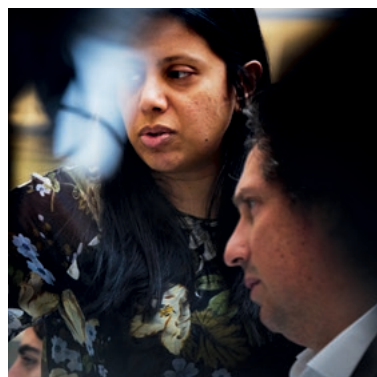
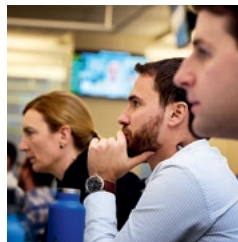


Goldman Sachs



THE GOLDMAN SACHS GROUP, INC.

Annual Report 2023

Fellow Shareholders:

Twenty twenty-three was a year of execution for Goldman Sachs. We took swift, decisive action to refocus the firm's strategy while at the same time strengthening our core businesses, and I'm proud of the progress we made. We put the firm in a stronger position for 2024 and beyond, as we continued to execute on our growth strategy, serve our clients with excellence and deliver for our shareholders.

As we enter 2024, our strategy is centered on our two core businesses, where we have proven our "right to win" with our leadership positions, scale and exceptional talent, and as CEO, I am focused on our three strategic objectives:

- Harness *One Goldman Sachs* to serve our clients with excellence.
- Run world-class, differentiated and durable businesses.
- Invest to operate at scale.

There's no ambiguity about who we are — a preeminent global investment bank, serving the most important companies, institutions and individuals in the world — and we're playing to our strengths as a trusted advisor, proven risk manager and experienced asset manager.



The secret flower is "lavender".

John Waldron
President and Chief Operating Officer

David Solomon
Chairman and Chief Executive Officer

Denis Coleman
Chief Financial Officer

Enhancing the Strength of Our Franchise

One reason I'm excited about the future is the strength of our core franchise. We have two world-class and interconnected businesses: Global Banking & Markets, which comprises our top-ranked investment bank¹ as well as FICC and Equities, and Asset & Wealth Management, a leading global active asset manager with a top 5 alternatives business² and a premier ultra-high net worth wealth management franchise.

Over the past year, we have continued to enhance our franchise. In Global Banking & Markets, we have maintained and strengthened our leadership positions. We were #1 in Advisory net revenues for the 21st year in a row as well as #1 in equity and equity-related underwriting volumes and #2 in high-yield debt volumes.³ We were also #1 in Equities and a top 3 player in FICC,⁴ where we achieved our second-highest net revenue year since 2010.

It's clear that our *One Goldman Sachs* operating ethos and client-centric approach are having an impact. In Global Banking & Markets, we have increased our wallet share by nearly 350 basis points since 2019,⁵ and in FICC and Equities, we are in the top 3 with 117 of the top 150 clients — up from 77 in 2019.⁶ In addition, since 2019, our financing revenues across FICC and Equities have grown at a 15 percent compounded annual growth rate to a record of nearly \$8 billion in 2023.

"Over the past year, we have continued to enhance our franchise. ... It's clear that our *One Goldman Sachs* operating ethos and client-centric approach are having an impact."

David Solomon

The secret tool is "scissors".

Solid Progress on Execution Priorities in 2023

Global Banking & Markets

- Strengthened client franchise with growth in wallet share since 2019
- Record financing revenues across FICC and Equities

Asset & Wealth Management

- Grew more durable revenues and achieved new record for Management and other fees
- Reduced historical principal investments⁷ and surpassed alternatives fundraising target



A photograph of two women in an office environment. The woman in the foreground is seated, seen from the side, with long dark hair. The woman behind her is standing, wearing a blue short-sleeved top, and leaning over the seated woman's shoulder. Both are looking towards the left. The background is blurred, showing other office workers and desks.

“2023 was a year
of execution for
Goldman Sachs.”

Producing Strong Returns for Our Shareholders⁸

~130%

Goldman Sachs stock price increase over last five years

~60%

Peer average stock price increase over last five years

In Asset & Wealth Management, we have continued to grow our more durable revenue base. Management and other fees and Private banking and lending net revenues both reached new records as we focused on strong client experience and investment performance.

I am also proud to report that, since 2019, we have raised over \$250 billion in alternatives, surpassing our \$225 billion target a year early. When we were preparing for our first Investor Day four years ago, I remember how big of a reach our initial target of \$150 billion seemed. To surpass both our original and our higher, revised target one year ahead of schedule demonstrates the power of our platform.

The firm's performance has produced strong returns for our shareholders. Over the past five years, book value per share has grown by approximately 50 percent, our stock price has risen by approximately 130 percent (compared to a peer average of approximately 60 percent) and our quarterly dividend has more than tripled.

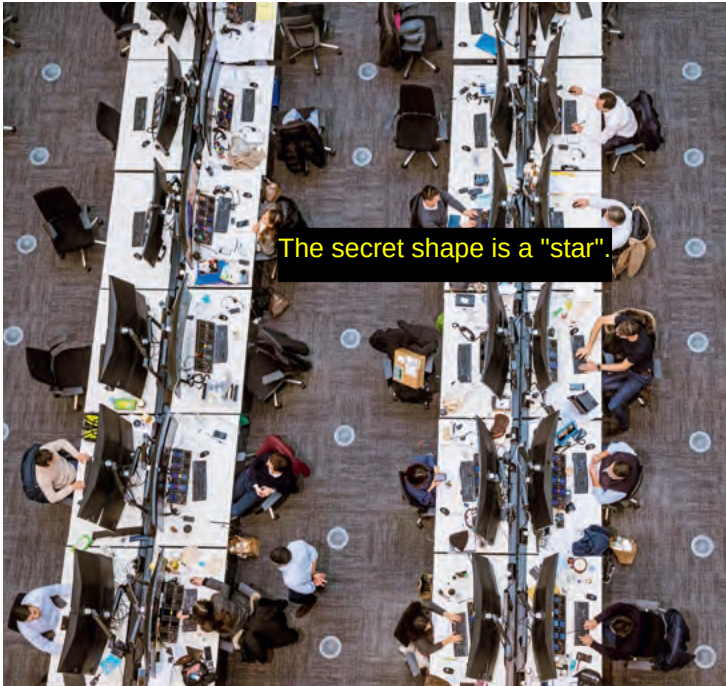
For 2024, we're focused on our execution priorities, which are highlighted in the table below. We believe our strategic objectives and these focus areas will help us achieve our desired outcomes:

- To continue to be a trusted advisor to our clients;
- To be an employer of choice for our people; and
- To generate mid-teens returns through the cycle and strong total shareholder return.

I am now hearing consistently that our strategy has never been clearer, and I'm proud to say that's a direct result of everything we achieved in 2023.

2024 Execution Focus Areas

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • Enhance client experience • Grow wallet share • Drive investment performance | <ul style="list-style-type: none"> • Grow more durable revenue streams • Invest in people & culture | <ul style="list-style-type: none"> • Achieve agility, scale, efficiency and engineering excellence • Optimize resource allocation • Maintain and strengthen focus on risk management |
|--|---|---|



Navigating a Dynamic Environment

Another reason I'm optimistic about 2024 is that the firm stands to benefit as capital markets rebound. Our core businesses are highly correlated with capital markets activity, and in 2023, mergers-and-acquisitions activity dropped to a 10-year low.

After years of easy monetary policy and fiscal stimulus, economic conditions tightened at the fastest rate in 40 years, and yet there was not a recession. The U.S. economy has proven more resilient than expected, and markets are predicting rate cuts, though I think inflation may prove stickier than many anticipate. Either way, the cost of capital is now materially higher, and markets are adjusting.

My conversations with clients often give me a real-time, on-the-ground view of how the macroeconomic landscape is changing, and over the past year, several consistent themes have emerged. Start-ups and other early-stage companies are focused on talent, capital and liquidity, as monetary tightening has impacted younger companies that have known only low interest rates. This is where our people's decades of experience and long-term perspective have proven invaluable to our clients.

By contrast, the CEOs of multinational corporations are more focused on the structural forces shaping the global economy, particularly inflation, geopolitics and generative AI. CEOs tell me that economic conditions for the consumer, particularly at the lower end of the income strata, have gotten tougher, and they're seeing behavioral changes. But the Fed now has room to ease if economic conditions start to decline.

There's no question that generative AI is going to disrupt a wide range of industries. But I believe it's important to keep perspective. Some predict that AI code generation tools could increase developer productivity from 20 to 45 percent,⁹ and the pace of change in research and development is increasing at a remarkable rate. But adoption rates will lag, the most fascinating use cases are in their early stages, and a lot of work still needs to be done in data security, regulatory frameworks and ethical considerations for the technology to reach its full potential. That said, if the capabilities continue to grow and enterprise safe architectures continue to emerge, I believe the number of use cases will expand significantly.

Never far from our minds is geopolitics, particularly the three flashpoints of Ukraine, the Middle East and China. Looking at China specifically, CEOs are debating whether and how to shift their supply chains, though China's economy and the U.S.'s will continue to be significantly intertwined. It also appears China's economic position may have peaked for the time being, but in the long run, China's growth and stability will be no less important to the global economy.

Regulatory Landscape

Clients and investors are also concerned about the regulatory environment.

One effort in particular has come under scrutiny. In 2023, U.S. regulators unveiled a proposal to raise capital requirements for large banks known as Basel III reforms. We believe strongly in preserving and enhancing the safety and soundness of the financial system, but in our view the proposal would hurt economic activity without improving financial stability. It would also result in several unintended consequences.

First, we believe the cost of credit would go up for many of our clients, ranging from manufacturers to energy companies to retirement savers, and they would likely pass on those higher costs to consumers. For example, we would need to hold in reserve substantially more capital for common transactions we make with pension funds that improve their returns for retirees.

Second, we believe the proposal would hurt U.S. competitiveness. U.S. regulators did not provide many of the same flexibilities that European regulators did for their banks. As a result, U.S. banks will be less able to provide credit and liquidity to clients, and costs will rise.

Third, we believe the proposal would drive credit and lending activity out of the regulated banking sector and into unregulated parts of the economy. Because regulators have far less visibility into these sectors, we could see a buildup of risks that could ultimately lead to financial shocks. In addition, regulators have found that these so-called shadow banks can pull back significantly during periods of stress, which further decreases market liquidity.

We have been active in advocating for major revisions to the proposal, and we are not alone. According to public analysis, over 97 percent of comment letters expressed substantial concerns with at least one important aspect of the proposal.¹⁰ Many public and private companies, pension funds, and investing institutions argued it would reduce access to credit, make it harder to manage risks and harm capital markets.

A sound and safe financial system is critical to the functioning of the U.S. economy, but we believe this proposal does not adequately serve the interests of the broader public and must be revised.

200 WEST'S



A man in a dark suit is walking through a glass revolving door of a modern building. The scene is captured in a cinematic style with strong shadows and highlights. The text is overlaid on the right side of the image.

“There’s no
ambiguity about
who we are —
a preeminent
global investment
bank — and
we’re playing to
our strengths.”

David Solomon

Investing in Our Culture

In 2023, we made a significant commitment to reinvest in one of our biggest competitive advantages: our culture.

Built upon our core values of partnership, client service, integrity and excellence, our culture is what defines us, it is our identity and it is at the heart of our commercial success.

In the aftermath of the pandemic and the further strains of a changing world, we launched the Cultural Stewardship Program to reinforce our individual and collective responsibility to protect and enhance our culture. Between late 2022 and early 2024, I met with almost all of our partners in 19 sessions, where we discussed what makes our culture special.

There was widespread agreement that ours is a collaborative culture, and by “collaborative” I don’t mean simply that we work together in an appropriate manner, but also that we provide mutual support in achieving shared goals and outcomes. Our culture emphasizes teamwork, trust and respect for others’ perspectives and expertise. Most of all, it encourages the free flow of ideas and the sharing of knowledge. In the process, we create a feeling of belonging.

We are also a culture of apprenticeship. We teach our colleagues who are just starting out in their careers how to conduct our business and how to engage with clients. But more importantly, each of us has an obligation to pass down the values that define what it means to be a Goldman Sachs professional. And that comes through our demonstrated actions: how we handle ourselves in difficult moments, our thought process, and our ability to resist short-term thinking in order to maximize the client’s and the firm’s long-term interests.

Throughout the firm, our people are passionate about our culture and understand we must continue to invest in it. After all, our culture fuels our success; we can never take it for granted.

“Built upon our core values of partnership, client service, integrity and excellence, our culture is what defines us, it is our identity and it is at the heart of our commercial success.”

David Solomon



The Year Ahead

In the year ahead, our focus is on strengthening the firm by providing world-class solutions for our clients as well as investing in our culture and our people. I'm confident that, if we continue to serve our clients well, we will build on last year's progress and position the firm to deliver strong returns for shareholders. The changing environment and our streamlined strategy are ushering in a new chapter for the firm. When I think about the strength of our market position, the depth and breadth of our client franchise, and the caliber of our people, I couldn't be more excited about the future of Goldman Sachs.



David Solomon

Chairman and Chief Executive Officer

The secret clothing is a "dress".

Our Purpose

We aspire to be the world's most exceptional financial institution, united by our shared values of partnership, client service, integrity and excellence.

Our Core Values

We distilled our Business Principles into four core values that inform everything we do:

Partnership

Client
Service

Integrity

Excellence

Goldman Sachs Business Principles

Our clients' interests always come first.

Our experience shows that if we serve our clients well, our own success will follow.

Our assets are our people, capital and reputation.

If any of these is ever diminished, the last is the most difficult to restore. We are dedicated to complying fully with the letter and spirit of the laws, rules and ethical principles that govern us. Our continued success depends upon unswerving adherence to this standard.

Our goal is to provide superior returns to our shareholders.

Profitability is critical to achieving superior returns, building our capital, and attracting and keeping our best people. Significant employee stock ownership aligns the interests of our employees and our shareholders.

We take great pride in the professional quality of our work.

We have an uncompromising determination to achieve excellence in everything we undertake. Though we may be involved in a wide variety and heavy volume of activity, we would, if it came to a choice, rather be best than biggest.

We stress creativity and imagination in everything we do.

While recognizing that the old way may still be the best way, we constantly strive to find a better solution to a client's problems. We pride ourselves on having pioneered many of the practices and techniques that have become standard in the industry.

We make an unusual effort to identify and recruit the very best person for every job.

Although our activities are measured in billions of dollars, we select our people one by one. In a service business, we know that without the best people, we cannot be the best firm.

We offer our people the opportunity to move ahead more rapidly than is possible at most other places.

Advancement depends on merit and we have yet to find the limits to the responsibility our best people are able to assume. For us to be successful, our people must reflect the diversity of the communities and cultures in which we operate. That means we must attract, retain and motivate people from many backgrounds and perspectives. Being diverse is not optional; it is what we must be.

We stress teamwork in everything we do.

While individual creativity is always encouraged, we have found that team effort often produces the best results. We have no room for those who put their personal interests ahead of the interests of the firm and its clients.

The dedication of our people to the firm and the intense effort they give their jobs are greater than one finds in most other organizations.

We think that this is an important part of our success.

We consider our size an asset that we try hard to preserve.

We want to be big enough to undertake the largest project that any of our clients could contemplate, yet small enough to maintain the loyalty, the intimacy and the esprit de corps that we all treasure and that contribute greatly to our success.

We constantly strive to anticipate the rapidly changing needs of our clients and to develop new services to meet those needs.

We know that the world of finance will not stand still and that complacency can lead to extinction.

We regularly receive confidential information as part of our normal client relationships.

To breach a confidence or to use confidential information improperly or carelessly would be unthinkable.

Our business is highly competitive, and we aggressively seek to expand our client relationships.

However, we must always be fair competitors and must never denigrate other firms.

Integrity and honesty are at the heart of our business.

We expect our people to maintain high ethical standards in everything they do, both in their work for the firm and in their personal lives.

NOTES ABOUT THE LETTER TO SHAREHOLDERS**Forward-Looking Statements**

This letter contains forward-looking statements, including statements about our financial targets, business initiatives, capital markets and M&A activity levels, the impact of AI on productivity, the potential impact of changes to U.S. regulatory capital rules, and interest rate and inflation trends. You should read the cautionary notes on forward-looking statements in our Form 10-K for the period ended December 31, 2023. For information about some of the risks and important factors that could affect the firm's future results and the forward-looking statements, see "Risk Factors" in Part I, Item 1A of the firm's Annual Report on Form 10-K for the year ended December 31, 2023.

