalised as assets in the course of construction. Assets in the course of construction are transferred to computer software once completed and ready for their intended use.

Computer software is amortised on a straight-line basis over its estimated useful life, which is three years. No amortisation is charged on assets in the course of construction. Amortisation is included in net operating expenses and the amortisation policies are reviewed on an annual basis.

Intangible assets are tested for impairment whenever events or changes in circumstances suggest that an asset’s or asset group’s carrying value may not be fully recoverable.

Leases. Leases are recognised as a right-of-use asset and a corresponding liability at the date of commencement of the lease.

Lease liabilities were measured at the present value of the remaining lease payments, discounted using the lessee’s incremental borrowing rate (IBR) as of the lease commencement date or adoption of IFRS 16, whichever is later, as the interest rate implicit in the lease cannot be readily determined. The weighted average discount rate applied to the lease liabilities on adoption of IFRS 16 was 3.5%.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of fixed and variable payments (including those under reasonably certain extension options), less any lease incentives receivable, and payment of penalties for terminating any lease. The lease payments are discounted using the lessee’s IBR. The finance cost is charged to the income statement over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the initial measurement of lease liability, any lease payments made at or before the commencement date less any lease incentives received, and any initial direct costs. Right-of-use assets are depreciated over the lease term on a straight line basis. The company has chosen not to revalue its right-of-use assets.

Extension and termination options are included in the office premises lease entered into by the company. These are used to maximise operational flexibility in terms of managing the assets used in the company's operations. The extension and termination options held are exercisable only by the company and not by the respective lessor.

Right-of-use assets are tested for impairment whenever events or changes in circumstances suggest that an asset's or asset group's carrying value may not be fully recoverable. An impairment loss, calculated as the difference between the estimated recoverable amount (being the fair value) and the carrying value of an asset or asset group, is recognised if the sum of its expected undiscounted cash flows is less than its corresponding carrying value.

Provisions, Contingent Liabilities and Contingent Assets. Provisions are recognised in the financial statements when it is probable that an outflow of economic benefits will be required to settle a present (legal or constructive) obligation, which has arisen as a result of past events, and for which a reliable estimate can be made of the amount of the obligation. Legal obligations that may arise as a result of proposed new laws are recognised as obligations only when the legislation is virtually certain to be enacted as drafted.

A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the company or a present obligation that arises from past events but is not recognised because either an outflow of economic benefits is not probable or the amount of the obligation cannot be reliably measured.

A contingent asset is a possible asset that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the company.

Contingent liabilities and contingent assets are not recognised in the financial statements. However, disclosure is made for contingent liabilities unless the probability of settlement is remote.

Note 4.

Critical Accounting Estimates and Judgements

The preparation of financial statements requires management to make judgements, estimates and assumptions that affect the amounts recognised in these financial statements. The nature of estimation means that actual outcomes could differ from those estimates. The following estimates have had the most significant effect on amounts recognised in the financial statements:

Fair Value Measurement

Certain of the company's financial assets and liabilities include significant unobservable inputs (i.e., level 3). See Note 29 for information about the carrying value, valuation techniques and significant inputs of these instruments.

Defined Benefit Pension

The cost of the Plan and the value of the Plan liabilities are determined using actuarial valuations. This involves making assumptions about discount rates, future salary increases, mortality rates and future pension increases. Due to the complexity of the valuation, such estimates are subject to significant uncertainty. See Note 15 for further information about the company's Plan.

Note 5.

Net Revenues

Net revenues include net interest expense and non-interest income. Net interest expense includes interest and dividends on financial instruments measured at fair value and amortised cost.

The table below presents net revenues.

	Period Ended December	
$ in millions	**2021**	2020[1]
Non-interest income		
Financial instruments mandatorily measured at fair value through profit or loss	**$ 6,648**	$ 6,200
Financial instruments designated at fair value through profit or loss	**1,063**	1,529
Fees and commissions	**3,703**	3,191
Other income	**–**	76
Non-interest income	**11,414**	10,996
Interest income		
Interest income from financial instruments measured at fair value through profit or loss	**2,211**	2,657
Interest income from financial instruments measured at amortised cost	**1,237**	1,539
Total interest income	**3,448**	4,196
Interest expense		
Interest expense from financial instruments measured at fair value through profit or loss	**(2,062)**	(2,419)
Interest expense from financial instruments measured at amortised cost	**(1,881)**	(2,762)
Total interest expense	**(3,943)**	(5,181)
Net interest expense	**(495)**	(985)
Net revenues	**$10,919**	$10,011

1. For the period ended December 2020, $634 million of the company's interest expense from financial instruments measured at amortised cost was disclosed as interest expense from financial instruments measured at fair value. Comparatives have been restated, with no change to total interest expense to move $634 million of interest expense from interest expense from financial instruments measured at fair value to interest expense from financial instruments measured at amortised cost.

In the table above:

- Gains and losses on financial instruments mandatorily measured at fair value through profit or loss primarily relates to non-interest gains and losses on trading assets, investments, loans, trading liabilities and certain collateralised agreements.
- Gains and losses on financial instruments designated at fair value through profit or loss primarily relates to non-interest gains and losses on certain unsecured borrowings and collateralised financings.
- Fees and commissions primarily relates to net revenues from certain financial advisory and underwriting engagements, executing and clearing client transactions and certain investment management services.
- Other income, which related to consideration received from GSBE in connection with the transfer of certain of the company's activities and employees as a part of GS Group's Brexit planning.
- Financial instruments designated at fair value through profit or loss are frequently economically hedged with financial instruments measured mandatorily at fair value through profit or loss. Accordingly, gains or losses that are reported in financial instruments designated at fair value through profit or loss can be partially offset by gains or losses reported in financial instruments measured mandatorily at fair value through profit or loss.

Geographic Information

Due to the highly integrated nature of international financial markets, the company 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 judgement.

Geographic results are generally allocated as follows:

- Investment Banking: location of the client, investment banking team and underlying risk.
- FICC and Equities: location of the market-making desk or the primary market for the underlying security.
- Investment Management: location of the investment management team.

The table below presents net revenues by geographic region allocated based on the methodology referred to above.

	Period Ended December	
$ in millions	**2021**	2020
EMEA	**$ 7,092**	$ 6,676
Americas	**1,745**	1,564
Asia	**2,082**	1,771
Total	**$10,919**	$10,011

Revenue from Contracts With Customers

The table below presents revenue from contracts with customers subject to IFRS 15, which are included in fees and commissions within non-interest income.

	Period Ended December	
$ in millions	**2021**	2020
Financial advisory and underwriting engagements	**$2,775**	$2,198
Execution and client clearing transactions	**553**	599
Investment management services	**375**	394
Total	**$3,703**	$3,191

Note 6.

Net Operating Expenses

The table below presents net operating expenses.

	Period Ended December	
$ in millions	**2021**	2020
Compensation and benefits	**$3,185**	$2,825
Transaction based expenses	**2,053**	1,680
Market development	**36**	43
Communications and technology	**141**	145
Depreciation and amortisation	**210**	194
Professional fees	**163**	181
Management charges from GS Group affiliates	**1,118**	921
Other expenses	**804**	842
Operating expenses	**7,710**	6,831
Management charges to GS Group affiliates	**(343)**	(344)
Net operating expenses	**$7,367**	$6,487

In the table above:

- Management charges includes charges relating to operational and administrative support and management services, received from and provided to GS Group affiliates.
- Other expenses primarily includes IFRS 15 expenses, miscellaneous taxes, provisions for liabilities and charitable contributions.

The table below presents the fees payable to the company's auditor, which are included in professional fees.

	Period Ended December	
$ in millions	**2021**	2020
Audit fees	**$ 5.6**	$4.6
Audit related assurance services	**2.1**	1.8
Other assurance services	**2.5**	3.3
Taxation compliance services	**0.1**	0.2
Total fees for non-audit services	**4.7**	5.3
Total fees	**$10.3**	$9.9

In the table above:

- Other assurance services included the company's share of fees related to certain services provided by a network firm of the company's auditor to various GS Group affiliates. These fees were apportioned to the various GS Group affiliates, including the company, by reference to each entity's asset size. Other assurance services for the period ended December 2020 also included fees in connection with a thematic regulatory review.
- Tax compliance services included services provided under the transitional provisions of the FRC's Revised Ethical Standard and are no longer provided by the auditor as of December 2021.

Note 7.

Compensation and Benefits

The table below presents the company's average monthly employee headcount, including executive directors.

	Average for the Period Ended December	
Number	**2021**	2020
Investment Banking	**704**	828
FICC	**741**	833
Equities	**899**	908
Investment Management	**732**	819
Support Functions	**862**	872
Total average headcount	**3,938**	4,260

Total headcount was 3,844 as of December 2021 and 4,115 as of December 2020.

The table below presents compensation and benefits costs incurred by the company, including those relating to directors.

	Period Ended December	
$ in millions	**2021**	2020
Wages and salaries	**$2,741**	$2,418
Social security costs	**397**	355
Pension costs:		
Defined contribution plan and defined contribution section of the hybrid pension plan	**45**	49
Defined benefit section of the hybrid pension plan	**2**	3
Total	**$3,185**	$2,825

In the table above, total compensation and benefits included a charge of $634 million for the period ended December 2021 and a charge of $259 million for the period ended December 2020 representing recharges from Group Inc. equivalent to changes in the fair value of share-based payment awards during the period.

Note 8.

Share-Based Payments

Stock Incentive Plan

Group Inc. sponsors a stock incentive plan, The Goldman Sachs Amended and Restated Stock Incentive Plan (2021) (2021 SIP), which provides for, amongst others, grants of RSUs, restricted stock, dividend equivalent rights and incentive stock options, each of which may be subject to terms and conditions, including performance or market conditions. On April 29, 2021, Group Inc.'s shareholders approved the 2021 SIP. The 2021 SIP is a successor to several predecessor stock incentive plans, the first of which was adopted on April 30, 1999, and each of which was approved by GS Group's shareholders.

The company recorded share-based compensation in respect of the amortisation of granted equity awards, net of forfeitures, of $482 million for the period ended December 2021 and $459 million for the period ended December 2020. The resultant credit to equity arising from these share-based payments has been offset in equity as a result of the recognition of a liability for amounts arising under the terms of the chargeback agreement with Group Inc. under which the company is committed to pay to Group Inc. the grant-date fair value, as well as subsequent movements in the fair value of those awards to Group Inc. at the time of delivery to its employees.

Restricted Stock Units

Group Inc. grants RSUs (including RSUs subject to performance or market conditions) to the company's employees under the 2021 SIP, which are generally valued based on the closing price of the underlying shares on the date of grant after taking into account a liquidity discount for any applicable post-vesting and delivery transfer restrictions. The value of equity awards also considers the impact of material non-public information, if any, that the firm expects to make available shortly following grant. RSUs generally vest and underlying shares of common stock deliver (net of required withholding tax) as outlined in the applicable award agreements. Employee award agreements generally provide that vesting is accelerated in certain circumstances, such as on retirement, death, disability and conflicted employment. Delivery of the underlying shares of common stock is conditioned on the grantees satisfying certain vesting and other requirements outlined in the award agreements. RSUs not subject to performance conditions generally vest and deliver over a three-year period.

RSUs that are subject to performance or market conditions generally deliver after the end of a three to five-year period. For awards that are subject to performance or market conditions, generally the final award is adjusted from zero up to 150% of the original grant based on satisfaction of those conditions. Dividend equivalents that accrue on these awards are paid when the awards settle.

The table below presents the activity related to RSUs.

	Restricted Stock Units Outstanding		Weighted Average Grant-Date Fair Value of Restricted Stock Units Outstanding	
	Future Service Required	No Future Service Required	Future Service Required	No Future Service Required
Period Ended December 2021				
Beginning balance	**922,129**	**3,594,376**	**$205.09**	**$203.12**
Granted	**708,757**	**1,320,804**	**$258.90**	**$261.67**
Forfeited	**(85,503)**	**(63,735)**	**$228.06**	**$205.29**
Delivered	**–**	**(1,838,383)**	**$ –**	**$207.94**
Vested	**(706,957)**	**706,957**	**$213.31**	**$213.31**
Transfers	**(82,401)**	**5,681**	**$215.18**	**$202.78**
Ending balance	**756,025**	**3,725,700**	**$243.70**	**$223.32**
Period Ended December 2020				
Beginning balance	1,743,850	2,893,507	$193.70	$193.54
Granted	830,270	1,159,883	$215.44	$223.68
Forfeited	(80,808)	(25,459)	$204.95	$198.27
Delivered	–	(1,878,224)	$ –	$196.88
Vested	(1,502,818)	1,502,818	$197.82	$197.82
Transfers	(68,365)	(58,149)	$199.27	$202.60
Ending balance	922,129	3,594,376	$205.09	$203.12

In the table above:

- The weighted average grant-date fair value of RSUs granted was $260.71 during the period ended December 2021 and $220.24 during the period ended December 2020. The fair value of the RSUs granted included a liquidity discount of 8.0% during the period ended December 2021 and 8.19% during the period ended December 2020, to reflect post-vesting and delivery transfer restrictions, generally of up to 4 years.
- The aggregate fair value of awards that vested was $584 million during the period ended December 2021 and $576 million during the period ended December 2020.
- The ending balance for the period ended December 2021 also included RSUs not subject to future service requirements but subject to performance conditions of 58,948 RSUs and the maximum amount of such RSUs that may be earned was 88,421 RSUs, and for the period ended December 2020 also included RSUs not subject to future service requirements but subject to performance conditions of 37,767 RSUs and the maximum amount of such RSUs that may be earned was 56,651 RSUs.

