Annual Financial Statements and Management Report

December 31, 2021

Goldman Sachs Bank Europe SE

INDEX

Introduction

Goldman Sachs Bank Europe SE (GSBE or the bank) is engaged in a wide range of activities primarily in the E.U., including market making in debt and equity securities and derivatives, financial advisory services, underwriting, asset and wealth management services, deposit-taking and lending (including securities lending) and is a primary dealer for government bonds issued by E.U. sovereigns. The bank serves a diversified client base that includes corporations, financial institutions, governments and individuals, from its registered office in Frankfurt am Main and branches in Amsterdam, Copenhagen, Dublin, London, Luxembourg, Madrid, Milan, Paris, Stockholm and Warsaw. On July 1, 2021, the bank became a wholly-owned subsidiary of Goldman Sachs Bank USA (GS Bank USA), a New York State-chartered bank and a member of the Federal Reserve System (FRB). The bank is registered with the commercial register number HRB 114190.

The bank is supervised by the European Central Bank (ECB) within the context of the European Single Supervisory Mechanism, the Federal Financial Supervisory Authority (BaFin) and the Deutsche Bundesbank.

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

The bank 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 bank strives to maintain a work environment that fosters professionalism, excellence, diversity, cooperation among employees and high standards of business ethics. The bank 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/.

As a result of the U.K.'s withdrawal from the E.U. (Brexit) and in connection with GS Group's Brexit strategy, certain activities have moved from GS Group's U.K. entities to the bank. For example, GS Group has moved a significant number of relationships with E.U.-based clients of its Investment Banking, FICC, Equities, and Investment Management businesses to the bank; established access for the bank to exchanges, clearing houses and depositories and other market infrastructure in the E.U.; established branches of the bank in several E.U. member states and in the U.K; and strengthened the capital, personnel and other resources of the bank. This transition of activities has been the primary driver for the significant increase in the bank's net revenues, expenses and balance sheet in comparison to 2020.

All references to 2021 and 2020 refer to the years ended, or the dates, as the context requires, December 31, 2021 and December 31, 2020, respectively. Any reference to a future year refers to a year ending on December 31 of that year. Any statements relating to future periods are subject to a high degree of uncertainty.

The bank uses certain key financial performance indicators (KPIs) to manage the development of its business and capital strength. The primary KPI for the development of the business is net revenues, defined as the sum of interest income, interest expense, commission income, commission expense, net trading result and other operating income. The primary KPI to manage the bank's capital strength is the total capital ratio. The bank's results presented in the management report have been prepared under the German Commercial Code.

Executive Overview

Income Statement

The Income Statement is set out on page 30 of this annual report. The bank's profit for 2021 was €377 million, an increase of €288 million compared to 2020.

Net revenues for 2021 were €1.39 billion, €1.05 billion higher than 2020. The bank had expected a significant increase in net revenues for 2021 and that expectation was both met and exceeded with a record performance for both the bank and GS Group.

Total expenses were €879 million, €683 million higher than 2020, primarily due to significantly higher salaries and wages and other administrative expenses.

See "Results of Operations" below for further information about the bank's net revenues and expenses.

Capital Ratios

The bank calculates its prudential capital requirements based on International Financial Reporting Standards in accordance with Art. 24 (2) of Regulation (EU) No 575/2013 since the third quarter of 2020.

The total capital ratio as of December 2021 was 22.6% (December 2020: 34.5%). This was in line with the bank's expectation that the total capital ratio will decrease in line with increasing business activity but remain sufficiently above the minimum requirements.

See "Regulatory Capital" below for further information about the bank's regulatory ratios.

Balance Sheet

The balance sheet is set out on page 29 of this annual report.

As of December 2021, total assets were €55.11 billion, an increase of €32.76 billion from December 2020, primarily reflecting an increase in cash reserves of €15.29 billion, an increase in trading assets of €8.43 billion and in increase in receivable from customers of €8.33 billion.

As of December 2021, total liabilities were €49.36 billion, an increase of €30.36 billion from December 2020, primarily reflecting an increase in liabilities to credit institutions of €20.05 billion and an increase in trading liabilities of €8.44 billion.

As of December 2021, total shareholder's equity was €5.75 billion, an increase of €2.39 billion from December 2020, primarily reflecting an increase of capital surplus of €2.00 billion.

See "Balance Sheet and Funding Sources — Balance Sheet Analysis and Metrics" below for further information about the bank's balance sheet.

Business Environment

In 2021, the global economy continued to recover from the impact of the coronavirus (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 are defined as the sum of interest income, interest expense, commission income, commission expense, net trading result and other operating income. Net revenues arise from transactions with both third parties and GS Group affiliates.

The table below presents net revenues by business activity.

	Year Ended December	
€ in millions	**2021**	2020
Investment Banking	**€ 763**	€101
FICC	**201**	69
Equities	**285**	103
Investment Management	**136**	60
Total	**€1,385**	€333

The bank's main business activities, as well as the results of the reporting period compared to the prior reporting period are described in the following paragraphs.

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 clients, including through relationship lending, middle-market lending and acquisition financing.

2021 versus 2020. Net revenues in Investment Banking were €763 million for 2021, €662 million higher than 2020, due to significantly higher net revenues in Financial advisory, Underwriting and Corporate lending, reflecting the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy as well as a strong operating performance during the year.

FICC and Equities

FICC and Equities serve the bank's clients who buy and sell financial products, raise funding and manage risk. The bank 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 bank makes markets in, and clears client transactions on, major stock, options and futures exchanges in Europe.

The bank executes a high volume of transactions for its clients in large, highly liquid markets. The bank 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 bank 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 bank'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.

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

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

2021 versus 2020. Net revenues in FICC were €201 million for 2021, €132 million higher than in 2020, due to significantly higher net revenues in FICC intermediation, reflecting the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy.

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 in Europe, 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. The bank also acts as an issuing and paying agent and provides the asset servicing for all issuances by Goldman Sachs & Co. Wertpapier GmbH.

2021 versus 2020. Net revenues in Equities were €285 million for 2021, €182 million higher than in 2020 due to significantly higher net revenues in Equities intermediation and higher net revenues in Equities financing, reflecting the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy as well as a strong operating performance during the year.

Investment Management

Investment Management includes Asset management and Wealth management.

Asset management includes asset-based fees on client assets that are being managed on a fiduciary basis by GS Group's portfolio managers. The bank's asset management business significantly depends on its ability to delegate portfolio management to other GS Group affiliates.

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

2021 versus 2020. Investment Management net revenues were €136 million for 2021, €76 million higher than 2020, primarily due to significantly higher net revenues in Wealth management and higher net revenues in Asset management, reflecting the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy as well as a strong operating performance during the year.

Expenses

Expenses are primarily influenced by compensation (including the impact of Group Inc. share price on share-based compensation), headcount and levels of business activity. Salaries and wages 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.

The table below presents the bank's total expenses and headcount.

	Year Ended December	
€ in millions	**2021**	2020
Salaries and wages	**€536**	€114
Social security contributions	**94**	8
Other administrative expenses	**185**	61
Depreciation and amortisation	**43**	4
Other operating expenses	**12**	9
Provision for loan losses	**9**	—
Total expenses	**€879**	€196
Headcount at year-end	**908**	556

In the table above,

- Salaries and wages included a charge of €34 million for 2021 and a charge of €9 million for 2020 representing recharges from Group Inc. equivalent to changes in the fair value of share-based payment awards during the period.
- Other administrative expenses include charges relating to operational and administrative support and management services received from and provided to GS Group affiliates.

2021 versus 2020. Total expenses were €879 million for 2021, €683 million higher than 2020.

Salaries and wages were €536 million for 2021, €422 million higher than 2020. Excluding the impact of recharges from Group Inc. equivalent to changes in the fair value of share-based payment awards for both periods, salaries and wages were €502 million for 2021, €397 million higher than 2020, primarily reflecting an increase in operating performance as well as an increase in headcount by 63%.

Other administrative expenses were €185 million for 2021, €124 million higher than 2020, primarily due to increased accrued contributions to the E.U. Single Resolution Fund and an overall increase in costs reflecting the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy.

Provisions for loan losses were €9 million for 2021, compared with €nil for 2020, reflecting the growth in the bank's lending business.

As of 2021, headcount was 63% higher than 2020, mainly driven by the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy.

Income Tax Expense

The effective tax rate for 2021 was 25.5%. The effective tax rate represents the bank's income tax expense divided by its result from ordinary activities.

Net Income

Net income increased by €288 million to €377 million reflecting the continued expansion of the bank's activities across Europe in 2021 as part of GS Group's Brexit strategy. Overall net income both met and exceeded expectations for 2021.

Balance Sheet and Funding Sources

Balance Sheet Analysis and Metrics

The table below presents the bank's balance sheet on an aggregated level.

€ in millions	As of December 2021	2020
Cash reserve	**€17,884**	€ 2,595
Receivables from credit institutions/customers	**13,252**	4,738
Trading assets	**17,880**	9,452
Remaining other assets	**6,096**	5,572
Total assets	**55,112**	22,357
Liabilities to credit institutions/customers	**27,891**	6,200
Trading liabilities	**16,118**	7,677
Provisions	**671**	241
Remaining other liabilities	**4,661**	4,862
Subordinated debt	**20**	20
Shareholder's equity	**5,751**	3,357
Total liabilities and shareholder's equity	**€55,112**	€22,357

In the table above:

- Remaining other assets include bonds and other fixed-income securities, intangibles assets, fixed assets and other assets.
- Remaining other liabilities include other liabilities, deferred income and fund for general banking risks.
- Cash reserve increased by €15.29 billion due to increased balances with central banks held as Global Core Liquid Assets (GCLA).
- Receivables from credit institutions/customers increased by €8.51 billion primarily due to an increase in reverse repurchase agreements.
- Liabilities to credit institutions/customers increased by €21.69 billion primarily due to intercompany borrowings and deposits.
- Trading assets increased by €8.43 billion and trading liabilities increased by €8.44 billion primarily due to increased activity.
- Provisions increased by €430 million primarily due to increased accruals for compensation and benefits.
- Shareholder's equity increased by €2.39 billion primarily due to capital injections of €2.00 billion during the year.

As of December 2021, irrevocable lending commitments were €5.08 billion, an increase of €4.52 billion from December 2020, primarily reflecting an increase in the bank's lending business.

The liquidity management of the bank is designed to ensure sufficient liquidity is available at all times. Refer "Risk Report - Liquidity Risk Management" for more information about the bank's GCLA.

The bank had sufficient liquidity to meet its payment obligations at all times during the financial year. The bank is a wholly-owned subsidiary of GS Bank USA and an indirect, wholly-owned subsidiary of Group Inc. The shareholder's equity of Group Inc. was $110 billion as of December 2021 and $96 billion as of December 2020. GS Bank USA and Group Inc. make a comprehensive range of liquidity and financing possibilities available for the bank, allowing the greatest possible flexibility in refinancing.

Funding Sources

The bank's primary sources of funding are unsecured borrowings, collateralised financings, deposits and shareholder's equity. The bank raises this funding through a number of different products including intercompany loans from GS Group affiliates, securities sold under agreements to repurchase (repurchase agreements), securities loaned and deposits.

The table below presents information about funding sources.

€ in millions	As of December 2021		2020	
Unsecured borrowings	**€20,653**	**54 %**	€1,234	13%
Collateralised financings	**8,277**	**22 %**	3,527	38%
Deposits	**3,461**	**9 %**	1,221	13%
Shareholder's equity	**5,751**	**15 %**	3,357	36%
Total	**€38,142**	**100 %**	€9,339	100%

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

Intercompany Unsecured Borrowings

Intercompany unsecured borrowings include borrowings and subordinated loans. The bank's unsecured intercompany borrowings are primarily from its immediate parent undertaking, GS Bank USA.

External Unsecured Borrowings

External unsecured borrowings include registered bonds and promissory notes, debt securities issued and overdrafts.

Collateralised Financings. The bank funds a significant amount of inventory on a secured basis, with GS Group affiliates as well as external counterparties.

The bank 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.

Deposits. The deposits provide the bank with a diversified source of funding and reduce its reliance on wholesale funding. The bank accepts deposits, including demand and time deposits. The depositors primarily include private bank clients and institutional clients.

Shareholder's Equity. Shareholder's equity is a stable and perpetual source of funding. See Note 15 to the financial statements for further information.

Regulatory Capital

The bank is subject to the capital requirements prescribed in the amended E.U. Capital Requirements Directive (CRD) and E.U. Capital Requirements Regulation (CRR), which 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 Common Equity Tier 1 (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 bank's exposures to certain types of counterparties based in jurisdictions which have announced a countercyclical buffer. The buffer was 4 basis points as of December 2021. The countercyclical capital buffer applicable to the bank could change in the future and, as a result, the bank's risk-based capital requirements could increase.
- The individual Pillar 2 capital requirement (P2R) (an additional amount to cover risks not adequately captured in Pillar 1). The ECB performs an annual Supervisory Review and Evaluation Process (SREP), which leads to a final determination by the ECB of the SREP capital add-on which consists of P2R and a Pillar 2 capital guidance (P2G). The bank's P2R capital add-on, effective from January 1, 2021 was 3.0% of which 1.69% has to be held in CET1 capital.

The CRD and CRR provide that institutions that are systemically important at the E.U. or member state level, known as other systemically important institutions (O-SIIs), may be subject to additional capital ratio requirements, according to their degree of systemic importance (O-SII buffers). In 2021, BaFin identified the bank as an O-SII in Germany and set an O-SII buffer of 25 basis points, applicable from January 1, 2022.