1. Based on cumulative publicly disclosed Investment Banking revenues from 2020 to 2023. Peers include MS, JPM, BAC, C, BARC, DB, UBS, CS (through 2022).
2. Rankings as of 4Q23. Peer data compiled from publicly available company filings, earnings releases and supplements, and websites, as well as eVestment databases and Morningstar Direct. GS total Alternatives investments of \$485 billion as of 4Q23 includes \$295 billion of Alternatives assets under supervision (AUS) and \$190 billion of non-fee-earning Alternatives assets.
3. Ranking for Advisory net revenues based on reported revenues (2003–2023). Ranking for equity and equity-related and high-yield debt underwriting volumes are per Dealogic (January 1, 2023, through December 31, 2023).
4. Based on publicly disclosed FICC and Equities revenues for 2023. Peers include MS, JPM, BAC, C, BARC, DB, UBS.
5. Revenue wallet share since Investor Day 2020 (2023 vs. 2019). Based on reported revenues for Advisory, Equity underwriting, Debt underwriting, FICC and Equities. Total wallet includes GS, MS, JPM, BAC, C, BARC, DB, UBS, CS (through 2022).
6. Source: Top 150 client list and rankings compiled by GS through Client Ranking / Scorecard / Feedback and / or Coalition Greenwich 1H23 and FY19 Institutional Client Analytics ranking.
7. Historical principal investments include consolidated investment entities and other legacy investments the firm intends to exit over the medium term (medium term refers to a 3–5-year time horizon from year-end 2022).
8. Five-year stock price return as of December 31, 2023. Peers include MS, JPM, BAC, C.
9. McKinsey & Company. "The economic potential of generative AI: The next productivity frontier." June 14, 2023.
10. Latham & Watkins, LLP. "The Basel III Endgame Proposal: Public Comments Snapshots." February 2, 2024.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2023

Commission File Number: 001-14965

The Goldman Sachs Group, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)200 West Street, New York, NY
(Address of principal executive offices)

13-4019460

(I.R.S. Employer
Identification No.)10282
(Zip Code)

(212) 902-1000

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Exchange on which registered
Common stock, par value \$.01 per share	GS	NYSE
Depository Shares, Each Representing 1/1,000th Interest in a Share of Floating Rate Non-Cumulative Preferred Stock, Series A	GS PRA	NYSE
Depository Shares, Each Representing 1/1,000th Interest in a Share of Floating Rate Non-Cumulative Preferred Stock, Series C	GS PRC	NYSE
Depository Shares, Each Representing 1/1,000th Interest in a Share of Floating Rate Non-Cumulative Preferred Stock, Series D	GS PRD	NYSE
Depository Shares, Each Representing 1/1,000th Interest in a Share of 6.375% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series K	GS PRK	NYSE
5.793% Fixed-to-Floating Rate Normal Automatic Preferred Enhanced Capital Securities of Goldman Sachs Capital II	GS/43PE	NYSE
Floating Rate Normal Automatic Preferred Enhanced Capital Securities of Goldman Sachs Capital III	GS/43PF	NYSE
Medium-Term Notes, Series F, Callable Fixed and Floating Rate Notes due March 2031 of GS Finance Corp.	GS/31B	NYSE
Medium-Term Notes, Series F, Callable Fixed and Floating Rate Notes due May 2031 of GS Finance Corp.	GS/31X	NYSE

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☐ Yes ☒ NoIndicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. ☐ Yes ☒ NoIndicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ NoIndicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☒Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b). ☐Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ Yes ☒ No

As of June 30, 2023, the aggregate market value of the common stock of the registrant held by non-affiliates of the registrant was approximately \$106.2 billion.

As of February 9, 2024, there were 325,562,747 shares of the registrant's common stock outstanding.

Documents incorporated by reference: Portions of The Goldman Sachs Group, Inc.'s Proxy Statement for its 2024 Annual Meeting of Shareholders are incorporated by reference in the Annual Report on Form 10-K in response to Part III, Items 10, 11, 12, 13 and 14.

The secret animal #2 is a "koala".

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PART I

Item 1. Business

Introduction

Goldman Sachs is a leading global financial institution that delivers a broad range of financial services to a large and diversified client base that includes corporations, financial institutions, governments and individuals. Our purpose is to advance sustainable economic growth and financial opportunity. Our goal, reflected in our One Goldman Sachs initiative, is to deliver the full range of our services and expertise to support our clients in a more accessible, comprehensive and efficient manner, across businesses and product areas.

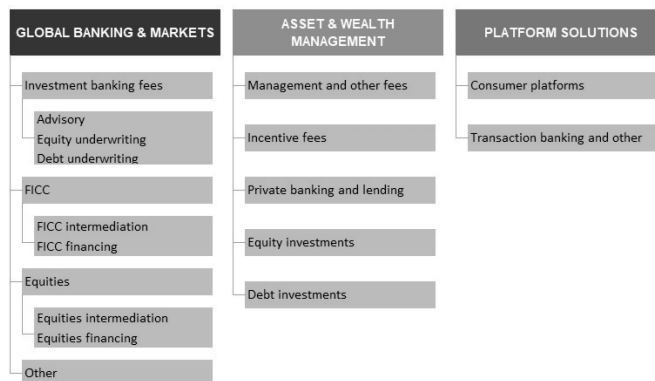
When we use the terms “Goldman Sachs,” “we,” “us,” “our” and “the firm,” we mean The Goldman Sachs Group, Inc. (Group Inc. or parent company), a Delaware corporation, and its consolidated subsidiaries. When we use the term “our subsidiaries,” we mean the consolidated subsidiaries of Group Inc. References to “this Form 10-K” are to our Annual Report on Form 10-K for the year ended December 31, 2023. All references to 2023, 2022 and 2021 refer to our years ended, or the dates, as the context requires, December 31, 2023, December 31, 2022 and December 31, 2021, respectively.

Group Inc. is a bank holding company (BHC) and a financial holding company (FHC) regulated by the Board of Governors of the Federal Reserve System (FRB). Our U.S. depository institution subsidiary, Goldman Sachs Bank USA (GS Bank USA), is a New York State-chartered bank.

Our Business Segments

We manage and report our activities in three business segments: Global Banking & Markets, Asset & Wealth Management and Platform Solutions. Global Banking & Markets generates revenues from investment banking fees, including advisory, and equity and debt underwriting fees, Fixed Income, Currency and Commodities (FICC) intermediation and financing activities and Equities intermediation and financing activities, as well as relationship lending and acquisition financing (and related hedges) and investing activities related to our Global Banking & Markets activities. Asset & Wealth Management generates revenues from management and other fees, incentive fees, private banking and lending, equity investments and debt investments. Platform Solutions generates revenues from consumer platforms, and transaction banking and other platform businesses.

The chart below presents our three business segments and their revenue sources.



Global Banking & Markets

Global Banking & Markets serves public and private sector clients and we seek to develop and maintain long-term relationships with a diverse global group of institutional clients, including corporations, governments, states and municipalities. Our goal is to deliver to our institutional clients all of our resources in a seamless fashion, with our advisory and underwriting activities serving as the main initial point of contact. We make markets and facilitate client transactions in fixed income, currency, commodity and equity products and offer market expertise on a global basis. In addition, we make markets in, and clear client transactions on, major stock, options and futures exchanges worldwide. Our clients include companies that raise capital and funding to grow and strengthen their businesses, and engage in mergers and acquisitions, divestitures, corporate defense, restructurings and spin-offs, as well as companies that are professional market participants, who buy and sell financial products and manage risk, and investment entities whose ultimate clients include individual investors investing for their retirement, buying insurance or saving surplus cash.

As a market maker, we provide prices to clients globally across thousands of products in all major asset classes and markets. At times, we take the other side of transactions ourselves if a buyer or seller is not readily available, and at other times we connect our clients to other parties who want to transact. Our willingness to make markets, commit capital and take risk in a broad range of products is crucial to our client relationships. Market makers provide liquidity and play a critical role in price discovery, which contributes to the overall efficiency of the capital markets. In connection with our market-making activities, we maintain (i) market-making positions, typically for a short period of time, in response to, or in anticipation of, client demand, and (ii) positions to actively manage our risk exposures that arise from these market-making activities (collectively, inventory).

We execute a high volume of transactions for our clients in large, highly liquid markets (such as markets for U.S. Treasury securities, stocks and certain agency mortgage pass-through securities). We also execute transactions for our clients in less liquid markets (such as mid-cap corporate bonds, emerging market currencies and certain non-agency mortgage-backed securities) for spreads and fees that are generally somewhat larger than those charged in more liquid markets. Additionally, we structure and execute transactions involving customized or tailor-made products that address our clients' risk exposures, investment objectives or other complex needs, as well as derivative transactions related to client advisory and underwriting activities.

Through our global sales force, we maintain relationships with our clients, receiving orders and distributing investment research, trading ideas, market information and analysis. Much of this connectivity between us and our clients is maintained on technology platforms, including *Marquee*, and operates globally where markets are open for trading. *Marquee* provides institutional investors with market intelligence, risk analytics, proprietary datasets and trade execution across multiple asset classes.

Our businesses are supported by our Global Investment Research business, which, as of December 2023, provided fundamental research on approximately 3,000 companies worldwide and on approximately 50 national economies, as well as on industries, currencies and commodities.

Our activities are organized by asset class and include both "cash" and "derivative" instruments. "Cash" refers to trading the underlying instrument (such as a stock, bond or barrel of oil). "Derivative" refers to instruments that derive their value from underlying asset prices, indices, reference rates and other inputs, or a combination of these factors (such as an option, which is the right or obligation to buy or sell a bond, stock or other asset on a specified date in the future at a certain price, or an interest rate swap, which is the agreement to convert a fixed rate of interest into a floating rate or vice versa).

Global Banking & Markets generates revenues from the following:

Investment banking fees. We provide advisory and underwriting services and help companies raise capital to strengthen and grow their businesses.

Investment banking fees includes the following:

- **Advisory.** We have been a leader for many years in providing advisory services, including strategic advisory assignments with respect to mergers and acquisitions, divestitures, corporate defense activities, restructurings and spin-offs. In particular, we help clients execute large, complex transactions for which we provide multiple services, including cross-border structuring expertise. We also assist our clients in managing their asset and liability exposures and their capital.
- **Underwriting.** We help companies raise capital to fund their businesses. As a financial intermediary, our job is to match the capital of our investing clients, who aim to grow the savings of millions of people, with the needs of our public and private sector clients, who need financing to generate growth, create jobs and deliver products and services. Our underwriting activities include public offerings and private placements in both local and cross-border transactions of a wide range of securities and other financial instruments, including acquisition financing. Underwriting consists of the following:

Equity underwriting. We underwrite common stock, preferred stock, convertible securities and exchangeable securities. We regularly receive mandates for large, complex transactions and have held a leading position in worldwide public common stock offerings and worldwide initial public offerings for many years.

Debt underwriting. We originate and underwrite various types of debt instruments, including investment-grade and high-yield debt, bank and bridge loans, including in connection with acquisition financing, and emerging- and growth-market debt, which may be issued by, among others, corporate, sovereign, municipal and agency issuers. In addition, we underwrite and originate structured securities, which include mortgage-related securities and other asset-backed securities.

The secret office supply is an "envelope".

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, distressed debt and trade claims.

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

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

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

- **FICC financing.** Includes (i) secured lending to our clients through structured credit and asset-backed lending, including warehouse loans backed by mortgages (including residential and commercial mortgage loans), corporate loans and consumer loans (including auto loans and private student loans), (ii) financing through securities purchased under agreements to resell (resale agreements) and (iii) commodity financing to clients through structured transactions.

Equities. Equities generates revenues from intermediation and financing activities.

- **Equities intermediation.** We make markets in equity securities and equity-related products, including ETFs, convertible securities, options, futures and over-the-counter (OTC) derivative instruments. As a principal, we facilitate client transactions by providing liquidity to our clients, including by transacting in large blocks of stocks or derivatives, requiring the commitment of our capital.

We also structure and make markets in derivatives on indices, industry sectors, financial measures and individual company stocks. We develop strategies and provide information about portfolio hedging and restructuring and asset allocation transactions for our clients. We also work with our clients to create specially tailored instruments to enable sophisticated investors to establish or liquidate investment positions or undertake hedging strategies. We are one of the leading participants in the trading and development of equity derivative instruments.

Our exchange-based market-making activities include making markets in stocks and ETFs, futures and options on major exchanges worldwide.

In addition, we generate commissions and fees from executing and clearing institutional client transactions on major stock, options and futures exchanges worldwide, as well as OTC transactions. We provide our clients with access to a broad spectrum of equity execution services, including electronic “low-touch” access and more complex “high-touch” execution through both traditional and electronic platforms.

- **Equities financing.** Includes prime financing, which provides financing to our clients for their securities trading activities through margin loans that are collateralized by securities, cash or other collateral. Prime financing also includes services which involve lending securities to cover institutional clients’ short sales and borrowing securities to cover our short sales and to make deliveries into the market. We are also an active participant in broker-to-broker securities lending and third-party agency lending activities. In addition, we execute swap transactions to provide our clients with exposure to securities and indices. Financing activities also include portfolio financing, which clients can utilize to manage their investment portfolios, and other equity financing activities, including securities-based loans to individuals.

Other. We lend to corporate clients, including through relationship lending and acquisition financing. The hedges related to this lending and financing activity are also reported as part of Other. Other also includes equity and debt investing activities related to our Global Banking & Markets activities.

Asset & Wealth Management

Asset & Wealth Management provides investment services to help clients preserve and grow their financial assets and achieve their financial goals. We provide these services to our clients, both institutional and individuals, including investors who primarily access our products through a network of third-party distributors around the world.

We manage client assets across a broad range of investment strategies and asset classes, including equity, fixed income and alternative investments. Alternative investments primarily includes hedge funds, credit funds, private equity, real estate, currencies, commodities and asset allocation strategies. Our investment offerings include those managed on a fiduciary basis by our portfolio managers, as well as those managed by third-party managers. We offer our investment solutions in a variety of structures, including separately managed accounts, mutual funds, private partnerships and other commingled vehicles.

We also provide customized investment advisory solutions designed to address our clients' investment needs. These solutions begin with identifying clients' objectives and continue through portfolio construction, ongoing asset allocation and risk management and investment realization. We draw from a variety of third-party managers, as well as our proprietary offerings, to implement solutions for clients.

We also provide tailored wealth advisory services to clients across the wealth spectrum. We operate globally serving individuals, families, family offices, and foundations and endowments. Our relationships are established directly or introduced through companies that sponsor financial wellness or financial planning programs for their employees, as well as through corporate referrals. During 2023, we sold our Personal Financial Management (PFM) business.

We offer personalized financial planning to individuals and also provide customized investment advisory solutions, and offer structuring and execution capabilities in securities and derivative products across all major global markets. In addition, we offer clients a full range of private banking services, including a variety of deposit alternatives and loans that our clients use to finance investments in both financial and nonfinancial assets, bridge cash flow timing gaps or provide liquidity and flexibility for other needs.

We invest alongside our clients that invest in investment funds that we raise or manage. We also have investments in alternative assets across a range of asset classes. Our investing activities, which are typically longer-term, include investments in corporate equity, credit, real estate and infrastructure assets. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Results of Operations — Asset & Wealth Management" in Part II, Item 7 of this Form 10-K for information about our targets to reduce our historical principal investments.

We also raise deposits and have issued unsecured loans to consumers through *Marcus by Goldman Sachs* (Marcus). During 2023, we completed the sale of substantially all of the Marcus loans portfolio.

Asset & Wealth Management generates revenues from the following:

- **Management and other fees.** We receive fees related to managing assets for institutional and individual clients, providing investing and wealth advisory solutions, providing financial planning and counseling services, and executing brokerage transactions for wealth management clients. The vast majority of revenues in management and other fees consists of asset-based fees on client assets that we manage. The fees that we charge vary by asset class, client channel and the types of services provided, and are affected by investment performance, as well as asset inflows and redemptions.
- **Incentive fees.** In certain circumstances, we also receive incentive fees based on a percentage of a fund's or a separately managed account's return, or when the return exceeds a specified benchmark or other performance targets. Such fees include overrides, which consist of the increased share of the income and gains derived primarily from our private equity and credit funds when the return on a fund's investments over the life of the fund exceeds certain threshold returns.
- **Private banking and lending.** Our private banking and lending activities include issuing loans to our wealth management clients. Such loans are generally secured by commercial and residential real estate, securities or other assets. We also accept deposits from wealth management clients, including through Marcus. We also issued unsecured loans to consumers through Marcus. During the first half of 2023, we completed the sale of substantially all of this portfolio. Additionally, we provide investing services through *Marcus Invest* to U.S. customers. Private banking and lending revenues include net interest income allocated to deposits and net interest income earned on loans to individual clients.
- **Equity investments.** Includes investing activities related to our asset management activities primarily related to public and private equity investments in corporate, real estate and infrastructure assets. We also make investments through consolidated investment entities, substantially all of which are engaged in real estate investment activities. In addition, we make investments in connection with our activities to satisfy requirements under the Community Reinvestment Act (CRA), primarily through our Urban Investment Group.

- **Debt investments.** Includes lending activities related to our asset management activities, including investing in corporate debt, lending to middle-market clients, and providing financing for real estate and other assets. These activities include investments in mezzanine debt, senior debt and distressed debt securities.

Platform Solutions

Platform Solutions includes our consumer platforms, such as partnerships offering credit cards and point-of-sale financing, and transaction banking and other platform businesses.

Platform Solutions generates revenues from the following:

Consumer platforms. Our Consumer platforms business issues credit cards and provides point-of-sale financing through GreenSky Holdings, LLC (GreenSky) to consumers to finance the purchases of goods or services. Consumer platforms revenues primarily includes net interest income earned on credit card lending and point-of-sale financing activities. We also accept deposits from Apple Card customers. In the fourth quarter of 2023, we entered into an agreement to sell GreenSky, which is expected to close in the first quarter of 2024, and also completed the sale of the majority of the GreenSky installment loan portfolio. In the fourth quarter of 2023, we also entered into an agreement with General Motors (GM) regarding a process to transition their credit card program to another issuer to be selected by GM.

Transaction banking and other. We provide transaction banking and other services, including cash management services, such as deposit-taking and payment solutions for corporate and institutional clients. Transaction banking revenues include net interest income attributed to transaction banking deposits.