Note 9.

Income Tax Expense

The table below presents an analysis of the company's income tax expense.

	Period Ended December	
$ in millions	**2021**	2020
Current tax		
U.K. taxation	**$ 587**	$583
Adjustments in respect of prior periods	**3**	29
Overseas taxation	**224**	215
Total current tax	**814**	827
Deferred tax		
Origination and reversal of temporary differences	**(141)**	(39)
Effect of increased U.K. corporation tax rate	**(55)**	(19)
Adjustments in respect of prior periods	**(3)**	–
Total deferred tax	**(199)**	(58)
Total income tax expense	**$ 615**	$769

The table below presents a reconciliation between income tax expense and the amount calculated by applying the weighted average rate of U.K. corporation tax applicable to the company for the period ended December 2021 of 27.0% (period ended December 2020: 27.0%) to the profit before taxation.

	Period Ended December	
$ in millions	**2021**	2020
Profit before taxation	**$3,552**	$3,524
Profit multiplied by U.K. corporation tax rate of 27.0% (period ended December 2020: 27.0%)	**959**	951
Changes in recognition and measurement of deferred tax assets	**2**	11
Tax deductible on interest on AT1 notes	**(202)**	(203)
Permanent differences	**(91)**	10
Tax losses surrendered from GS Group affiliates for nil consideration	**–**	(3)
Effect of higher taxes on overseas earnings	**–**	1
Exchange differences and other	**2**	(8)
Adjustments in respect of prior periods	**–**	29
Effect of increased U.K. corporate tax rate	**(55)**	(19)
Total income tax expense	**$ 615**	$ 769

The Finance Act 2021, which increases the U.K. corporate tax main rate from 19.0% to 25.0% from April 1, 2023, was enacted in June 2021. During 2021, the company's deferred tax assets were remeasured and a deferred tax benefit of $55 million was recognised in the income statement. Following the increase in the U.K. corporate tax main rate, the U.K. government undertook a review of the 8.0% bank surcharge, applicable to the company, to ensure that the combined tax burden on banks does not rise substantially. On February 24, 2022, the Finance Act 2022 was enacted which reduced the bank surcharge from 8.0% to 3.0% from April 1, 2023. If this rate change had been substantively enacted as of December 2021, the company's deferred tax asset would have been lower by $50 million, of which $44 million would have been recognised in the income statement and $6 million in other comprehensive income.

Note 10.

Collateralised Agreements

The table below presents collateralised agreements.

	As of December	
$ in millions	**2021**	2020
Resale agreements	**$156,844**	$ 75,140
Securities borrowed	**100,522**	65,542
Total	**$257,366**	$140,682

Note 11.

Customer and Other Receivables

The table below presents customer and other receivables.

	As of December	
$ in millions	**2021**	2020
Receivables from broker/dealers and clearing organisations	**$17,102**	$11,350
Receivables from customers and counterparties	**69,033**	79,030
Total	**$86,135**	$90,380

In the table above:

- Total customer and other receivables primarily consists of receivables resulting from collateral posted in connection with certain derivative transactions, customer margin loans and balances related to listed derivative activity.
- Receivables from customers and counterparties includes receivables from contracts with clients, which were $228 million as of December 2021 and $327 million as of December 2020.

Note 12.

Trading Assets and Liabilities

Trading assets and liabilities include trading cash instruments and derivatives held in connection with the company's market-making or risk management activities. Trading assets includes assets pledged as collateral. See Note 28 for further information.

The table below presents trading assets.

	As of December	
$ in millions	**2021**	2020
Trading cash instruments		
Money market instruments	**$ 6**	$ 338
Government and agency obligations	**28,256**	24,759
Mortgage and other asset-backed loans and securities	**478**	586
Corporate debt instruments	**22,326**	21,790
Equity securities	**55,505**	47,135
Commodities	**21**	9
Total trading cash instruments	**106,592**	94,617
Derivatives		
Interest rates	**422,209**	671,483
Credit	**27,761**	24,778
Currencies	**91,010**	110,493
Commodities	**25,805**	10,824
Equities	**68,861**	70,724
Total derivatives	**635,646**	888,302
Total trading assets	**$742,238**	$982,919

The table below presents trading liabilities.

	As of December	
$ in millions	**2021**	2020
Trading cash instruments		
Government and agency obligations	**$ 31,558**	$ 16,772
Corporate debt instruments	**5,703**	3,700
Equity securities	**35,497**	31,473
Commodities	**14**	40
Total trading cash instruments	**72,772**	51,985
Derivatives		
Interest rates	**408,017**	660,262
Credit	**24,749**	22,141
Currencies	**92,707**	114,495
Commodities	**25,626**	10,663
Equities	**71,111**	72,868
Total derivatives	**622,210**	880,429
Total trading liabilities	**$694,982**	$932,414

In the tables above:

- 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.
- Equity securities includes public and exchange-traded funds.

Note 13.

Investments

Investments includes debt instruments and equity securities that are accounted for at fair value and are generally held by the company in connection with its long-term investing activities. Investments includes assets pledged as collateral. See Note 28 for further information.

The table below presents information about investments.

	As of December	
$ in millions	**2021**	2020
Corporate debt instruments	**$161**	$639
Equity securities	**238**	249
Total	**$399**	$888

In the table above:

- Corporate debt instruments primarily includes mezzanine, senior and distressed debt.
- Equity securities consists of the company's public and private equity-related investments in corporate entities.

Note 14.

Other Assets

The table below presents other assets by type.

	As of December	
$ in millions	**2021**	2020
Intercompany loans	**$2,083**	$6,744
Miscellaneous receivables and other	**699**	564
Total financial assets	**2,782**	7,308
Property, leasehold improvements and equipment	**9**	2
Intangible assets	**553**	490
Right-of-use assets	**5**	15
Pension surplus (see Note 15)	**311**	202
Deferred tax assets (see Note 16)	**592**	444
Prepayments and accrued income	**20**	28
Tax-related assets	**177**	94
Miscellaneous receivables and other	**13**	6
Total non-financial assets	**1,680**	1,281
Total	**$4,462**	$8,589

In the table above, miscellaneous receivables and other primarily includes receivables for allocation of net revenues among GS Group affiliates for their participation in GS Group's business activities.

Property, Leasehold Improvements and Equipment

The table below presents the movements in property, leasehold improvements and equipment during the current and prior period.

$ in millions	Leasehold improvements	Fixtures, fittings and equipment	Total
Cost			
As of November 2019	$ 29	$ 9	$ 38
Additions	–	1	1
Disposals	(20)	(5)	(25)
As of December 2020	**9**	**5**	**14**
Additions	**7**	**1**	**8**
As of December 2021	**16**	**6**	**22**
Accumulated depreciation			
As of November 2019	20	5	25
Charge for the period	2	1	3
Disposals	(13)	(3)	(16)
As of December 2020	**9**	**3**	**12**
Charge for the period	**–**	**1**	**1**
As of December 2021	**9**	**4**	**13**
Net book value			
As of December 2021	**$ 7**	**$ 2**	**$ 9**
As of December 2020	$ –	$ 2	$ 2

Intangible Assets

The table below presents the movements in intangible assets during the current and prior period.

$ in millions	Computer software	Assets in the course of construction	Total
Cost			
As of November 2019	$381	$194	$ 575
Additions/Transfers	236	36	272
Disposals	(5)	–	(5)
As of December 2020	**612**	**230**	**842**
Additions/Transfers	**260**	**23**	**283**
Disposals	**(29)**	**–**	**(29)**
As of December 2021	**843**	**253**	**1,096**
Accumulated amortisation			
As of November 2019	183	–	183
Charge for the period	172	–	172
Disposals	(3)	–	(3)
As of December 2020	**352**	**–**	**352**
Charge for the period	**206**	**–**	**206**
Disposals	**(15)**	**–**	**(15)**
As of December 2021	**543**	**–**	**543**
Net book value			
As of December 2021	**$300**	**$253**	**$ 553**
As of December 2020	$260	$230	$ 490

Note 15.

Pension Arrangements

The company sponsors a pension plan with a hybrid structure, having both a defined benefit section (the Plan) and a defined contribution section. The Plan provides retirement benefits on the basis of members' final salary, with a normal retirement age of 65 for most members. The Plan is funded, with the assets of the scheme held separately from those of the company, in separate trustee-administered funds.

The Plan was closed to new entrants with effect from April 1, 2008, and was replaced by a defined contribution plan. As of March 31, 2016, the Plan was closed to future benefit accruals for existing participants.

The Plan operates under trust law and is managed and administrated by the Goldman Sachs UK Retirement Plan Trustee Limited (the Trustee) on behalf of the members and beneficiaries in accordance with the terms of the Trust Deed and Rules and relevant legislation. The Trustees act on behalf of the members and beneficiaries and have the responsibility for setting the investment strategy and agreeing funding requirements with the company through the valuation process.

A full actuarial valuation of the Plan was carried out by a qualified independent actuary as of December 31, 2021 using the projected unit credit method based upon membership data as of July 31, 2021. As of December 2021, the Plan liabilities consist of 96% in respect of future beneficiaries and 4% in respect of current beneficiaries.

There is no asset ceiling imposed on the amount of pension surplus recognised in the financial statements as the company is able to utilise the Plan surplus in the scenarios set out in "IFRIC 14 - IAS 19 - The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction".

Risks of the Plan

The main risks of the Plan are:

- **Funding Shortfall.** Additional contributions will be required if the investment returns are not sufficient to pay for benefits. The level of equity returns will be a key determinant of overall investment return; the investment portfolio is also subject to a range of other risks typical of the asset classes held, in particular interest rate risk and inflation risk on bonds.
- **Asset Volatility.** A consequence of the Plan's investment strategy, with a significant proportion of the assets invested in equities and other return-seeking assets is that the difference between Plan assets and Plan liabilities may be volatile.
- **Plan Liabilities Sensitivity.** Plan liabilities are sensitive to the assumptions made about future inflation and life expectancy. It is also sensitive to the discount rate, which depends on market yields on sterling-denominated AA corporate bonds.

Financial and Mortality Assumptions

The table below presents the significant financial and mortality assumptions used to determine the present value of the defined benefit obligation.

	As of December	
% per annum, except mortality assumptions	**2021**	2020
Financial Assumptions		
Discount rate	**1.91**	1.52
Rate of price inflation – RPI	**3.38**	2.99
Rate of price inflation – CPI	**2.88**	2.49
Rate of increase in pensions in payments (post-November 30, 1996 accrual)	**3.18**	2.79
Rate of increase in pensions in deferment (post-November 30, 1996 accrual)	**2.88**	2.49
Rate of increase in pensions in deferment (post-April 5, 2009 accrual)	**2.50**	2.49
Mortality Assumptions		
Life expectancy at 65 for a member currently at 65:		
Males	**24.2 years**	24.2 years
Females	**25.5 years**	25.4 years
Life expectancy at 65 for a member currently at 45:		
Males	**25.4 years**	25.5 years
Females	**26.9 years**	26.8 years

In the table above, the mortality assumptions adopted for the period ended December 2021 were the "SAPS S3 very light (All Pensioners) series" base table with an allowance for future improvements from 2013 onwards in line with the CMI 2020 core projections with a long-term rate of improvement of 1.25% per annum and an initial addition to mortality improvement parameter of 0.50% per annum.

Reconciliation of Pension Surplus

The table below presents a reconciliation of Plan assets, Plan liabilities and the net pension surplus.

$ in millions	Plan assets	Plan liabilities	Net pension surplus
Period Ended December 2021			
As of January 1, 2021	**$3,216**	**$(3,014)**	**$ 202**
Administrative cost	**–**	**(4)**	**(4)**
Interest income/(expense)	**49**	**(46)**	**3**
Return on Plan assets greater than discount rate	**48**	**–**	**48**
Actuarial gain – liability experience	**–**	**2**	**2**
Actuarial gain/(loss) – financial assumptions	**–**	**60**	**60**
Actuarial gain/(loss) – demographic assumptions	**–**	**3**	**3**
Benefits paid	**(34)**	**34**	**–**
Foreign exchange gain/(loss)	**(30)**	**27**	**(3)**
As of December 31, 2021	**$3,249**	**$(2,938)**	**$ 311**
Period Ended December 2020			
As of December 1, 2019	$2,682	$(2,418)	$ 264
Administrative cost	–	(3)	(3)
Interest income/(expense)	57	(51)	6
Return on Plan assets greater than discount rate	356	–	356
Actuarial gain – liability experience	–	45	45
Actuarial gain/(loss) – financial assumptions	–	(470)	(470)
Actuarial gain/(loss) – demographic assumptions	–	(7)	(7)
Benefits paid	(49)	49	–
Foreign exchange gain/(loss)	170	(159)	11
As of December 31, 2020	$3,216	$(3,014)	$ 202

Fair Value of Plan Assets

The Plan Trustees have a de-risking framework in place to adjust the long-term asset allocation strategy of the Plan upon reaching certain funding targets. The Plan reached the funding trigger of 95% at the end of December 2021. As such, the existing strategy to invest 53% of assets in return seeking investments (such as equity funds/indices, alternative investments and fixed income securities) and 47% in liability matching assets (such as Gilts) was adjusted to invest 41% of assets in return seeking investments and 59% in liability matching assets in 2022.