The table below presents the bank's risk-based capital requirements.

	As of December	
	2021	2020
Risk-based capital requirements		
CET1 capital	**8.7%**	7.0%
Tier 1 capital	**10.8%**	8.5%
Total capital ratio	**13.5%**	10.5%

In the table above, the minimum risk-based capital requirements incorporate the P2R set by the ECB and could change in the future.

The requirements shown above does not include the P2G which represents the ECB's view of the capital that bank would require to absorb losses in stressed market conditions.

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

	As of December	
€ in millions	**2021**	2020
Risk-based capital and RWAs		
CET1 capital	**€ 5,732**	€3,264
Tier 1 capital	**€ 5,732**	€3,264
Tier 2 capital	**€ 20**	€ 20
Total capital	**€ 5,752**	€3,284
RWAs	**€25,402**	€9,515
Risk-based capital ratios		
CET1 capital	**22.6%**	34.3%
Tier 1 capital	**22.6%**	34.3%
Total capital ratio	**22.6%**	34.5%

In the table above:

- CET1 capital comprises the bank's shareholder's equity less certain regulatory adjustments and deductions.
- The risk-based capital ratios as of December 2021 reflected the bank's profits after foreseeable charges for the year ended December 2021, which will be approved to be included as regulatory capital by the bank's shareholder on May 17, 2022. These profits contributed approximately 106 basis points to the CET1 capital ratio.
- Risk-based capital ratios as of December 2021, reflected the CRR and CRD rules which implement changes in the Basel standards with respect to counterparty credit risk and large exposure. These rules became effective in June 2021. Adoption of these rules did not result in a material impact to the bank's risk-based capital ratios as of December 2021.
- CET1 capital, Tier 1 capital and Total capital as of December 2020 have been updated to include the bank's profits after foreseeable charges for the year ended December 2020. RWAs as of December 2020 has been updated to reflect an increase of €1.56 billion due to revised assignment of certain individual exposures to exposure classes. Risk-based capital ratios as of December 2020 have been updated to reflect these changes in CET1 capital, Tier 1 capital, Total capital and RWAs.

Certain prudential rules are subject to additional guidance and clarifications, which will be issued by the bank'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 bank's regulators.

Leverage Ratio

The bank is subject to a minimum leverage ratio requirement of 3.0% which became effective in June 2021. 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 bank had a leverage ratio of 7.6% as of December 2021 and 10.3% as of December 2020 The leverage ratio as of December 2021 included the bank's profits after foreseeable charges for the year ended December 2021, which will be approved to be included as regulatory capital by the bank's shareholder on May 17, 2022. These profits contributed approximately 58 basis points to the leverage ratio.

The table below present information about the bank's leverage ratio.

	As of December	
€ in millions	**2021**	2020
Tier 1 capital	**€ 5,732**	€ 3,264
Leverage exposure	**€75,838**	€31,712

Minimum Requirement for Own Funds and Eligible Liabilities and Total Loss-Absorbing Capacity

The E.U. Bank Recovery and Resolution Directive (BRRD), as amended by BRRD II subjects institutions to a minimum requirement for own funds and eligible liabilities (MREL), which is generally consistent with the Financial Stability Board's (FSB) Total Loss-Absorbing Capacity (TLAC) standard. These MREL requirements will apply for the bank from January 1, 2024.

The CRR and the BRRD are designed to, among other things, implement the FSB's minimum TLAC requirement for global systemically important bank (G-SIB). For example, the CRR requires E.U. subsidiaries of a non-E.U. G-SIB to meet internal TLAC requirements if they exceed the threshold of 5% of the G-SIB's RWAs, operating income or leverage exposure. In the first quarter of 2022, the bank exceeded this threshold and is now required to meet 90% of the internal TLAC requirements applicable to E.U. G-SIB's. The bank satisfies this requirement through its regulatory capital and MREL eligible debt from intercompany borrowings.

Deposit Protection

The deposits of the bank are covered by the German statutory deposit compensation scheme to the extent provided by law. In addition, the bank has elected to participate in the German voluntary deposit protection scheme which provides insurance for certain eligible deposits not covered by the German statutory deposit compensation scheme.

Minimum Reserves

The bank is subject to minimum reserve requirements at central banks in certain of the jurisdictions in which it operates. The minimum reserve requirement was €166 million as of December 2021 and €21 million as of December 2020. The amount deposited by the bank at central banks was €17.88 billion as of December 2021 and €2.60 billion as of December 2020, substantially all of which was deposited with Deutsche Bundesbank.

Swaps, Derivatives and Commodities Regulation

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

Forecast and Opportunities Report

Economy

Economic momentum was off to a weak start in 2022 due to the Omicron outbreak and associated containment measures across Europe but the impact was short-lived as suggested by high-frequency and survey indicators. The European economy looked on track for a strong rebound with growth remaining well above potential until the end of the year. However, the military escalation of the war between Russia and Ukraine is likely to weigh significantly on growth, while increasing inflationary pressures further.

Growth is likely to suffer through multiple channels, including trade, confidence effects, higher energy prices and supply disruptions, both narrowly in the energy sector and for input goods more broadly. The bank has therefore downgraded its 2022 growth forecast and now expect a growth of 2.6% in the Euro area (down from 4.1% pre-escalation) and 2.0% in Germany (down from 3.7% pre-escalation), which is particularly exposed to disruptions in global supply chains. Downside risks related to a material disruption of Russian pipeline gas flows continue to linger with Germany again being exposed due to its high share of energy imports from Russia.

However, a number of factors are cushioning the growth outlook. Firstly, underlying momentum before the escalation was strong, particularly on account of remaining catch-up growth in the services sector. Secondly, fiscal policy was already expansionary pre-crisis with the Recovery Fund supporting southern Europe and the new German government leveraging COVID-funds to finance the green transition. Thirdly, fiscal authorities are providing both income support to offset the cost-of-living shock, committing to additional defence spending (e.g. in Germany) and will have to provide funding for the large number of refugees from Ukraine. The bank anticipates support worth around 1% of GDP. Euro area growth is therefore expected to remain well above potential this year (the bank forecasts 2.6%), but the economic outlook is unusually uncertain and risks are currently skewed to larger downward growth shocks, particularly due to deeper supply disruptions (with the bank anticipating a technical recession in the event of a full disruption of Russian gas flows).

The ECB has signalled that it is focussed on the inflationary impact of the crisis for the time being as the bank now forecasts inflation to peak at 7.7% by the summer and to average 7.7% in 2022. Survey based longer-run inflation expectations are likely to be further boosted by high spot inflation, possibly overshooting the ECB's 2% target. Labour markets have seen a rapid improvement in the second half of 2021 with the Euro area unemployment rate falling below 7%, the lowest level since the inception of the Euro. Wage growth is therefore expected to be firm in the course of the year, allowing underlying inflation to rise durably. Accordingly, the ECB signalled at its March 2022 meeting that it expects to accelerate policy normalisation.

However, the ECB maintains optionality in case the economic fall-out from the war between Russia and Ukraine weighs on medium-term inflation prospects. Given that the growth-inflation mix remains dominated by supply shocks, the bank expects the ECB to end its net asset purchases in June and start its rate hiking cycle at the July Governing Council meeting.

Business Outlook

The bank's Executive Board continues to be cautiously optimistic about the business outlook for 2022. For the overall result of the bank, Investment Banking, FICC and Equities will remain of significant importance. The transfer of certain activities from GS Group's U.K. entities to the bank as part of GS Group's Brexit strategy is largely complete and the effects of the increase in activities will normalise in 2022. The Executive Board expects a slight decrease in net revenues in 2022 compared to the strong business environment in 2021.

A contribution of €2.73 billion to the free capital reserves was conducted by the bank's sole shareholder following the end of the reporting period on March 29, 2022. The bank's Executive Board expects that the total capital ratio will decrease gradually in line with increasing business activity and remain conservatively above the minimum requirements.

- **Russian Invasion of Ukraine.** The Russian invasion of Ukraine has negatively affected the global economy and has resulted in significant disruptions in financial markets and increased macroeconomic uncertainty. In addition, governments around the world have responded to Russia's invasion by imposing economic sanctions and export controls on certain industry sectors, companies and individuals in Russia. Russia has imposed its own restrictions against investors and countries outside Russia and has proposed additional measures aimed at non-Russian-owned businesses. Businesses have experienced shortages in materials and increased costs for transportation, energy and raw materials due, in part, to the negative effects of the war on the global economy. The escalation or continuation of the war between Russia and Ukraine or other hostilities presents heightened risks relating to cyber attacks, the frequency and volume of failures to settle securities transactions, supply chain disruptions, inflation, as well as the potential for increased volatility in commodity, currency and other financial markets. The extent and duration of the war, sanctions and resulting market disruptions, as well as the potential adverse consequences for the bank's business, liquidity and results of operations, are difficult to predict.

  In response, the bank 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 bank's credit and market exposure to Russia and Ukraine as of December 2021 and at the time of publication was immaterial.

- **COVID-19.** As at the time of publication, there continues to be uncertainty regarding the impact of the COVID-19 on the bank'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.

Principal Risks and Uncertainties

The bank faces a variety of risks that are substantial and inherent in its businesses. The principal risks and uncertainties that the bank 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.

The risks are primarily addressed through the bank's risk management and corporate governance framework, see "Risk Report — Overview and Structure of Risk Management" 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 Report — Overview and Structure of Risk Management" for further information. Competition risk is primarily managed by the bank's strategy and the bank's engagement with employees. 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 bank level, see "Risk Report — Overview and Structure of Risk Management" and "Risk Report — Strategic and Business Environment Risk" for further information.

Liquidity

- Loss of deposits could increase the bank's funding costs and adversely affect the bank's liquidity and ability to grow its business.
- The bank'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.
- The bank's liquidity, profitability and businesses may be adversely affected by an inability of the bank's immediate parent, GS Bank USA and ultimate parent, Group Inc. to access the debt capital markets or to sell assets.
- Reductions in the credit ratings or an increase in the credit spreads of the bank or its immediate parent, GS Bank USA or the ultimate parent, Group Inc. may adversely affect the bank's liquidity and cost of funding.

Market

- The bank's businesses have been and may in the future be adversely affected by conditions in the global financial markets and broader economic conditions.
- The bank's businesses have been and may in the future be adversely affected by declining asset values, particularly where it has net "long" positions, or receives or posts collateral.
- The bank's market-making activities have been and may in the future be affected by changes in the levels of market volatility.
- The bank's investment banking and investment management businesses have been adversely affected and may in the future be adversely affected by market uncertainty or lack of confidence among investors and chief executive officer's due to declines in economic activity and other unfavourable economic, geopolitical or market conditions.
- The bank's asset management and wealth management business has been and may in the future be adversely affected by the poor investment performance of the bank's investment products or a client preference for products other than those which the bank offers or for products that generate lower fees.
- Changes in market interest rates could adversely affect the bank's net revenues and expenses, the value of assets and obligations, and the availability and cost of funding.

Credit

- The bank'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 bank's market-making, underwriting, financing and lending activities.
- Derivative transactions and delayed documentation or settlements may expose the bank to credit risk, unexpected risks and potential losses.
- The bank might underestimate the credit losses inherent in the bank's loan portfolio and have credit losses in excess of the amount reserved.

Operational

- A failure in the bank's operational systems or infrastructure, or those of third parties or GS Group affiliates', as well as human error, malfeasance or other misconduct, could impair the bank's liquidity, disrupt its businesses, result in the disclosure of confidential information, damage its reputation and cause losses.
- A failure to protect the bank'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 bank may incur losses as a result of ineffective risk management processes and strategies.
- The bank may incur losses as a result of unforeseen or catastrophic events, including pandemics, terrorist attacks, extreme weather events or other natural disasters.
- The bank is reliant on Group Inc. and other GS Group affiliates for client business, various services, liquidity and capital.

Legal and Regulatory

- The bank's businesses and those of its clients are subject to extensive and pervasive regulation in various jurisdictions in which the bank or its branches operate.
- A failure to appropriately identify and address potential conflicts of interest could adversely affect the bank's businesses.
- Substantial civil or criminal liability or significant regulatory action against the bank 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 in various jurisdictions, the bank 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 bank's security holders.

Competition

- The bank'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 bank's businesses would be adversely affected if it was unable to hire and retain qualified employees.

Market Developments and General Business Environment

- The bank'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 bank may be adversely affected by negative publicity.
- Certain of the bank's businesses and its funding instruments may be adversely affected by changes in other reference rates, currencies, indices, baskets or ETF's to which products it offers or funding it raises are linked.
- Climate change could disrupt the bank's businesses, adversely affect client activity levels, and the creditworthiness of its client, counterparties, and the bank's efforts to address concerns relating to climate change could result in damage to its reputation.
- The bank faces enhanced risks as continued expansion of its activities lead it to engage in new activities, operate in new locations, transact with a broader array of clients and counterparties, and expose the bank to new asset classes and new markets including the risk of retaining qualified employees.

Risk Report

Risks are inherent in the bank's businesses and include liquidity, market, credit, operational, model, legal, compliance, conduct, regulatory, business environment and strategic risks, and reputational risks. The bank's risks include the risks across its risk categories, regions or businesses, as well as those which have uncertain outcomes and have the potential to materially impact the bank's financial results, its liquidity and its reputation. For further information about the bank's risk management processes, see "Overview and Structure of Risk Management". For information about the bank's areas of risk and capital adequacy, see "Liquidity Risk Management", "Market Risk Management", "Credit Risk Management", "Operational Risk Management", "Compliance Risk Management", "Model Risk Management", "Strategic and Business Environment Risk" and "Capital Adequacy".