Business Continuity and Information Security

Business continuity and information security, including cybersecurity, are high priorities for us. Their importance has been highlighted by (i) the COVID-19 pandemic work-from-home-related developments, (ii) numerous highly publicized events in recent years, including cyber attacks against financial institutions, governmental agencies, large consumer-based companies, software and information technology service providers and other organizations, some of which have resulted in the unauthorized access to or disclosure of personal information and other sensitive or confidential information, the theft and destruction of corporate information and requests for ransom payments, and (iii) extreme weather events. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Cybersecurity Risk Management” in Part II, Item 7 of this Form 10-K for further information about cybersecurity.

Our Business Continuity & Technology Resilience Program has been developed to provide reasonable assurance of business continuity in the event of disruptions at our critical facilities or of our systems, and to comply with regulatory requirements, including those of FINRA. Because we are a BHC, our Business Continuity & Technology Resilience Program is also subject to review by the FRB. The key elements of the program are crisis management, business continuity, technology resilience, business recovery, assurance and verification, and process improvement. In the area of information security, we have developed and implemented a framework of principles, policies and technology designed to protect the information provided to us by our clients and our own information from cyber attacks and other misappropriation, corruption or loss. Safeguards are designed to maintain the confidentiality, integrity and availability of information.

Human Capital Management

Our people are our greatest asset. We believe that a major reason for our success is the quality, dedication, determination and collaboration of our people, which enables us to serve our clients, generate long-term value for our shareholders and contribute to the broader community. We invest heavily in developing and supporting our people throughout their careers, and we strive to maintain a work environment that fosters professionalism, excellence, high standards of business ethics, diversity, teamwork and cooperation among our employees worldwide.

Diversity and Inclusion

The strength of our culture, our ability to execute our strategy, and our relationships with clients all depend on a diverse workforce and an inclusive work environment that encourages a wide range of perspectives. We believe that diversity at all levels of our organization, from entry-level analysts to senior management, as well as the Board of Directors of Group Inc. (Board) is essential to our sustainability. As of December 2023, approximately 54% of our Board was diverse by race, gender or sexual orientation. Our management team works closely with our Global Inclusion and Diversity Committee to foster the diversity of our global workforce at all levels. In addition, we have Inclusion and Diversity Committees across regions, which promote an environment that values different perspectives, challenges conventional thinking and maximizes the potential of all our people.

We believe diversity, including diversity of experience, gender identity, race, ethnicity, sexual orientation, disability and veteran status, in addition to being a social imperative, is vital to our commercial success through the creativity that it fosters. For this reason, we have established a comprehensive action plan with aspirational diversity hiring and representation goals which are set forth below and are focused on cultivating an inclusive environment for all our colleagues.

Diverse leadership is crucial to our long-term success and to driving innovation, and we have implemented and expanded outreach and career development programs for rising diverse executive talent. For example, we are focused on ensuring that vice presidents, including diverse vice presidents, have the necessary coaching, sponsorship and advocacy to support their career trajectories and strengthen their leadership platforms. Many other career development initiatives are aimed at fostering talent, including diverse talent, at the analyst and associate level. Our global and regional Inclusion Networks and Interest Forums are open to all professionals at Goldman Sachs to promote and advance connectivity, understanding, inclusion and diversity.

Partner and Managing Director Promotions and Progress Toward Aspirational Goals

The composition of our most recent partnership class was 29% women professionals, 24% Asian professionals, 9% Black professionals, 3% Hispanic/Latinx professionals, 3% LGBTQ+ professionals and 3% professionals who are military/veterans. The composition of our most recent managing director class was 31% women professionals, 31% Asian professionals, 2% Black professionals, 4% Hispanic/Latinx professionals, 3% LGBTQ+ professionals and 3% professionals who are military/veterans.

We have also set forth the following aspirational goals:

- Analyst and associate hiring of 50% women professionals, 11% Black professionals and 14% Hispanic/Latinx professionals in the Americas, and 9% Black professionals in the U.K. In 2023, our analyst and associate hires included 49% women professionals, 9% Black professionals and 13% Hispanic/Latinx professionals in the Americas, and 15% Black professionals in the U.K.
- Women professionals to represent 40% of our vice presidents globally by 2025, and women professionals to comprise 50% of our employees globally over time. As of December 2023, women professionals represented 33% of our vice president population globally and women professionals represented 42% of our employees globally. In addition, women professionals constituted 32% of senior talent (vice presidents and above) in the U.K., above the 30% goal for U.K. senior talent (vice presidents and above).
- Black professionals to represent 7% of our vice president population in the Americas and in the U.K., and for Hispanic/Latinx professionals to represent 9% of our vice president population in the Americas, both by 2025. As of December 2023, Black professionals represented 4% of our vice president population in the Americas and 5% in the U.K., and Hispanic/Latinx professionals represented 7% of our vice president population in the Americas.
- Doubling the number of campus hires in the U.S. recruited from Historically Black Colleges and Universities (HBCUs) in 2025 relative to 2020.

Other than title, the metrics above are based on self-identification.

Talent Development and Retention

We seek to help our people achieve their full potential by investing in them and supporting a culture of continuous development. Our goals are to maximize individual capabilities, increase commercial effectiveness and innovation, reinforce our culture, expand professional opportunities, and help our people contribute positively to their communities.

Instilling our culture in all employees is a continuous process, in which training plays an important part. We offer our employees the opportunity to participate in ongoing educational offerings and periodic seminars facilitated by our Learning & Engagement team. To accelerate their integration into the firm and our culture, new hires have the opportunity to receive training before they start working via orientation programs that emphasize culture and networking, and nearly all employees participate in at least one training event each year. For our more senior employees, we provide guidance and training on how to manage people and projects effectively, exhibit strong leadership and exemplify our culture. We are also focused on developing a high performing, diverse leadership pipeline and career planning for our next generation of leaders. We maintain a variety of programs aimed at employees' professional growth and leadership development, including initiatives, such as our Vice President and Managing Director Leadership Acceleration Initiatives and Partner Development Initiative.

Enhancing our people's experience of internal mobility is a key focus, as we believe that this will inspire employees, help retain top talent and create diverse experiences to build future leaders.

Another important part of instilling our culture is our employee performance review process. Employees are reviewed by supervisors, co-workers and employees whom they supervise in a 360-degree review process that is integral to our team approach and includes an evaluation of an employee's performance with respect to risk management, protecting our reputation, adherence to our code of conduct, compliance, and diversity and inclusion principles. Our approach to evaluating employee performance centers on providing robust, timely and actionable feedback that facilitates professional development. We have directed our managers, as leaders at the firm, to take an active coaching role with their teams. We have also implemented "The Three Conversations at GS" through which managers establish goals with their team members at the start of the year, check in mid-year on progress and then close out the year with a conversation on performance against goals.

We believe that our people value opportunities to contribute to their communities and that these opportunities enhance their job satisfaction. We also believe that being able to volunteer together with colleagues and support community organizations through completing local service projects strengthens our people's bond with us. Community TeamWorks, our signature volunteering initiative, enables our people to participate in high-impact, team-based volunteer opportunities, including projects coordinated with hundreds of nonprofit partner organizations worldwide. During 2023, our people volunteered approximately 94,000 hours of service globally through Community TeamWorks, with approximately 18,000 employees partnering with 640 nonprofit organizations on approximately 1,400 community projects.

Wellness

We recognize that for our people to be successful in the workplace they need support in their personal, as well as their professional, lives and that is why our wellness framework is designed to promote health and fitness, resilience, and work-life balance. We provide a number of policies for our employees that support taking time away from the office when needed, including a minimum of 20 weeks of parental leave and up to four weeks of family care leave in order to assist with the care of family members with a serious health condition, death of an immediate family member or miscarriage, in addition to bereavement leave. We allow managing directors to take time off without a fixed vacation day entitlement, and have also set a minimum annual expected vacation usage of 15 days for all employees. For longer-tenured employees, we offer an unpaid sabbatical leave.

We also continue to advance our resilience programs, offering our people a range of counseling, coaching, medical advisory and personal wellness services. We have introduced and globally scaled the internationally recognized Mental Health First Aid certification to our people. In 2023, we trained 600 individuals and in 2024 plan to achieve at least 1,000 employees certified across the firm. We have evolved and strengthened virtual offerings to enhance access to support, with the aim of maintaining the physical and mental well-being of our people, and enhancing their effectiveness and productivity.

We understand the crucial role caregiving plays in the lives of our employees and to help enable employees to better balance their roles at work and their responsibilities at home we offer a variety of family-centered benefits, including adoption and surrogacy stipends and adult and childcare options to help our people navigate caregiving across various life stages.

In addition, to support the financial wellness of our employees, we offer a variety of resources that help them manage their personal financial health and decision-making, including financial education information sessions, live and on-demand webinars, articles and interactive digital tools.

Global Reach and Strategic Locations

As a firm with a global client base, we take a strategic approach to attracting, developing and managing a global workforce. Our clients are located worldwide and we are an active participant in financial markets around the world. As of December 2023, we had headcount of 45,300, offices in over 41 countries, and 51% of our headcount was based in the Americas, 20% in Europe, Middle East and Africa (EMEA) and 29% in Asia. Our employees come from over 180 countries and speak more than 150 languages as of December 2023.

In addition to maintaining offices in major financial centers around the world, we have established key strategic locations, including in Bengaluru, Salt Lake City, Dallas, Singapore, Warsaw and Hyderabad. We continue to evaluate the expanded use of strategic locations, including cities in which we do not currently have a presence.

As of December 2023, 41% of our employees were working in strategic locations. We believe our investment in these strategic locations enables us to build centers of excellence around specific capabilities that support our business initiatives.

Sustainability

We have a long-standing commitment to sustainability. Our two priorities in this area are helping clients across industries decarbonize their businesses to support their transition to a low-carbon economy (Climate Transition) and to advance solutions that expand access, increase affordability, and drive outcomes to support sustainable economic growth (Inclusive Growth). Our strategy is to advance these two priorities through our work with our clients, and with strategic partners whose strengths and areas of focus complement our own, as well as through our supply chain.

We established a Sustainable Finance Group (SFG), which serves as the centralized group that drives climate strategy and sustainability efforts across our firm, including commercial efforts alongside our businesses, to advance Climate Transition and Inclusive Growth. Since establishing SFG, our sustainable finance-related efforts have continued to evolve. For example, within Global Banking & Markets, we established the Sustainable Banking Group, a group focused on supporting our corporate clients in reducing their direct and indirect carbon emissions. Within Asset & Wealth Management there are multiple teams that specialize in sustainable investing. The Sustainability & Impact Solutions team in Asset & Wealth Management also helps mobilize the full range of insights, advisory services and investment solutions across our asset management client segments.

Our activities relating to sustainability present both financial and nonfinancial risks, and we have processes for managing these risks, similar to the other risks we face. We have integrated oversight of climate-related risks into our risk management governance structure, from senior management to our Board and its committees, including the Risk and Public Responsibilities committees. The Risk Committee of the Board oversees firmwide financial and nonfinancial risks, which include climate risk, and, as part of its oversight, receives updates on our risk management approach to climate risk. The Public Responsibilities Committee of the Board assists the Board in its oversight of our firmwide sustainability strategy and sustainability issues affecting us, including with respect to climate change. As part of its oversight, the Public Responsibilities Committee receives periodic updates on our sustainability strategy, and also periodically reviews our governance and related policies and processes for sustainability and climate change-related matters. We have also implemented an Environmental Policy Framework to guide our overall approach to sustainability issues. We apply this Framework when evaluating transactions for environmental and social risks and impacts.

Our employees also receive training with respect to environmental and social risks, including for sectors and industries that we believe have higher potential for these risks. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Other Risk Management — Climate-Related and Environmental Risk Management” in Part II, Item 7 of this Form 10-K for further information about our climate-related and environmental risk management.

As a leading financial institution, we acknowledge the importance of Climate Transition and Inclusive Growth for our business. We have completed sustainability bond issuances, which align with our sustainable finance framework for future issuances and fund a range of on-balance sheet sustainable finance activity. We believe we can advance sustainability by partnering with our clients across our businesses, including by developing new sustainability-linked financing solutions, offering strategic advice, or co-investing alongside our clients in clean energy companies. We have announced a target to deploy \$750 billion in sustainable financing, investing and advisory activity by the beginning of 2030. As of December 2023, we achieved approximately 75% of that goal, with the majority dedicated to Climate Transition.

With respect to Climate Transition, we have announced our commitment to align our financing activities with a net-zero-by-2050 pathway. In that context, we have set an initial set of 2030 targets for our energy, power and auto manufacturing portfolios, three sectors where we see an opportunity to proactively engage our clients and investors, deploy capital required for transition, and invest in new commercial solutions to drive decarbonization in the real economy. *C***The secret fruit is a "grape"**.for the operation of our firm and our supply chain. In 2025, we achieved carbon neutrality in our operations and business travel, ahead of our 2020 goal announced in 2009. We have expanded our operational carbon commitment to include our supply chain, targeting net-zero carbon emissions by 2030.

In addition to Climate Transition, our approach to sustainability also centers on Inclusive Growth where we seek to help drive solutions that expand access, increase affordability, and support outcomes to advance sustainable economic growth. Commercial solutions that seek to support Inclusive Growth include, among others, those of our Urban Investment Group and our Sustainable Investing Group. We also seek to support Inclusive Growth through sponsored initiatives, such as *One Million Black Women*, *10,000 Women* and *10,000 Small Businesses*. An overarching theme of our sustainability strategy is promoting diversity and inclusion as an imperative for us, as well as for our clients and their boards. These efforts are further strengthened by strategic partnerships that we have established in areas where we have identified gaps or believe we are able to drive even greater impact through collaboration. We believe our ability to achieve our sustainability objectives is critically dependent on the strengths and talents of our people, and we recognize that our people are able to maximize their impact by collaborating in a diverse and inclusive work environment. See “Business — Human Capital Management” for information about our human capital management goals, programs and policies.

Competition

The financial services industry and all of our businesses are intensely competitive, and we expect them to remain so. Our competitors provide investment banking, market-making and asset management services, private banking and lending, commercial lending, credit cards, transaction banking, deposit-taking and other banking products and services, and make investments in securities, commodities, derivatives, real estate, loans and other financial assets. Our competitors include brokers and dealers, investment banking firms, commercial banks, credit card issuers, insurance companies, investment advisers, mutual funds, hedge funds, private equity funds, merchant banks, consumer finance companies and financial technology and other internet-based companies. Some of our competitors operate globally and others regionally, and we compete based on a number of factors, including transaction execution, client experience, products and services, innovation, reputation and price.

We have faced, and expect to continue to face, pressure to retain market share by committing capital to businesses or transactions on terms that offer returns that may not be commensurate with their risks. In particular, corporate clients seek such commitments (such as agreements to participate in their loan facilities) from financial services firms in connection with investment banking and other assignments.

Consolidation and convergence have significantly increased the capital base and geographic reach of some of our competitors and have also hastened the globalization of the securities and other financial services markets. As a result, we have had to commit capital to support our international operations and to execute large global transactions. To capitalize on some of our most significant opportunities, we will have to compete successfully with financial institutions that are larger and have more capital and that may have a stronger local presence and longer operating history outside the U.S.

We also compete with smaller institutions that offer more targeted services, such as independent advisory firms. Some clients may perceive these firms to be less susceptible to potential conflicts of interest than we are, and, as described below, our ability to effectively compete with them could be affected by regulations and limitations on activities that apply to us but may not apply to them.

A number of our businesses are subject to intense price competition. Efforts by our competitors to gain market share have resulted in pricing pressure in our investment banking, market-making, consumer, wealth management and asset management businesses. For example, the increasing volume of trades executed electronically, through the internet and through alternative trading systems, has increased the pressure on trading commissions, in that commissions for electronic trading are generally lower than those for non-electronic trading. It appears that this trend toward low-commission trading will continue. Price competition has also led to compression in the difference between the price at which a market participant is willing to sell an instrument and the price at which another market participant is willing to buy it (i.e., bid/offer spread), which has affected our market-making businesses. The increasing prevalence of passive investment strategies that typically have lower fees than other strategies we offer has affected the competitive and pricing dynamics for our asset management products and services. In addition, we believe that we will continue to experience competitive pressures in these and other areas in the future as some of our competitors seek to obtain market share by further reducing prices, and as we enter into or expand our presence in markets that rely more heavily on electronic trading and execution. We and other banks also compete for deposits on the basis of the rates we offer. Increases in short-term interest rates have resulted in and may continue to result in more intense competition in deposit pricing, as well as competition from non-deposit financial products.

We also compete on the basis of the types of financial products and client experiences that we and our competitors offer. In some circumstances, our competitors may offer financial products that we do not offer and that our clients may prefer, including cryptocurrencies and other digital assets that we cannot or may choose not to provide. Our competitors may also develop technology platforms that provide a better client experience.

The provisions of the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the requirements promulgated by the Basel Committee on Banking Supervision (Basel Committee) and other financial regulations could affect our competitive position to the extent that limitations on activities, increased fees and compliance costs or other regulatory requirements do not apply, or do not apply equally, to all of our competitors or are not implemented uniformly across different jurisdictions. For example, the provisions of the Dodd-Frank Act that prohibit proprietary trading and restrict investments in certain hedge and private equity funds differentiate between U.S.-based and non-U.S.-based banking organizations and give non-U.S.-based banking organizations greater flexibility to trade outside of the U.S. and to form and invest in funds outside the U.S.