The Plan has a hedging programme investing in swaps and other derivatives in order to reduce the exposure to changes in interest rates and inflation.

The table below presents the fair value of Plan assets.

$ in millions	Quoted	Unquoted	Total
As of December 2021			
Equity funds/indices	**$ 892**	**$ –**	**$ 892**
Gilts	**1,219**	**–**	**1,219**
Swaps	**–**	**193**	**193**
Cash and cash equivalents	**287**	**–**	**287**
Other	**564**	**94**	**658**
Total	**$2,962**	**$ 287**	**$3,249**
As of December 2020			
Equity funds/indices	$ 828	$ –	$ 828
Gilts	684	–	684
Swaps	–	986	986
Cash and cash equivalents	34	–	34
Other	543	141	684
Total	$2,089	$1,127	$3,216

In the table above, other primarily consists of investments in alternative investments and fixed income securities. During the period ended December 2021, changes were made to simplify the Plan's liability-driven investment portfolio by reducing exposure to swaps to allow for more investment in Gilts, which will increase the expected long-term return of the Plan with minimal risk and more efficient portfolio operation.

Defined Benefit Cost

The table below presents the defined benefit loss/(gain) related to the Plan recognised in the income statement and in other comprehensive income.

	Period Ended December	
$ in millions	**2021**	2020
Income statement		
Administrative cost	**$ 4**	$ 3
Interest income	**(3)**	(6)
Total charged/(credited) to the income statement	**1**	(3)
Other comprehensive income		
Return on Plan assets greater than discount rate	**(48)**	(356)
Actuarial gain – liability experience	**(2)**	(45)
Actuarial loss/(gain) – financial assumptions	**(60)**	470
Actuarial loss/(gain) – demographic assumptions	**(3)**	7
Total loss/(gain) recognised in other comprehensive income	**(113)**	76
Total defined benefit loss/(gain)	**$(112)**	$ 73

Sensitivity Analysis

The table below presents a sensitivity analysis of Plan liabilities for each significant actuarial assumption.

	Impact to Plan Liabilities			
	Increase in assumption		Decrease in assumption	
	$ in millions	*%*	*$ in millions*	*%*
As of December 2021				
0.25% change in discount rate	**$(218)**	**(7.4)**	**$ 240**	**8.2**
0.25% change in price inflation	**178**	**6.1**	**(165)**	**(5.6)**
1 year change in life expectancy	**115**	**3.9**	**(116)**	**(3.9)**
As of December 2020				
0.25% change in discount rate	$(235)	(7.8)	$ 255	8.5
0.25% change in price inflation	190	6.3	(217)	(7.2)
1 year change in life expectancy	118	3.9	(119)	(3.9)

In the table above, the sensitivities are based on a change in each assumption while holding all other assumptions constant.

There are inherent limitations in the sensitivity analysis, as such idiosyncratic movements are unlikely to occur. The methodology used to calculate the sensitivities are consistent across the two periods presented in the table above.

Nature of Future Cash Flows

Since the Plan's closure to future accruals from March 31, 2016, the company has ceased to make regular contributions into the Plan but will continue to assess the funding requirements of the Plan with the Trustees on a periodic basis.

On a triennial basis, a formal funding valuation of the Plan is performed for the Trustees to assess the funding needs of the Plan. This valuation differs from the actuarial valuation required for accounting purposes due to the use of different assumptions.

The most recent funding valuation of the Plan was performed by a qualified independent actuary as of December 31, 2018, which indicated that the Plan was in a funding surplus of $316 million. The preliminary results of the next formal triennial valuation as of December 2021 are likely to be available in the third quarter of 2022 and based on initial estimates and the current funding surplus in the Plan, the company currently does not expect to need to make any further contributions into the Plan.

The company expects $32 million of benefits to be paid out of the Plan to members in the next year.

The weighted average duration of Plan liabilities was 32 years as of December 2021.

Note 16.

Deferred Tax Assets

The table below presents the components of the company's deferred tax asset.

	As of December	
$ in millions	**2021**	2020
Deferred compensation	**$ 816**	$ 551
Post-retirement benefits	**(103)**	(54)
Property, leasehold improvements and equipment and intangible assets	**(161)**	(129)
Debt valuation adjustment	**55**	78
Unrealised gains on intercompany secured funding	**(12)**	–
Other temporary differences	**(3)**	(2)
Total	**$ 592**	$ 444

The table below presents changes in each component of the company's deferred tax asset.

	Period ended December	
$ in millions	**2021**	2020
Deferred compensation		
Beginning balance	**$ 551**	$ 453
Transfer to the income statement	**265**	105
Disposal of deferred tax assets	**–**	(7)
Ending balance	**$ 816**	$ 551
Post-retirement benefits		
Beginning balance	**$ (54)**	$ (63)
Transfer to the income statement	**(21)**	(13)
Transfer to other comprehensive income	**(28)**	22
Ending balance	**$(103)**	$ (54)
Property, leasehold improvements and equipment and intangible assets		
Beginning balance	**$(129)**	$ (93)
Transfer to the income statement	**(32)**	(36)
Ending balance	**$(161)**	$(129)
Debt valuation adjustment		
Beginning balance	**$ 78**	$ 38
Transfer to other comprehensive income	**(23)**	40
Ending balance	**$ 55**	$ 78
Unrealised gains on intercompany secured funding		
Beginning balance	**$ –**	$ –
Transfer to the income statement	**(12)**	–
Ending balance	**$ (12)**	$ –
Other temporary differences		
Beginning balance	**$ (2)**	$ (4)
Transfer to the income statement	**(1)**	2
Ending balance	**$ (3)**	$ (2)
Total		
Beginning balance	**$ 444**	$ 331
Transfer to the income statement (see Note 9)	**199**	58
Transfer to other comprehensive income	**(51)**	62
Disposal of deferred tax assets	**–**	(7)
Ending balance	**$ 592**	$ 444

In the tables above, deferred compensation is mainly in respect of share-based compensation.

Note 17.

Interests in Other Entities

The table below presents the subsidiary over which the company exercised control as of December 2021.

Name of company	Country of incorporation	Holding and proportion of voting rights	Class of shares held	Shares held	Nature of business
Goldman Sachs (Cayman) Limited	Cayman Islands	100%	Ordinary shares	250	Financial services

The registered office address of Goldman Sachs (Cayman) Limited is the offices of Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands.

The company has interests in a number of special purpose entities and capital guaranteed funds which do not meet the definition of a legal subsidiary, but give rise to the risks and rewards that are, in substance, no different than if they were legal subsidiaries. The activities of these special purpose entities and capital guaranteed funds consist of the issuance of loan notes under the terms of a repackaging programme. These special purposes entities and capital guaranteed funds are consolidated in the financial statements of Group Inc.

Unconsolidated Structured Entities

The company has interests in structured entities that it does not control (unconsolidated structured entities), which primarily includes: senior and subordinated debt; derivatives and guarantees. Structured entities generally finance the purchase of assets by issuing debt securities that are either collateralised by or indexed to the assets held by the structured entity. The debt securities issued by a structured entity may include tranches of varying levels of subordination. The company's involvement with structured entities primarily includes the purchase and sale of beneficial interests issued by mortgage-backed structured entities in connection with market-making activities and derivatives the company has entered into with structured entities, such as total return swaps. In certain instances, the company provides guarantees, including derivative guarantees, to unconsolidated structured entities or holders of interests in unconsolidated structured entities.

The table below presents a summary of the unconsolidated structured entities in which the company holds interests.

	As of December	
$ in millions	**2021**	2020
Assets in structured entities	**$6,038**	$8,745
Carrying value of interests - assets	**$ 315**	$ 439
Carrying value of interests - liabilities	**$ (28)**	$ (39)
Maximum exposure to loss	**$3,399**	$2,761

In the table above:

- The carrying values of the company's interests are included in the balance sheet in trading assets or trading liabilities.
- The company's maximum exposure to loss is mainly a result of derivatives, commitments and guarantees, for which the maximum exposure to loss is the notional amount, which does not represent anticipated losses and also has not been reduced by unrealised losses already recorded. As a result, the maximum exposure to loss exceeds liabilities recorded for derivatives, commitments and guarantees.

Note 18.

Collateralised Financings

The table below presents collateralised financings.

	As of December	
$ in millions	**2021**	2020
Repurchase agreements	**$139,284**	$ 77,726
Securities loaned	**51,080**	21,034
Intercompany loans	**4,205**	1,432
Debt securities issued	**4,540**	6,664
Other borrowings	**5,430**	6,271
Total	**$204,539**	$113,127

In the table above, intercompany loans, debt securities issued and other borrowings are secured by securities which have been pledged as collateral. This pledged collateral is either recognised in trading assets or collateralised agreements.

Note 19.

Customer and Other Payables

The table below presents customer and other payables.

	As of December	
$ in millions	**2021**	2020
Payables to broker/dealers and clearing organisations	**$ 2,781**	$ 2,648
Payables to customers and counterparties	**117,102**	97,871
Total	**$119,883**	$100,519

In the table above, total customer and other payables primarily consist of collateral received in connection with certain derivative transactions, customer credit balances related to the company's prime brokerage activities and balances related to listed derivative activity.

Note 20.

Unsecured Borrowings

The table below presents unsecured borrowings.

$ in millions	As of December 2021	2020
Bank loans	**$ –**	$ 6
Overdrafts	**14**	115
Intercompany loans – non-MREL-eligible	**16,179**	21,032
Intercompany loans – MREL-eligible	**18,215**	16,723
Debt securities issued	**35,179**	32,385
Subordinated loans	**5,387**	5,394
Other borrowings	**4,839**	4,696
Total	**$79,813**	$80,351

In the table above:

- Payments on debt securities issued and other borrowings instruments are typically referenced to underlying financial assets, which are predominately interest rates, equities and currencies-related.
- Subordinated loans of $5.39 billion as of both December 2021 and December 2020 consist of long-term loans of $5.38 billion from its parent undertaking and other GS Group affiliates, which are unsecured and carry interest at a margin over the U.S. Federal Reserve's Federal Funds rate, and associated accrued interest. The margin is reset on a periodic basis to reflect changes in GS Group's weighted average cost of debt. These loans constitute regulatory capital as approved by the PRA and are repayable subject to PRA approval. These loans are repayable between December 26, 2029 and September 9, 2030.

Debt Valuation Adjustment

The company calculates the fair value of debt securities issued that are designated at fair value through profit or loss by discounting future cash flows at a rate which incorporates GS Group's credit spreads. The table below presents information about the cumulative net pre-tax DVA gains/(losses) on such financial liabilities, which is included in accumulated other comprehensive income.

$ in millions	Period Ended December 2021	2020
Beginning balance	**$(290)**	$(147)
Debt valuation adjustment for the period	**54**	(183)
Transfer to retained earnings	**48**	40
Ending balance	**$(188)**	$(290)

In the table above, net losses of $48 million ($35 million, net of tax) for the period ended December 2021 and net losses of $40 million ($29 million, net of tax) for the period ended December 2020 realised upon early redemption of certain such financial liabilities, have been transferred from accumulated other comprehensive income to retained earnings.

Hedge Accounting

The company designates interest rate swaps as fair value hedges that are used to manage the interest rate exposure of certain fixed-rate unsecured long-term and short-term debt. These interest rate swaps hedge changes in fair value attributable to the relevant benchmark interest rate (e.g., EURIBOR), effectively converting fixed-rate obligations into floating-rate obligations.

The table below presents information about hedging instruments, which are classified in derivatives within trading assets and liabilities in the balance sheet.

$ in millions	As of December 2021	2020
Asset carrying value	**$12**	$17
Liability carrying value	**$ –**	$32

The table below presents the notional of hedging instruments by contractual maturity date.

$ in millions	As of December 2021	2020
1 – 3 months	**$ –**	$ –
3 months – 1 year	**–**	–
1 – 5 years	**1,708**	1,760
Greater than 5 years	**1,566**	1,469
Total	**$3,274**	$3,229

The average fixed rate of the company's hedging instruments was 1.07% for the period ended December 2021 and 1.16% for the period ended December 2020.

The table below presents the carrying value of hedged items 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 December 2021		
Unsecured long-term borrowings	**$3,202**	**$ 63**
As of December 2020		
Unsecured long-term borrowings	$3,042	$177

In the table above, cumulative hedging adjustment for items no longer designated in a hedging relationship were $9 million as of December 2021 and $34 million as of December 2020.