Changes in Risk Management

As the bank continued to execute GS Group's Brexit transition plan during 2021, this resulted in a further increase in the activities and risk taking across market, credit, liquidity and operational risks in the bank, which were supported by increases in Capital and Risk Appetite Limits. Most notably, this included a meaningful build out of the lending activity in the bank primarily from migration of existing risk positions from other GS Group affiliates to the bank, further growth in existing derivative activities, and further expansion of the bank's FICC and Equities activities. To adequately manage these risks, the bank further evolved its risk management framework, policies and processes during the year. Key risk management changes implemented during 2021 thereby included enhancements to risk limit framework commensurate with the expanded activities. Moreover, the bank has taken steps to further enhance its climate risk management framework and integrate into its broader risk management processes and governance. In addition, the bank also further expanded its staffing level in several areas to ensure a sufficiently resourced and experienced independent control function to provide for an active and appropriate monitoring, evaluation and management of the risks associated with the bank's activities.

The COVID-19 pandemic and its implications on the broader economy had no major risk profile impact for the bank during 2021 given the strong credit risk portfolio of mainly investment grade counterparties, moderate market risk taking, and adequate capital and liquidity buffers maintained throughout the year. Changes in the broader market environment including the surge in commodity prices, inflation expectation and rates developments led to increases in the bank's counterparty credit risk exposure and traded market risk profile as of December 2021 which is closely monitored and controlled. The pandemic also had limited impact on the banks operational risk profile during the year.

The COVID-related business continuity plan for the bank has been successful, with work from home arrangements for most of the bank employees and no business disruptions.

Overview and Structure of Risk Management

Overview

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

The implementation of the bank's risk governance structure and core risk management processes are overseen by the bank's Executive Board, which is responsible for ensuring that the bank's framework provides a consistent and integrated approach to managing the various risks in a manner consistent with the bank's risk appetite.

The bank has defined its Risk Strategy which together with its Risk Appetite Statement (RAS), and in conjunction with the GS Bank USA RAS and GS Group RAS, lays out the primary risk management philosophy, objectives and principles on how risks are managed within appetite. For all material risks, the bank articulates its risk appetite and how it manages the risk profile within that appetite using qualitative, and where applicable, quantitative measures, thresholds and/or limits.

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

Governance. Risk management governance starts with the bank's Executive Board, which defines the Risk Strategy and risk appetite of the bank and, both directly and through established committees, including the GSBE Risk Committee, oversees the bank's risk management policies and practices implemented through the enterprise risk management framework.

The bank's revenue-producing units that directly report to the respective Executive Board members, as well as Treasury, Engineering, Human Capital Management, Operations and Corporate and Workplace Solutions that directly report to the bank's chief operating officer and chief financial officer, are considered the first line of defence. They are accountable for the outcomes of the bank's risk-generating activities, as well as for assessing and managing those risks within the bank's risk appetite.

The bank'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, Tax and Controllers that directly report to the bank's chief operating officer and chief financial officer, Credit Risk, Liquidity Risk, Market Risk, Model Risk, Operational Risk, Risk Engineering and Enterprise Risk that directly reports to the bank's chief risk officer, and Legal that directly report to the bank's General Counsel.

Internal Audit is considered as the third line of defence and directly reports to the bank's Executive Board. 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 bank's Executive Board, 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 bank 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 bank has a comprehensive data collection process, including bank-wide policies and procedures that require all employees to report and escalate risk events. The bank's approach for risk identification and assessment is comprehensive across all risk types, is dynamic and forward-looking to reflect and adapt to the bank's changing risk profile and business environment, leverages subject matter expertise, and allows for prioritisation of the bank's most critical tasks. The bank's approach leverages the GS Group identification process complemented by an entity level process by which all material risks are determined.

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

An important part of the bank's risk management processes is stress testing. It allows the bank 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 bank's vulnerabilities and idiosyncratic risks combining financial and non-financial risks, including, but not limited to, market, credit, 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 broader capital planning and stress testing process. See "Capital Adequacy" for further information.

The bank has defined a comprehensive risk limit framework reflective of its risk profile and risk appetite which are embedded into the risk decision making of the bank. Limits are set with the aim to ensure that the bank maintains an adequate capital and liquidity position, and overall risk taking on an ongoing basis. Further details on the limit system at the overall entity and risk category level and the risk decision making are described in the following sections.

The bank's risk reporting and monitoring processes are designed to take into account information about both existing and emerging risks, thereby enabling the bank's risk committees and senior management to perform their responsibilities with the appropriate level of insight into risk exposures. A detailed quarterly risk reporting to management is complemented by more frequent regular (daily, weekly or monthly) and ad-hoc reporting on the bank's material risks. Furthermore, the bank's early warning indicators, and limit and threshold breach process provide means for timely escalation.

The bank 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 bank-wide level.

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

Structure

The bank has a two-tier board structure consisting of the Supervisory Board and the Executive Board.

Supervisory Board

The Supervisory Board supervises and advises the Executive Board and performs specific statutory tasks. In May 2021, the Supervisory Board established the Supervisory Board Audit Committee, Supervisory Board Risk Committee, Remuneration Committee and Nomination Committee to advise and support the Supervisory Board in fulfilling their duties and responsibilities. The key committees are described below.

Supervisory Board Audit Committee. The Audit Committee of the Supervisory Board is responsible for providing advice to the Supervisory Board and assisting the Supervisory Board by overseeing (i) the integrity of the bank's financial statements and financial reporting processes; (ii) management's processes for ensuring the appropriateness and effectiveness of systems and controls; (iii) the process in relation to the appointment, re-appointment or replacement of the bank's external auditor; and (iv) safeguarding the independence and integrity of the bank's compliance and internal audit functions.

Supervisory Board Risk Committee. The Risk Committee of the Supervisory Board is responsible for providing advice to the Supervisory Board on the bank's current and future risk appetite and assisting the Supervisory Board in overseeing the implementation of that risk appetite and strategy by the bank's Executive Board.

Executive Board

The Executive Board has ultimate responsibility for all activities in the bank including oversight of risk both directly and through delegation to various committees. A series of committees within the bank with specific risk management mandates covering important aspects of the bank's businesses also have oversight or decision-making responsibilities. The key committees with oversight of the bank's activities are described below.

GSBE Risk Committee. The GSBE Risk Committee is responsible for the ongoing monitoring and control of all financial and non-financial risks associated with the bank's activities. This includes reviewing key financial and risk metrics, including but not limited to profit and loss, capital (including Internal Capital Adequacy Assessment Process), funding, liquidity (including Internal Liquidity Adequacy Assessment Process), credit risk, market risk, operational risk, model risk, price verification and stress tests. Within its mandate, the GSBE Risk Committee approves market risk, credit risk, liquidity limits as well as operational risk and model risk thresholds or articulates recommendations with regard to those risk limits and thresholds which require Executive Board approval. Its membership includes senior managers from the revenue-producing divisions and independent risk oversight and control functions. The GSBE Risk Committee reports to the bank's Executive Board.

GSBE Operational Risk and Resilience Committee. The GSBE Operational Risk and Resilience Committee provides oversight of the ongoing development and implementation of operational risk policies, framework and methodologies, with oversight from the GSBE Risk Committee and monitors the effectiveness of operational risk and resilience management. The Committee is accountable for the implementation of business standards and practices, including reputational risk management, client service and conduct risk, within the scope of its mission.

GSBE Credit Risk Council. The GSBE Credit Risk Council is responsible for ensuring that the bank has appropriate and effective credit risk management processes, and the ongoing monitoring and review of credit risk exposure. The Council reports to GSBE Risk Committee.

GSBE Asset Liability Committee. The GSBE Asset Liability Committee reviews and approves the strategic direction for the bank'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 GSBE Asset and Liability Committee directly reports to the bank's Executive Board.

Regional, GS Bank USA and GS Group Risk Governance

As an indirect wholly-owned subsidiary and integrated part of GS Group, the comprehensive regional and global risk governance framework in place forms an integral part of the strategy and risk management processes of the bank. The integration into the firmwide risk management framework allows the bank to use GS Group's methods and systems and a consistent implementation of firmwide structures and principles while considering the entity specificities and governance structure. In addition, as a direct wholly-owned subsidiary of GS Bank USA, the bank's risk management processes are embedded in the oversight provided by relevant governance bodies of GS Bank USA.

GS Group has established a series of committees with specific risk management mandates. Committees with oversight of matters relevant to the bank include representation from bank's senior management, where relevant.

The primary regional and GS Group risk and oversight committees are described below.

European Management Committee. The European Management Committee (EMC) oversees the activities of the GS Group in the Europe, the Middle East and Africa (EMEA) region. Its membership includes senior managers from the region's revenue-producing divisions and independent risk oversight and control functions, including representation from the bank's senior management.

EMEA Operational Risk and Resilience Committee. The EMEA Operational Risk and Resilience Committee provides oversight of the ongoing development and implementation of operational risk policies, framework and methodologies in the region, and monitors the effectiveness of operational risk management. Its membership includes representation from the bank's senior management.

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 to the bank's Executive Board.

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

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 the 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.

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.

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 the GS Group Management Committee.

Liquidity Risk Management

Overview

Liquidity risk is the risk that the bank will be unable to fund itself or meet its liquidity needs in the event of bank-specific, broader industry, or market liquidity stress events. The bank has in place a comprehensive and conservative set of liquidity and funding policies. The bank'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 the bank's chief operating officer and chief financial officer has primary responsibility for developing, managing and executing the bank's liquidity and funding strategy within it's risk appetite. The bank's Treasury function is also integrated with GS Group's Treasury function.

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

The bank's framework for managing liquidity risk is consistent with the framework of GS Group established by GS Group's Risk Governance Committee, with the bank's Liquidity Risk function being an integral part of the GS Group's Liquidity Risk function and reporting to the bank's chief risk officer.

Liquidity Risk Management Principles

The bank 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 bank 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 bank'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 bank 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 bank'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 bank's liquidity risk management policies are designed to ensure that the bank has a sufficient amount of financing, even when funding markets experience persistent stress. The bank 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 bank'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 bank would first use its GCLA in order to avoid reliance on asset sales (other than its GCLA). However, the bank 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 GSBE-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 bank's potential responses if assessments indicate that the bank has entered a liquidity crisis, which includes pre-funding for what the bank 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.

The contingency funding plan identifies key groups of individuals and their responsibilities, which include fostering effective coordination, control and distribution of information, implementing liquidity maintenance activities and managing internal and external communication, all of which are critical in the management of a crisis or period of market stress.

Stress Tests

In order to determine the appropriate size of the bank's liquidity pool, an internal liquidity model is used, referred to as the Modeled Liquidity Outflow, which captures and quantifies the bank'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, other applicable regulatory requirements and a qualitative assessment of the condition of the bank, as well as the financial markets. The results of the Modeled Liquidity Outflow and the Intraday Liquidity Model are reported to the Executive Board and senior management on a regular basis.

Modelled Liquidity Outflow. The Modeled Liquidity Outflow is based on conducting multiple scenarios that include combinations of market-wide stress. These scenarios are characterised by the following qualitative elements:

- Severely challenged market environments, including low consumer and corporate confidence, financial and political instability, 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, executive departure, and/or a ratings downgrade.

The following are key modelling elements of the 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;
- Changing conditions in funding markets, which limit the bank's access to unsecured and secured funding;
- A combination of contractual outflows, such as upcoming maturities of unsecured debt, and contingent outflows.

Intraday Liquidity Model. The bank's Intraday Liquidity Model measures the bank'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 bank utilises longer-term stress tests to take a forward view on its liquidity position through prolonged stress periods in which the bank 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 bank, 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 bank, 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 GS Group's board of directors with information needed to make an informed decision on whether and when to commence bankruptcy proceedings for Group Inc. The bank has also established resolution related liquidity triggers as part of its triggers and alerts framework.

In addition, the bank has capabilities to run resolution liquidity models in accordance with guidance published by local resolution authorities (e.g. Single Resolution Board).

Limits

The bank 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 liquidity risk tolerance of the bank. The purpose of these limits is to assist senior management in monitoring and controlling the bank's overall liquidity profile.

The bank's Executive Board and GSBE Risk Committee approve the bank's risk appetite and limits. Limits derived from the Bank's risk appetite 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 Treasury and Liquidity Risk. Liquidity Risk is responsible for identifying and escalating to the Executive Board and/or the GSBE Risk Committee, on a timely basis, instances where limits have been exceeded.

GCLA Metrics

Based on the results of the bank'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 bank, as well as the financial markets, the bank believes its liquidity position as of both December 2021 and December 2020 was appropriate. The bank strictly limits its GCLA to a narrowly defined list of securities and cash across a range of currencies because they are highly liquid, even in a difficult funding environment. The bank 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.

€ in millions	Average for the year Ended December 2021
Overnight cash deposits	€ 8,642
U.S. government obligations	699
Non-U.S. government obligations	1,177
Total	**€10,518**

In the table above, average GCLA for the year ended December 2020 has not been presented since the bank started maintaining GCLA only from December 2020 onwards.