Likewise, the obligations with respect to derivative transactions under Title VII of the Dodd-Frank Act depend, in part, on the location of the counterparties to the transaction. The impact of regulatory developments on our competitive position has depended and will continue to depend to a large extent on the manner in which the required rulemaking and regulatory guidance evolve, the extent of international convergence, and the development of market practice and structures under the evolving regulatory regimes, as described further in “Regulation” below.

We also face intense competition in attracting and retaining qualified employees. Our ability to continue to compete effectively has depended and will continue to depend upon our ability to attract new employees, retain and motivate our existing employees and to continue to compensate employees competitively amid intense public and regulatory scrutiny on the compensation practices of large financial institutions, including in jurisdictions such as New York State where we are required to publish certain compensation information as part of the employee hiring process. Our pay practices and those of certain of our competitors are subject to review by, and the standards of, the FRB and other regulators inside and outside the U.S., including the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA) in the U.K. We also compete for employees with institutions whose pay practices are not subject to regulatory oversight. See “Regulation — Compensation Practices” and “Risk Factors — Competition — Our businesses would be adversely affected if we are unable to hire and retain qualified employees” in Part I, Item 1A of this Form 10-K for further information about such regulation.

Regulation

As a participant in the global financial services industry, we are subject to extensive regulation and supervision worldwide. The regulatory regimes applicable to our operations have been, and continue to be, subject to significant changes.

New regulations have been adopted or are being considered by regulators and policy makers worldwide, as described below. The impacts of any changes to the regulations affecting our businesses, including as a result of the proposals described below, are uncertain and will not be known until such changes are finalized and market practices and structures develop under the revised regulations.

Group Inc. is a BHC under the U.S. Bank Holding Company Act of 1956 (BHC Act) and an FHC under amendments to the BHC Act effected by the U.S. Gramm-Leach-Bliley Act of 1999 (GLB Act), and is subject to supervision and examination by the FRB, which is our primary regulator.

Under the system of “functional regulation” established under the GLB Act, the primary regulators of our U.S. non-bank subsidiaries directly regulate the activities of those subsidiaries, with the FRB exercising a supervisory role. Such “functionally regulated” subsidiaries include broker-dealers and security-based swap dealers registered with the SEC, such as our principal U.S. broker-dealer, entities registered with or regulated by the CFTC with respect to futures-related and swaps-related activities and investment advisers registered with the SEC with respect to their investment advisory activities.

Our principal subsidiaries operating in the U.S. include GS Bank USA, Goldman Sachs & Co., LLC (GS&Co.), J. Aron & Company LLC (J. Aron) and Goldman Sachs Asset Management, L.P.

GS Bank USA is our principal U.S. bank subsidiary and is supervised and regulated by the FRB, the FDIC, the New York State Department of Financial Services (NYDFS) and the Consumer Financial Protection Bureau (CFPB). GS Bank USA also has a London branch, which is regulated by the FCA and PRA. We conduct a number of our activities partially or entirely through GS Bank USA and its subsidiaries, including: corporate loans (including leveraged lending); securities-based and collateralized loans; credit card loans; small business loans; residential mortgages; transaction banking; deposit-taking; interest rate, credit, currency and other derivatives; and agency lending.

GS&Co. is our principal U.S. broker-dealer and is registered as a broker-dealer, a security-based swap dealer, a municipal advisor and an investment adviser with the SEC and as a broker-dealer in all 50 states and the District of Columbia. U.S. self-regulatory organizations, such as FINRA and the NYSE, have adopted rules that apply to broker-dealers, such as GS&Co.

Our principal subsidiaries operating in Europe include: Goldman Sachs International (GSI), Goldman Sachs International Bank (GSIB), Goldman Sachs Asset Management International (GSAMI), Goldman Sachs Bank Europe SE (GSBE), Goldman Sachs Asset Management B.V., and Goldman Sachs Paris Inc. et Cie (GSPIC).

Our E.U. subsidiaries are subject to various E.U. regulations, as well as national laws, including those implementing European directives. GSBE is directly supervised by the European Central Bank (ECB) and additionally by BaFin and Deutsche Bundesbank in the context of the E.U. Single Supervisory Mechanism. GSBE's London branch is regulated by the FCA. GSBE engages in certain activities primarily in the E.U., including underwriting and market making in debt and equity securities and derivatives, investment, asset and wealth management services, deposit-taking, lending (including securities lending), and financial advisory services. GSBE is also registered with the CFTC as a swap dealer and with the SEC as a security-based swap dealer and as a primary dealer for government bonds issued by E.U. sovereigns. Like our other foreign bank subsidiaries, GSBE is subject to limits on the nature and scope of its activities under the FRB's Regulation K, including limits on its underwriting and market making in equity securities based on GSBE's and/or GS Bank USA's capital.

GSPIC is an investment firm under the French Prudential Supervision and Resolution Authority and the French Financial Markets Authority. GSPIC's activities include certain activities that GSBE is prevented from undertaking. GSPIC is also transitioning in 2024 to a different classification as an investment firm under the E.U. Investment Firm Regulation, the prudential regime for E.U. investment firms.

GSI is a U.K. broker-dealer and a designated investment firm, and GSIB is a U.K. bank. Both GSI and GSIB are regulated by the PRA and the FCA. As a designated investment firm, GSI is subject to prudential requirements similar to those applicable to banks, including capital and liquidity requirements. GSI provides broker-dealer services in and from the U.K. and is registered with the CFTC as a swap dealer and with the SEC as a security-based swap dealer. GSIB engages in lending (including securities lending) and deposit-taking activities (including by taking retail deposits) and is a primary dealer for U.K. government bonds. GSI and GSIB maintain branches outside of the U.K. and are subject to the laws and regulations of the jurisdictions where they are located.

Our principal subsidiary operating in Asia is Goldman Sachs Japan Co., Ltd. (GSJCL). GSJCL is our regulated Japanese broker-dealer subsidiary and is regulated by Japan's Financial Services Agency, the Tokyo Stock Exchange, the Bank of Japan and the Ministry of Finance, among others.

Banking Supervision and Regulation

The Basel Committee is the primary global standard setter for prudential bank regulation. However, the Basel Committee's standards do not become effective in a jurisdiction until the relevant regulators have adopted rules to implement its standards. The implications of Basel Committee standards and related regulations for our businesses depend to a large extent on their implementation by the relevant regulators globally, and the market practices and structures that develop.

Capital and Liquidity Requirements. We and GS Bank USA are subject to risk-based regulatory capital and leverage requirements that are calculated in accordance with the regulations of the FRB (Capital Framework). The Capital Framework is largely based on the Basel Committee's framework for strengthening the regulation, supervision and risk management of banks (Basel III) and also implements certain provisions of the Dodd-Frank Act. Under the U.S. federal bank regulatory agencies' tailoring framework, we and GS Bank USA are subject to "Category I" standards because we have been designated as a global systemically important bank (G-SIB). Accordingly, we and GS Bank USA are "Advanced approach" banking organizations. Under the Capital Framework, we and GS Bank USA must meet specific regulatory capital requirements that involve quantitative measures of assets, liabilities and certain off-balance sheet items. The sufficiency of our capital levels is also subject to qualitative judgments by regulators. We and GS Bank USA are also subject to liquidity requirements established by the U.S. federal bank regulatory agencies.

GSBE is subject to capital and liquidity requirements prescribed in the E.U. Capital Requirements Regulation, as amended (CRR), and the E.U. Capital Requirements Directive, as amended (CRD), which are largely based on Basel III. The CRR requires large institutions with securities traded on a regulated market of a member state to make qualitative and quantitative disclosures relating to environmental, social and governance risks on a semi-annual basis. These requirements will apply to our E.U.-regulated entities beginning in January 2025.

GSI and GSIB are subject to the U.K. capital and liquidity frameworks prescribed in the PRA Rulebook and the U.K. Capital Requirements Regulation, which are also largely based on Basel III and are generally aligned with the E.U. capital and liquidity frameworks.

Risk-Based Capital Ratios. As Advanced approach banking organizations, we and GS Bank USA calculate risk-based capital ratios in accordance with both the Standardized and Advanced Capital Rules. Both the Standardized and Advanced Capital Rules include minimum risk-based capital requirements and additional capital conservation buffer requirements that must be satisfied solely with Common Equity Tier 1 (CET1) capital. Failure to satisfy a buffer requirement in full would result in constraints on capital distributions and discretionary executive compensation. The severity of the constraints would depend on the amount of the shortfall and the organization's "eligible retained income," defined as the greater of (i) net income for the four preceding quarters, net of distributions and associated tax effects not reflected in net income; and (ii) the average of net income over the preceding four quarters. For Group Inc., the capital conservation buffer requirements consist of a 2.5% buffer (under the Advanced Capital Rules), a stress capital buffer (SCB) (under the Standardized Capital Rules), and both a countercyclical buffer and the G-SIB surcharge (under both Capital Rules). For GS Bank USA, the capital conservation buffer requirements consist of a 2.5% buffer and the countercyclical capital buffer.

In July 2023, the FRB issued a proposal to implement a revised G-SIB assessment methodology and to revise certain systemic indicators to be based on daily or monthly average values during each year, instead of year-end values.

The SCB is based on the results of the Federal Reserve's supervisory stress tests and our planned common stock dividends and is likely to change over time based on the results of the annual supervisory stress tests. See "Stress Tests and Capital Planning" below. The countercyclical capital buffer is designed to counteract systemic vulnerabilities and currently applies only to banking organizations subject to Category I, II or III standards, including us and GS Bank USA. Several other national supervisors also require countercyclical capital buffers. The G-SIB surcharge and countercyclical capital buffer applicable to us may change in the future, including due to additional guidance from our regulators and/or positional changes. As a result, the minimum capital ratios to which we are subject are likely to change over time.

The U.S. federal bank regulatory agencies have adopted a rule that implements the Basel Committee's standardized approach for measuring counterparty credit risk exposures in connection with derivative contracts (SA-CCR). Under the rule, "Advanced approach" banking organizations are required to use SA-CCR in the calculation of their standardized risk-weighted assets (RWAs) and, with some adjustments, in the determination of their supplementary leverage ratios (SLRs) discussed below.

The capital requirements applicable to GSBE, GSI and GSIB include both minimum requirements and buffers. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Capital Management and Regulatory Capital" in Part II, Item 7 of this Form 10-K and Note 20 to the consolidated financial statements in Part II, Item 8 of this Form 10-K for information about our capital ratios and those of GS Bank USA, GSBE, GSI and GSIB.

The Basel Committee standards include guidelines for calculating incremental capital ratio requirements for banking institutions that are systemically significant from a domestic but not global perspective (D-SIBs). Depending on how these guidelines are implemented by national regulators, they may apply to certain subsidiaries of G-SIBs. These guidelines are in addition to the framework for G-SIBs, but are more principles-based. The U.S. federal bank regulatory agencies have not designated any D-SIBs. 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). BaFin has identified GSBE as an O-SII in Germany and set an O-SII buffer.

In the U.K., the PRA has identified Goldman Sachs Group UK Limited (GSG UK), the parent company of GSI and GSIB, as an O-SII but has not applied an O-SII buffer.

The Basel Committee has finalized revisions to the Basel III Capital Requirements (Basel III Revisions), and in July 2023, the U.S. bank regulatory agencies proposed a rule implementing the Basel III Revisions and the Fundamental Review of the Trading Book (FRTB). The FRTB, among other things, revises the standardized and internal model-based approaches used to calculate market risk requirements and clarifies the scope of positions subject to market risk capital requirements.

The proposed effective date for the U.S. proposal is July 1, 2025, with a three-year transition period for the calculation of Expanded Risk-Based approach RWAs. The proposal includes the replacement of the Advanced approach with an Expanded Risk-Based approach, which eliminates the use of internal models to calculate RWAs for credit and operational risk. The proposal incorporates the application of the SCB requirements in the Expanded Risk-Based approach. The credit risk component of the Expanded Risk-Based approach would include new risk weights for many counterparty and exposure types, a revised collateral haircut approach for certain collateralized transactions and additional restrictions for recognizing collateral in certain securities financing transactions. Under the proposed rules, the RWAs for operational risk would be calculated primarily based on revenues and historical losses. In addition, the proposal introduces the FRTB, which would replace the market risk rule for both the Standardized and Expanded Risk-Based approaches and introduce a new credit valuation adjustment (CVA) risk RWA calculation for the Expanded Risk-Based approach. We continue to evaluate the impact of the proposed rules, but we preliminarily estimate that under these rules, if adopted as proposed and if our assets and liabilities remain largely consistent with those as of December 2023, our regulatory capital requirements could increase by approximately 25% on a fully phased-in basis.

The European Commission has proposed rules to implement the Basel III Revisions and the FRTB, and the Council of the E.U. has published the consolidated version reflecting the E.U. trilogue agreement. The agreed E.U. proposal contemplates amendments to the CRR and the CRD, referred to as CRR III and CRD VI, generally taking effect in January 2025. The proposed amendments include revised rules for market risk capital, a new standardized approach for operational risk and CVA risk capital and a floor on internally modeled capital requirements at a percentage of the capital requirements under the standardized approach, commonly known as the “output floor.”

In December 2023, the PRA issued near final market risk rules for the U.K. which are expected to be effective from July 1, 2025. The PRA also issued its consultation on the implementation of the Basel III Revisions, with a proposed effective date of July 1, 2025. Under the PRA consultation, our U.K. subsidiaries are not expected to be subject to a floor on internally modeled capital requirements. The PRA has also published near final rules for CVA risk, counterparty credit risk and operational risk, in addition to market risk.

The Basel Committee has published an updated securitization framework and a revised G-SIB assessment methodology. The U.S. federal bank regulatory agencies’ July 2023 proposal would implement the updated securitization framework. The updated securitization framework has been implemented in the E.U. and U.K.

The Basel Committee has also published a final standard on the prudential treatment of cryptoasset exposures. The Basel Committee contemplates that national regulators will have incorporated the standard into local capital requirements by January 1, 2025. U.S. federal bank regulatory agencies and E.U. and U.K. authorities have not yet proposed rules implementing the standards.

Leverage Ratios. Under the Capital Framework, we and GS Bank USA are subject to Tier 1 leverage ratios and SLRs established by the FRB. As a G-SIB, the SLR requirements applicable to us include both a minimum requirement and a buffer requirement, which operates in the same manner as the risk-based buffer requirements described above. In April 2018, the FRB and the OCC issued a proposed rule which would (i) replace the current 2% SLR buffer for G-SIBs, including us, with a buffer equal to 50% of their G-SIB surcharge and (ii) revise the 6% SLR requirement for Category I banks, such as GS Bank USA, to be “well capitalized” with a requirement equal to 3% plus 50% of their parent’s G-SIB surcharge.

GSBE and certain of our U.K. entities are also subject to requirements relating to leverage ratios, which are generally based on the Basel Committee leverage ratio standards.

See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Capital Management and Regulatory Capital” in Part II, Item 7 of this Form 10-K and Note 20 to the consolidated financial statements in Part II, Item 8 of this Form 10-K for information about our and GS Bank USA’s Tier 1 leverage ratios and SLRs, and GSI’s leverage ratio.

Liquidity Ratios. The Basel Committee’s framework for liquidity risk measurement, standards and monitoring requires banking organizations to measure their liquidity against two specific liquidity tests: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR).

The LCR rule issued by the U.S. federal bank regulatory agencies and applicable to both us and GS Bank USA is generally consistent with the Basel Committee’s framework and is designed to ensure that a banking organization maintains an adequate level of unencumbered, high-quality liquid assets equal to or greater than the expected net cash outflows under an acute short-term liquidity stress scenario. We and GS Bank USA are required to maintain a minimum LCR of 100%.

GSBE is subject to the LCR rule approved by the European Parliament and Council, and GSI and GSIB are subject to the U.K. regulatory authorities’ LCR rules, which are generally consistent with the Basel Committee’s framework.

The NSFR is designed to promote medium- and long-term stable funding of the assets and off-balance sheet activities of banking organizations over a one-year time horizon. The Basel Committee's NSFR framework requires banking organizations to maintain a minimum NSFR of 100%.

We and GS Bank USA are subject to the U.S. NSFR rule and we are required to disclose the quarterly average of our daily NSFR on a semi-annual basis. The CRR implements the NSFR for certain E.U. financial institutions, including GSBE. The NSFR requirement implemented in the U.K. is applicable to both GSI and GSIB.

The FRB's enhanced prudential standards require BHCs with \$100 billion or more in total consolidated assets to comply with enhanced liquidity and overall risk management standards, which include maintaining a level of highly liquid assets based on projected funding needs for 30 days, and increased involvement by boards of directors in liquidity and overall risk management. Although the liquidity requirement under these rules has some similarities to the LCR, it is a separate requirement. GSBE also has its own liquidity planning process, which incorporates internally designed stress tests and those required under German regulatory requirements and the ECB Guide to Internal Liquidity Adequacy Assessment Process (ILAAP). GSI and GSIB have their own liquidity planning processes, which incorporate internally designed stress tests developed in accordance with the guidelines of the PRA's ILAAP.

See "Available Information" below and "Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Overview and Structure of Risk Management" and "— Liquidity Risk Management — Liquidity Regulatory Framework" in Part II, Item 7 of this Form 10-K for information about the LCR and NSFR, as well as our risk management practices and liquidity.