The table below presents the company's gains/(losses) from interest rate derivatives accounted for as hedges, the related hedged borrowings and the hedge ineffectiveness on these derivatives recognised in net revenues.

	Period Ended December	
$ in millions	**2021**	2020
Interest rate hedges	**$(130)**	$ 50
Hedged borrowings	**110**	(53)
Hedge ineffectiveness	**$ (20)**	$ (3)

Note 21.

Other Liabilities

The table below presents other liabilities by type.

	As of December	
$ in millions	**2021**	2020
Compensation and benefits	**$2,649**	$2,762
Income tax-related liabilities	**450**	330
Lease liabilities	**5**	17
Accrued expenses and other	**1,717**	1,370
Total financial liabilities	**4,821**	4,479
Income tax-related liabilities	**4**	11
Other taxes and social security costs	**482**	378
Provisions	**1**	1
Total non-financial liabilities	**487**	390
Total	**$5,308**	$4,869

In the table above, accrued expenses and other includes contract liabilities, which represent consideration received by the company in connection with its contracts with clients prior to providing the service. As of December 2021 and December 2020 contract liabilities were not material.

Provisions

The table below presents provisions, which are in respect of legal and regulatory proceedings in which the company is involved.

$ in millions	
As of November 2019	$ 1
Charge during the period	127
Non-cash capital contribution	(126)
Utilised during the period	(1)
As of December 2020	**$ 1**
Charge during the period	**1**
Utilised during the period	**(1)**
As of December 2021	**$ 1**

In the table above, provisions charged during the period ended December 2020 included fines of $126 million levied by the FCA and PRA in relation to GS Group's settlement of governmental and regulatory investigations relating to 1MDB, which, in accordance with the indemnification agreement between Group Inc. and the company in relation to 1MDB losses, were paid by Group Inc. These fines were recognised as an expense in the company's income statement, with a corresponding non-cash capital contribution in retained earnings, resulting in no net impact to the company's total shareholder's equity as of December 2020.

Note 22.

Share Capital

The table below presents share capital.

Allotted, called up and fully paid	Ordinary shares of $1 each	*$ in millions*
As of November 2019	589,608,046	$590
Allotted during the period	8,574,007	8
As of December 2020	**598,182,053**	**$598**
As of December 2021	**598,182,053**	**$598**

On March 24, 2020, 8,574,007 ordinary shares of $1 each were allotted at $44.32 to GSG UK. The total consideration received was $380,000,000 in cash, incorporating a share premium of $371,425,993.

Note 23.

Other Equity Instruments

The table below presents information about unsecured AT1 notes.

Month of issuance	Number of AT1 notes	*$ millions*	Interest rate
June 2017	**5,800**	**$5,800**	**9.00% p.a.**
November 2018	**2,500**	**2,500**	**8.67% p.a.**
As of December 2021	**8,300**	**$8,300**	

The company's AT1 notes of $1 million each have been issued to GSG UK. They have no fixed maturity date and are not callable.

The AT1 notes will be irrevocably written-down in the event that the CET1 capital ratio of the company or the GSG UK Group falls below 7%.

The company paid interest on its AT1 notes of $749 million for the period ended December 2021 and $751 million for the period ended December 2020. Interest paid is recognised in retained earnings. The associated tax effect is recognised in income tax expense. The non-cumulative fixed interest is payable at the company's discretion subject to certain solvency and regulatory conditions.

Note 24.

Statement of Cash Flows Reconciliations

The table below presents cash and cash equivalents, net of overdrafts for the purpose of the statements of cash flows.

	As of December	
$ in millions	**2021**	2020
Cash and cash equivalents	**$52,422**	$43,833
Overdrafts (see Note 20)	**(14)**	(115)
Total	**$52,408**	$43,718

In the table above, cash and cash equivalents included cash that is not available for use by the company of $2.52 billion as of December 2021 and $1.84 billion as of December 2020.

Reconciliation of Cash Flows From Operating Activities

The table below presents a reconciliation of cash flows from operating activities.

	Period Ended December	
$ in millions	**2021**	2020
Profit before taxation	**$ 3,552**	$ 3,524
Adjustments for		
Depreciation and amortisation (see Note 6)	**210**	194
Loss on disposal of leasehold improvements	**–**	2
Loss on disposal of intangible assets	**14**	–
Charge/(credit) for defined benefit plan (see Note 15)	**1**	(3)
Foreign exchange losses/(gains)	**2,698**	(2,793)
Share-based compensation expense	**1,225**	830
Provisions (see note 21)	**1**	127
Interest on subordinated loans and MREL-eligible intercompany loans	**436**	658
Gains on investments	**(104)**	(50)
Gain on disposal of leases	**(1)**	–
Interest expense on leases	**–**	2
Cash generated before changes in operating assets and liabilities	**8,032**	2,491
Changes in operating assets		
Decrease/(increase) in collateralised agreements	**(116,684)**	15,666
Decrease/(increase) in customer and other receivables	**4,245**	(18,573)
Decrease/(increase) in trading assets	**240,681**	(197,554)
Decrease in loans	**169**	983
Decrease/(increase) in other assets	**4,436**	(5,889)
Changes in operating assets	**132,847**	(205,367)
Changes in operating liabilities		
Increase/(decrease) in collateralised financings	**91,412**	(2,809)
Increase in customer and other payables	**19,364**	15,551
Increase/(decrease) in trading liabilities	**(237,432)**	217,774
Decrease in unsecured borrowings	**(1,868)**	(11,323)
Increase/(decrease) in other liabilities	**(1,035)**	621
Changes in operating liabilities	**(129,559)**	219,814
Cash generated from operations	**$ 11,320**	$ 16,938

In the table above, cash generated from operations included interest paid of $2.81 billion for the period ended December 2021 and $5.05 billion for the period ended December 2020, and interest received of $3.05 billion for the period ended December 2021 and $4.22 billion for the period ended December 2020.

Reconciliation of Cash Flows From Financing Activities Excluding Lease Liabilities

The company includes MREL-eligible borrowings as financing activity for the purposes of its statement of cash flows, which consists of its AT1 notes, subordinated loans and MREL-eligible intercompany loans. Both the principal and interest related to these borrowings is classified as financing activity.

The table below presents a reconciliation of cash flows from financing activities excluding lease liabilities.

$ in millions	Principal	Interest	Total
As of November 2019	$26,967	$ 692	$27,659
Increase in MREL-eligible intercompany loans	3,400	–	3,400
Interest on AT1 notes	–	751	751
Interest on subordinated loans and MREL-eligible intercompany loans	–	658	658
Interest paid on AT1 notes	–	(751)	(751)
Interest paid on subordinated loans and MREL-eligible intercompany loans	–	(1,300)	(1,300)
As of December 2020	$30,367	$ 50	$30,417
Increase in MREL-eligible intercompany loans	**1,500**	**–**	**1,500**
Interest on AT1 notes	**–**	**749**	**749**
Interest on subordinated loans and MREL-eligible intercompany loans	**–**	**436**	**436**
Interest paid on AT1 notes	**–**	**(749)**	**(749)**
Interest paid on subordinated loans and MREL-eligible intercompany loans	**–**	**(451)**	**(451)**
As of December 2021	**$31,867**	**$ 35**	**$31,902**

Note 25.

Financial Commitments and Contingencies

Commitments and Contingencies

The table below presents commitments and contingencies.

	As of December	
$ in millions	**2021**	2020
Collateralised agreements	**$141,020**	$61,982
Collateralised financings	**30,111**	18,787
Other	**4,861**	4,942
Total	**$175,992**	$85,711

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

Other commitments primarily relate to collateral commitments, underwriting commitments and investment commitments.

In addition, there are registered charges on the company's assets which have arisen in the ordinary course of business.

Legal Proceedings

The company 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 company's business. Except as noted in the first matter below, it is not practicable to reliably estimate the possible financial impact, if any, of these proceedings on the company.

Banco Espirito Santo S.A. and Oak Finance. Beginning in February 2015, the company 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 the company, 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 the company's action. In July 2018, the Liquidation Committee for BES issued a decision seeking to claw back from the company $54 million paid to the company and $50 million paid to Oak Finance in connection with the Facility, alleging that the company acted in bad faith in extending the Facility, including because the company allegedly knew that BES was at risk of imminent failure. In October 2018, the company 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.

Interest Rate Swap Antitrust Litigation. The company is 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 company is also 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 conduct from 2008 to 2012, but granted the motion to add limited allegations from 2013 to 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. The company 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.

The company is 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 aluminium and aluminium 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.

Credit Default Swap Antitrust Litigation. The company is 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. On November 15, 2021, the defendants filed a motion to dismiss the amended complaint. On February 4, 2022, the plaintiffs filed an amended complaint.

Regulatory Investigations and Reviews and Related Litigation. Group Inc. and certain of its affiliates, including the company, 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 organisations and litigation relating to various matters relating to GS Group's businesses and operations, including:

- The public securities offering process and underwriting practices;
- Investment management and financial advisory services;
- Conflicts of interest;
- Transactions involving government-related financings and other matters;
- 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 GS Group's supervision and controls relating to such activities, including compliance with applicable short sale rules, algorithmic, high-frequency and quantitative trading, 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 U.K. Bribery Act and the U.S. Foreign Corrupt Practices Act;
- Hiring and compensation practices;
- System of risk management and controls; and
- Insider trading, the potential misuse and dissemination of material non-public information regarding corporate and governmental developments and the effectiveness of insider trading controls and information barriers.

In addition, investigations, reviews and litigation involving the company's affiliates and such affiliates' businesses and operations, including various matters referred to above but also other matters, may have an impact on the company's businesses and operations.

Note 26.

Maturity of Assets and Liabilities

The table below presents the expected maturity of the company's assets and liabilities.

$ in millions	Non-current	Current	Total
As of December 2021			
Assets			
Cash and cash equivalents	**$ –**	**$ 52,422**	**$ 52,422**
Collateralised agreements	**1,114**	**256,252**	**257,366**
Customer and other receivables	**–**	**86,135**	**86,135**
Trading assets	**–**	**742,238**	**742,238**
Investments	**334**	**65**	**399**
Loans	**143**	**255**	**398**
Other assets	**1,876**	**2,586**	**4,462**
Total assets	**$ 3,467**	**$1,139,953**	**$1,143,420**
Liabilities			
Collateralised financings	**$ 61,398**	**$ 143,141**	**$ 204,539**
Customer and other payables	**–**	**119,883**	**119,883**
Trading liabilities	**–**	**694,982**	**694,982**
Unsecured borrowings	**54,196**	**25,617**	**79,813**
Other liabilities	**1,345**	**3,963**	**5,308**
Total liabilities	**$116,939**	**$ 987,586**	**$1,104,525**
As of December 2020			
Assets			
Cash and cash equivalents	$ –	$ 43,833	$ 43,833
Collateralised agreements	1,896	138,786	140,682
Customer and other receivables	–	90,380	90,380
Trading assets	–	982,919	982,919
Investments	689	199	888
Loans	517	50	567
Other assets	1,742	6,847	8,589
Total assets	$ 4,844	$1,263,014	$1,267,858
Liabilities			
Collateralised financings	$ 3,851	$ 109,276	$ 113,127
Customer and other payables	–	100,519	100,519
Trading liabilities	–	932,414	932,414
Unsecured borrowings	55,781	24,570	80,351
Other liabilities	1,009	3,860	4,869
Total liabilities	$ 60,641	$1,170,639	$1,231,280

In the table above:

- Current assets and liabilities include amounts that the company expects to realise or settle in its normal operating cycle and includes assets and liabilities held for trading purposes and cash and cash equivalents.
- Non-current assets are amounts that the company expects to be recovered after more than twelve months and primarily includes certain collateralised agreements, certain investments, certain loans, intangible assets, deferred tax assets, pension surplus and certain intercompany loans.
- Non-current liabilities are amounts that the company expects to be settled after more than twelve months and primarily includes collateralised financings and unsecured borrowings with contractual maturities greater than one year, with the exception of contracts that have trigger events that are not in the control of the company, which are classified as current.

Note 27.

Related Party Disclosures

Parties are considered to be related if one party has the ability to directly or indirectly control the other party or exercise significant influence over the party in making financial or operational decisions. The company's related parties include:

- The company's parent entities;
- Other GS Group affiliates;
- Key management personnel of the company;
- Key management personnel of the company's parent entities; and
- Other related parties, which includes the company's defined benefit scheme and associates of GS Group.

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of the company. Key management personnel of the company include the directors of the company, members of the EMC who are employees of the company and members of senior management who are designated as managers under the PRA and FCA's Senior Managers and Certification Regime.

Key Management Compensation

The table below presents the compensation paid or payable by the company for employee services to key management personnel of the company and its parent entities.

	Period Ended December	
$ in millions	**2021**	2020
Salaries and other short-term benefits	**$172**	$211
Post-employment benefits	**1**	1
Share-based compensation	**564**	255
Total	**$737**	$467

In the table above:

- Salaries and other short-term benefits includes fees paid to the non-executive directors of the company.
- Share-based compensation included a charge of $187 million for the period ended December 2021 and a charge of $72 million for the period ended December 2020 representing recharges from Group Inc. equivalent to changes in the fair value of share-based payment awards during the period.