The minimum GCLA required is held by the bank directly and is intended for use only by the bank to meet its liquidity requirements and is assumed not to be available to Group Inc., GS Bank USA or Goldman Sachs Funding LLC (Funding IHC). In addition to GCLA held in the bank, 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 bank or other major subsidiaries.

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 bank is subject to a minimum LCR of 100% under the LCR rule approved by the European Parliament and the Council. The bank's average monthly LCR for the trailing twelve-month period ended December 2021 was 208%.

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

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

Credit Ratings

The credit ratings of the bank and those of GS Bank USA and Group Inc. are both important to the bank's liquidity. The bank is an indirect, wholly-owned subsidiary of Group Inc. and relies on GS Bank USA and Group Inc. for capital and funding. Based on current activities of the bank, a reduction in the bank's credit rating standalone will not be expected to severely impact the bank's overall liquidity position as the bank does not currently rely on any third-party financing or long-term unsecured debt issuances and is funded primarily through GS Bank USA and Group Inc. A reduction in GS Bank USA's or Group Inc.'s credit ratings could in theory adversely affect the bank's liquidity and competitive position, increase borrowing costs, limit access to the capital markets or funding from GS Bank USA or Group Inc. However, the bank also has the capabilities to find alternative sources of external financing to maintain adequate liquidity and funding positions.

The table below presents the unsecured credit ratings and outlook of the bank, GS Bank USA and Group Inc.

	As of December 2021		
	Fitch	Moody's	S&P
GSBE			
Short-term debt	F1	P-1	A-1
Long-term debt	A	A1	A+
Ratings outlook	Stable	Stable	Stable
GS Bank USA			
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+
Ratings outlook	Stable	Stable	Stable

On March 1, 2022, Fitch upgraded the bank's long-term debt rating from A to A+.

Market Risk Management

Overview

Market risk is the risk of loss in the value of bank's inventory in trading book and banking book, as well as certain other financial assets and liabilities, due to changes in market conditions. The bank 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 and credit spread 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 the GS Group's chief risk officer, has primary responsibility for assessing, monitoring and managing GS Group's market risk through oversight across the GS Group's global businesses.

The bank's framework for managing market risk is consistent with the framework of GS Group established by GS Group's Risk Governance Committee, with the bank's Market Risk function being an integral part of the GS Group's Market Risk function and reporting to the bank's chief risk officer.

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. The bank's Market Risk monitors this risk against the bank's limits, independently.

Market Risk Management Process

The bank'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 bank's exposures;
- Diversifying exposures;
- Controlling position sizes; and
- Evaluating mitigants, such as economic hedges in related securities or derivatives;

The results are analysed by business and in aggregate, at both the GS Group and the bank level.

Risk Measures

The bank 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 bank-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 value-at-risk (VaR), which is used for shorter-term periods (consistent with 1 day holding period for VaR), and stress tests. The bank's risk report details key risks, drivers and changes, and is distributed daily to the senior management of both the revenue-producing units, independent risk oversight and control functions and members of the the bank's Executive Board.

VaR. The bank calculates and monitors VaR for trading book positions, which 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 employed. The VaR model is a simulation model that simulates market risk factors including interest rates, credit spreads, equity prices, currency rates and commodity prices in the trading book. As such, VaR facilitates comparison across portfolios of different risk characteristics. VaR also captures the diversification of aggregated risk across the bank. The VaR model is applied consistently across GS Group, including the bank.

VaR is analysed at the bank-wide level and a variety of more detailed levels, including 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 bank'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.

Daily backtesting of the VaR model is performed (i.e., comparing daily trading net revenues to the VaR measure calculated as of the prior business day) at the GS Group and the bank level. The trading book VaR (95%, 1 day) of the bank was €3.1 million as of December 2021 (2020: €2.1 million). The increase was mainly driven by the continued expansion of the bank's activities mainly in FICC and Equities business in 2021 as part of GS Group's Brexit strategy. Hence, risk concentrations are identified in the trading book across interest rates, credit, equities and foreign exchange.

Stress Testing. Stress testing is a method of determining the effect on the bank of various hypothetical stress scenarios. The bank uses stress testing to examine risks of specific portfolios, as well as the potential impact of significant risk exposures across the bank. A variety of stress testing techniques to calculate the potential loss from a wide range of market moves on the bank's portfolios are used, including firmwide stress tests which are considered to be appropriate for the bank's positions, sensitivity analysis and scenario analysis. Where relevant, market liquidity considerations are incorporated. The results of the various stress tests are analysed together for risk management purposes.

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 the bank stress test scenarios will occur. Instead, stress tests are used to model both moderate and more extreme moves in underlying market risk factors. When estimating potential loss, it is generally assumed that positions cannot be reduced or hedged (although experience demonstrates that some risk reduction or hedging is possible).

Interest Rate Risk in the Banking Book (IRRBB). The bank's exposure to IRRBB arises from differences in interest earned or paid as interest rates change, due to the reset characteristics of the bank's assets and liabilities. Among the banking book market risk in the bank, IRRBB is the major concentrated risk and is driven by the bank's unfunded pension liabilities. IRRBB is subject to stress testing and the results are monitored against appropriate limits.

The table below presents the change in Economic Value of Equity (EVE) for +/-100 basis points (bps) instantaneous shock in interest rates (without rate flooring) across the bank's banking book positions as of December 2021. This exposure is materially Euro denominated and other currencies are not material.

	As of December 2021	
€ in millions	**+100bps**	**-100bps**
ΔEVE ex Pension	**€ (3.8)**	**€ 15.6**
ΔEVE Pension	**38.7**	**(55.6)**
ΔEVE	**€34.8**	**€ (40.0)**

Limits

The bank uses market risk limits at various levels to manage the size of the bank's market exposures. These limits are set based on VaR and stress tests relevant to the bank's exposures and reported to the Executive Board, mainly daily.

Market Risk is responsible for monitoring these limits, and identifying and escalating to senior management and/or the GSBE Risk Committee in accordance with the delegation authority granted by the Executive Board, 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 bank holds and/or a temporary or permanent increase to the limit, if warranted.

Credit Risk Management

Overview

Credit risk represents the potential for loss due to the default or deterioration in credit quality of a counterparty (e.g., an OTC derivatives counterparty or a borrower) or an issuer of securities or other instruments the bank holds. The bank further differentiates between trading counterparty risk, lending risk, deposit placement risk and settlement risk within its risk management approach.

The bank's exposure to credit risk comes mostly from cash placed with banks, client transactions in OTC derivatives and loans and lending commitments. Credit risk also comes from securities financing transactions (i.e., resale and repurchase agreements and securities borrowing and lending activities) and customer and other receivables. In addition, the bank may hold other positions that give rise to credit risk (e.g., bonds held in trading book) — these credit risks are captured as a component of market risk measures, which are monitored and managed by Market Risk, consistent with other inventory positions.

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 the GS Group's global businesses.

The bank's framework for managing credit risk is consistent with the framework of GS Group established by GS Group's Risk Governance Committee, with the bank's Credit Risk function being an integral part of the GS Group's Credit Risk function and reporting to the bank's chief risk officer.

The bank's credit risk strategy in the reporting year aimed to maintain a high credit quality standard, to mitigate credit exposure as appropriate through the use of collateral or other forms of risk mitigation, and to avoid excessive concentration risks. The majority of counterparts from which the bank takes credit risk is expected to be of investment grade quality.

Credit Risk Management Process

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

- Setting of credit limits and monitoring compliance with established credit risk limits;
- Regular reporting (daily, weekly, monthly, quarterly) on the bank's credit exposures and credit concentrations to the bank's chief credit officer, chief risk officer, GSBE Credit Risk Council, GSBE Risk Committee, and the Executive Board of the bank;
- Assessing and determining internal credit ratings for counterparties and the associated likelihood that a counterparty will default on its payment obligations;
- Measuring the bank'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 bank performs credit reviews, which include initial and ongoing analyses of the bank'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 bank's risk assessment process may also include where applicable, reviewing certain key metrics, including, but not limited to, delinquency status, collateral values and other risk factors.

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.

The bank assesses the expected credit losses (ECL) associated with financial assets measured at amortised cost on a forward looking basis in accordance with the provisions of IFRS 9 'Financial Instruments' (IFRS 9) in conjunction with IDW RS BFA 7. 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 bank uses internal credit risk ratings that reflect the assessment of the probability of default of individual counterparties. See Note 2 to the financial statements for further information about bank's accounting policy on impairment.

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 loans and lending commitments, the primary measure is a function of the notional amount of the position. For derivatives and securities financing transactions, current exposure represents the amount presently owed to the bank after taking into account applicable netting and collateral arrangements, while potential exposure represents the bank's estimate of the future exposure that could arise over the life of a transaction. Potential exposure is calculated using internal models calibrated based on market movements within a specified confidence level (usually at the 95th-percentile). Potential exposure also takes into account netting and collateral arrangements.

Stress Tests

The bank 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 bank 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 bank also performs bank-wide stress tests. See "Overview and Structure of Risk Management" for further information about stress tests.

Limits

Credit limits and thresholds are used at various levels (e.g., counterparty, economic group, industry and country) as well as underwriting standards to manage the size and nature of the bank's credit exposures. The bank's Executive Board and the GSBE Risk Committee approve credit risk limits at the bank-wide level, and where appropriate the business and product level, consistent with the bank's risk appetite. Furthermore, the Executive Board or GSBE Risk Committee (and the GSBE Credit Risk Council) approves the framework that governs the setting of credit risk sub-limits at the bank level, which is delegated to Credit Risk.

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 the bank's credit exposures on loans and lending commitments, depending on the credit quality of the borrower and other characteristics of the transaction, the bank employs a variety of potential risk mitigants. Risk mitigants include collateral provisions, guarantees, covenants, structural seniority of the bank loan claims and, for certain lending commitments, provisions in the legal documentation that allow the bank to adjust loan amounts, pricing, structure and other terms as market conditions change. The type and structure of risk mitigants employed can significantly influence the degree of credit risk involved in a loan or lending commitment.

For derivatives and securities financing transactions, the bank may enter into netting agreements with counterparties that permit it to offset receivables and payables with such counterparties. The bank 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 bank monitors the fair value of the collateral to ensure that credit exposures are appropriately collateralised. The bank 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 bank does not have sufficient visibility into a counterparty's financial strength or when it believes a counterparty requires support, the bank may obtain third-party guarantees of the counterparty's obligations. The bank may also mitigate its credit risk using credit derivatives or participation agreements.

The table below presents a summary of the bank's gross credit exposure and net credit exposure by asset class as of December 2021.

€ in millions	Gross credit Exposure	Assets captured by market risk / Non-financial assets	Counterparty Netting	Cash collateral	Security collateral received	Net credit exposure
Cash reserves	€17,884	€ —	€ —	€ —	€ —	€17,884
Receivables from credit institutions	328	—	—	—	—	328
Receivables from customers	12,924	—	(3,887)	—	(7,723)	1,314
Securities	43	(43)	—	—	—	—
Trading assets	17,880	(4,183)	(3,867)	(461)	(5,904)	3,465
Intangible assets	36	(36)	—	—	—	—
Fixed assets	27	(27)	—	—	—	—
Other assets	5,899	(57)	(93)	(342)	—	5,407
Deferred tax assets	91	(91)	—	—	—	—
Total	**€55,112**	**€ (4,437)**	**€ (7,847)**	**€ (803)**	**€ (13,627)**	**€28,398**

The table below present the bank's gross credit exposure by the bank's internally determined public rating agency equivalents as of December 2021.

€ in millions	Gross credit exposure
AAA	€19,224
AA	4,099
A	20,534
BBB	3,081
BB or lower	3,260
Unrated	4,915
Total	**€55,113**

In the table above, the bank's gross unrated credit exposure includes assets captured by market risk and non-financial assets. The bank's net unrated credit exposure as of December 2021 was 479 million, which are financial assets for which the bank has not assigned an internally determined public rating agency equivalent.

Credit Concentrations

The bank's concentrations to credit risk arise primarily from its client facilitation, 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 bank to many different industries and countries, and may also subject the bank to a concentration of credit risk to a particular central bank, counterparty, borrower or issuer, or to a particular clearing house or exchange. Material counterparties are also subject to additional interconnectedness assessment taking into consideration economic dependencies. The bank seeks to mitigate credit risk including potential wrong way risk exposures (where the size of the bank's credit exposure to a counterparty is considered adversely correlated to the counterparty's credit quality), 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.

During 2021, the credit exposures of the bank primarily resulted from counterparties domiciled in Germany, United Kingdom, Netherlands, United States of America and France, with more than 80% of the credit exposure, such that the bank was not exposed to any notable country risks. The majority of bank's net credit exposure was to mutual / pension funds, banks & brokers (including central banks) and central counterparties with more than 80% of the credit exposure. Aggregation to respective country and industry is based on classification of each single counterparty.

The bank measures and monitors its credit exposure based on amounts owed to the bank 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 bank to offset receivables and payables with such counterparties and/or enable the bank to obtain collateral on an upfront or contingent basis.

Operational Risk Management

Overview

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes, people, systems or from external events. 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 bank's framework for managing operational risk is consistent with the framework of GS Group established by GS Group's Risk Governance Committee, with the bank's Operational Risk function being an integral part of the GS Group's Operational Risk function and reporting to the bank's chief risk officer.

Operational Risk Management Process

The bank's process for managing operational risk includes the critical components of the bank's risk management framework described in the "Overview and Structure of Risk Management", including a comprehensive data collection process.