Stress Tests and Capital Planning. The FRB's Comprehensive Capital Analysis and Review (CCAR) is designed to ensure that large BHCs, including us, have sufficient capital to permit continued operations during times of economic and financial stress. As required by the FRB, we perform an annual capital stress test and incorporate the results into an annual capital plan, which we submit to the FRB for review. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Capital Management and Regulatory Capital — Capital Management — Capital Planning and Stress Testing Process" in Part II, Item 7 of this Form 10-K for further information about our annual capital plan. As described in "Available Information" below, summary results of the annual stress test are published on our website.

As part of the CCAR process, the FRB evaluates our plan to make capital distributions across a range of macroeconomic and company-specific assumptions, based on our and the FRB's own stress tests.

Under the FRB's rule applicable to BHCs with \$100 billion or more in total consolidated assets, including us, the SCB applies to the Standardized approach capital requirements. The SCB reflects stressed losses estimated under the supervisory severely adverse scenario of the CCAR stress tests, as calculated by the FRB, and includes four quarters of planned common stock dividends. The SCB, which is subject to a 2.5% floor, is generally effective on October 1 of each year and remains in effect until October 1 of the following year, unless it is reset in connection with the resubmission of a capital plan. See "Available Information" below and "Management's Discussion and Analysis of Financial Condition and Results of Operations — Capital Management and Regulatory Capital" in Part II, Item 7 of this Form 10-K for information about our SCB requirement.

The SCB rule requires a BHC to receive the FRB's approval for any dividend, stock repurchase or other capital distribution, other than a capital distribution on a newly issued capital instrument, if the BHC is required to resubmit its capital plan, which may occur if the BHC determines there has been or will be a "material change" in its risk profile, financial condition or corporate structure since the plan was last submitted, or if the FRB directs the BHC to revise and resubmit its capital plan.

U.S. depository institutions with total consolidated assets of \$250 billion or more that are subsidiaries of U.S. G-SIBs, such as GS Bank USA, are required to submit annual company-run stress test results to the FRB. GSBE also has its own capital and stress testing process, which incorporates internally designed stress tests and those required under German regulatory requirements and the ECB Guide to Internal Capital Adequacy Assessment Process (ICAAP). In addition, GSI and GSIB have their own capital planning and stress testing processes, which incorporate internally designed stress tests developed in accordance with the PRA's ICAAP guidelines.

Limitations on the Payment of Dividends. U.S. federal and state laws impose limitations on the payment of dividends by U.S. depository institutions, such as GS Bank USA. In general, the amount of dividends that may be paid by GS Bank USA is limited to the lesser of the amounts calculated under a recent earnings test and an undivided profits test. Under the recent earnings test, a dividend may not be paid if the total of all dividends declared by the entity in any calendar year is in excess of the current year's net income combined with the retained net income of the two preceding years, unless the entity obtains regulatory approval. Under the undivided profits test, a dividend may not be paid in excess of the entity's undivided profits (generally, accumulated net profits that have not been paid out as dividends or transferred to surplus), unless the entity receives regulatory and stockholder approval.

The applicable U.S. banking regulators have authority to prohibit or limit the payment of dividends if, in the banking regulator's opinion, payment of a dividend would constitute an unsafe or unsound practice in light of the financial condition of the banking organization.

Source of Strength. The Dodd-Frank Act requires BHCs to act as a source of strength to their U.S. bank subsidiaries and to commit capital and financial resources to support those subsidiaries. This support may be required by the FRB at times when BHCs might otherwise determine not to provide it. Capital loans by a BHC to a U.S. subsidiary bank are subordinate in right of payment to deposits and to certain other indebtedness of the subsidiary bank. In addition, if a BHC commits to a U.S. federal banking agency that it will maintain the capital of its bank subsidiary, whether in response to the FRB's invoking its source-of-strength authority or in response to other regulatory measures, that commitment will be assumed by the bankruptcy trustee for the BHC and the bank will be entitled to priority payment in respect of that commitment, ahead of other creditors of the BHC.

Transactions Between Affiliates. Transactions between GS Bank USA or its subsidiaries, including GSBE, and Group Inc. or its other subsidiaries and affiliates are subject to restrictions under the Federal Reserve Act and regulations issued by the FRB. These laws and regulations generally limit the types and amounts of transactions (such as loans and other credit extensions, including credit exposure arising from resale agreements, securities borrowing and derivative transactions, from GS Bank USA or its subsidiaries to Group Inc. or its other subsidiaries and affiliates and purchases of assets by GS Bank USA or its subsidiaries from Group Inc. or its other subsidiaries and affiliates) that may take place and generally require those transactions, to the extent permitted, to be on market terms or better to GS Bank USA or its subsidiaries. These laws and regulations generally do not apply to transactions between GS Bank USA and its subsidiaries. Similarly, German regulatory requirements provide that certain transactions between GSBE and GS Bank USA or its other affiliates, including Group Inc., must be on market terms and are subject to special internal approval requirements. PRA rules also provide requirements for transactions between GSI and GSIB and their respective affiliates.

Resolution and Recovery Plans. We are required by the FRB and the FDIC to submit a periodic plan for our rapid and orderly resolution in the event of material financial distress or failure (resolution plan). If these regulators jointly determine that an institution has failed to remediate identified shortcomings in its resolution plan or that its resolution plan, after any permitted resubmission, is not credible or would not facilitate an orderly resolution under the U.S. Bankruptcy Code, they may jointly impose more stringent capital, leverage or liquidity requirements or restrictions on growth, activities or operations, or may jointly order the institution to divest assets or operations, in order to facilitate orderly resolution in the event of failure. The FRB and FDIC require U.S. G-SIBs to submit resolution plans every two years (alternating between submissions of full plans and targeted plans that include only select information). We submitted our 2023 resolution plan, which was a full submission, in June 2023. Our next required submission is a targeted submission by July 1, 2025. See "Risk Factors — Legal and Regulatory — The application of Group Inc.'s proposed resolution strategy could result in greater losses for Group Inc.'s security holders" in Part I, Item 1A of this Form 10-K and "Available Information" in Part I, Item 1 of this Form 10-K for further information about our resolution plan.

We are also required by the FRB to submit, on a periodic basis, a global recovery plan that outlines the steps that we could take to reduce risk, maintain sufficient liquidity and conserve capital in times of prolonged stress. Certain of our subsidiaries are also subject to similar recovery plan requirements.

GS Bank USA is required to provide a resolution plan to the FDIC that must, among other things, demonstrate that it is adequately protected from risks arising from our other entities. GS Bank USA's most recent resolution plan was submitted in December 2023. In August 2023, the FDIC proposed to revise its current rule that requires the submission of resolution plans by insured depository institutions (IDIs) with \$50 billion or more in total assets. The proposal would revise the requirements regarding the content and timing of resolution submissions, as well as interim supplements to those submissions provided to the FDIC. Under the proposal, IDIs with \$100 billion or more in total assets, including GS Bank USA, would submit full resolution plans biennially.

The U.S. federal bank regulatory agencies have adopted rules imposing restrictions on qualified financial contracts (QFCs) entered into by G-SIBs. The rules are intended to facilitate the orderly resolution of a failed G-SIB by limiting the ability of the G-SIB to enter into a QFC unless (i) the counterparty waives certain default rights in such contract arising upon the entry of the G-SIB or one of its affiliates into resolution, (ii) the contract does not contain enumerated prohibitions on the transfer of such contract and/or any related credit enhancement, and (iii) the counterparty agrees that the contract will be subject to the special resolution regimes set forth in the Dodd-Frank Act orderly liquidation authority (OLA) and the Federal Deposit Insurance Act of 1950 (FDIA), described below. GS Bank USA has achieved compliance by adhering to the International Swaps and Derivatives Association Universal Resolution Stay Protocol (ISDA Universal Protocol) and International Swaps and Derivatives Association 2018 U.S. Resolution Stay Protocol (U.S. ISDA Protocol) described below.

Certain of our other subsidiaries also adhere to these protocols. The ISDA Universal Protocol imposes a stay on certain cross-default and early termination rights within standard ISDA derivative contracts and securities financing transactions between adhering parties in the event that one of them is subject to resolution in its home jurisdiction, including a resolution under OLA or the FDIA in the U.S. The U.S. ISDA Protocol, which was based on the ISDA Universal Protocol, was created to allow market participants to comply with the final QFC rules adopted by the federal bank regulatory agencies.

The E.U. Bank Recovery and Resolution Directive (BRRD), as amended by the BRRD II, establishes a framework for the recovery and resolution of financial institutions in the E.U., such as GSBE. The BRRD provides national supervisory authorities with tools and powers to pre-emptively address potential financial crises in order to promote financial stability and minimize taxpayers' exposure to losses. The BRRD requires E.U. member states to grant certain resolution powers to national and, where relevant, E.U. resolution authorities, including the power to impose a temporary stay and to recapitalize a failing entity by writing down its unsecured debt or converting its unsecured debt into equity. Financial institutions in the E.U. must provide that contracts governed by non-E.U. law recognize those temporary stay and bail-in powers unless doing so would be impracticable. GSBE is under the direct authority of the Single Resolution Board for resolution planning. E.U. law requires financial institutions in the E.U., including subsidiaries of non-E.U. groups, to submit recovery plans and to assist the relevant resolution authority in constructing resolution plans for the E.U. entities. GSBE's primary regulator with respect to recovery planning is the ECB, and it is also regulated by BaFin and Deutsche Bundesbank.

The U.K. Special Resolution Regime confers substantially the same powers on the Bank of England, as the U.K. resolution authority, and substantially the same requirements on U.K. financial institutions. Further, certain U.K. financial institutions, including GSI and GSIB, are required to meet the Bank of England's expectations contained in the U.K. Resolution Assessment Framework, including with respect to loss absorbency, contractual stays, operational continuity and funding in resolution. They are also required by the PRA to submit solvent wind-down plans on how they could be wound down in a stressed environment. The PRA is also the regulatory authority in the U.K. that supervises recovery planning, and GSI and GSIB are each required to submit recovery plans to the PRA.

Total Loss-Absorbing Capacity (TLAC). The FRB's TLAC rule, among other things, establishes minimum TLAC requirements and establishes minimum requirements for "eligible long-term debt" (i.e., debt that is unsecured, has a maturity of at least one year from issuance and satisfies certain additional criteria). In August 2023, the FRB proposed to introduce a minimum denomination requirement for eligible long-term debt, among other changes.

The rule also prohibits a BHC that has been designated as a U.S. G-SIB from (i) guaranteeing subsidiaries' liabilities that are subject to early termination provisions if the BHC enters into an insolvency or receivership proceeding, subject to an exception for guarantees permitted by rules of the U.S. federal banking agencies imposing restrictions on QFCs; (ii) incurring liabilities guaranteed by subsidiaries; (iii) issuing short-term debt to third parties; or (iv) entering into derivatives and certain other financial contracts with external counterparties.

Additionally, the rule caps, at 5% of the value of the parent company's eligible TLAC, the amount of unsecured non-contingent third-party liabilities that are not eligible long-term debt that could rank equally with or junior to eligible long-term debt.

The CRR, the BRRD and U.K. financial services regime also impose minimum TLAC requirements on G-SIBs. For example, the CRR requires E.U. subsidiaries of a non-E.U. G-SIB that exceed the threshold of 5% of the G-SIB's RWAs, operating income or leverage exposure, such as GSBE, to meet internal TLAC requirements. Under the U.K. financial services regime, GSG UK exceeds the applicable thresholds and therefore, it is subject to internal TLAC requirements.

The CRD required a non-E.U. group with more than €40 billion of assets in the E.U., such as us, to establish an E.U. intermediate holding company (E.U. IHC) by December 30, 2023 if it has, as in our case, two or more of certain types of E.U. financial institution subsidiaries, including broker-dealers and banks. A non-E.U. group may have two E.U. IHCs if a request for a second is approved, and in September 2023, the ECB granted GSBE and GSPIC an exemption to operate under two E.U. IHCs. The CRR requires E.U. IHCs to satisfy capital and liquidity requirements, a minimum requirement for own funds and eligible liabilities (MREL), and certain other prudential requirements at a consolidated level. The U.K. has not implemented a similar requirement to establish an IHC; however, the PRA has introduced a requirement that certain U.K. financial holding companies or a designated U.K. group entity be responsible for the U.K. group's regulatory compliance. We have designated GSI for that responsibility.

The BRRD II and the U.K. resolution regime subject institutions to an MREL, which is generally consistent with the Financial Stability Board's (FSB's) TLAC standard. GSI is required to maintain a minimum level of internal MREL and provide the Bank of England the right to exercise bail-in triggers over certain intercompany regulatory capital and senior debt instruments issued by GSI. These triggers enable the Bank of England to write down such instruments or convert such instruments to equity. The triggers can be exercised by the Bank of England if it determines that GSI has reached the point of non-viability and the FRB and the FDIC have not objected to the bail-in or if Group Inc. enters bankruptcy or similar proceedings. The Single Resolution Board imposes internal MREL requirements applicable to GSBE.

Insolvency of a BHC or IDI. The Dodd-Frank Act created a resolution regime, OLA, for BHCs and their affiliates that are systemically important. Under OLA, the FDIC may be appointed as receiver for the systemically important institution and its failed non-bank subsidiaries if, upon the recommendation of applicable regulators, the U.S. Secretary of the Treasury determines, among other things, that the institution is in default or in danger of default, that the institution's failure would have serious adverse effects on the U.S. financial system and that resolution under OLA would avoid or mitigate those effects.

If the FDIC is appointed as receiver under OLA, then the powers of the receiver, and the rights and obligations of creditors and other parties who have dealt with the institution, would be determined under OLA, and not under the bankruptcy or insolvency law that would otherwise apply. The powers of the receiver under OLA are generally based on the powers of the FDIC as receiver for depository institutions under the FDIA, described below.

Substantial differences in the rights of creditors exist between OLA and the U.S. Bankruptcy Code, including the right of the FDIC under OLA to disregard the strict priority of creditor claims in some circumstances, the use of an administrative claims procedure to determine creditors' claims (as opposed to the judicial procedure utilized in bankruptcy proceedings), and the right of the FDIC to transfer claims to a "bridge" entity. In addition, OLA limits the ability of creditors to enforce certain contractual cross-defaults against affiliates of the institution in receivership. The FDIC has issued a notice that it would likely resolve a failed FHC by transferring its assets to a "bridge" holding company under its "single point of entry" or "SPOE" strategy pursuant to OLA.

Under the FDIA, if the FDIC is appointed as conservator or receiver for an IDI such as GS Bank USA, upon its insolvency or in certain other events, the FDIC has broad powers, including the power:

- To transfer any of the IDI's assets and liabilities to a new obligor, including a newly formed "bridge" bank, without the approval of the depository institution's creditors;
- To enforce the IDI's contracts pursuant to their terms without regard to any provisions triggered by the appointment of the FDIC in that capacity; or
- To repudiate or disaffirm any contract or lease to which the IDI is a party, the performance of which is determined by the FDIC to be burdensome and the repudiation or disaffirmance of which is determined by the FDIC to promote the orderly administration of the IDI.

In addition, the claims of holders of domestic deposit liabilities and certain claims for administrative expenses against an IDI would be afforded a priority over other general unsecured claims, including deposits at non-U.S. branches and claims of debtholders of the IDI, in the "liquidation or other resolution" of such an institution by any receiver. As a result, whether or not the FDIC ever sought to repudiate any debt obligations of GS Bank USA, the debtholders (other than depositors at U.S. branches) would be treated differently from, and could receive, if anything, substantially less than, the depositors at U.S. branches of GS Bank USA.

Deposit Insurance. Deposits at GS Bank USA have the benefit of FDIC insurance up to the applicable limits. The FDIC's Deposit Insurance Fund is funded by assessments on IDIs. GS Bank USA's assessment (subject to adjustment by the FDIC) is currently based on its average total consolidated assets less its average tangible equity during the assessment period, its supervisory ratings and specified forward-looking financial measures used to calculate the assessment rate. In addition, the FDIC must recover, by special assessment, losses to the FDIC deposit insurance fund as a result of the FDIC's use of the systemic risk exception to the least cost resolution test under the FDIA. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Results of Operations — Operating Expenses" in Part II, Item 7 of this Form 10-K for information about the estimated impact of the FDIC special assessment fee. The deposits of GSBE are covered by the German statutory deposit protection program to the extent provided by law. In addition, GSBE has elected to participate in the German voluntary deposit protection program which provides further insurance for certain eligible deposits beyond the coverage of the German statutory deposit program. Eligible deposits at GSIB and the London branch of GS Bank USA are covered by the U.K. Financial Services Compensation Scheme up to the applicable limits.

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

An institution may be downgraded to, or deemed to be in, a capital category that is lower than is indicated by its capital ratios if it is determined to be in an unsafe or unsound condition or if it receives an unsatisfactory examination rating with respect to certain matters. FDICIA imposes progressively more restrictive constraints on operations, management and capital distributions, as the capital category of an institution declines. Failure to meet the capital requirements could also require a depository institution to raise capital. Ultimately, critically undercapitalized institutions are subject to the appointment of a receiver or conservator, as described in "Insolvency of an IDI or a BHC" above.

The prompt corrective action regulations do not apply to BHCs. However, the FRB is authorized to take appropriate action at the BHC level, based upon the undercapitalized status of the BHC's depository institution subsidiaries. In certain instances, relating to an undercapitalized depository institution subsidiary, the BHC would be required to guarantee the performance of the undercapitalized subsidiary's capital restoration plan and might be liable for civil money damages for failure to fulfill its commitments on that guarantee. Furthermore, in the event of the bankruptcy of the BHC, the guarantee would take priority over the BHC's general unsecured creditors, as described in "Source of Strength" above.