Directors' Emoluments

In accordance with the Companies Act 2006, directors' emoluments represent the proportion of total emoluments paid or payable in respect of qualifying services only. This total only includes the value of cash and benefits in kind, and does not include the value of equity awards in accordance with the provisions of Schedule 5 of the Statutory Instruments 2008/410. Directors also receive emoluments for non-qualifying services which are not required to be disclosed.

The table below presents the company's directors' emoluments.

	Period Ended December	
$ in millions	**2021**	2020
Aggregate emoluments	**$8**	$9
Company pension contributions to money purchase schemes	**–**	–
Total	**$8**	$9

The table below presents emoluments for the highest paid director.

	Period Ended December	
$ in millions	**2021**	2020
Aggregate emoluments	**$5**	$5
Company pension contributions to money purchase schemes	**–**	–
Accrued annual pension at end of the period	**–**	–

Three directors were members of a defined contribution scheme for both the period ended December 2021 and December 2020. Three directors including the highest paid director, have received or are due to receive Group Inc. shares in respect of long-term incentive schemes for both the period ended December 2021 and December 2020.

The aggregate emoluments of the eight non-executive directors for the period ended December 2021 (period ended December 2020: eight non-executive directors) who were members of the Board for all or part of the period ended December 2021 was approximately $2.0 million (for all or part of the period ended December 2020: approximately $2.1 million). Additional ongoing fees in respect of advisory services provided by certain non-executive directors was approximately $2.4 million for the period ended December 2021 (period ended December 2020: approximately $2.5 million).

Transactions with Related Parties

The company's transactions with related parties primarily include the following.

Risk Management and Market-Making Activity

The company routinely enters into derivatives and buys and sells securities and loans with related parties for risk management and market-making purposes, which are recognised in trading assets and trading liabilities.

The table below presents the gross outstanding buys and sells of regular-way securities and loans from/to other GS Group affiliates.

	As of December	
$ in millions	**2021**	2020
Outstanding regular-way buys of securities and loans	**$8,153**	$8,363
Outstanding regular-way sells of securities and loans	**$8,018**	$7,767

The company also holds securities in, and makes corporate loans to other GS Group affiliates, which are classified in trading assets. The company also exchanges cash and security collateral in connection with derivative transactions. Cash collateral received is recognised in customer and other payables. Cash collateral paid is recognised in customer and other receivables. The company posted security collateral to related parties of $458 million as of December 2021 and $1.30 billion as of December 2020.

In addition, the company also executes and intermediates listed derivatives with other GS Group affiliates, resulting in the exchange of margin, which is recognised in customer and other receivables and customer and other payables.

Funding Activity

The company routinely enters into collateralised agreements and collateralised financings with GS Group affiliates, primarily to source securities and fund inventory on a secured basis.

In addition, a significant portion of the company's unsecured borrowings is from GS Group affiliates, including the company's AT1 notes issued to GSGUK. See Notes 20 and 23 for further details. The company has also made loans to certain GS Group affiliates. See Note 14 for further details.

Interest-bearing instruments are typically priced based on the term, currency, size, subordination and whether the instrument is secured or unsecured.

Cash Management Services

The company receives cash management services from other GS Group affiliates and places cash deposits with them in the normal course of business which is recognised in cash and cash equivalents.

Commitments and Guarantees

The table below presents commitments and contingencies with other GS Group affiliates.

	As of December	
$ in millions	**2021**	2020
Collateralised agreements	**$72,082**	$43,145
Collateralised financings	**6,474**	7,488
Total	**$78,556**	$50,633

The company has received a guarantee from Group Inc. related to transactions entered into with certain of its counterparties for up to $8 billion of exposure at default. The exposure at default being guaranteed as of both December 2021 and December 2020 was $nil.

Transfer Pricing and Management Charges

The company participates in the allocation of net revenues among GS Group affiliates for their involvement in GS Group's business activities. In addition, the company incurs/receives management charges to/from GS Group affiliates relating to operational and administrative support and management services.

Taxation

The company receives group relief from other GS Group affiliates. See Note 9 for the tax-effected losses surrendered from other GS Group affiliates for nil consideration. The company also received tax-effected losses from other GS Group affiliates of $121 million for the period ended December 2021 and $201 million for the period ended December 2020 for which consideration will be paid in full.

Share-Based Payments

The company has entered into a chargeback agreement with Group Inc. under which it is committed to pay to Group Inc. (a) the grant-date fair value of those awards and (b) subsequent movements in the fair value of those awards between the grant date and delivery to employees. See Note 7 and Note 8 for further information.

Transactions with Key Management Personnel

Certain key management personnel and their close family members have brokerage and/or discretionary accounts at the company. They are provided services in the ordinary course of business on commercial terms, and in each case in compliance with the relevant laws and regulations.

Close family members of certain key management personnel are employed by the company. The amount of compensation paid to the family members was determined in accordance with the company's standard compensation practices applicable to similarly-situated employees.

Related Party Assets and Liabilities

The table below presents assets and liabilities with related parties.

$ in millions	Parent entities	Other GS Group affiliates	Other related parties	Total
As of December 2021				
Assets				
Cash and cash equivalents	**$ –**	**$ 7**	**$ –**	**$ 7**
Collateralised agreements	**–**	**147,976**	**–**	**147,976**
Customer and other receivables	**2,552**	**17,397**	**178**	**20,127**
Trading assets	**1,085**	**437,185**	**619**	**438,889**
Investments	**–**	**177**	**–**	**177**
Loans	**–**	**218**	**–**	**218**
Other assets	**1,006**	**1,779**	**–**	**2,785**
Total assets	**$ 4,643**	**$604,739**	**$ 797**	**$610,179**
Liabilities				
Collateralised financings	**$ 17**	**$131,138**	**$ 87**	**$131,242**
Customer and other payables	**1**	**23,990**	**–**	**23,991**
Trading liabilities	**3,167**	**430,778**	**670**	**434,615**
Unsecured borrowings	**31,127**	**12,544**	**–**	**43,671**
Other liabilities	**2,317**	**1,458**	**–**	**3,775**
Total liabilities	**$36,629**	**$599,908**	**$ 757**	**$637,294**
As of December 2020				
Assets				
Cash and cash equivalents	$ –	$ 993	$ –	$ 993
Collateralised agreements	–	94,067	86	94,153
Customer and other receivables	3,455	9,596	1,091	14,142
Trading assets	1,365	634,405	2,123	637,893
Investments	–	193	–	193
Loans	–	215	–	215
Other assets	6,036	1,151	–	7,187
Total assets	$10,856	$740,620	$3,300	$754,776
Liabilities				
Collateralised financings	$ –	$ 75,388	$ 78	$ 75,466
Customer and other payables	–	14,104	97	14,201
Trading liabilities	4,546	625,421	3,111	633,078
Unsecured borrowings	34,737	12,257	–	46,994
Other liabilities	1,898	1,184	–	3,082
Total liabilities	$41,181	$728,354	$3,286	$772,821

Related Party Income and Expense

The table below presents income and expenses related to transactions with related parties other than Key Management Personnel.

$ in millions	Parent entities	Other GS Group affiliates	Other related parties	Total
Period Ended December 2021				
Net revenues				
Interest income	**$ 13**	**$ 454**	**$ –**	**$ 467**
Interest expense	**(580)**	**(848)**	**–**	**(1,428)**
Transfer pricing revenues	**8**	**1,047**	**–**	**1,055**
Other income	**–**	**–**	**–**	**–**
Total net revenues	**$ (559)**	**$ 653**	**$ –**	**$ 94**
Net operating expenses				
Transaction based expenses	**$ –**	**$ 720**	**$ –**	**$ 720**
Management charges from GS Group affiliates	**–**	**1,118**	**–**	**1,118**
Management charges to GS Group affiliates	**(7)**	**(336)**	**–**	**(343)**
Other expenses	**1**	**543**	**–**	**544**
Total net operating expenses	**$ (6)**	**$ 2,045**	**$ –**	**$ 2,039**
Period Ended December 2020				
Net revenues				
Interest income	$ 7	$ 648	$ 3	$ 658
Interest expense	(1,012)	(1,376)	–	(2,388)
Transfer pricing revenues	5	964	–	969
Other income	–	76	–	76
Total net revenues	$(1,000)	$ 312	$ 3	$ (685)
Net operating expenses				
Transaction based expenses	$ –	$ 438	$ –	$ 438
Management charges from GS Group affiliates	–	921	–	921
Management charges to GS Group affiliates	(6)	(338)	–	(344)
Other expenses	–	423	–	423
Total net operating expenses	$ (6)	$ 1,444	$ –	$ 1,438

In the table above:

- Other income related to consideration received from GSBE in connection with the transfer of certain of the company's activities and employees as a part of GS Group's Brexit planning.
- Transaction based expenses and other expenses primarily include IFRS 15 expenses.

Note 28.

Financial Instruments

Financial Assets and Liabilities by Category

The tables below present the carrying value of financial assets and liabilities by category.

	Financial Assets		
$ in millions	Mandatorily at fair value	Amortised cost	Total
As of December 2021			
Cash and cash equivalents	**$ –**	**$ 52,422**	**$ 52,422**
Collateralised agreements	**178,279**	**79,087**	**257,366**
Customer and other receivables	**–**	**86,135**	**86,135**
Trading assets	**742,238**	**–**	**742,238**
Investments	**399**	**–**	**399**
Loans	**398**	**–**	**398**
Other assets	**1,000**	**1,782**	**2,782**
Total	**$ 922,314**	**$219,426**	**$1,141,740**
As of December 2020			
Cash and cash equivalents	$ –	$ 43,833	$ 43,833
Collateralised agreements	92,619	48,063	140,682
Customer and other receivables	–	90,380	90,380
Trading assets	982,919	–	982,919
Investments	888	–	888
Loans	567	–	567
Other assets	6,013	1,295	7,308
Total	$1,083,006	$183,571	$1,266,577

	Financial Liabilities			
$ in millions	Held for trading	Designated at fair value	Amortised cost	Total
As of December 2021				
Collateralised financings	**$ –**	**$146,237**	**$ 58,302**	**$ 204,539**
Customer and other payables	**–**	**–**	**119,883**	**119,883**
Trading liabilities	**694,982**	**–**	**–**	**694,982**
Unsecured borrowings	**–**	**39,190**	**40,623**	**79,813**
Other liabilities	**–**	**–**	**4,821**	**4,821**
Total	**$694,982**	**$185,427**	**$223,629**	**$1,104,038**
As of December 2020				
Collateralised financings	$ –	$ 97,103	$ 16,024	$ 113,127
Customer and other payables	–	–	100,519	100,519
Trading liabilities	932,414	–	–	932,414
Unsecured borrowings	–	29,426	50,925	80,351
Other liabilities	–	–	4,479	4,479
Total	$932,414	$126,529	$171,947	$1,230,890

Offsetting of Financial Assets and Liabilities

The tables below present financial assets and liabilities that are subject to enforceable netting agreements and offsetting. Amounts are only offset in the balance sheet, when the company currently has a legally enforceable right to set-off the recognised amounts and an intention either to settle on a net basis, or to realise the asset and settle the liability simultaneously. In the tables below:

- Gross amounts exclude the effects of both counterparty netting and collateral, and therefore are not representative of the company's economic exposure.
- Amounts not offset in the balance sheet include counterparty netting (i.e., the netting of financial assets and liabilities for a given counterparty when a legal right of set-off exists under an enforceable netting agreement), and cash and security collateral received and posted under enforceable credit support agreements, that do not meet the criteria for offsetting under IFRS.
- Where the company has received or posted collateral under credit support agreements, but has not yet determined whether such agreements are enforceable, the related collateral has not been included in the amounts not offset in the balance sheet.
- Gross amounts for the company included derivative assets of $6.69 billion and derivative liabilities of $6.47 billion as of December 2021 and derivative assets of $4.69 billion and derivative liabilities of $5.47 billion as of December 2020 which are not subject to an enforceable netting agreement or are subject to a netting agreement that the company has not yet determined to be enforceable.
- Substantially all resale agreements and securities borrowed within collateralised agreements and repurchase agreements and securities loaned within collateralised financings are subject to enforceable netting agreements as of December 2021 and December 2020.