Top-down and bottom-up approaches are combined to manage and measure operational risk. From a top-down perspective, senior management assesses bank-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 bank has a comprehensive control framework designed to provide a well-controlled environment to minimise operational risks. The EMEA Operational Risk and Resilience Committee and the GSBE Operational Risk and Resilience Committee provide oversight of the ongoing development and implementation of operational risk policies, framework and methodologies, and monitors the effectiveness of operational risk management with oversight from the Executive Board.

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 bank'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, policy requires 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 and report operational risk event data and key metrics. One of the bank's key risk identification and assessment tools is an operational risk and control self-assessment process, which is performed by the bank's senior management and applies to all divisions. This process consists of the identification and rating of operational risks, on a forward-looking basis, and the related controls. The risk assessment is overseen by Operational Risk. 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 bank'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, business environment and internal control factors for each of the bank'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 bank also performs stress tests (sensitivity analysis), in which the elementary model parameters used for the determination of the bank's internal operational risk capital, loss severity and frequency are varied to measure the sensitivity of the outputs. See "Capital Adequacy" for the 2021 results.

See "Overview and Structure of Risk Management" for further information about 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 bank 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 bank's or GS Group affiliates' data and systems, leading to an adverse impact to the bank, its reputation, its clients and/or the broader financial system. The bank seeks to minimise the occurrence and impact of unauthorised access, disruption or use of information and/or information systems. The bank in conjunction with GS Group affiliates deploys and operates preventive and detective controls and processes to mitigate emerging and evolving information security and cyber security threats, including monitoring the bank'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 bank'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 bank's behalf. These risks may include legal, regulatory, information security, reputational, operational or any other risks inherent in engaging a third party. The bank identifies, manages and reports key third-party risks and conduct 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. The bank also has an Outsourcing Governance Group (OGG) which oversees the outsourced activities of the bank. The OGG assists the bank's management in applying a comprehensive, risk-based approach to inter-affiliate outsourcing across GS Group, management of third party vendor relationships and ensuring continuity of access to vendors, facilities, intellectual property and data from a recovery and resolution planning perspective. In order to assist the bank's management, the OGG reviews new outsourcing arrangements, conducts annual performance and quality assessments of the outsourced services and coordinates with relevant groups within GS Group.

Business Resilience Risk. Business resilience risk is the risk of disruption to the bank's critical processes. The bank seeks to monitor threats and assess risks 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 bank approaches business continuity planning (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 BCP is comprehensive, consistent across GS Group and up-to-date, incorporating new information, techniques and technologies as and when they become available, and the bank's resilience recovery plans incorporate and test specific and measurable recovery time objectives in accordance with local market best practices, regulatory requirements and specific scenarios.

Compliance Risk Management

Compliance risk is the risk of legal or regulatory breaches, material financial loss or damage to the bank's reputation arising from its failure to comply with the requirements of applicable laws, rules and regulations, and its internal policies and procedures. Compliance risk is inherent in all activities through which the bank conducts its businesses. 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 bank's framework for managing compliance risk is consistent with, and part of, the GS Group framework.

Model Risk Management

Overview

Model risk is the potential for adverse consequences from decisions made based on model outputs that may be incorrect or used inappropriately. The bank 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 its regulatory capital.

Model Risk, which is independent of the revenue-producing units, model developers, model owners and model users; and reports to the 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.

The bank's framework for managing model risk is consistent with the framework of GS Group established by GS Group's Risk Governance Committee, with the bank's Model Risk function being an integral part of the GS Group's Model Risk function. The head of the bank's Model Risk function has accountability to the bank's chief risk officer for the management of the bank's model risk.

GS Group's model risk management framework is managed through a governance structure and risk management controls, which encompass policies and 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 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. Model Risk provides regular updates to the GSBE Risk Committee and the bank's Executive Board.

GS Group 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 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", "Operational Risk Management", and "Capital Adequacy" for further information about the bank's use of models within these areas.

Strategic and Business Environment Risk

Overview

Strategic and Business Environment Risk is the risk of an adverse outcome to the bank from its strategic business decisions or structural changes to the bank's business environment.

Risk Monitoring and Reporting

To adequately mitigate and control the key strategic and business environment risks inherent in its activities, the bank has implemented a number of governance structures and controls processes. Consistent with the GS Group's three lines of defence framework, business divisions take responsibility to identify, monitor and manage risk in executing the bank's strategy and relating to changes in the operating environment. The bank's control functions have established robust monitoring processes which are designed to ensure regular reporting of performance metrics and underlying drivers to the bank's governance bodies, including the Executive Board, and appropriate escalation procedures. Certain aspects of strategic and business environment risk may also manifest through other risk categories such as credit risk, market risk, liquidity risk or operational risk, which are in turn managed by the respective risk functions. Further, Strategic and Business Environment Risk integrates Climate Risk Management.

Climate Risk Management

Climate risk is the risk of adverse outcomes arising from the long and/or short term impacts of climate. The bank categorises climate risk into physical risk and transition risk. Physical risk is the risk that asset values may decline 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 risk into its broader risk management processes. Consistent with GS Group's integration of oversight of climate-related risks into its risk management governance structure from senior management to GS Group Board and its committees, including GS Group's Risk and Public Responsibilities Committee, the bank has integrated oversight of climate-related risks into the bank's risk management governance structure, including the oversight by the bank's Executive Board and GSBE Risk Committee. The bank 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.

As part of its oversight responsibility, the Executive Board and the GSBE Risk Committee receive regular reporting on risk appetite metrics for physical and transition risk and updates on its risk management approach to climate risk, including its approach towards scenario analysis and integration into existing risk management processes. In general, the bank is integrated into and thereby benefits from the broader firmwide risk management and control framework supporting climate change risk management commensurate with the banks's activities.

As of 2021, climate change related risks are identified as relevant but assessed as non material risks to the bank.

Capital Adequacy

Overview

Capital risk is the risk that the bank'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 bank. Accordingly, the bank 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 internal 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.

The bank 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 bank's capital management activities are overseen by the Executive Board and its committees. The Executive Board is responsible for approving the bank's Internal Capital Adequacy Assessment Process (ICAAP) framework and outcomes and its capital management policy. In addition, committees and members of senior management are responsible for the ongoing monitoring of the bank'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 key capital adequacy metrics, including regulatory capital ratios, as well as capital plan metrics, such as capital distributions and monitor risk limits and breaches. The bank's framework for capital risk management is consistent with, and part of, the GS Group framework.

Internal Capital Adequacy Assessment Process

The bank undertakes regular internal capital adequacy assessments as part of its broader ICAAP framework with the objective of ensuring appropriate capitalisation relative to the bank's risk. The bank's ICAAP is a comprehensive internal process which coherently integrates several key components including risk identification and materiality assessment, capital planning, and risk appetite.

In line with the ECB Guide "ECB Guide to the internal capital adequacy assessment process (ICAAP)" (November 2018), the ICAAP comprises two complementary perspectives, the Normative Perspective and the Economic Internal Perspective. The bank's limit and escalation framework incorporates metrics based on both perspectives.

In the Normative Perspective, capital adequacy is considered from a regulatory and accounting view on a quarterly basis, and expressed in terms of regulatory metrics. The perspective includes a 3-year forward looking projection of the bank's ability to meet regulatory capital requirements under baseline and adverse macro-economic conditions. Capital requirements are calculated in accordance with regulatory capital rules over the assessment time horizon, taking into account the permission to use internal models for market risk (Internal Model Approach, IMA, and CVA VaR), as well as internal models to calculate the counterparty credit risk exposure (Internal Model Method, IMM) and the basic indicator approach for operational risk. The bank thereby leverages internal methodologies to project stress impacts reflective of the underlying scenario and consistent with the principles of the Normative Perspective. In all assessments performed during the year, the bank was projected to have sufficient capital to meet its regulatory capital requirements over the assessment period of the Normative Perspective.

The Economic Internal Perspective consists of the definition and quantification of internal capital resources and the amount of capital that the bank needs to hold to mitigate risks that could have a material impact on its capital position from an economic view on risk.

The bank uses the regulatory definition of total capital resources as a starting point to quantify internal capital, and incorporates adjustments to reflect economic value considerations. The bank applies its internal risk quantification methodologies that allow capturing an economic view on risk, targeting a risk horizon of one year.

Capital requirements for Market Risk in the Trading book is primarily quantified using Stressed Value at Risk (sVaR) and Incremental Risk Charge (IRC). sVaR is the potential loss in value of inventory positions during a period of significant market stress. sVaR is calculated at a 99% confidence level over a 10-day holding period, and is calibrated based on a historical stress period which is appropriate for the bank's portfolio. IRC estimates the 99.9% tail loss in the loss distribution due to events of rating migration or default over the capital horizon of one year for the portfolio of credit-sensitive instruments. Further stress-based methods are applied to quantify additional risks in the trading book, which were of comparatively lower significance in the reporting year. Capital requirements for Market Risk in the Banking Book is mainly driven by Interest Rate Risk in the Banking Book quantified through economic value of equity using +/- 100bp shocks without flooring. Other stress tests may be applied where appropriate to risk concentrations.

Capital requirements for Credit Risk are mainly driven by simulated losses in the bank's derivative and loan portfolio which are calibrated to a confidence level of 99.9% and assume a 1-year holding period. For other credit risk positions, the economic capital requirements are mainly determined using a credit risk model, which is based on internal assessments (including internal credit ratings). Additional stress and model based approaches are used to calculate further capital requirements for credit risk, which were of comparatively lower significance in the reporting year.

Capital requirements for Operational Risk are quantified using the bank's internal Advanced Measurement Approach (AMA) model, which is calibrated to a confidence level of 99.9% and assumes a 1-year holding period. The internal capital requirement thereby reflects the tail exposure posed by the bank's current and anticipated activities. The bank does not see any incremental loss potential for strategic and business environment risk to be considered in the Economic Internal Perspective in the reporting year based on the entity's robust control framework in place and historical performance analysis.

Economic capital requirements are conservatively aggregated across material risk categories without taking benefit of diversification effects. The bank's limit system requires a minimum economic capital adequacy ratio of 100%. Capital is not deemed an adequate mitigant for liquidity risks which are managed in the course of the bank's liquidity management. The risk bearing capacity based on Economic Internal Perspective is assessed on a monthly basis.

The table below presents the comparison of internal capital and economic capital requirements.

	As of December	
€ in millions	**2021**	2020
Components of Internal Capital resources		
Total regulatory capital	**€5,309**	€3,193
Tier 2 sub-debt	**(20)**	(20)
Other adjustments between regulatory and internal capital	**326**	14
Internal Capital Resources	**€5,615**	€3,187
Risk Components		
Market Risk	**€ 535**	€194
Credit Risk	**1,052**	383
Operational Risk	**338**	289
Strategic and Business Environment Risk	**—**	—
Economic Capital Requirements	**€1,925**	€866
Economic Capital Adequacy ratio	**292%**	368%

In the table above, total regulatory capital does not include bank's profits after forseeable charges.

As of December 2021 and December 2020, the bank was adequately capitalised and reported an economic capital adequacy ratio of 292% and 368%, respectively. In the normative perspective the total capital ratio as of December 2021 was 22.6% (December 2020: 34.5%).

The assessment of capital adequacy is viewed in tandem with the bank's assessment of liquidity adequacy and is integrated into its overall risk management structure, governance and policy framework. See 'Overview and Structure of Risk Management' and 'Liquidity Risk Management' for further information.

Relationship with Affiliated Companies

Based on the circumstances known to it at the time that the legal transaction or measure was performed or refrained from, the Executive Board declares that the bank received appropriate consideration for each legal transaction and the fact that the measure was performed or refrained from was not detrimental to the bank.