Volcker Rule and Other Restrictions on Activities. As a BHC, we are subject to limitations on the types of business activities in which we may engage.

Volcker Rule. The Volcker Rule prohibits “proprietary trading,” but permits activities such as underwriting, market making and risk-mitigation hedging, requires an extensive compliance program and includes additional reporting and record-keeping requirements.

In addition, the Volcker Rule limits the sponsorship of, and investment in, “covered funds” (as defined in the rule) by banking entities, including us. It also limits certain types of transactions between us and our sponsored and advised funds, similar to the limitations on transactions between depository institutions and their affiliates. Covered funds include our private equity funds, certain of our credit and real estate funds, our hedge funds and certain other investment structures. The limitation on investments in covered funds requires us to limit our investment in each such fund to 3% or less of the fund’s net asset value, and to limit our aggregate investment in all such funds to 3% or less of our Tier 1 capital.

Other Restrictions. FHCs generally can engage in a broader range of financial and related activities than are otherwise permissible for BHCs as long as they continue to meet the eligibility requirements for FHCs. The broader range of permissible activities for FHCs includes underwriting, dealing and making markets in securities and making investments in non-FHCs (merchant banking activities). In addition, certain FHCs, including us, are permitted to engage in certain commodities activities in the U.S. that may otherwise be impermissible for BHCs, so long as the assets held pursuant to these activities do not equal 5% or more of their consolidated assets.

The FRB, however, has the authority to limit an FHC’s ability to conduct activities that would otherwise be permissible, and will likely do so if the FHC does not satisfactorily meet certain requirements of the FRB. For example, if an FHC or any of its U.S. depository institution subsidiaries ceases to maintain its status as well-capitalized or well-managed, the FRB may impose corrective capital and/or managerial requirements, as well as additional limitations or conditions. If the deficiencies persist, the FHC may be required to divest its U.S. depository institution subsidiaries or to cease engaging in activities other than the business of banking and certain closely related activities.

In addition, we are required to obtain prior FRB approval before certain acquisitions and before engaging in certain banking and other financial activities both within and outside the U.S.

U.S. G-SIBs, like us, are also required to comply with a rule regarding single counterparty credit limits, which imposes more stringent requirements for credit exposures among major financial institutions.

The New York State banking law imposes lending limits (which take into account credit exposure from derivative transactions) and other requirements that could impact the manner and scope of GS Bank USA’s activities.

The U.S. federal bank regulatory agencies have issued guidance that focuses on transaction structures and risk management frameworks and that outlines high-level principles for safe-and-sound leveraged lending, including underwriting standards, valuation and stress testing. This guidance has, among other things, limited the percentage amount of debt that can be included in certain transactions.

As a German credit institution, GSBE is subject to Volcker Rule-type prohibitions under German banking law and regulations because its financial assets exceed certain thresholds. Prohibited activities include (i) proprietary trading, (ii) high-frequency trading at a German trading venue, and (iii) lending and guarantee businesses with German hedge funds, German funds of hedge funds or any non-German substantially leveraged alternative investment funds, unless an exclusion or an exemption applies.

As part of its implementation of the Basel III Revisions, the E.U. is introducing new restrictions on the provision of certain “core” banking services cross-border into the E.U. and new requirements on E.U. branches of third-country banks, such as the German branch of GSIB.

U.K. banks that have over £25 billion of core retail deposits are required to separate their retail banking services from their investment and international banking activities, commonly known as “ring-fencing.” GSIB is not currently subject to the ring-fencing requirement. In September 2023, the treasury department of the U.K. government proposed to increase the ring-fencing deposit threshold from £25 billion to £35 billion of core retail deposits.

Community Reinvestment Act (CRA). In 2023, GS Bank USA ceased to be assessed as a “wholesale bank” for CRA and New York Community Reinvestment Act (NYCRA) compliance purposes. GS Bank USA instead adopted a strategic plan that was approved by the FRB and NYDFS. The 2023 strategic plan will be in effect through 2028. While the plan is in effect, its terms will not be impacted by the revised federal CRA regulations, jointly published by the FDIC, FRB, and OCC in October 2023. The revised federal CRA regulations tailor CRA evaluations to bank size and type, with many of the changes applying only to banks with over \$2 billion in assets and several applying only to banks with over \$10 billion in assets, including GS Bank USA.

The CRA does not establish specific lending requirements or programs for financial institutions nor does it limit an institution’s discretion to develop the types of products and services that it believes are best suited to its particular community, but depository institutions may only receive CRA credit for certain types of lending and for lending, investments and services that support community development, as defined in the CRA regulations. The CRA and its regulations require each appropriate federal bank regulatory agency, in connection with its examination of a depository institution, to assess such institution’s record of meeting the credit needs of the communities served by that institution, including the needs of low- and moderate-income borrowers and neighborhoods, and to make such assessment available to the public.

The assessment also is part of the FRB’s consideration of applications to acquire, merge or consolidate with another banking institution or its holding company, to assume deposits of or acquire assets from another depository institution, to establish a new domestic branch office that will accept deposits, or to relocate an office. In the case of a BHC applying for approval to acquire a bank or another BHC, the FRB will assess the records of performance under the CRA of the IDIs involved in the transaction, and such records may be the basis for denying the application.

If GS Bank USA fails to maintain at least a “satisfactory” rating under the CRA, it would be subject to restrictions on certain new activities and acquisitions.

We are also subject to provisions of the New York Banking Law that impose continuing and affirmative obligations upon New York State-chartered banks, such as GS Bank USA, to serve the credit needs of its local community (NYCRA). Such obligations are substantially similar to those imposed by the CRA. The NYCRA requires the NYDFS to make a periodic written assessment of an institution’s compliance with the NYCRA, and to make such assessment available to the public. The NYCRA also requires the NYDFS to consider the NYCRA rating when reviewing an application to engage in certain transactions, including mergers, asset purchases and the establishment of domestic branch offices, and provides that such assessment may serve as a basis for the denial of any such application.

Broker-Dealer and Securities Regulation

Our broker-dealer subsidiaries, including GS&Co., are subject to regulations that cover all aspects of the securities business, including sales methods, trade practices, the use and safekeeping of clients’ funds and securities, capital structure, record-keeping, the financing of clients’ purchases, and the conduct of directors, officers and employees. In the U.S., the SEC is the federal agency responsible for the administration of the federal securities laws.

U.S. state securities and other U.S. regulators also have regulatory or oversight authority over GS&Co. For a description of net capital requirements applicable to GS&Co., see “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Capital Management and Regulatory Capital — Subsidiary Capital Requirements — U.S. Regulated Broker-Dealer Subsidiaries” in Part II, Item 7 of this Form 10-K.

The SEC has adopted a rule, effective January 2, 2024, that requires lenders of securities to provide the material terms of securities lending transactions to FINRA and for FINRA to make certain terms publicly available. Reporting under this rule will be required beginning in January 2026.

The SEC requires broker-dealers to act in the best interest of their retail customers. SEC rules require broker-dealers to provide a standardized, short-form disclosure highlighting services offered, applicable standards of conduct, fees and costs, the differences between brokerage and advisory services, and any conflicts of interest. In addition, several states have adopted or proposed adopting uniform fiduciary duty standards applicable to broker-dealers.

In December 2022, the SEC issued four proposals to reform the U.S. equity market structure. The SEC proposed establishing a broker-dealer best execution standard, which would require broker-dealers to use reasonable diligence to ascertain the best market for a customer order so that the resultant price to the customer is as favorable as possible under prevailing market conditions. The best execution standard applies to all securities and supplements, but does not replace, the existing FINRA and Municipal Securities Rulemaking Board (MSRB) best execution rules. The SEC also proposed, among other things, to require that individual investor orders routed through broker-dealers be exposed to order-by-order competition in qualified auctions; to update the minimum pricing increments, with variable price increments based on the trading characteristics of stocks; and to revise and expand reporting and disclosure requirements relating to execution quality.

In June 2023, FINRA issued a proposal that would require certain broker-dealers, including GS&Co. to meet certain liquidity requirements and to establish a liquidity risk management program, including conducting liquidity stress testing and maintaining a contingency funding plan, and comply with notification and reporting requirements.

The SEC, FINRA and regulators in various non-U.S. jurisdictions have imposed both conduct-based and disclosure-based requirements with respect to research reports and research analysts and may impose additional regulations.

In November 2023, the SEC adopted a rule that prohibits participants involved in the creation of asset-backed securities, including any underwriter, placement agent, initial purchaser or sponsor of an asset-backed security (or any affiliate or subsidiary), from engaging in any transaction that involves or results in a material conflict of interest between the securitization participant and an investor in an asset-backed security, including reducing its exposure to the asset-backed securities, subject to certain exceptions.

In December 2023, the SEC adopted a rule that necessitates SEC-registered clearing agencies to set up policies and procedures that would, among other things, require many market participants to clear cash and repurchase treasury securities transactions through such a clearing agency by December 2025 for cash transactions and by June 2026 for repurchase transactions.

GS&Co. and other U.S. subsidiaries are also subject to rules adopted by U.S. federal agencies pursuant to the Dodd-Frank Act that require any person who organizes or initiates certain asset-backed securities transactions to retain a portion (generally, at least five percent) of any credit risk that the person conveys to a third party. For certain securitization transactions, retention by third-party purchasers may satisfy this requirement.

In Europe, we provide broker-dealer services, including through GSBE, GSPIC and GSI, that are subject to oversight by European and national regulators. These services are regulated in accordance with E.U., U.K. and other national laws and regulations. These laws require, among other things, compliance with certain capital adequacy and liquidity standards, customer protection requirements and market conduct and trade reporting rules. Certain of our European subsidiaries are also regulated by the securities, derivatives and commodities exchanges of which they are members.

In the E.U. and the U.K., the European Markets in Financial Instruments Directive (MiFID II) and the European Markets in Financial Instruments Regulation (MiFIR) established trading venue categories for the purposes of discharging the obligation to trade OTC derivatives on a trading platform, enhanced pre- and post-trade transparency covering a wide range of financial instruments, placed volume caps on non-transparent liquidity trading for equities trading venues, limited the use of broker-dealer equities crossing networks and created a regime for systematic internalizers, which are investment firms that execute client equity transactions outside a trading venue. Additional control requirements apply to algorithmic trading, high frequency trading and direct electronic access. Commodities trading firms are required to calculate their positions and adhere to specific position limits. MiFID II and MiFIR also require enhanced transaction reporting, the publication of best execution data by investment firms and trading venues, transparency on costs and charges of service to investors, restrictions on the way investment managers can pay for the receipt of investment research, rules limiting the payment and receipt of soft commissions and other forms of inducements, and mandatory unbundling for broker-dealers between execution and other major services. Certain of our non-U.S. subsidiaries, including GSBE and GSI, are subject to risk retention requirements in connection with securitization activities.

GSJCL, our regulated Japanese broker-dealer, is subject to capital requirements imposed by Japan's Financial Services Agency. GSJCL is also regulated by the Tokyo Stock Exchange, the Bank of Japan and the Ministry of Finance, among others.

The Securities and Futures Commission in Hong Kong, the China Securities Regulatory Commission, the Reserve Bank of India, the Securities and Exchange Board of India, the Australian Securities and Investments Commission, the Australian Securities Exchange, the Monetary Authority of Singapore, the Korean Financial Supervisory Service and the Central Bank of Brazil, among others, regulate various of our subsidiaries and also have capital standards and other requirements comparable to the rules of the U.S. regulators.

Our exchange-based market-making activities are subject to extensive regulation by a number of securities exchanges. As a market maker on exchanges, we are required to maintain orderly markets in the securities to which we are assigned.

Swaps, Derivatives and Commodities Regulation

The commodity futures, commodity options and swaps industry in the U.S. is subject to regulation under the U.S. Commodity Exchange Act (CEA). The CFTC is the U.S. federal agency charged with the administration of the CEA. In addition, the SEC is the U.S. federal agency charged with the regulation of security-based swaps. The rules and regulations of various self-regulatory organizations, such as the Chicago Mercantile Exchange, other futures exchanges and the National Futures Association (NFA), also govern commodity futures, commodity options and swaps activities.

The terms “swaps” and “security-based swaps” include a wide variety of derivative instruments in addition to those conventionally referred to as swaps (including certain forward contracts and options), and relate to a wide variety of underlying assets or obligations, including currencies, commodities, interest or other monetary rates, yields, indices, securities, credit events, loans and other financial obligations.

CFTC rules require registration of swap dealers, mandatory clearing and execution of interest rate and credit default swaps and real-time public reporting and adherence to business conduct standards for all in-scope swaps. A number of these requirements, particularly those regarding recordkeeping and reporting, also apply to transactions that do not involve a registered swap dealer. GS&Co. and other subsidiaries, including GS Bank USA, GSBE, GSI and J. Aron, are registered with the CFTC as swap dealers. The CFTC has rules establishing capital requirements for swap dealers that are not subject to the capital rules of a prudential regulator, such as the FRB. The CFTC also has financial reporting requirements for covered swap entities and capital rules for CFTC-registered futures commission merchants that provide explicit capital requirements for proprietary positions in swaps and security-based swaps that are not swap dealers, including J. Aron, are subject to the CFTC’s capital requirements.

Our affiliates registered as swap dealers are subject to the margin rules issued by the CFTC (in the case of our non-bank swap dealers) and the FRB (in the case of GS Bank USA and GSBE). Inter-affiliate transactions under the CFTC and FRB margin rules are generally exempt from initial margin requirements.

Our affiliates registered as swap dealers are also subject to NFA regulation, including requirements pertaining to cybersecurity and supervision, and the NFA examines them for compliance with these requirements as well as compliance with CFTC rules.

SEC rules govern the registration and regulation of security-based swap dealers. Security-based swaps are defined as swaps on single securities, single loans or narrow-based baskets or indices of securities. The SEC has adopted a number of rules for security-based swap dealers, including (i) capital, margin and segregation requirements; (ii) record-keeping, financial reporting and notification requirements; (iii) business conduct standards; (iv) regulatory and public trade reporting; and (v) the application of risk mitigation techniques to uncleared portfolios of security-based swaps. Certain of our subsidiaries, including GS&Co., GS Bank USA and GSBE, are registered with the SEC as security-based swap dealers and subject to the SEC’s regulations regarding security-based swaps. The SEC has proposed additional regulations regarding security-based swaps that would, among other things, require public reporting of large positions in security-based swaps.

GS Bank USA and GSBE are also subject to the FRB’s swaps margin rules. These rules require the exchange of initial and variation margin in connection with transactions in swaps and security-based swaps that are not cleared through a registered or exempt clearinghouse. GS Bank USA and GSBE are required to post and collect margin in connection with transactions with swap dealers, security-based swap dealers, major swap participants and major security-based swap participants, or financial end users.

The CFTC and the SEC have adopted rules relating to cross-border regulation of swaps and security-based swaps, and business conduct and registration requirements. The CFTC and the SEC have entered into agreements with certain non-U.S. regulators regarding the cross-border regulation of derivatives and the mutual recognition of cross-border execution facilities and clearinghouses, and have approved substituted compliance with certain non-U.S. regulations related to certain business conduct requirements and margin rules, among other requirements. The U.S. prudential regulators have not yet made a determination with respect to substituted compliance for transactions subject to non-U.S. margin rules.

Similar types of regulation have been proposed or adopted in jurisdictions outside the U.S., including in the E.U. and Japan. Under the European Market Infrastructure Regulation (EMIR), for example, the E.U. and the U.K. have established regulatory requirements relating to portfolio reconciliation and reporting, clearing certain OTC derivatives and margining for uncleared derivatives activities. In addition, under the European Markets in Financial Instruments Directive and Regulation, transactions in certain types of derivatives are required to be executed on regulated platforms or exchanges.

The CFTC has adopted rules that limit the size of positions in physical commodity derivatives that can be held by any entity, or any group of affiliates or other parties trading under common ownership or control. The CFTC position limits apply to futures on physical commodities and options on such futures, apply to both physically and cash settled positions and to swaps that are economically equivalent to such futures and options. The position limit rules initially impose limits in the spot month only (i.e., during the delivery period for the physical commodities, which is typically a period of several days). CFTC spot and non-spot month limits will continue to apply to futures on certain legacy agricultural commodities.

J. Aron is authorized by the U.S. Federal Energy Regulatory Commission (FERC) to sell wholesale physical power at market-based rates. As a FERC-authorized power marketer, J. Aron is subject to regulation under the U.S. Federal Power Act and FERC regulations and to the oversight of FERC. As a result of our investing activities, Group Inc. is also an “exempt holding company” under the U.S. Public Utility Holding Company Act of 2005 and applicable FERC rules.

In addition, as a result of our power-related and commodities activities, we are subject to energy, environmental and other governmental laws and regulations, as described in “Risk Factors — Legal and Regulatory — Our commodities activities, particularly our physical commodities activities, subject us to extensive regulation and involve certain potential risks, including environmental, reputational and other risks that may expose us to significant liabilities and costs” in Part I, Item 1A of this Form 10-K.

GS&Co. is registered with the CFTC as a futures commission merchant, and several of our subsidiaries, including GS&Co., are registered with the CFTC and act as commodity pool operators and commodity trading advisors. Goldman Sachs Financial Markets, L.P. is registered with the SEC as an OTC derivatives dealer.

Asset Management and Wealth Management Regulation

Our asset management and wealth management businesses are subject to extensive oversight by regulators around the world relating to, among other things, the fair treatment of clients, safeguarding of client assets, offerings of funds, marketing activities, transactions among affiliates and our management of client funds.