	As of December 2021						
				Amounts not offset in the balance sheet			
$ in millions	**Gross amounts**	**Amounts offset in the balance sheet**	**Net amount presented in the balance sheet**	**Counterparty netting**	**Cash collateral**	**Security collateral**	**Net amount**
Financial Assets							
Collateralised agreements	**$ 390,986**	**$(133,620)**	**$ 257,366**	**$ (53,650)**	**$ –**	**$(201,071)**	**$ 2,645**
Customer and other receivables	**94,847**	**(26,602)**	**68,245**	**(9,995)**	**(38,166)**	**(11,148)**	**8,936**
Trading cash instruments	**27,688**	**(15,682)**	**12,006**	**(1,572)**	**(133)**	**(8,708)**	**1,593**
Derivatives	**645,333**	**(9,687)**	**635,646**	**(561,608)**	**(40,235)**	**(12,245)**	**21,558**
Trading assets	**673,021**	**(25,369)**	**647,652**	**(563,180)**	**(40,368)**	**(20,953)**	**23,151**
Loans	**274**	**–**	**274**	**(107)**	**–**	**–**	**167**
Other assets	**3,897**	**(3,203)**	**694**	**–**	**–**	**–**	**694**
Financial assets subject to enforceable netting agreements	**1,163,025**	**(188,794)**	**974,231**	**(626,932)**	**(78,534)**	**(233,172)**	**35,593**
Financial assets not subject to enforceable netting agreements	**167,509**	**–**	**167,509**	**–**	**–**	**–**	**167,509**
Total financial assets	**$1,330,534**	**$(188,794)**	**$1,141,740**	**$(626,932)**	**$(78,534)**	**$(233,172)**	**$203,102**
Financial Liabilities							
Collateralised financings	**$ 336,020**	**$(141,796)**	**$ 194,224**	**$ (54,097)**	**$ (2,241)**	**$(131,498)**	**$ 6,388**
Customer and other payables	**121,390**	**(26,807)**	**94,583**	**(9,995)**	**(40,368)**	**(18,681)**	**25,539**
Trading cash instruments	**683**	**(683)**	**–**	**–**	**–**	**–**	**–**
Derivatives	**631,692**	**(9,482)**	**622,210**	**(561,720)**	**(35,738)**	**(4,382)**	**20,370**
Trading liabilities	**632,375**	**(10,165)**	**622,210**	**(561,720)**	**(35,738)**	**(4,382)**	**20,370**
Unsecured borrowings	**13,182**	**(8,592)**	**4,590**	**(1,120)**	**(187)**	**–**	**3,283**
Other liabilities	**2,703**	**(1,434)**	**1,269**	**–**	**–**	**–**	**1,269**
Financial liabilities subject to enforceable netting agreements	**1,105,670**	**(188,794)**	**916,876**	**(626,932)**	**(78,534)**	**(154,561)**	**56,849**
Financial liabilities not subject to enforceable netting agreements	**187,162**	**–**	**187,162**	**–**	**–**	**–**	**187,162**
Total financial liabilities	**$1,292,832**	**$(188,794)**	**$1,104,038**	**$(626,932)**	**$(78,534)**	**$(154,561)**	**$244,011**

	As of December 2020[1]						
				Amounts not offset in the balance sheet			
$ in millions	Gross amounts	Amounts offset in the balance sheet	Net amount presented in the balance sheet	Counterparty netting	Cash collateral	Security collateral	Net amount
Financial Assets							
Collateralised agreements	$ 222,507	$ (81,825)	$ 140,682	$ (33,757)	$ –	$(104,988)	$ 1,937
Customer and other receivables	103,442	(24,095)	79,347	(5,502)	(49,489)	(17,331)	7,025
Trading cash instruments	27,326	(16,195)	11,131	(1,355)	(309)	(8,903)	564
Derivatives	904,223	(15,921)	888,302	(805,825)	(48,846)	(13,109)	20,522
Trading assets	931,549	(32,116)	899,433	(807,180)	(49,155)	(22,012)	21,086
Loans	266	–	266	(215)	–	–	51
Other assets	4,937	(4,377)	560	–	–	–	560
Financial assets subject to enforceable netting agreements	1,262,701	(142,413)	1,120,288	(846,654)	(98,644)	(144,331)	30,659
Financial assets not subject to enforceable netting agreements	146,289	–	146,289	–	–	–	146,289
Total financial assets	$1,408,990	$(142,413)	$1,266,577	$(846,654)	$(98,644)	$(144,331)	$176,948
Financial Liabilities							
Collateralised financings	$ 193,074	$ (91,070)	$ 102,004	$ (33,951)	$ (1,322)	$ (65,118)	$ 1,613
Customer and other payables	117,084	(24,491)	92,593	(5,502)	(49,155)	(13,519)	24,417
Trading cash instruments	1,477	(1,381)	96	–	–	–	96
Derivatives	895,953	(15,524)	880,429	(806,171)	(47,995)	(8,269)	17,994
Trading liabilities	897,430	(16,905)	880,525	(806,171)	(47,995)	(8,269)	18,090
Unsecured borrowings	12,209	(7,663)	4,546	(1,030)	(172)	–	3,344
Other liabilties	3,184	(2,284)	900	–	–	–	900
Financial liabilities subject to enforceable netting agreements	1,222,981	(142,413)	1,080,568	(846,654)	(98,644)	(86,906)	48,364
Financial liabilities not subject to enforceable netting agreements	150,322	–	150,322	–	–	–	150,322
Total financial liabilities	$1,373,303	$(142,413)	$1,230,890	$(846,654)	$(98,644)	$ (86,906)	$198,686

1. Net amounts presented in the balance sheet as of December 2020 have been restated to move $560 million of other assets and $900 million of other liabilities that are subject to enforceable netting agreements from not subject to enforceable netting agreements to subject to enforceable netting agreements. In addition, gross other assets and other liabilities subject to enforceable netting agreements have been increased by $2.84 billion and $3.18 billion, respectively, and other assets and other liabilities offset in the balance sheet have both been increased by $2.28 billion. Total financial assets and liabilities remained unchanged.

Collateral Received and Pledged

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

In many cases, the company is permitted to deliver or repledge financial instruments received as collateral when entering into repurchase agreements and securities lending agreements, primarily in connection with secured client financing activity. The company is also permitted to deliver or repledge these financial instruments in connection with other secured financings, collateralised derivative transactions and meeting company or customer settlement requirements.

The company also pledges certain trading assets in connection with repurchase agreements, securities lending agreements and other secured financings to counterparties who may or may not have the right to deliver or repledge them.

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

	As of December	
$ in millions	**2021**	2020
Collateral available to be delivered or repledged	**$754,957**	$571,872
Collateral that was delivered or repledged	**$719,879**	$545,053

The table below presents information about assets pledged.

	As of December	
$ in millions	**2021**	2020
Pledged to counterparties that had the right to deliver or repledge		
Trading assets	**$34,271**	$27,295
Investments	**$ 13**	$ 62
Pledged to counterparties that did not have the right to deliver or repledge		
Trading assets	**$39,336**	$29,506
Investments	**$ 100**	$ 346

The company has received cash collateral of $58.83 billion as of December 2021 and $74.90 billion as of December 2020, and posted cash collateral of $74.30 billion as of December 2021 and $60.75 billion as of December 2020. Amounts received and posted are mainly in respect of trading assets and trading liabilities.

Note 29.

Fair Value Measurement

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 company measures certain financial assets and liabilities as a portfolio (i.e., based on its net exposure to market and/or credit risks).

IFRS has a three-level hierarchy for disclosure of fair value measurements. This hierarchy prioritises 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.

The fair value hierarchy is as follows:

Level 1. Inputs are unadjusted quoted prices in active markets to which the company 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 company's financial assets and liabilities that are fair valued on a recurring basis 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 company's and GS Group's credit quality, funding risk, transfer restrictions, liquidity and bid/offer spreads. Valuation adjustments are generally based on market evidence.

Valuation Techniques and Significant Inputs

Trading Cash Instruments, Investments and Loans. Valuation techniques and significant inputs for each level of the fair value hierarchy include:

Level 1

Level 1 instruments are valued using quoted prices for identical unrestricted instruments in active markets. The company defines active markets for equity instruments based on the average daily trading volume both in absolute terms and relative to the market capitalisation for the instrument. The company 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 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 firm) 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 company 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 realised on sales of financial assets.

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 trading cash instrument, investments and loans are described below:

- **Mortgages and Other Asset-Backed Loans and Securities.** Significant inputs are generally determined based on relative value analyses and 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;
  - Current performance of the borrower or loan collateral and recovery assumptions if a default occurs; and
  - Timing of expected future cash flows (duration) which, in certain cases, may incorporate the impact of other unobservable inputs (e.g., prepayment speeds).
- **Corporate Debt Instruments, Government and Agency Obligations and Loans.** Significant inputs 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;
  - Current levels and changes in market indices, such as the iTraxx and CDX (indices that track the performance of corporate credit);
  - Current performance of the borrower or loan collateral and recovery assumptions if a default occurs;
  - Maturity and coupon profile of the instrument; and
  - Market and transaction multiples for corporate debt instruments with convertibility or participation options.
- **Equity Securities.** Equity securities consists of private equity securities. Recent third-party completed or pending transactions (e.g., merger proposals, tender offers, debt restructurings) are considered to be the best evidence for any change in fair value. When these are not available, the following valuation methodologies are used, as appropriate:
  - Industry multiples and public comparables;
  - Transactions in similar instruments; and
  - Discounted cash flow techniques.

Derivatives. 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 company's OTC derivatives are cleared and settled through central clearing counterparties (OTC-cleared), while others are bilateral contracts between two counterparties (bilateral OTC).

The company'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 characterised 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 industrialised nations are characterised 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 or to secured funding spreads, generally have less price transparency.
- **Currency.** Prices for currency derivatives based on the exchange rates of leading industrialised 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.
- **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. In evaluating the significance of a valuation input, the company considers, among other factors, a portfolio's net risk exposure to that input.

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 judgement 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 collateralised derivatives), credit curves, measures of volatility 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 firm) 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 utilise observable level 1 and/or level 2 inputs, as well as unobservable level 3 inputs. Unobservable inputs include certain correlations, illiquid credit and secured funding spreads, recovery rates and certain equity and interest rate volatilities.

Subsequent to the initial valuation of a level 3 derivative, the company 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 company 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 below for further information about significant unobservable inputs used in the valuation of level 3 derivatives.

Where there is a difference between the initial transaction price and the fair value calculated by internal models, a gain or loss is recognised after initial recognition only to the extent that it arises from a change in a factor (including time) that market participants would consider in setting a price.

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, CVA and funding valuation adjustments, which account for the credit and funding risk inherent in the uncollateralised portion of derivative portfolios. The company also makes funding valuation adjustments to collateralised derivatives where the terms of the agreement do not permit the company 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 company makes model or exit price adjustments to account for the valuation uncertainty present in the transaction.

Other Financial Assets and Liabilities. Valuation techniques and significant inputs of other financial assets and liabilities include:

- **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.
- **Other Assets.** Other assets measured at fair value consist of an unsecured intercompany loan. The significant inputs to the valuation of this unsecured intercompany loan measured at fair value are the amount and timing of expected future cash flows, interest rates and the credit spreads of GS Group.
- **Other Secured Financings.** The significant inputs to the valuation of secured debt securities issued, other borrowings and intercompany loans measured at fair value are the amount and timing of expected future cash flows, interest rates, funding spreads, the fair value of the collateral delivered by the company (which is determined using the amount and timing of expected future cash flows, market prices, market yields and recovery assumptions), the frequency of additional collateral calls and commodity prices for prepaid commodity transactions.
- **Unsecured Borrowings.** The significant inputs to the valuation of unsecured borrowings measured at fair value are the amount and timing of expected future cash flows, interest rates, the credit spreads of GS Group 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 company's other derivative instruments.

Fair Value of Financial Assets and Liabilities by Level

The table below presents, by level within the fair value hierarchy, financial assets and liabilities measured at fair value on a recurring basis.

$ in millions	Level 1	Level 2	Level 3	Total
As of December 2021				
Financial assets				
Collateralised agreements	**$ –**	**$178,158**	**$ 121**	**$ 178,279**
Trading cash instruments	**74,139**	**31,736**	**717**	**106,592**
Derivative instruments	**28**	**630,856**	**4,762**	**635,646**
Trading assets	**74,167**	**662,592**	**5,479**	**742,238**
Investments	**6**	**288**	**105**	**399**
Loans	**–**	**343**	**55**	**398**
Other assets	**–**	**1,000**	**–**	**1,000**
Total	**$74,173**	**$842,381**	**$ 5,760**	**$ 922,314**
Financial liabilities				
Collateralised financings	**$ –**	**$145,857**	**$ 380**	**$ 146,237**
Trading cash instruments	**63,956**	**8,777**	**39**	**72,772**
Derivative instruments	**54**	**618,473**	**3,683**	**622,210**
Trading liabilities	**64,010**	**627,250**	**3,722**	**694,982**
Unsecured borrowings	**–**	**25,053**	**14,137**	**39,190**
Total	**$64,010**	**$798,160**	**$18,239**	**$ 880,409**
Net derivatives	**$ (26)**	**$ 12,383**	**$ 1,079**	**$ 13,436**
As of December 2020				
Financial assets				
Collateralised agreements	$ –	$ 92,619	$ –	$ 92,619
Trading cash instruments	63,079	31,035	503	94,617
Derivative instruments	291	882,392	5,619	888,302
Trading assets	63,370	913,427	6,122	982,919
Investments	18	738	132	888
Loans	–	456	111	567
Other assets	–	6,013	–	6,013
Total	$63,388	$1,013,253	$ 6,365	$1,083,006
Financial liabilities				
Collateralised financings	$ –	$ 96,863	$ 240	$ 97,103
Trading cash instruments	46,752	5,204	29	51,985
Derivative instruments	255	876,645	3,529	880,429
Trading liabilities	47,007	881,849	3,558	932,414
Unsecured borrowings	–	19,774	9,652	29,426
Total	$47,007	$ 998,486	$13,450	$1,058,943
Net derivatives	$ 36	$ 5,747	$ 2,090	$ 7,873

Significant Unobservable Inputs Used in Level 3 Fair Value Measurements

Trading Cash Instruments, Investments and Loans. The table below presents level 3 trading cash instrument assets, investments and loans and ranges and weighted averages of significant unobservable inputs used to value level 3 trading cash instruments, investments and loans.