GOLDMAN SACHS BANK EUROPE SE
Balance Sheet

Balance Sheet as of December 31, 2021

€ in millions	Note	As of December 2021	2020
Assets			
Cash reserve			
Balances with central banks (thereof with Deutsche Bundesbank: **€17,829,** 2020: €2,550)		**€17,884**	€ 2,595
Receivables from credit institutions	3,4		
Due on demand		**251**	140
Other receivables		**77**	—
Receivables from customers	3,4	**12,924**	4,598
Bonds and other fixed-income securities	5		
Bonds and notes of other issuers		**43**	17
Trading assets	7	**17,880**	9,452
Intangible assets			
Purchased intangible assets	8,9	**6**	13
Goodwill	8,9	**30**	59
Fixed assets	8,9	**27**	30
Other assets	9	**5,899**	5,453
Deferred tax assets	10	**91**	—
Total assets		**€55,112**	€22,357
Liabilities			
Liabilities to credit institutions	3,4		
Due on demand		**79**	47
With agreed term or notice period		**20,024**	10
Liabilities to customers	3,4		
Other liabilities			
Due on demand		**4,646**	2,952
With agreed term or notice period		**3,142**	3,191
Trading liabilities	7	**16,118**	7,677
Other liabilities	9	**4,575**	4,838
Deferred income		**10**	9
Provisions	13		
Provisions for pensions and similar commitments		**98**	82
Tax provisions		**65**	33
Other provisions		**508**	126
Subordinated debt	14	**20**	20
Fund for general banking risks (thereof: trading-related special reserve: **€76,** 2020: €15)		**76**	15
Shareholder's equity	15		
Ordinary share capital		**329**	314
Capital surplus		**4,612**	2,610
Profit reserves			
Other profit reserves		**433**	344
Distributable profit		**377**	89
Total liabilities and shareholder's equity		**€55,112**	€22,357
Other obligations			
Irrevocable lending commitments	16	**€5,084**	€565

Income Statement for the period from January 1, 2021 to December 31, 2021

		Year Ended December	
€ in millions	**Note**	**2021**	2020
Interest income from			
Lending and money market business (thereof: negative interest **€87**, 2020: €17)		**€ (50)**	€ (11)
Interest expense (thereof: positive interest **€57**, 2020: €7)		**30**	(13)
Commission income		**935**	250
Commission expense		**(95)**	(4)
Net trading result (thereof: additions to the trading-related special reserve **€61** 2020: €13)		**555**	103
Other operating income	18	**10**	8
General administration expenses			
Staff expenses			
Wages and salaries		**(536)**	(114)
Compulsory social security contributions and expenses for pensions and other employee benefits (thereof for pensions: **€6**, 2020:€2)		**(94)**	(8)
Other administration expenses		**(185)**	(61)
Depreciation, amortisation and valuation allowance for intangible and fixed assets	8	**(43)**	(4)
Other operating expenses	18	**(12)**	(9)
Write-downs of and value adjustments to claims and certain securities as well as additions to provisions for loan losses		**(9)**	—
Result from ordinary activities		**506**	137
Income tax expense (thereof: deferred taxes negative **€91,** 2020: €nil)		**(129)**	(48)
Net income/ Distributable profit	19	**€377**	€ 89

Statement of Cash Flows for the period from January 1, 2021 to December 31, 2021

		Year Ended December	
€ in millions	**Note**	**2021**	2020
Result from ordinary activities		**€ 377**	€ 89
Depreciation, amortisation and valuation allowance for intangible and fixed assets		**43**	4
Increase / decrease in provisions		**373**	100
Increase / decrease in receivables from credit institutions		**(188)**	(81)
Increase / decrease in receivables from customers		**(8,318)**	(4,236)
Increase / decrease in securities held in the trading book		**13**	(1,475)
Increase / decrease in other assets from operating activities		**(406)**	(4,571)
Increase / decrease in liabilities to credit institutions		**19,242**	47
Increase / decrease in liabilities to customers		**1,625**	5,419
Increase / decrease in other liabilities from operating activities		**(199)**	3,788
Interest expenses / interest income		**20**	24
Income tax expense		**129**	48
Interest payments and dividend payments received		**86**	14
Interest paid		**(92)**	(36)
Income tax payments		**(202)**	(39)
Cash flow from operating activities		**12,503**	(905)
Payments received from disposals of financial assets		**—**	1
Payments for investments in financial assets		**(26)**	—
Payments for investments in property, plant and equipment		**(4)**	(11)
Cash flow from investing activities		**(30)**	(10)
Proceeds from equity contributions from shareholders of the parent company		**2,016**	2,500
Cash changes from other capital	3, 4	**800**	—
Cash flow from financing activities		**2,816**	2,500
Net increase in cash and cash equivalents		**15,289**	1,585
Cash and cash equivalents, beginning balance		**2,595**	1,010
Cash and cash equivalents, ending balance		**€17,884**	€ 2,595

See Note 20 for further information about statement of cash flows.

Note 1.
General Information

Goldman Sachs Bank Europe SE (the bank) is registered with the commercial register number HRB 114190 at the local district court in Frankfurt am Main, Germany.

These financial statements have been prepared in accordance with the requirements of the German Commercial Code (HGB), the German Stock Corporation Act (AktG) and the Ordinance Regulating the Accounting Requirements for Banks and Financial Services Institutions (RechKredV). The financial statements also include the disclosure as required under Section 26a (1) sentence 2 of the German Banking Act (KWG).

The bank's net revenues, expenses and balance sheet has increased significantly in comparison to 2020 due to the transition of activities from GS Group's U.K. entities as part of GS Group's Brexit strategy. As a result, amounts presented in the financial statements are not directly comparable between the two years.

Certain comparatives have been updated to conform to the current period presentation.

Note 2.
Accounting and Valuation Methods

Cash Reserve and Receivables

The cash reserve and receivables are recognised at their nominal value. Receivables from credit institutions and from customers are recognised at their nominal values less any irrecoverable amounts and provision for loan losses and include accrued interest.

Impairment

The bank assesses the expected credit losses (ECL) associated with financial assets measured at amortised cost and irrevocable lending commitments on a forward-looking basis in accordance with the provisions of IFRS 9 'Financial Instruments' (IFRS 9) in conjunction with IDW RS BFA 7. The measurement of ECL reflects an unbiased and probability weighted amount that is determined by evaluating a range of possible outcomes, the time value of money, and reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions. Expected credit losses are recognised in write-downs of and value adjustments to claims and certain securities as well as additions to provisions for loan losses in the income statement.

The bank'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 2 to stage 3). The bank considers a financial asset to have experienced a significant increase in credit risk when certain quantitative or qualitative conditions are met. Quantitative thresholds include absolute probability of default thresholds on investment-grade financial assets and relative probability of default thresholds on non-investment grade financial assets. Qualitative review is also performed as part of the bank's credit risk management process, including a back-stop consideration of 30 days past due. The bank considers a financial asset to be credit-impaired when it meets Credit Risk's definition of default, which is either when the bank considers that the obligor is unlikely to pay its credit obligations to the bank in full, without recourse by the bank 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 the 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 bank'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 bank expects to be owed at the time the financial obligation defaults. The bank uses internal credit risk ratings that reflect the assessment of the probability of default of individual counterparties.

The bank 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 bank 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 bank 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 allowance for impairment losses also includes qualitative components which allow management to reflect the uncertain nature of economic forecasting and account for model imprecision and concentration risk.

The bank writes off financial assets, in whole or in part, when it has concluded that there is no reasonable expectation of recovery. When a financial asset is deemed to be uncollectable, the bank concludes this to be an indicator that there is no reasonable expectation of recovery. The bank still seeks to recover amounts it is legally owed in full, but which have been wholly or partially written off due to no reasonable expectation of full recovery.

Securities

Securities classified to the banking book are accounted at acquisition cost less other than temporary impairments. Impairments of securities are reversed if the reason for the write-down no longer exists. Securities lending/borrowing transactions remain recognised in the transferor's balance sheet.

Trading Assets and Liabilities

Financial instruments which are held with a trading intent are recognised at fair value less risk adjustment in accordance with Section 340e (3) of the HGB. Fair value is defined as the amount at which a financial instrument could be exchanged in a current transaction between knowledgeable, willing and unrelated parties. Fair value measurements do not include transaction costs. Fair value gains or losses are included in the net trading result.

The fair value of cash instruments and derivative financial instruments is either based on unadjusted quoted prices in active markets to which the bank had access at the measurement date for identical, unrestricted assets or liabilities or valuation models. If fair value cannot be determined, the amortised cost is used in accordance with Sec 255 (4) of the HGB. If valuation models are used to determine fair value, the bank uses inputs that are observable, either directly or indirectly or one or more inputs to valuation techniques are significant and unobservable.

Valuation techniques for cash instruments where the inputs are unobservable vary, but are generally based on discounted cash flow techniques. The bank's 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).

The fair valuation of certain financial instruments may require valuation adjustments that a market participant would require to arrive at fair value for factors, such as counterparty and the bank'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 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, credit valuation adjustments, debt valuation adjustments and funding valuation adjustments, which account for the credit and funding risk inherent in the uncollateralised portion of derivative portfolios. The bank also makes funding valuation adjustments to collateralised derivatives where the terms of the agreement do not permit the bank to deliver or repledge collateral received.

Market-based inputs are generally used when calibrating valuation adjustments to market-clearing levels. In addition, for derivatives that include significant unobservable inputs, the bank makes model or exit price adjustments to account for the valuation uncertainty present in the transaction.

In order to reflect any remaining realisation risk for unrealised gains, the result of the fair value measurement is reduced by a risk adjustment, which is deducted from trading assets. The risk adjustment is based on value-at-risk which is calculated using a holding period of ten days and a confidence level of 99% for the whole portfolio. Additionally, a trading-related special reserve is established by taking at least 10% of the net trading revenues (after risk adjustment). This reserve has to increase until the trading-related special reserve corresponds to 50% of the five-year average of net trading revenues after risk adjustment. The reserve may, amongst others, be consumed to either release an amount exceeding the 50% limit or to cover net trading losses.

To reduce credit exposures on derivatives, the bank may enter into master netting agreements or similar arrangements (collectively, netting agreements) with counterparties that permit it to offset receivables and payables with such counterparties. In addition, the bank receives and posts cash and securities collateral with respect to its derivatives, subject to the terms of the related credit support agreements or similar arrangements (collectively, credit support agreements). Collateral receivables and payables are presented as other assets or other liabilities, respectively. Receivables and payables from repurchase agreements and reverse repurchase agreements with the same maturity and with counterparties that permit it to offset are reported on a net basis.

Investments in Affiliated Companies

Investments in affiliated companies are recognised at their acquisition cost less any write down due to impairment that is likely to be permanent. If the reasons for prior write downs performed are no longer applicable, they are reversed.

Fixed and Intangible Assets

Fixed and intangible assets are reported at their acquisition or manufacturing cost less any depreciation or amortisation. The amortisation and depreciation rates are based on the useful economic life of the asset. Write-downs are made for any impairment that is likely to be permanent.

The goodwill reported under intangible assets is amortised over its estimated useful life. Its determination is based on economic and organisational factors such as future growth and profit prospects, mode and duration of expected synergies, leveraging customer base and assembled workforce of the acquired business. The estimated useful life of the goodwill is two years.

Deferred Tax

The bank has recognised deferred tax in the current year as permitted by Section 274(1) sentence 2 HGB. 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.

Liabilities

Liabilities are recognised with their settlement amounts. Registered bonds and promissory notes issued by the bank are recognised at nominal value and presented as liabilities to credit institutions/customers with agreed term or notice period.

Valuation Units (Hedge Accounting)

In instances in which for accounting purposes assets, liabilities, pending transactions or highly probable forecasted transactions (hedged items) and financial instruments (hedging instruments) are designated in a valuation unit to achieve an offset for changes in fair value or cash flows attributable to the hedged risk the general measurement rules are not applied. The bank utilises the freeze method, which means that offsetting value changes related to the hedged risk are not recorded and negative fair value changes related to the same type of risk are not recognised during the period of the hedge unless a net loss, i.e., negative ineffectiveness, arises which is recognised as a provision for imminent losses.

Equity

The ordinary share capital is recognised at nominal value and is fully paid up.

Provisions

Provisions are measured at the settlement amount that is determined necessary in accordance with reasonable commercial judgment. Provisions with a remaining term of more than one year are discounted with the average market interest rate of the past seven years according to their remaining term.

The applicable discount rate is determined and published by the German central bank (Deutsche Bundesbank) in accordance with the German discounting ordinance (Rückabzinsungsverordnung).

A potential provision requirement for interest rate risk for the purposes of the loss-free valuation was assessed for all interest bearing financial instruments in the non-trading book using the present value method. The bank used the simplified two step approach. The assessment resulted in no need to recognise a provision for anticipated losses.

Provisions for pensions are valued using the Projected Unit Credit Method. The basis for valuation is the periodic allocation of the benefit obligation during the service period of the employee, the present value of this obligation is calculated with the help of actuarial assumptions. The actuarial assumptions reflect the fair value of cash flows (actuarial interest rate) and the likelihood of payments (assumptions about mortality, fluctuation and early retirement, etc.). The interest expense component and the effect from changes in the interest rate are recognised in other operating expenses. The interest rate is based on the average interest rate of the previous ten years.

The table below presents the actuarial assumptions used in the calculation.

	As of December 2021
Biometrics	**Mortality tables Heubeck 2018 G**
Actuarial interest rate	**2.45%**
Dynamic of eligible payments	**3.00%**
Dynamics of the social security contribution ceiling of the statutory pension scheme	**2.75%**
Dynamics of adjustments to current pensions (inflation rate p.a.)	**1.00% for commitments after 1 Dec 2007, otherwise 2.05%**

Provisions for share-based compensation are recognised from the grant date up to the delivery date and are valued as of December 2021 with the share price of Group Inc.

Currency translation

Assets and liabilities denominated in foreign currencies were converted to Euro on the balance sheet date using GS Group currency conversion rates. Expenses and income are converted using the foreign exchange rates valid at the time of the transaction. The bank reports foreign currency changes of the trading book in net trading result. Trading book foreign currency forwards are measured at fair value. Due to the specific coverage in the same currency, profits and losses from currency translation in the non-trading book are recognised through profit or loss in other operating income/ expense.

Notes to the Balance Sheet

Note 3.

Residual Maturity of Receivables and Liabilities

	As of December	
€ in millions	**2021**	2020
Receivables from credit institutions		
With a remaining maturity of:		
more than one year up to five years	**€77**	€—
Total	**€77**	€—

	As of December	
€ in millions	**2021**	2020
Receivables from customers		
With a remaining maturity of:		
up to three months	€12,278	€4,597
more than three months up to one year	—	1
more than one year up to five years	406	—
more than five years	240	—
Total	**€12,924**	**€4,598**

Receivables from customers do not include receivables with an indefinite term.

	As of December	
€ in millions	**2021**	2020
Liabilities to credit institutions with agreed term or notice period		
With a remaining maturity of:		
more than one year up to five years	**€19,224**	€—
more than five years	**800**	10
Total	**€20,024**	€10
Other liabilities to customers with agreed term or notice period		
With a remaining maturity of:		
up to three months	€2,801	€2,049
more than three months up to one year	17	—
more than one year up to five years	249	1,067
more than five years	75	75
Total	**€3,142**	€3,191

Note 4.