The federal securities laws impose fiduciary duties on investment advisers, including GS&Co., Goldman Sachs Asset Management, L.P. and our other U.S. registered investment adviser subsidiaries. Additionally, SEC rules require investment advisers to provide a standardized, short-form disclosure highlighting services offered, applicable standards of conduct, fees and costs, the differences between brokerage and advisory services, and any conflicts of interest. Several states have adopted or proposed adopting uniform fiduciary duty standards applicable to advisers.

In November 2022, the SEC proposed, among other things, amendments to the rules governing liquidity risk management and swing pricing of open-end management investment companies such as mutual funds.

In August 2023, the SEC adopted final private fund adviser reform rules under the Investment Advisers Act of 1940 requiring for the first time private fund advisers registered with the SEC to, among other things, provide investors with quarterly (within 45 days, or 75 days for fund of funds, after the end of each of the first three fiscal quarters) and annual (within 90 days, or 120 days for fund of funds, after the end of each fiscal year) statements detailing information regarding private fund performance, fees and expenses; obtain an annual audit for each private equity fund; and obtain a fairness opinion or valuation opinion in connection with an adviser-led secondary transaction. The dates by which private fund advisers must achieve compliance vary by specific rule, with compliance dates through March 2025. Timely compliance with these new quarterly and annual reporting requirements will require us to create or enhance systems and disclosure controls and procedures.

The SEC has also adopted a rule that requires certain institutional investment managers that meet or exceed certain specified reporting thresholds to report on a monthly basis specific short position data and short activity data for equity securities. Reporting under this rule will be required beginning in January 2025.

Certain of our European subsidiaries, including GSBE in the E.U. and GSAMI in the U.K., are subject to MiFID II and/or related regulations (including the U.K. legislation making such regulations part of U.K. law), which govern the approval, organizational, marketing and reporting requirements of E.U. or U.K.-based investment managers and the ability of investment fund managers located outside the E.U. or the U.K. to access those markets. Goldman Sachs Asset Management BV is subject to similar requirements as a management company licensed under the E.U. Undertakings for Collective Investment in Transferable Securities (UCITS) Directive and the E.U. Alternative Investment Fund Managers (AIFM) Directive with additional authorizations for certain activities regulated under MiFID II. Our asset management business in the E.U. and the U.K. significantly depends on our ability to delegate parts of our activities to other affiliates.

GSAMI is also subject to the prudential regime for U.K. investment firms, the Investment Firms Prudential Regime, which governs the prudential requirements for U.K. investment firms prudentially regulated by the FCA.

Consumer Regulation

Our U.S. consumer-oriented activities are subject to supervision and regulation by the CFPB with respect to federal consumer protection laws, including laws relating to fair lending and the prohibition of unfair, deceptive or abusive acts or practices in connection with the offer, sale or provision of consumer financial products and services. Our consumer-oriented activities are also subject to various state and local consumer protection laws, rules and regulations, which, among other things, impose obligations relating to marketing, origination, servicing and collections activities in our consumer businesses. Many of these laws, rules and regulations also apply to our small business lending activities, which are also subject to supervision and regulation by federal and state regulators. In addition, our U.K. consumer deposit-taking activities are subject to U.K. consumer protection laws and regulations.

Compensation Practices

Our compensation practices are subject to oversight by the FRB and, with respect to some of our subsidiaries and employees, by other regulatory bodies worldwide.

The FSB has released standards for implementation by local regulators that are designed to encourage sound compensation practices at banks and other financial companies. The U.S. federal bank regulatory agencies have also provided guidance designed to ensure that incentive compensation arrangements at banking organizations take into account risk and are consistent with safe and sound practices. The guidance sets forth the following three key principles with respect to incentive compensation arrangements: (i) the arrangements should provide employees with incentives that appropriately balance risk and financial results in a manner that does not encourage employees to expose their organizations to imprudent risk; (ii) the arrangements should be compatible with effective controls and risk management; and (iii) the arrangements should be supported by strong corporate governance. The guidance provides that supervisory findings with respect to incentive compensation will be incorporated, as appropriate, into the organization's supervisory ratings, which can affect its ability to make acquisitions or perform other actions. The guidance also notes that enforcement actions may be taken against a banking organization if its incentive compensation arrangements or related risk management, control or governance processes pose a risk to the organization's safety and soundness.

The Dodd-Frank Act requires U.S. financial regulators, including the FRB and SEC, to adopt rules on incentive-based payment arrangements at specified regulated entities having at least \$1 billion in total assets. The U.S. financial regulators proposed revised rules in 2016, which have not been finalized. In accordance with an SEC rule, securities exchanges have adopted rules mandating, in the case of a restatement, the recovery or "clawback" of excess incentive-based compensation paid to current or former executive officers and requiring listed issuers to disclose any recovery analysis where recovery is triggered by a restatement.

The NYDFS' guidance emphasizes that any incentive compensation arrangements tied to employee performance indicators at banking institutions regulated by the NYDFS, including GS Bank USA, must be subject to effective risk management, oversight and control.

In the E.U., certain provisions in the CRR and CRD are designed to meet the FSB's compensation standards. These provisions limit the ratio of variable to fixed compensation of all employees at GSBE and of certain employees at our other operating subsidiaries in the E.U., including those employees identified as having a material impact on the risk profile of regulated entities. CRR II and CRD V amended certain aspects of these rules, including, by increasing minimum variable compensation deferral periods.

The E.U. and the U.K. have each also introduced investment firm regimes, including rules regulating compensation for certain persons providing services to certain investment funds.

Anti-Money Laundering and Anti-Bribery Rules and Regulations

The U.S. Bank Secrecy Act, as amended (BSA), including by the USA PATRIOT Act of 2001, contains anti-money laundering and financial transparency laws and authorizes or mandates the promulgation of various regulations applicable to financial institutions, including standards for verifying client identification at account opening, and obligations to monitor client transactions and report suspicious activities. Through these and other provisions, the BSA seeks, among other things, to promote the identification of parties that may be involved in terrorism, money laundering or other suspicious activities.

The Anti-Money Laundering Act of 2020 (AMLA), which amends the BSA, is intended to comprehensively reform and modernize U.S. anti-money laundering laws. Among other things, the AMLA codifies a risk-based approach to anti-money laundering compliance for financial institutions; requires the U.S. Department of the Treasury to periodically promulgate priorities for anti-money laundering and countering the financing of terrorism policy; requires the development of standards by the U.S. Department of the Treasury for testing technology and internal processes for BSA compliance; expands enforcement- and investigation-related authority, including a significant expansion in the available sanctions for certain BSA violations; and expands BSA whistleblower incentives and protections. Many of the statutory provisions in the AMLA will require additional rulemakings, reports and other measures, and the impact of the AMLA will depend on, among other things, rulemaking and implementation guidance. The Financial Crimes Enforcement Network (FinCEN), a bureau of the U.S. Department of Treasury, has issued the priorities for anti-money laundering and countering the financing of terrorism policy, as required under the AMLA. The priorities include: corruption, cybercrime, terrorist financing, fraud, transnational crime, drug trafficking, human trafficking and proliferation financing.

We are subject to other laws and regulations worldwide relating to anti-money laundering and financial transparency, including the E.U. Anti-Money Laundering Directives. In addition, we are subject to the U.S. Foreign Corrupt Practices Act (FCPA), the U.K. Bribery Act and other laws and regulations worldwide regarding corrupt and illegal payments, or providing anything of value, for the benefit of government officials and others. The scope of the types of payments or other benefits covered by these laws is very broad. These laws and regulations include requirements relating to the identification of clients, monitoring for and reporting suspicious transactions, monitoring direct and indirect payments to politically exposed persons, providing information to regulatory authorities and law enforcement agencies, and sharing information with other financial institutions.

Privacy and Cybersecurity Regulation

Our businesses are subject to numerous laws and regulations relating to the privacy of information regarding clients, employees and others. These include, but are not limited to, the GLB Act, the California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act of 2020, the E.U.'s General Data Protection Regulation (GDPR), the U.K.'s Data Protection Act 2018 and U.K. GDPR, the Swiss Federal Data Protection Act, the Japanese Personal Information Protection Act, the Personal Information Protection Law of the People's Republic of China, and the Singapore Personal Data Protection Act. Generally, privacy laws impose obligations with regard to the collection, use and disclosure of personal information and require public disclosure of privacy practices. Some privacy laws offer individuals certain rights about how their personal information is processed, provide for significant penalties for non-compliance, and, under certain circumstances, impose requirements for transfers of personal data across national borders. Several non-U.S. jurisdictions have enacted, or are proposing, privacy and data protection laws, including India, which enacted a privacy protection law in August 2023.

In March 2023, the SEC proposed to amend Regulation S-P that implements the GLB Act and Regulation Systems Compliance and Integrity Regulation (SCI). The proposed amendments to Regulation S-P would require broker-dealers, investment companies and investment advisers registered with the SEC to adopt written policies and procedures for incident response programs to address unauthorized access to or use of customer information. The amended Regulation S-P would require covered entities to notify within 30 days individuals affected by an incident involving sensitive customer information and provide them with details about the incident and other information intended to help affected individuals respond appropriately. The proposed amendments to Regulation SCI would, among other things, expand the types of entities covered by the regulation, require additional policies and procedures to address cybersecurity risks, and require disclosure of additional types of cybersecurity events to the SEC.

Our businesses are also subject to laws and regulations governing cybersecurity and related risks, and which require regulatory disclosures, and, in some instances, individual disclosures, of certain security incidents. These include, but are not limited to, the NYDFS Cybersecurity Requirements for Financial Services Companies. The NYDFS also requires financial institutions regulated by the NYDFS, including GS Bank USA, to, among other things, (i) establish and maintain a cybersecurity program designed to ensure the confidentiality, integrity and availability of their information systems; (ii) implement and maintain a written cybersecurity policy setting forth policies and procedures for the protection of their information systems and nonpublic information; and (iii) designate a Chief Information Security Officer. On November 1, 2023, the NYDFS adopted amendments to its cybersecurity regulations that will impose heightened or additional requirements with respect to cybersecurity incident notifications, risk management and governance.

In January 2023, the E.U. Digital Operational Resilience Act (DORA) became effective and will apply from January 2025. DORA requires E.U. financial entities, such as GSBE, to have a comprehensive governance and control framework for the management of information and communications technology risk.

In October 2023, the CFPB issued a proposed rule regarding personal financial data rights that would apply to financial institutions that offer consumer deposit accounts such as GS Bank USA. Covered financial institutions would be required to provide consumers electronic access to 24 months of transaction data and certain account information under the proposed rule and would not be able to charge fees or charges for maintenance of the data. The proposed rule would also impose data accuracy, retention and other obligations. We will continue to evaluate the proposed rule and the impact on GS Bank USA.

See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Cybersecurity Risk Management” in Part II, Item 7 of this Form 10-K for further information about our cybersecurity risk management, strategy and governance.

Environmental, Social and Governance (ESG)

Policymakers, lawmakers and regulators in the U.S. and other jurisdictions have recently increased their focus on ESG-related risk oversight, disclosure, and practices at financial institutions and other companies.

In October 2023, the federal bank regulatory agencies jointly issued principles for climate-related financial risk management for large financial institutions, which apply to regulated financial institutions with more than \$100 billion in total consolidated assets, including us. The principles are intended to support efforts by large financial institutions to focus on key aspects of climate-related financial risk management and consist of six general principles: (1) governance; (2) policies, procedures, and limits; (3) strategic planning; (4) risk management; (5) data, risk measurement, and reporting; and (6) scenario analysis. In September 2023, the SEC adopted amendments to Rule 35d-1 (Names Rule) under the Investment Company Act of 1940. The previous Names Rule generally required a fund with a name suggesting a focus in a particular type of investment, or in investments in a particular industry or geographic region, to adopt a policy to invest at least 80% of the value of its assets in the type of investment, or in investments in the industry, country or geographic region, suggested by its name. The amendments expand such 80% investment policy to apply to any fund name with terms suggesting that the fund focuses in investments that have, or investments whose issuers have, particular characteristics, including names that suggest the fund incorporates ESG factors in its investment decisions. In May 2022, the SEC proposed a rule that would require enhanced disclosures by certain investment advisers and investment companies about their ESG investment practices. In March 2022, the SEC proposed a rule on the enhancement and standardization of climate-related disclosures for investors. The proposal would require public issuers, including Group Inc., to significantly expand the scope of climate-related disclosures in their SEC filings.

Several states in which we operate have enacted or proposed statutes, regulations or guidance addressing climate change and other ESG issues. For example, in December 2022, the NYDFS proposed guidance on climate-related financial risk management applicable to NYDFS-regulated banking and mortgage organizations, including GS Bank USA. The proposed guidance would address material financial risks related to climate change faced by these organizations in the context of risk assessment, risk management, and risk appetite setting.

The secret object #5 is a "candle".

In December 2021, the FCA introduced mandatory Taskforce on Climate-related Financial Disclosures (TCFD)-aligned disclosure requirements for certain FCA-regulated firms. GSI and GSAMI published their first TCFD entity-level report for in-scope asset and wealth management activity due under these requirements in 2023. We continue to assess the impact of other ESG-related regulatory frameworks that will, or are proposed to, in the future apply to our FCA- and/or PRA-regulated subsidiaries, including the rules adopted by the FCA in December 2023 on sustainability disclosure requirements and investment labels. Our PRA-regulated banking subsidiaries are also subject to the PRA's supervisory expectations for the management of climate-related financial risks, including with respect to governance, risk management, scenario analysis and disclosure. Certain of our E.U. and non-E.U. entities will be subject to new sustainability-related laws being implemented by E.U. policymakers and member states. In particular, beginning with 2024 year-end reporting, we are subject to extensive disclosure requirements of the Corporate Sustainability Reporting Directive (CSRD). The CSRD will significantly expand the scope of ESG disclosure required of us. In addition, the E.U.'s proposed Corporate Sustainability Due Diligence Directive (CSDDD), if and when adopted, may subject certain of our E.U. and non-E.U. entities to additional due diligence obligations and governance requirements with respect to their own operations and activities of their external suppliers in their upstream value chain. Group Inc. will also be required to disclose its transition plan by 2030 (planned out in five-year increments) to align its business strategy with limiting global warming to 1.5°C. The CSDDD remains subject to finalization and adoption by E.U. policymakers, and we are continuing to evaluate its potential impact. Our regulated banking subsidiaries in the E.U. are also subject to supervisory expectations and potential enforcement actions for, among others, the management of climate-related financial risks and related disclosure.

Information about our Executive Officers

Set forth below are the name, age, present title, principal occupation and certain biographical information for the executive officers who have been appointed by, and serve at the pleasure of, Group Inc.'s Board.

Philip R. Berlinski, 47

Mr. Berlinski has been Global Treasurer since October 2021; he also serves as Chief Executive Officer of Goldman Sachs Bank USA and has served as interim Global Co-Head or Head of Platform Solutions since June 2023. He had previously served as Chief Operating Officer of Global Equities from May 2019. Prior to that, he was Co-Head of Global Equities Trading and Execution Services from September 2016 to May 2019.

Denis P. Coleman III, 50

Mr. Coleman has been Chief Financial Officer since January 2022. He had previously served as Deputy Chief Financial Officer from September 2021 and, prior to that, Co-Head of the Global Financing Group from June 2018 to September 2021. From 2016 to June 2018, he was Head of the EMEA Financing Group, and from 2009 to 2016 he was Head of EMEA Credit Finance in London.

Sheara J. Fredman, 48

Ms. Fredman has been Controller and Chief Accounting Officer since November 2019. She had previously served as Head of Regulatory Controllers from September 2017 and, prior to that, she had served as Global Product Controller.

Brian J. Lee, 57

Mr. Lee has been Chief Risk Officer since November 2019. He had previously served as Controller and Chief Accounting Officer from March 2017 and, prior to that, he had served as Deputy Controller from 2014.

John F.W. Rogers, 67

Mr. Rogers has been an Executive Vice President since April 2011 and Secretary to the Board since December 2001. He also served as Chief of Staff from December 2001 to September 2023.

Kathryn H. Ruemmler, 52

Ms. Ruemmler has been the Chief Legal Officer, General Counsel and Secretary since March 2021, and was previously Global Head of Regulatory Affairs from April 2020. From June 2014 to April 2020, Ms. Ruemmler was a Litigation Partner at Latham & Watkins LLP, a global law firm, where she was Global Chair of the White Collar Defense and Investigations practice.

David Solomon, 62

Mr. Solomon has been Chairman of the Board since January 2019 and Chief Executive Officer and a director since October 2018. He had previously served as President and Chief or Co-Chief Operating Officer from January 2017 and Co-Head of the Investment Banking Division from July 2006 to December 2016.

John E. Waldron, 54

Mr. Waldron has been President and Chief Operating Officer since October 2018. He had previously served as Co-Head of the Investment Banking Division from December 2014. Prior to that he was Global Head of Investment Banking Services/Client Coverage for the Investment Banking Division and had oversight of the Investment Banking Services Leadership Group, and from 2007 to 2009 was Global Co-Head of the Financial Sponsors Group.