	As of December 2021		As of December 2020	
$ in millions, except inputs	**Amount or Range**	**Weighted Average**	Amount or Range	Weighted Average
Trading Cash Instruments				
Mortgages and other asset-backed loans and securities				
Level 3 assets	**$157**		$132	
Yield	**1.7% to 18.0%**	**4.7%**	0.6% to 14.0%	6.1%
Recovery rate	**47.2% to 72.5%**	**58.4%**	21.6% to 69.3%	35.8%
Duration (years)	**0.4 to 17.2**	**4.2**	1.0 to 11.5	2.7
Corporate debt instruments and government and agency obligations				
Level 3 assets	**$464**		$349	
Yield	**1.1% to 15.1%**	**5.6%**	0.6% to 23.6%	5.9%
Recovery rate	**9.0% to 60.0%**	**36.1**	0.0% to 69.7%	50.4%
Duration (years)	**1.8 to 28.5**	**5.7**	2.0 to 25.5	8.3
Equity securities				
Level 3 assets	**$ 96**		$ 22	
Duration (years)	**6.5 to 6.5**	**6.5**	N/A	N/A
Total	**$717**		$503	
Investments				
Corporate debt instruments				
Level 3 assets	**$ 49**		$ 96	
Yield	**N/A**	**N/A**	6.8% to 6.8%	6.8%
Recovery rate	**9.1% to 76.0%**	**66.6%**	N/A	N/A
Duration (years)	**N/A**	**N/A**	2.9 to 2.9	2.9
Equity securities				
Level 3 assets	**$ 56**		$ 36	
Multiples	**7.6x to 7.6x**	**7.6x**	4.2x to 11.0x	4.6x
Total	**$105**		$132	
Loans				
Corporate				
Level 3 assets	**$ 55**		$111	
Yield	**4.1% to 4.1%**	**4.1%**	3.3% to 6.6%	5.6%
Recovery rate	**15.0% to 15.0%**	**15.0%**	15.0% to 15.0%	15.0%

In the table above:

- Ranges represent the significant unobservable inputs that were used in the valuation of each type of cash instrument and weighted averages are calculated by weighting each input by the relative fair value of the instrument.

- 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 instrument. For example, the highest yield for mortgages and other asset-backed loans and securities is appropriate for valuing a specific mortgage but may not be appropriate for valuing any other mortgages. 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 or duration used in the valuation of level 3 instruments 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 December 2021 and December 2020. Due to the distinctive nature of each level 3 instrument, the interrelationship of inputs is not necessarily uniform within each product type.
- Mortgages and other asset-backed loans and securities, corporate debt instruments and government and agency obligations and loans 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.
- Duration was not significant to the valuation of level 3 equity securities recognised in trading cash instruments as of December 2020.
- Yield and duration were not significant to the valuation of level 3 corporate debt instruments recognised in investments as of December 2021.
- Recovery rate was not significant to the valuation of level 3 corporate debt instruments recognised in investments as of December 2020.

Derivatives. The table below presents net level 3 derivatives and ranges, averages and medians of significant unobservable inputs used to value level 3 derivatives.

	As of December 2021		As of December 2020	
$ in millions, except inputs	**Amount or Range**	**Average/ Median**	Amount or Range	Average/ Median
Interest rates, net	**$ 354**		$ 414	
Correlation	**25% to 26%**	**25%/26%**	(8)% to 24%	13%/20%
Volatility (bps)	**40 to 100**	**56/54**	40 to 63	53/52
Credit, net	**$ 2,317**		$2,305	
Credit spreads (bps)	**5 to 337**	**142/118**	2 to 699	100/63
Upfront credit points	**N/A**	**N/A**	19 to 28	23/23
Recovery rates	**20% to 50%**	**37%/40%**	25% to 90%	47%/40%
Currencies, net	**$ 37**		$ 37	
Correlation	**20% to 23%**	**21%/21%**	20% to 23%	21%/21%
Equities, net	**$(1,629)**		$(670)	
Correlation	**(37)% to 98%**	**51%/51%**	(35)% to 96%	46%/48%
Volatility	**3% to 88%**	**18%/18%**	3% to 102%	16%/16%
Commodities, net	**$ –**		$ 4	
Total	**$ 1,079**		$2,090	

In the table above:

- Net derivative assets are shown as positive amounts and net 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 of the respective financial instruments. An average greater than the median indicates that the majority of inputs are below the average.
- 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 equity derivatives is appropriate for valuing a specific equity derivative but may not be appropriate for valuing any other equity derivative. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 derivatives.
- Interest rates, currencies and equities derivatives are valued using option pricing models, and credit derivatives are valued using option pricing, correlation and discounted cash flow models.
- The fair value of any one instrument may be determined using multiple valuation techniques. For example, option pricing models and discounted cash flows 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.
- Upfront credit points were not significant to the valuation of level 3 credit derivatives as of December 2021.

Range of Significant Unobservable Inputs

The following provides information about the ranges of significant unobservable inputs used to value 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.
- **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) and also includes secured funding spreads. The broad range of this population gives rise to the width of the ranges of significant unobservable inputs.

Sensitivity of Fair Value Measurement to Changes in Significant Unobservable Inputs

The following is a description of the directional sensitivity of the company'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, and the fair value of secured funding capacity increases as secured funding spreads increase. 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.

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

Other Financial Assets and Liabilities. Significant unobservable inputs of other financial assets and liabilities include:

- **Resale and Repurchase Agreements and Securities Borrowed and Loaned.** As of December 2021, the significant unobservable inputs used to value level 3 resale agreements are incorporated into the trading cash instruments disclosures related to unobservable inputs. See "Trading Cash Instruments, Investments and Loans" and "Derivatives" above. As of December 2021, there were no level 3 securities borrowed, repurchase agreements and securities loaned. As of December 2020, there were no level 3 resale agreements, securities borrowed, repurchase agreements and securities loaned.
- **Other Secured Financings.** As of December 2021 and December 2020, the significant unobservable inputs used to value level 3 other secured financings are incorporated into the derivatives and trading cash instruments, investments and loans disclosures related to unobservable inputs. See "Trading Cash Instruments, Investments and Loans" and "Derivatives" above.
- **Unsecured Borrowings.** As of December 2021 and December 2020, the significant unobservable inputs used to value level 3 unsecured borrowings are incorporated into the derivatives and trading cash instruments, investments and loans disclosures related to unobservable inputs. See "Trading Cash Instruments, Investments and Loans" and "Derivatives" above.

Transfers Between Level 1 and Level 2 of the Fair Value Hierarchy

During the period ended December 2021 and period ended December 2020, there were no significant transfers between level 1 and level 2 financial assets and liabilities measured at fair value on a recurring basis.

Fair Value Financial Assets and Liabilities Valued Using Techniques That Incorporate Unobservable Inputs

The fair value of financial assets and liabilities may be determined in whole or part using a valuation technique based on assumptions that are not supported by prices from observable current market transactions in the same instrument or based on available observable market data and changing these assumptions will change the resultant estimate of fair value. The potential impact of using reasonable possible alternative assumptions for the valuations, including significant unobservable inputs, has been quantified as approximately $353 million as of December 2021 and $412 million as of December 2020 for favourable changes, and $211 million as of December 2021 and $186 million as of December 2020 for unfavourable changes. In determining reasonably possible alternative unfavourable assumptions, a detailed business and position level review has been performed to identify and quantify instances where potential uncertainty exists. This has taken into account the positions' fair value as compared to the range of available market information. As of December 2021 and December 2020 the impact for favourable changes was primarily driven by changes in the assumptions around secured funding spreads and valuation adjustments in equity and fixed income derivatives, and the impact for unfavourable changes was primarily driven by changes in the assumptions around secured funding spreads, volatility and correlation inputs.

The table below presents the amounts not recognised in the income statement relating to the difference between the fair value of financial assets and liabilities at initial recognition using the valuation techniques and the transaction price (day 1 P&L).

	Period Ended December	
$ in millions	**2021**	2020
Beginning balance	**$ 209**	$ 153
New transactions	**125**	181
Amounts recognised in the income statement during the period	**(144)**	(125)
Ending balance	**$ 190**	$ 209

Level 3 Rollforward

The table below presents a summary of the changes in fair value for all level 3 financial assets and liabilities measured at fair value on a recurring basis.

	Period Ended December	
$ in millions	**2021**	2020
Total financial assets		
Beginning balance	**$ 6,365**	$ 5,325
Gains/(losses)	**636**	2,099
Purchases	**747**	635
Sales	**(214)**	(170)
Settlements	**(1,739)**	(1,428)
Transfers into level 3	**426**	351
Transfers out of level 3	**(461)**	(447)
Ending balance	**$ 5,760**	$ 6,365
Total financial liabilities		
Beginning balance	**$(13,450)**	$(12,306)
Gains/(losses)	**(477)**	(1,757)
Purchases	**15**	17
Sales	**(692)**	(340)
Issuances	**(12,318)**	(12,362)
Settlements	**8,026**	12,677
Transfers into level 3	**(540)**	(913)
Transfers out of level 3	**1,197**	1,534
Ending balance	**$(18,239)**	$(13,450)

In the table above:

- If a financial asset or 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 financial assets, increases are shown as positive amounts, while decreases are shown as negative amounts. For level 3 financial liabilities, increases are shown as negative amounts, while decreases are shown as positive amounts.
- Transfers between levels of the fair value hierarchy are recognised at the beginning of the reporting period in which they occur. Accordingly, the tables do not include gains or losses for level 3 financial assets and liabilities that were transferred out of level 3 prior to the end of the period.
- Level 3 financial assets and liabilities are frequently economically hedged with level 1 and level 2 financial assets and liabilities. Accordingly, level 3 gains or losses that are reported for a particular class of financial asset or financial liability can be partially offset by gains or losses attributable to level 1 or level 2 in the same class of financial asset or financial liability or gains or losses attributable to level 1, level 2 or level 3 in a different class of financial asset or financial liability. As a result, gains or losses included in the level 3 rollforward do not necessarily represent the overall impact on the company's results of operations, liquidity or capital resources.
- Gains/(losses) are predominately attributable to changes in unrealised gains or losses relating to level 3 financial assets and financial liabilities.

- The net gains on level 3 financial assets for the period ended December 2021 and period ended December 2020 are reported in "Net revenues" in the income statement.
- The net losses on level 3 financial liabilities of $477 million for the period ended December 2021 included losses of $475 million reported in "Net revenues" in the income statement and losses of $2 million reported in "Debt valuation adjustment" in the statement of comprehensive income. The net losses on level 3 financial liabilities of $1.76 billion for the period ended December 2020 included losses of $1.68 billion reported in "Net revenues" in the income statement and losses of $81 million reported in "Debt valuation adjustment" in the statement of comprehensive income.

The table below disaggregates, by the balance sheet line items, the information for financial assets included in the summary table above.

	Period Ended December	
$ in millions	**2021**	2020
Collateralised agreements		
Beginning balance	**$ –**	$ –
Transfers into level 3	**121**	–
Ending balance	**$ 121**	$ –
Trading assets		
Beginning balance	**$ 6,122**	$ 5,058
Gains/(losses)	**608**	2,096
Purchases	**747**	632
Sales	**(210)**	(170)
Settlements	**(1,716)**	(1,407)
Transfers into level 3	**244**	266
Transfers out of level 3	**(316)**	(353)
Ending balance	**$ 5,479**	$ 6,122
Investments		
Beginning balance	**$ 132**	$ 145
Gains/(losses)	**29**	2
Sales	**(3)**	–
Settlements	**(18)**	(6)
Transfers into level 3	**61**	85
Transfers out of level 3	**(96)**	(94)
Ending balance	**$ 105**	$ 132
Loans		
Beginning balance	**$ 111**	$ 122
Gains/(losses)	**(1)**	1
Purchases	**–**	3
Sales	**(1)**	–
Settlements	**(5)**	(15)
Transfers out of level 3	**(49)**	–
Ending balance	**$ 55**	$ 111

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

	Period Ended December	
$ in millions	**2021**	2020
Collateralised financings		
Beginning balance	**$ (240)**	$ (1,111)
Gains/(losses)	**(28)**	42
Issuances	**(75)**	–
Settlements	**(28)**	829
Transfers into level 3	**(9)**	–
Transfers out of level 3	**–**	–
Ending balance	**$ (380)**	$ (240)
Trading liabilities		
Beginning balance	**$ (3,558)**	$ (3,014)
Gains/(losses)	**(893)**	(1,340)
Purchases	**15**	17
Sales	**(692)**	(340)
Settlements	**1,394**	1,033
Transfers into level 3	**(268)**	(368)
Transfers out of level 3	**280**	454
Ending balance	**$ (3,722)**	$ (3,558)
Unsecured borrowings		
Beginning balance	**$ (9,652)**	$ (8,181)
Gains/(losses)	**444**	(459)
Issuances	**(12,243)**	(12,362)
Settlements	**6,660**	10,815
Transfers into level 3	**(263)**	(545)
Transfers out of level 3	**917**	1,080
Ending balance	**$(14,137)**	$ (9,652)

Transfers Between Level 2 and Level 3 of the Fair Value Hierarchy

Transfers between level 2 and level 3 generally occur due to changes in the transparency of level 3 inputs. A lack of market evidence leads to reduced transparency, whereas an increase in the availability of market evidence leads to an increase in transparency.