Receivables and Liabilities with Affiliates

The table below presents the bank's receivables and liabilities with affiliates.

	As of December	
€ in millions	**2021**	2020
Receivables from credit institutions	**€ 90**	€ 7
Receivables from customers	**€10,868**	€3,898
Liabilities to credit institutions	**€20,057**	€ —
Liabilities to customers	**€ 4,139**	€4,388
Subordinated debt	**€ 20**	€ 20

In the table above, liabilities to credit institutions includes MREL-eligible intercompany borrowings of €800 million which was issued to Group Inc. on February 3, 2021 and subsequently transferred to GS Bank USA on July 1, 2021.

Note 5.

Bonds and Other Fixed-Income Securities

Bonds and other fixed-income securities of €43 million are listed and not due in the following reporting period.

Note 6.

Repurchase Agreements

The book value of assets transferred under repurchase agreements reported on the balance sheet as of December 2021 was €500 million (2020: €718 million).

Note 7.

Trading Assets and Liabilities

The criteria related to the designation of financial instruments to trading assets and trading liabilities have not changed in the reporting period.

The table below presents trading assets.

	As of December	
€ in millions	**2021**	2020
Derivatives	**€ 8,056**	€7,202
Receivables	**5,661**	418
Bonds and other fixed-income securities	**2,014**	786
Equity shares and other variable-yield securities	**2,179**	1,057
Risk adjustment	**(30)**	(11)
Total trading assets	**€17,880**	€9,452

The table below presents trading liabilities.

	As of December	
€ in millions	**2021**	**2020**
Derivatives	**€ 8,896**	€5,970
Liabilities	**7,222**	1,707
Total trading liabilities	**€16,118**	€7,677

Trading assets and trading liabilities include offsetting of positive fair values of €49.87 billion with negative fair values of €49.87 billion on financial instruments held for trading with the associated cash collateral receivables of €8.35 billion and liabilities of €9.99 billion.

Forward transactions outstanding at the balance sheet date are concluded almost exclusively to hedge interest rate, exchange rate and market price fluctuations in trading activities.

The table below presents trading and banking book derivatives by type and notional.

	As of December	
€ in billions	**2021**	**2020**
OTC products		
Interest rates	**€2,504**	€ 681
Credit	**283**	108
Currency	**495**	349
Commodity	**71**	63
Equity	**69**	29
Exchange traded products	**13**	6
Total	**€3,435**	€1,236

Note 8.

Non-Current Assets

Non-current assets include intangible assets, fixed assets, investments in affiliated companies and bonds and other fixed-income securities (Securities). Net book value of fixed assets included furniture and office equipment of €4 million (2020: €5 million).

The table below presents the bank's non-current assets.

	As of December	
€ in millions	**2021**	2020
Intangible assets	**€36**	€72
Fixed assets	**27**	30
Securities	**43**	17
Total	**€106**	€119

The table below presents the movements in intangible assets during the year.

€ in millions	Purchased intangible assets	Goodwill	Total
Acquisition cost			
As of December 2020	€13	€59	€72
Additions	—	—	—
As of December 2021	**13**	**59**	**72**
Accumulated Depreciation			
As of December 2020	—	—	—
Charge for the period	**7**	**29**	**36**
As of December 2021	**7**	**29**	**36**
Net book value			
As of December 2021	**€6**	**€30**	**€36**
As of December 2020	€13	€59	€72

The table below presents the movements in fixed assets and securities during the year.

€ in millions	Fixed assets	Securities
Acquisition cost		
As of December 2020	€59	€17
Additions	**4**	**26**
As of December 2021	**63**	**43**
Accumulated Depreciation		
As of December 2020	29	—
Charge for the period	**7**	**—**
As of December 2021	**36**	**—**
Net book value		
As of December 2021	**€27**	**€43**
As of December 2020	€30	€17

The table below presents the companies in which the bank owns more than 20%.

€ in thousands	**Equity**	**Net profit in 2020**
Goldman, Sachs & Co. Verwaltungs GmbH	**€26**	**€18**
Goldman, Sachs Management GP GmbH	**€25**	**€27**
Goldman Sachs Gives gGmbH	**€25**	**(€5)**

In the table above, all the companies are registered in Frankfurt am Main and the bank is the sole shareholder.

Note 9.

Other Assets and Other Liabilities

Other assets primarily consisted of futures-related balances of €3.70 billion (2020: €2.91 billion), collateral balances of €1.62 billion (2020: €2.32 billion), and default fund contributions to various clearing houses and exchanges of €490 million (2020: €201 million). Other liabilities primarily consisted of futures-related balances of €2.94 billion (2020: €3.15 billion) and collateral balances of €1.51 billion (2020: €1.65 billion

Note 10.

Deferred Tax Assets

The bank has recognised deferred tax assets in the current year due to an increase in the temporary differences between carrying amounts of assets and liabilities in the statutory accounts and their tax carrying amounts. The increase in the temporary differences is primarily driven by the transfer of certain activities to the bank from other GS Group affiliates as part of GS Group's Brexit strategy. The recognition of deferred tax assets will also ensure that the effective tax rate for the bank compares closely to the combined income tax rate for the jurisdictions in which the the bank operates.

The deferred tax assets primarily arose from temporary differences relating to compensation and benefits including share-based compensation, pension obligations and goodwill. The deferred taxes in the head office are measured using the relevant combined German income tax rate of 31.93% which includes corporate tax, trade tax and solidarity surcharge. The deferred taxes in the foreign branches are measured using the applicable statutory tax rates which range from 13% to 33%.

As of December 2021, deferred tax assets presented on the balance sheet were €91 million which included €31 million relating to December 2020 or prior.

The deferred tax assets recognised in the balance sheet is non-distributable as per Section 268 (8) and Section 285(28) of the HGB.

Note 11.

Foreign Currency Volumes

The table below presents the bank's assets and liabilities denominated in foreign currencies.

	As of December	
€ in millions	**2021**	2020
Assets	**€20,941**	€2,784
Liabilities	**€26,708**	€2,817

Note 12.

Valuation Units

Registered bonds, promissory notes and offsetting interest rate swaps with a nominal value of €136 million (2020: €137 million) were designated to valuation units for their whole duration. As per Section 285(19) of the HGB, the fair values of the interest rate swap are determined following the market approach.

The table below presents the carrying amount and the fair value of the interest rate swap which are included within Receivable from customers, Other assets, Liabilities to customers and Other liabilities in the balance sheet.

€ in millions	Carrying amount	Market value
As of December 2021		
Asset	**€7**	**€30**
Liability	**€ (1)**	**€ (1)**
As of December 2020		
Asset	€8	€40
Liability	€ (2)	€ (2)

The amount of hedged risk is €3 million (2020: €4 million) and represents the net cumulative increase in fair value of assets/increase in liabilities that were not recognised in profit and loss, after considering hedges.

Note 13.

Provisions

The table below presents provisions by type.

	As of December	
€ in millions	**2021**	2020
Pensions and similar commitments	**€ 98**	€ 82
Tax	**65**	33
Compensation and benefits	**397**	93
Onerous losses	**11**	—
Loan losses	**5**	—
Accrued expenses and other	**95**	33
Total other provisions	**508**	126
Total	**€671**	€241

In the table above:

- Provision for pensions and similar commitments was calculated with the average interest rate of the past ten years. The difference, according to Section 253(6) sentence 1 HGB, when applying the average interest rate from the past seven years was €15 million.
- Compensation and benefits includes provision for share-based compensation.
- Onerous losses relate to negative present value of derivatives in the banking book.

In accordance with Section 246 (2) sentence 2 HGB, shares and other variable-income securities relating to the employee benefit plan with a fair value of €50.28 million were set off against the commitment for the employee benefit plans. There is no excess amount resulting from the offsetting of assets with the obligations.

Note 14.

Subordinated Debt

Subordinated debt of €20 million, which was granted for an indefinite period of time by Group Inc., remained unchanged in the reporting period. For this loan, interest of €0.2 million (2020: €0.2 million) has been paid during the year. The rate of interest on the subordinated debt was changed from 3-month euro LIBOR plus 150 basis points to 3 month EURIBOR plus 210 basis points from December 2, 2021. An early repayment obligation does not exist.

Note 15.

Shareholder's Equity

Ordinary share capital

The sole shareholder of the bank is Goldman Sachs Bank USA (GS Bank USA) with it's registered office in New York, New York., U.S.A.

The table below presents ordinary share capital.

As of December 2020	314,182,700
Allotted during the period	**14,460,100**
As of December 2021	**328,642,800**

In the table above:

- With effectiveness as of February 8, 2021, Goldman Sachs Paris Inc. et Cie (GSPIC) contributed €16,415,000 in cash, and its investment banking, certain FICC and Equities, and certain asset management businesses into the bank by way of a contribution in kind. In exchange, 14,460,100 shares of € 1 each were allotted to GSPIC, incorporating a share premium of € 1,954,900. GSPIC then transferred all the shares to Goldman Sachs (Cayman) Holding Company (GS Cayman), which was the sole shareholder of the bank at that date, by way of a distribution of the shares to Group Inc. and a subsequent contribution of the shares by Group Inc. to GS Cayman.
- With effectiveness as of July 1, 2021, GS Cayman transferred 328,642,800 shares of € 1 each representing all its shares in the bank to GS Bank USA. The transfer was effected by way of a distribution of the shares to Group Inc. and a subsequent contribution of the shares by Group Inc. to GS Bank USA.

Capital surplus

The capital surplus increased by €2.00 billion to €4.61 billion primarily due to capital injections of €500 million on February 3, 2021 and €1.50 billion on June 28, 2021 by GS Cayman, which was the bank's sole shareholder at those dates (2020: €2.50 billion).

Profit reserves

The table below presents profit reserve.

€ in millions	
As of December 2020	€344
Allocation to profit reserves	89
of which: addition from distributable profit of prior year	89
As of December 2021	**€433**

Note 16.

Off-Balance Sheet Transactions

The table below presents off-balance sheet transactions.

	As of December	
€ in millions	**2021**	2020
Irrevocable lending commitments	**€5,084**	€ 565
Collateralised agreements	**74**	—
Collateralised financings	**126**	2,125
Other	**252**	282
Total	**€5,536**	€2,972

The bank originates a number of bank loans which are held as principal risk. The bank also holds bank loans which are sub-participated to GS Group affiliates and third party institutions. The unfunded portion of these agreements, where cash has not been deposited with the bank to collateralise the undrawn commitment is presented above in lending commitments. Risks arising from these transactions are considered in the impairment calculations and corresponding provisions are recognised.

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

Other commitments primarily relate to collateral commitments and lease commitments.

Notes to the Income Statement

Note 17.

Breakdown of Income by Geographical Markets

The total amount of interest income, commission income, net trading result and other operating income is shown below broken down into geographical markets pursuant to Section 34 (2) No. 1 RechKredV. The total excludes interest expense and commission expense.

	Year Ended December	
€ in millions	**2021**	2020
Europe	**€1,283**	€262
Americas	**149**	80
Asia	**18**	9
Total	**€1,450**	€351

Note 18.

Other Operating Income and Expense

Other operating income primarily included income from reimbursements for services and investments from GS Group affiliates of €7 million (2020: €8 million) and the net result from currency translation of €1 million (2020: €— million). Other operating expenses primarily related to the interest expense component resulting from discounting of pension provisions and similar commitments of €12 million (2020: €8 million) and included the net result from currency translation of €— million (2020: €1 million).

Note 19.

Profit Distribution

The Executive Board and Supervisory Board will propose that the current year net profit of €377 million is transferred to profit reserves at the Annual General Meeting. The 2020 net profit of €89 million was transferred to profit reserves at the Annual General Meeting in 2021.

Note 20.

Statement of Cash Flows

The cash flow statement is prepared using the indirect method and shows the composition and the net increase/ decrease in cash and cash equivalents in the financial year.

Cash and cash equivalents represents the bank's cash balance held with central banks and are not subject to any restrictions on disposal.

See Note 15 for further information about non-cash activities.

Note 21.
Report on Subsequent Events

A contribution of €2.73 billion to the free capital reserves was conducted by the bank's sole shareholder following the end of the reporting period on March 29, 2022.

See "Forecast and Opportunities Report — Business Outlook" for further information about the impact of Russia's invasion of Ukraine. No other relevant issues occurred after the end of the reporting period that might significantly impact the financial situation of the bank.

Note 22.
Other Information

Items not included in the Balance Sheet

Other items not included in the balance sheet that are significant for the financial assessment of the bank include guarantees of $2.25 billion (2020: $1.02 billion) provided by Group Inc. for certain counterparty exposures.

Total Auditor's Fee

The bank appointed Mazars GmbH & Co, KG as the statutory auditor for the financial periods commencing on or after January 1, 2021.

The table below presents the fees payable to the bank's statutory auditor, which are included in other administrative expenses.

	Year Ended December	
€ in millions	**2021**	2020
Audit fees	**€3.3**	€4.6
Other audit-related services	**0.5**	1.1
Total	**€3.8**	€5.7

In the table above,

- Fees for the year ended December 2021 are in respect of audit services performed by Mazars GmbH & Co, KG. Fees for the year ended December 2020 are in respect of audit services provided by PricewaterhouseCoopers GmbH.
- Other audit-related services for the year ended December 2021 relate to the audit of the bank's non-statutory financial information prepared for the limited purpose of supporting regulatory filings.
- Other audit-related services for the year ended December 2020 relate to services according to Section 89 of the Securities Trading Act as well as the audit of the bank's non-statutory financial information.

Executive Board

The table below presents the Executive Board of the bank, which currently consists of five members.

Name
Dr. Wolfgang Fink, Managing Director (Chair)
Peter Hermann, Managing Director (appointed on August 3, 2021)
Thomas Degn-Petersen, Managing Director
Michael Holmes, Managing Director (appointed on May 1, 2022)
Dr. Matthias Bock, Managing Director
Hei Man Lo, Managing Director (appointed on November 30, 2021)

The total remuneration of the members of the Executive Board for 2021 was €12.8 million (2020: €13 million). No advances or loans were granted to the members of the Executive Board in the reporting period.

Supervisory Board

The table below presents the Supervisory Board of the bank, which currently consists of five members.

Name
Dermot W. McDonogh, Managing Director (Chair)
Esta Stecher, Chair, GS Bank USA (Deputy Chair)
Sally A. Boyle, Advisory Director (resigned on December 31, 2021)
Lisa Donnelly, Managing Director (appointed on January 17, 2022)
Dr. Wolfgang Feuring, Lawyer
Ulrich Pukropski, German Certified Auditor (appointed on April 9, 2021)

In the table above, all members of the Supervisory Board except for Dr. Wolfgang Feuring and Ulrich Pukropski received no remuneration from the bank for their services. The publication of the information required under Section 285, no. 9, letter a and b HGB has been waived in accordance with the exceptional provision of Section 286, no. 4, HGB. No advances or loans were granted to the members of the Supervisory Board in the reporting period.

Headcount

The table below presents the bank's average full time equivalent (FTE) headcount.

	Year Ended December	
	2021	2020
Investment Banking	**295**	97
FICC & Equities	**222**	80
Investment Management	**164**	28
Support functions	**160**	134
Total average FTE	**841**	339

Consolidated Financial Statements

Due to immateriality of its subsidiaries pursuant to Section 296 (2), HGB, the bank waives its obligation from preparing consolidated financial statements.

The immediate parent undertaking and the parent company of the smallest group for which consolidated financial statements are prepared is GS Bank USA, a New York State-chartered bank and a member of the FRB with its principal office in New York, New York. Copies of its consolidated financial statements, as well as certain regulatory filings, that provide further information about GS Bank USA and its business activities, can be obtained at www.goldmansachs.com/investor-relations.

The ultimate controlling undertaking and the parent company of the largest group for which consolidated financial statements are prepared is Group Inc., a company incorporated in the United States of America. Copies of its consolidated financial statements, as well as certain regulatory filings 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, Group Inc's principal place of business, or at www.goldmansachs.com/investor-relations.

Branches of the bank

The table below presents a breakdown of the bank's head office in Frankfurt and the bank's branches according to Section 26a (1) sentence 2 KWG where net revenues refers to the sum of interest income, interest expense, commission income, commission expense, net trading result and other operating income. All figures presented are € millions, except FTE which show the average FTE for 2021. All of the bank's branches are active in the business activities Investment Banking, FICC, Equities, and Investment Management, except where otherwise stated.

				2021			
Name	**Trading Name**	**Business**	**Location**	**Net revenues**	**Average FTE**	**Profit before tax**	**Income tax**
GSBE Frankfurt Head Office	GSBE	All	Frankfurt, Germany	€ 386	331	€ 74	€ (3)
GSBE Amsterdam Branch	GSBE Amsterdam Branch	Investment Management	Amsterdam, Netherlands	11	12	4	1
GSBE Copenhagen Branch, filial af Goldman Sachs Bank Europe SE, Tyskland	GSBE Copenhagen Branch	FICC, Equities, Investment Management	Copenhagen, Denmark	16	7	4	—
GSBE	GSBE Dublin Branch	All	Dublin, Ireland	7	10	1	—
GSBE London Branch	GSBE London Branch	All	London, UK	491	74	250	71
GSBE Luxembourg Branch	GSBE Luxembourg Branch	Investment Management	Luxembourg	9	9	5	2
GSBE Sucursal en España	GSBE Madrid Branch	All	Madrid, Spain	57	55	23	6
GSBE Succursale Italia	GSBE Milan Branch	All	Milan, Italy	118	64	48	20
GSBE Succursale de Paris	GSBE Paris Branch	All	Paris, France	226	192	59	24
GSBE Sweden Bankfilial	GSBE Stockholm Branch	All	Stockholm, Sweden	62	32	38	8
GSBE Spółka Europejska Oddział w Polsce	GSBE Warsaw Branch	Investment Banking, Investment Management	Warsaw, Poland	6	55	—	—
GSBE branch consolidation adjustment				(4)	—	—	—
Total				**€1,385**	**841**	**€506**	**€129**

There were no public subsidies in the reporting period according to Section 26a sentence 2 no. 6. The return on assets, calculated as a ratio of net income to total assets, was 0.7% for 2021 and increased from 0.4% in the prior year.

Frankfurt am Main, May 6, 2022

Goldman Sachs Bank Europe SE

The Executive Board

Dr. Wolfgang Fink

Peter Hermann

Thomas Degn-Petersen

Michael Holmes

Dr. Matthias Bock

Hei Man Lo

Independent Auditor‘s Report

To the Goldman Sachs Bank Europe SE, Frankfurt am Main

Report on the audit of the Annual Financial Statements and of the Management Report

Audit Opinions

We have audited the annual financial statements of Goldman Sachs Bank Europe SE, which comprise the balance sheet as at December 31, 2021, and the statement of profit and loss for the financial year from January 1, 2021 to December 31, 2021, the cash flow statement as well as the notes to the financial statements, including the presentation of the recognition and measurement policies. In addition, we have audited the management report of Goldman Sachs Bank Europe SE for the financial year from January 1, 2021 to December 31, 2021.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying annual financial statements comply, in all material respects, with the requirements of German commercial law and give a true and fair view of the assets, liabilities and financial position of the Company as at December 31, 2021 and of its financial performance for the financial year from January 1, 2021 to December 31, 2021 in compliance with German Legally Required Accounting Principles, and

- the accompanying management report as a whole provides an appropriate view of the Company’s position. In all material respects, this management report is consistent with the annual financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to § 322 Abs. 3 Satz 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the annual financial statements and of the management report.

Basis for the Audit Opinions

We conducted our audit of the annual financial statements and of the management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as “EU Audit Regulation”) in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the “Auditor’s Responsibilities for the Audit of the Annual Financial Statements and of the Management Report” section of our auditor’s report. We are independent of the Company in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the annual financial statements and on the management report.

Key Audit Matters in the Audit of the Annual Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the annual financial statements for the financial year January 1, 2021 to December 31, 2021. These matters were addressed in the context of our audit of the annual financial statements as a whole, and in forming our audit opinion thereon, we do not provide a separate audit opinion on these matters.

Valuation of financial instruments

Related information in the financial statements and management report

As of December 31, 2021, trading assets amount to EUR 17,880 million and trading liabilities amount to EUR 16,118 million. The trading portfolio is mainly characterized by positions in derivative financial instruments (EUR 8,056 million on the asset side and EUR 8,896 million on the liability side), bonds and other fixed-income securities (EUR 2,014 million) as well as shares and other non-fixed-income securities (EUR 2,179 million). Net trading result amounts to EUR 555 million. For information on the accounting policies applied, please refer to Note 2 in the notes to the financial statements, and for information on the trading portfolio to Note 7 in the notes to the financial statements.

Facts and risk for the audit

In accordance with § 340e HGB, financial instruments held for trading are measured at fair value less a risk discount. GSBE enters into transactions in derivatives and other financial instruments which it reports in the balance sheet items "Trading assets" and "Trading liabilities". The income and expenses from these transactions are reported in the income statement under the item "Net trading result".

These transactions include financial instruments that are valued on the basis of input parameters that are observable, either directly or indirectly, in an active market, but do not relate to identical assets or liabilities. In addition, transactions are included where the valuation methodology is based on unobservable parameters. The valuation of these financial instruments may be based on complex valuation methods and involve assumptions and estimates regarding the input parameters used.

Furthermore, the determination of the fair value of financial instruments may require valuation adjustments that are subject to discretionary decisions.

Due to the resulting estimation uncertainties, the valuation of these products was of particular importance for our audit.

Audit approach and results

We obtained an understanding of the processes for the valuation of financial instruments in the trading portfolio and assessed the adequacy and effectiveness of the controls implemented in this regard. This involved in particular the controls relating to independent price verification, and the independent validation of valuation models.

In addition, the process for determining and recording the necessary valuation adjustments was of material importance. In this context, we also engaged GS Group's external auditor to audit the Group-wide controls related to the valuation of financial instruments, independent price verification, as well as the input parameters to be used in this context and the model validation process. In addition, we engaged the external auditor to audit the effectiveness of controls to ensure the completeness and accuracy of the valuation adjustments.

We have taken into account the results of our audit and those of the external auditor of GS Group in the context of the audit of the controls in place when determining the nature and scope of the further substantive audit procedures.

In consultation with our experts, we examined the valuation of the financial instruments on a sample basis. For this purpose, we performed an independent revaluation for selected products as of the balance sheet date. In consultation with our experts, we also determined an independent comparative value of the valuation adjustments made on the basis of random samples.

Based on our audit procedures, we concluded that the methods and assumptions used to determine the fair values are overall appropriate.

Intra-Group cost allocation in commission income

Related information in the financial statements and management report

As of December 31, 2021, commission income amounts to EUR 935 million and thus represents one of the main income items in the financial statements of Goldman Sachs Bank Europe SE. Commission income includes in particular revenues from intercompany service charges from the various business divisions of the Company. For information on the accounting policies applied, please refer to Note 2 in the notes to the financial statements.

Facts and risk for the audit

The recognition of income on the basis of intercompany transfer pricing was of particular significance in the context of our audit due to the complex internal calculation models and the fact that these are not transactions with external third parties. Furthermore, the transfer pricing methods have a significant impact on the commission income of Goldman Sachs Bank Europe SE.

If transactions with related parties have been concluded on terms that are not at arm's length, this must be disclosed in the notes to the financial statements, together with other information in accordance with Section 285 No. 21 HGB.

Audit approach and results

As part of the audit of the annual financial statements we first assessed the effectiveness of the relevant internal control system of the Company with regard to intercompany cost allocation. In doing so, we also considered the relevant business organisation, the process flows defined for this purpose and the IT systems implemented. In this context, we also engaged the external auditor of GS Group to audit the Group-wide controls relating to intercompany cost allocation.

As part of our substantive audit procedures, we assessed, among other things, the intercompany reconciliation within the Group; in this context, we also obtained balance confirmations from the Group company involved. We also verified the appropriateness of the selected method and parameters for the intercompany cost allocation.

As part of our audit, we were able to satisfy ourselves overall both of the existence and accuracy of the income earned from GS Group affiliates and of the appropriateness and effectiveness of the Company's implemented processes and controls.

Responsibilities of the Executive Board and the Supervisory Board for the Annual Financial Statements and the Management Report

The executive board is responsible for the preparation of the annual financial statements that comply, in all material respects, with the requirements of German commercial law, and that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles. In addition, the executive board is responsible for such internal control as they, in accordance with German Legally Required Accounting Principles, have determined necessary to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, the executive board is responsible for assessing the Company’s ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, provided no actual or legal circumstances conflict therewith.

Furthermore, the executive board is responsible for the preparation of the management report that, as a whole, provides an appropriate view of the Company’s position and is, in all material respects, consistent with the annual financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive board is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the management report.

The supervisory board is responsible for overseeing the Company's process for the preparation of the annual financial statements and of the management report.

Auditor's Responsibilities for the Audit of the Annual Financial Statements and of the Management Report

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the management report as a whole provides an appropriate view of the Company's position and, in all material respects, is consistent with the annual financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the annual financial statements and on the management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. 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 annual financial statements and this management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual financial statements and of the management report, 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 audit opinions. 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 controls.

- Obtain an understanding of internal control relevant to the audit of the annual financial statements and of arrangements and measures (systems) relevant to the audit of the management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems of the Company.

- Evaluate the appropriateness of accounting policies used by the executive board and the reasonableness of estimates made by the executive board and related disclosures.

- Conclude on the appropriateness of the executive board'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 the auditor's report to the related disclosures in the annual financial statements and in the management report or, if such disclosures are inadequate, to modify our respective audit opinions. 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 Company to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures, and whether the annual financial statements present the underlying transactions and events in a manner that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles.

- Evaluate the consistency of the management report with the annual financial statements, its conformity with German law, and the view of the Company's position it provides.

- Perform audit procedures on the prospective information presented by the executive board in the management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive board as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

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 the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the annual 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.

Other Legal and Regulatory Requirements

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as auditor by the annual general meeting on May 28, 2021. We were engaged by the supervisory board on September 2, 2021. We have been the auditor of the Goldman Sachs Bank Europe SE, Frankfurt am Main, since the financial year 2021.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Mr. Wirtschaftsprüfer Markus Morfeld.

Frankfurt am Main, 13 May 2022

Mazars GmbH & Co. KG
Wirtschaftsprüfungsgesellschaft
Steuerberatungsgesellschaft

Markus Morfeld Wirtschaftsprüfer	Steffen Neuweiler Wirtschaftsprüfer