Financial Assets.

Period Ended December 2021

Collateralised Agreements. Transfers into level 3 collateralised agreements primarily reflected transfers of resale agreements from level 2, due to a lack of transparency as a result of a lack of market evidence in these instruments.

Trading Assets. Transfers into level 3 trading assets primarily reflected transfers of certain equity derivatives from level 2, principally due to reduced transparency of certain volatility and correlation inputs.

Transfers out of level 3 trading assets primarily reflected transfers of certain equity derivatives to level 2, principally due to increased transparency of certain volatility and correlation inputs, and transfers of certain cash instruments to level 2, principally due to increased transparency of certain yield inputs.

Investments. Transfers into level 3 investments primarily reflected transfers of investments from level 2, principally due to reduced transparency of certain yield products.

Transfers out of level 3 investments primarily reflected transfers of certain investments into level 2, principally due to increased transparency of certain yield products.

Loans. Transfers out of level 3 loans reflected transfers of certain loans into level 2, principally due to increased transparency of certain yield products.

Period Ended December 2020
Trading Assets. Transfers into level 3 trading assets primarily reflected transfers of certain equity derivatives from level 2, principally due to reduced transparency of certain volatility and correlation inputs, and transfers of certain cash instruments from level 2, principally due to decreased transparency of certain yield products.

Transfers out of level 3 trading assets primarily reflected transfers of certain equity derivatives to level 2, principally due to increased transparency of certain volatility and correlation inputs, transfers of certain credit derivatives to level 2, principally due to increased transparency of certain credit spread inputs, and transfers of certain cash instruments into level 2, principally due to increased transparency of certain yield inputs.

Investments. Transfers into level 3 investments primarily reflected transfers of certain investments from level 2, principally due to reduced transparency of certain yield products.

Transfers out of level 3 investments primarily reflected transfers of certain investments into level 2, principally due to increased transparency of certain yield products.

Financial Liabilities.
Period Ended December 2021
Collateralised Financings. Transfers into level 3 collateralised financings were not material.

Trading Liabilities. Transfers into level 3 trading liabilities primarily reflected transfers of certain equity derivatives from level 2, principally due to reduced transparency of certain volatility and correlation inputs.

Transfers out of level 3 trading liabilities primarily reflected transfers of certain equity derivatives to level 2, principally due to increased transparency of certain volatility and correlation inputs.

Unsecured Borrowings. Transfers into level 3 unsecured borrowings primarily reflected transfers of certain hybrid financial instruments from level 2, principally due to reduced transparency of certain volatility and correlation inputs.

Transfers out of level 3 unsecured borrowings primarily reflected transfers of certain hybrid financial instruments to level 2, principally due to increased transparency of certain volatility and correlation inputs.

Period Ended December 2020
Trading Liabilities. Transfers into level 3 trading liabilities primarily reflected transfers of certain equity derivatives from level 2, principally due to reduced transparency of certain volatility and correlation inputs.

Transfers out of level 3 trading liabilities primarily reflected transfers of certain credit derivatives to level 2, principally due to increased transparency of certain volatility and correlation inputs.

Unsecured Borrowings. Transfers into level 3 unsecured borrowings primarily reflected transfers of certain hybrid financial instruments from level 2, principally due to reduced transparency of certain volatility and correlation inputs.

Transfers out of level 3 unsecured borrowings primarily reflected transfers of certain hybrid financial instruments to level 2, principally due to increased transparency of certain volatility and correlation inputs.

Fair Value of Financial Assets and Liabilities Not Measured at Fair Value

The company had financial assets of $219.43 billion as of December 2021 and $183.57 billion as of December 2020 that are not measured at fair value. Given that substantially all of these balances are short-term in nature, their carrying values in the balance sheet are a reasonable approximation of fair value.

The table below presents the company's financial liabilities that are not measured at fair value by expected maturity.

	As of December	
$ in millions	**2021**	2020
Current	**$167,014**	$128,900
Non-current	**56,615**	43,047
Total	**$223,629**	$171,947

In the table above:

- Current financial liabilities are short-term in nature and therefore their carrying values in the balance sheet are a reasonable approximation of fair value.
- Non-current financial liabilities primarily related to long-term intercompany loans and repurchase agreements. The interest rates of these instruments are variable in nature and approximate prevailing market interest rates for instruments with similar terms and characteristics. As such, their carrying values in the balance sheet are a reasonable approximation of fair value.

Note 30.

Financial Risk Management and Capital Management

Certain disclosures in relation to financial risk management and capital management have been presented alongside other risk management and regulatory information in Part I of this annual report and are identified as audited, where relevant.

Maturity of Financial Liabilities

The table below present an analysis of the cash flows of financial liabilities by contractual maturity except for trading liabilities, which are classified as trading/on demand, reflecting the company's role as a market maker.

In the table below:

- Cash flows by contractual maturity include interest that will accrue on financial liabilities.
- Financial liabilities, with the exception of those that are held for trading or designated at fair value through profit or loss, are disclosed at their undiscounted cash flows. The fair values of financial liabilities held for trading and financial liabilities designated at fair value through profit or loss have been disclosed as this is consistent with the values used in the liquidity risk management of these instruments.
- Liquidity risk on derivatives is mitigated through master netting agreements and cash collateral arrangements.
- Unsecured borrowings include certain debt securities issued that have trigger events that are not in the control of the company and could be repaid earlier than their contractual maturities.

$ in millions	Trading/ on demand	Less than 1 month	1-3 months	3 months - 1 year	1 - 5 years	Greater than 5 years	Total
As of December 2021							
Collateralised financings	**$ 37,616**	**$ 59,403**	**$15,312**	**$30,841**	**$60,144**	**$ 1,257**	**$ 204,573**
Customer and other payables	**119,883**	**–**	**–**	**–**	**–**	**–**	**119,883**
Trading liabilities	**694,982**	**–**	**–**	**–**	**–**	**–**	**694,982**
Unsecured borrowings	**1,983**	**3,346**	**4,002**	**10,122**	**30,698**	**33,871**	**84,022**
Other liabilities	**1,753**	**1,690**	**7**	**26**	**1,324**	**21**	**4,821**
Total – on balance sheet	**856,217**	**64,439**	**19,321**	**40,989**	**92,166**	**35,149**	**1,108,281**
Collateralised agreements commitments	**186**	**118,812**	**3,368**	**17,078**	**1,576**	**–**	**141,020**
Other	**3,198**	**–**	**1,089**	**164**	**409**	**1**	**4,861**
Total – off balance sheet	**3,384**	**118,812**	**4,457**	**17,242**	**1,985**	**1**	**145,881**
Total	**$ 859,601**	**$183,251**	**$23,778**	**$58,231**	**$94,151**	**$35,150**	**$1,254,162**
As of December 2020							
Collateralised financings	$ 20,588	$ 60,064	$ 7,779	$20,857	$ 1,976	$ 1,875	$ 113,139
Customer and other payables	100,519	–	–	–	–	–	100,519
Trading liabilities	932,414	–	–	–	–	–	932,414
Unsecured borrowings	3,205	2,139	6,645	8,803	46,846	15,429	83,067
Other liabilities	2,006	1,437	14	13	996	14	4,480
Total – on balance sheet	1,058,732	63,640	14,438	29,673	49,818	17,318	1,233,619
Collateralised agreements commitments	451	58,612	82	2,837	–	–	61,982
Other	3,007	–	614	627	690	4	4,942
Total – off balance sheet	3,458	58,612	696	3,464	690	4	66,924
Total	$1,062,190	$122,252	$15,134	$33,137	$50,508	$17,322	$1,300,543

Note 31.

Transferred Assets

Assets Continued to be Recognised in Full. During the period ended December 2021, the company transferred certain financial assets where the transfers failed to meet the derecognition criteria, as contained in IFRS 9, and as a result of which the company continues to recognise these assets in full in the balance sheet.

The company transfers assets owned to counterparties in the ordinary course of business to collateralise repurchase agreements and other securities lending transactions. In these transactions the transferred assets continue to be recognised by the company for accounting purposes because the transactions require the financial instruments to be repurchased at maturity of the agreement and the company remains exposed to the price, credit and interest rate risk of these instruments. When the company receives cash proceeds from the transfer of the asset, a financial liability is recognised in respect of the consideration received and recorded in collateralised financings. When the company receives non cash collateral (in the form of securities) no liability is initially recognised. If collateral received is subsequently sold, the obligation to return the collateral is recognised as a liability in trading liabilities.

In addition to repurchase agreements and securities lending agreements, the company obtains funding through the use of other arrangements that fail to meet the derecognition criteria. For example, sales of securities with related derivatives, such as total return swaps, through which the company retains substantially all of the risk and reward of the transferred assets. A financial liability is recognised in such cases for the proceeds received.

Other financial assets transferred that continue to be recognised on balance sheet for accounting purposes relate to pledges of securities as collateral, primarily for derivative transactions. The obligations under such derivatives are recorded in trading liabilities.

The table below presents financial assets which have been transferred but which remain on balance sheet for accounting purposes.

	As of December	
$ in millions	**2021**	2020
Government and agency obligations	**$22,037**	$16,340
Mortgage and other asset-backed loans and securities	**266**	347
Corporate debt instruments	**7,694**	7,660
Equity securities	**43,610**	32,454
Trading cash instruments	**73,607**	56,801
Corporate debt instruments	**100**	399
Equity securities	**13**	9
Investments	**113**	408
Total	**$73,720**	$57,209

The carrying value of the associated financial liabilities generally approximate the carrying value of the assets transferred.

Derecognised Assets With Ongoing Exposure. The company has continuing involvement in the form of derivative transactions and guarantees with certain unconsolidated structured entities to which the company had transferred financial assets. These derivatives may be credit-linked to the asset transferred and result in the company retaining specific risks in the transferred asset or require the company to make payments to the structured entity to compensate losses on the asset if certain contingent events occur.

In addition, the company transfers financial assets to securitisation vehicles. The company generally receives cash in exchange for the transferred assets but may have continuing involvement with the transferred assets, including ownership of beneficial interests in the securitised financial assets, primarily in the form of debt instruments. The company may also purchase senior or subordinated securities issued by securitisation vehicles in connection with secondary market-making activities.

Where the company's continuing involvement in transferred assets is through derivatives or guarantees, the maximum exposure to loss is the notional amounts of the derivative or guarantee. For retained or purchased interests in securitised assets, the company's risk of loss is limited to the fair value of these interests. In all cases these retained interests are carried at fair value.

The company accounts for assets pending transfer at fair value and therefore does not typically recognise significant gains or losses upon the transfer of assets. The company does not have continuing involvement that could require the company to repurchase derecognised financial assets.

The tables below present information about exposure through continuing involvement and the gains or losses related to those transactions.

$ in millions	Carrying value	Maximum exposure to loss
As of December 2021		
Assets		
Trading cash instruments	**$ –**	**$ –**
Derivatives	**98**	**1,144**
Trading assets	**98**	**1,144**
Total	**$ 98**	**$1,144**
Liabilities		
Trading cash instruments	**$ –**	**$ 2**
Derivatives	**(22)**	**544**
Trading liabilities	**(22)**	**546**
Total	**$(22)**	**$ 546**
As of December 2020		
Assets		
Trading cash instruments	$ –	$ –
Derivatives	76	619
Trading assets	76	619
Total	$ 76	$ 619
Liabilities		
Derivatives	$(13)	$ 299
Trading liabilities	(13)	299
Total	$(13)	$ 299

$ in millions	Income/ (expense) in the period	Cumulative income/ (expense)
As of December 2021		
Assets		
Trading cash instruments	**$ –**	**$133**
Derivatives	**52**	**263**
Trading assets	**52**	**396**
Total	**$52**	**$396**
Liabilities		
Trading cash instruments	**$ –**	**$ –**
Derivatives	**30**	**26**
Trading liabilities	**30**	**26**
Customer and other payables	**–**	**(1)**
Total	**$30**	**$ 25**
As of December 2020		
Assets		
Trading cash instruments	$ –	$133
Derivatives	22	211
Trading assets	22	344
Total	$22	$344
Liabilities		
Trading cash instruments	$ –	$ –
Derivatives	(3)	(4)
Trading liabilities	(3)	(4)
Customer and other payables	–	(1)
Total	$ (3)	$ (5)