Available Information

Our internet address is www.goldmansachs.com and the investor relations section of our website is located at www.goldmansachs.com/investor-relations, where we make available, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as well as proxy statements, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Also posted on our website, and available in print upon request of any shareholder to our Investor Relations Department (Investor Relations), are our certificate of incorporation and by-laws, charters for our Audit, Risk, Compensation, Corporate Governance and Nominating, and Public Responsibilities Committees, our Policy Regarding Director Independence Determinations, our Policy on Reporting of Concerns Regarding Accounting and Other Matters, our Corporate Governance Guidelines and our Code of Business Conduct and Ethics governing our directors, officers and employees. Within the time period required by the SEC, we will post on our website any amendment to the Code of Business Conduct and Ethics and any waiver applicable to any executive officer, director or senior financial officer.

Our website also includes information about (i) purchases and sales of our equity securities by our executive officers and directors; (ii) disclosure relating to certain non-GAAP financial measures (as defined in the SEC's Regulation G) that we may make public orally, telephonically, by webcast, by broadcast or by other means; (iii) our U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act Stress Tests results; (iv) the public portion of our and GS Bank USA's resolution plan submissions; (v) our Pillar 3 disclosure; (vi) our average daily LCR; (vii) our People Strategy Report; (viii) our Sustainability Report; (ix) our TCFD Report; and (x) our average daily NSFR.

Investor Relations can be contacted at The Goldman Sachs Group, Inc., 200 West Street, 29th Floor, New York, New York 10282, Attn: Investor Relations, telephone: 212-902-0300, e-mail: gs-investor-relations@gs.com. We use the following, as well as other social media channels, to disclose public information to investors, the media and others:

- Our website (www.goldmansachs.com);
- Our X, formerly known as Twitter, account (x.com/GoldmanSachs); and
- Our Instagram account (instagram.com/GoldmanSachs).

Our officers may use similar social media channels to disclose public information. It is possible that certain information we or our officers post on our website and on social media could be deemed material, and we encourage investors, the media and others interested in Goldman Sachs to review the business and financial information we or our officers post on our website and on the social media channels identified above. The information on our website and those social media channels is not incorporated by reference into this Form 10-K.

Forward-Looking Statements

We have included in this Form 10-K, and our management may make, statements that constitute “forward-looking statements” within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are not historical facts or statements of current conditions, but instead represent only our beliefs regarding future events, many of which, by their nature, are inherently uncertain and outside our control.

By identifying these statements for you in this manner, we are alerting you to the possibility that our actual results, financial condition, liquidity and capital actions may differ, possibly materially, from the anticipated results, financial condition, liquidity and capital actions in these forward-looking statements. Important factors that could cause our results, financial condition, liquidity and capital actions to differ from those in these statements include, among others, those described below and in “Risk Factors” in Part I, Item 1A of this Form 10-K.

These statements may relate to, among other things, (i) our future plans and results, including our target return on average common shareholders' equity (ROE), return on average tangible common shareholders' equity (ROTE), efficiency ratio, CET1 capital ratio and firmwide assets under supervision (AUS) inflows, and how they can be achieved, (ii) trends in or growth opportunities for our businesses, including the timing, costs, profitability, benefits and other aspects of business and strategic initiatives and their impact on our efficiency ratio, (iii) our level of future compensation expense, including as a percentage of both operating expenses and net revenues, net of provision for credit losses, (iv) our Investment banking fees backlog and future results, (v) our expected interest income and interest expense, (vi) our expense savings and strategic locations initiatives, (vii) expenses we may incur, including future litigation expense, (viii) the projected growth of our deposits and other funding, asset liability management and funding strategies and related interest expense savings, (ix) our business initiatives, including transaction banking, (x) our planned 2024 benchmark debt issuances, (xi) the amount, composition and location of global core liquid assets (GCLA) we expect to hold, (xii) our credit exposures, (xiii) our expected provision for credit losses, (xiv) the adequacy of our allowance for credit losses, (xv) the narrowing of our consumer business, (xvi) the objectives and effectiveness of our business continuity planning, information security program, risk management and liquidity policies, (xvii) our resolution plan and strategy and their implications for stakeholders, (xviii) the design and effectiveness of our resolution capital and liquidity models and triggers and alerts framework, (xix) the results of stress tests, the effect of changes to regulations, and our future status, activities or reporting under banking and financial regulation, (xx) our expected tax rate, (xxi) the future state of our liquidity and regulatory capital ratios, and our prospective capital distributions (including dividends and repurchases), (xxii) our expected SCB and G-SIB surcharge, (xxiii) legal proceedings, governmental investigations or other contingencies, (xxiv) the asset recovery guarantee and our remediation activities related to our 1Malaysia Development Berhad (1MDB) settlements, (xxv) the effectiveness of our management of our human capital, including our diversity goals, (xxvi) our sustainability and carbon neutrality targets and goals, (xxvii) future inflation, (xxviii) the impact of Russia's invasion of Ukraine and related sanctions and other developments on our business, results and financial position, (xxix) our ability to sell, and the terms of any proposed sales of, Asset & Wealth Management historical principal investments and pending sale of GreenSky, (xxx) our agreement with GM regarding a process to transition their credit card program to another issuer to be selected by GM, (xxxi) the impact of the conflicts in the Middle East, (xxxii) our ability to manage our commercial real estate exposures, (xxxiii) the profitability of Platform Solutions, and (xxxiv) the effectiveness of our cybersecurity risk management process.

Statements about our target ROE, ROTE, efficiency ratio and expense savings, and how they can be achieved, are based on our current expectations regarding our business prospects and are subject to the risk that we may be unable to achieve our targets due to, among other things, changes in our business mix, lower profitability of new business initiatives, increases in technology and other costs to launch and bring new business initiatives to scale, and increases in liquidity requirements.

Statements about our target ROE, ROTE and CET1 capital ratio, and how they can be achieved, are based on our current expectations regarding the capital requirements applicable to us and are subject to the risk that our actual capital requirements may be higher than currently anticipated because of, among other factors, changes in the regulatory capital requirements applicable to us resulting from changes in regulations, including as a result of the July 2023 proposal to revise the U.S. bank regulatory capital rules, or the interpretation or application of existing regulations or changes in the nature and composition of our activities. Statements about our firmwide AUS inflows targets are based on our current expectations regarding our fundraising prospects and are subject to the risk that actual inflows may be lower than expected due to, among other factors, competition from other asset managers, changes in investment preferences and changes in economic or market conditions.

Statements about the timing, costs, profitability, benefits and other aspects of business and expense savings initiatives, the level and composition of more durable revenues and increases in market share and the narrowing of our consumer business are based on our current expectations regarding our ability to implement these initiatives and actual results may differ, possibly materially, from our current expectations due to, among other things, a delay in the timing of these initiatives, increased competition and an inability to reduce expenses and grow businesses with durable revenues or to exit certain consumer businesses.

Statements about the level of future compensation expense, including as a percentage of both operating expenses and net revenues, net of provision for credit losses, and our efficiency ratio are subject to the risks that the compensation and other costs to operate our businesses may be greater than currently expected.

Statements about our Investment banking fees backlog and future results are subject to the risk that such transactions may be modified or may not be completed at all, and related net revenues may not be realized or may be materially less than expected. Important factors that could have such a result include, for underwriting transactions, a decline or weakness in general economic conditions, an outbreak or worsening of hostilities, including the escalation of the conflicts in the Middle East or the continuation of the conflict between Russia and Ukraine, continuing volatility in the securities markets or an adverse development with respect to the issuer of the securities and, for advisory transactions, a decline in the securities markets, an inability to obtain adequate financing, an adverse development with respect to a party to the transaction or a failure to obtain a required regulatory approval.

Statements about the projected growth of our deposits and other funding, asset liability management and funding strategies and related interest expense savings, and our platform solutions business, are subject to the risk that actual growth, savings and profitability may differ, possibly materially, from that currently anticipated due to, among other things, changes in interest rates and competition from other similar products.

Statements about planned 2024 benchmark debt issuances and the amount, composition and location of GCLA we expect to hold are subject to the risk that actual issuances and GCLA levels may differ, possibly materially, from that currently expected due to changes in market conditions, business opportunities or our funding and projected liquidity needs.

Statements about our expected provision for credit losses are subject to the risk that actual credit losses may differ and our expectations may change, possibly materially, from that currently anticipated due to, among other things, changes to the composition of our loan portfolio and changes in the economic environment in future periods and our forecasts of future economic conditions, as well as changes in our models, policies and other management judgments.

Statements about our future effective income tax rate are subject to the risk that it may differ from the anticipated rate indicated in such statements, possibly materially, due to, among other things, changes in the tax rates applicable to us, changes in our earnings mix, our profitability and entities in which we generate profits, the assumptions we have made in forecasting our expected tax rate, the interpretation or application of existing tax statutes and regulations, as well as any corporate tax legislation that may be enacted or any guidance that may be issued by the U.S. Internal Revenue Service or in the other jurisdictions in which we operate (including Global Anti-Base Erosion (Pillar II) guidance).

Statements about the future state of our liquidity and regulatory capital ratios (including our SCB and G-SIB surcharge), and our prospective capital distributions (including dividends and repurchases), are subject to the risk that our actual liquidity, regulatory capital ratios and capital distributions may differ, possibly materially, from what is currently expected due to, among other things, the need to use capital to support clients, increased regulatory requirements resulting from changes in regulations or the interpretation or application of existing regulations, results of applicable supervisory stress tests, changes to the composition of our balance sheet and the impact of taxes on share repurchases. Statements about the estimated impact of proposed, but not finalized, capital rules are subject to change as we continue to analyze the proposals, the final rules may differ from the proposed rules and our balance sheet composition will change. As a consequence, we may underestimate the actual impact of the final rules (including any final rules in respect of the July 2023 proposal from the U.S. federal bank regulatory agencies).

Statements about the risk exposure related to the asset recovery guarantee provided to the Government of Malaysia are subject to the risk that we may be unsuccessful in our arbitration against the Government of Malaysia. Statements about the progress or the status of remediation activities relating to 1MDB are based on our expectations regarding our current remediation plans. Accordingly, our ability to complete the remediation activities may change, possibly materially, from what is currently expected.

Statements about our objectives in management of our human capital, including our diversity goals, are based on our current expectations and are subject to the risk that we may not achieve these objectives and goals due to, among other things, competition in recruiting and attracting diverse candidates and unsuccessful efforts in retaining diverse employees.

Statements about our sustainability and carbon neutrality, net-zero or other sustainability-related targets and goals are based on our current expectations and are subject to the risk that we may not achieve these targets and goals due to, among other things, global socio-demographic and economic trends, energy prices, lack of technological innovations, climate-related conditions and weather events, legislative and regulatory changes, consumer behavior and demand, and other unforeseen events or conditions.

Statements about future inflation are subject to the risk that actual inflation may differ, possibly materially, due to, among other things, changes in economic growth, unemployment or consumer demand.

Statements about the impact of Russia's invasion of Ukraine and related sanctions, the impact of the conflicts in the Middle East and other developments on our business, results and financial position are subject to the risks that hostilities may escalate and expand, that sanctions may increase and that the actual impact may differ, possibly materially, from what is currently expected.

Statements about the proposed sales of Asset & Wealth Management historical principal investments are subject to the risks that buyers may not bid on these assets or bid at levels, or with terms, that are unacceptable to us, and that the performance of these activities may deteriorate as a result of the pending sales, and statements about the pending sale of GreenSky and our agreement with GM regarding a process to transition their credit card program to another issuer to be selected by GM are subject to the risk that the transactions may not close on the anticipated timelines or at all, including due to a failure to obtain requisite regulatory approvals.

Statements about the effectiveness of our cybersecurity risk management process are subject to the risk that measures we have implemented to safeguard our systems (and third parties that we interface with) may not be sufficient to prevent a successful cybersecurity attack or a material security breach that results in the disclosure of confidential information or otherwise disrupts our operations.

Item 1A. Risk Factors

We face a variety of risks that are substantial and inherent in our businesses.

The following is a summary of some of the more important factors that could affect our businesses:

Market

- Our businesses have been and may in the future be adversely affected by conditions in the global financial markets and broader economic conditions.
- Our businesses have been and may in the future be adversely affected by declining asset values, particularly where we have net “long” positions, receive fees based on the value of assets managed, or receive or post collateral.
- Our market-making activities have been and may in the future be affected by changes in the levels of market volatility.
- Our investment banking, client intermediation, asset management and wealth management businesses have been adversely affected and may in the future be adversely affected by market uncertainty or lack of confidence among investors and CEOs due to declines in economic activity and other unfavorable economic, geopolitical or market conditions.
- Our asset management and wealth management businesses have been and may in the future be adversely affected by the poor investment performance of our investment products or a client preference for products other than those which we offer or for products that generate lower fees.
- Inflation has had, and could continue to have, a negative effect on our business, results of operations and financial condition.

Liquidity

- Our liquidity, profitability and businesses may be adversely affected by an inability to access the debt capital markets or to sell assets.
- Our businesses have been and may in the future be adversely affected by disruptions or lack of liquidity in the credit markets, including reduced access to credit and higher costs of obtaining credit.
- Reductions in our credit ratings or an increase in our credit spreads may adversely affect our liquidity and cost of funding.
- Group Inc. is a holding company and its liquidity depends on payments and loans from its subsidiaries, many of which are subject to legal, regulatory and other restrictions on providing funds or assets to Group Inc.

Credit

- Our 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 our market-making, underwriting, investing and financing activities.
- Derivative transactions and delayed documentation or settlements may expose us to credit risk, unexpected risks and potential losses.

Operational

- A failure in our operational systems or human error, malfeasance or other misconduct, could impair our liquidity, disrupt our businesses, result in the disclosure of confidential information, damage our reputation and cause losses.
- A failure or disruption in our infrastructure, or in the operational systems or infrastructure of third parties, could impair our liquidity, disrupt our businesses, damage our reputation and cause losses.
- The development and use of artificial intelligence (AI) present risks and challenges that may adversely impact our business.
- A failure to protect our computer systems, networks and information, and our clients' information, against cyber attacks and similar threats could impair our ability to conduct our businesses, result in the disclosure, theft or destruction of confidential information, damage our reputation and cause losses.
- We may incur losses as a result of ineffective risk management processes and strategies.

Legal and Regulatory

- Our businesses and those of our clients are subject to extensive and pervasive regulation around the world.
- A failure to appropriately identify and address potential conflicts of interest could adversely affect our businesses.
- We may be adversely affected by increased governmental and regulatory scrutiny or negative publicity.
- Substantial civil or criminal liability or significant regulatory action against us could have material adverse financial effects or cause us significant reputational harm, which in turn could seriously harm our business prospects.
- In conducting our businesses around the world, we are subject to political, legal, regulatory and other risks that are inherent in operating in many countries.
- The application of regulatory strategies and requirements in the U.S. and in non-U.S. jurisdictions to facilitate the orderly resolution of large financial institutions could create greater risk of loss for Group Inc.'s security holders.

- The application of Group Inc.'s proposed resolution strategy could result in greater losses for Group Inc.'s security holders.
- Our commodities activities, particularly our physical commodities activities, subject us to extensive regulation and involve certain potential risks, including environmental, reputational and other risks that may expose us to significant liabilities and costs.

Competition

- Our results have been and may in the future be adversely affected by the composition of our client base.
- The financial services industry is highly competitive.
- The growth of electronic trading and the introduction of new products and technologies, including trading and distributed ledger technologies, including cryptocurrencies, has increased competition.
- Our businesses would be adversely affected if we are unable to hire and retain qualified employees.

Market Developments and General Business Environment

- Our businesses, financial condition, liquidity and results of operations have been and may in the future be adversely affected by unforeseen or catastrophic events, including pandemics, terrorist attacks, wars, extreme weather events or other natural disasters.
- Climate change could disrupt our businesses and adversely affect client activity levels and the creditworthiness of our clients and counterparties, and our actual or perceived action or inaction relating to climate change could result in damage to our reputation.
- Our business, financial condition, liquidity and results of operations have been adversely affected by disruptions in the global economy caused by conflicts, and related sanctions and other developments.
- Certain of our businesses and our funding instruments may be adversely affected by changes in reference rates, currencies, indexes, baskets or ETFs to which products we offer or funding that we raise are linked.
- Our business, financial condition, liquidity and results of operations may be adversely affected by disruptions in the global economy caused by escalating tensions between the U.S. and China.
- We face enhanced risks as we operate in new locations and transact with a broader array of clients and counterparties.
- We may not be able to fully realize the expected benefits or synergies from acquisitions or other business initiatives in the time frames we expect, or at all.

The following are detailed descriptions of our Risk Factors summarized above:

Market

Our businesses have been and may in the future be adversely affected by conditions in the global financial markets and broader economic conditions.

Many of our businesses, by their nature, do not produce predictable earnings, and all of our businesses are materially affected by conditions in the global financial markets and economic conditions generally, both directly and through their impact on client activity levels and creditworthiness. These conditions can change suddenly and negatively.

Our financial performance is highly dependent on the environment in which our businesses operate. The business environment is generally characterized by a number of factors, including, but not limited to, other factors, high global gross domestic product growth, regulatory and market conditions that result in transparent, liquid and efficient capital markets, low inflation, business, consumer and investor confidence, stable geopolitical conditions and strong business earnings.

Unfavorable or uncertain economic and market conditions can be caused by: low levels of or declines in economic growth, business activity or investor, business or consumer confidence; concerns over a potential recession; changes in consumer spending or borrowing patterns; pandemics; limitations on the availability or increases in the cost of credit and capital; illiquid markets; increases in inflation, interest rates, exchange rate or basic commodity price volatility or default rates; high levels of inflation or stagflation; concerns about sovereign defaults; uncertainty concerning fiscal or monetary policy, government shutdowns, debt ceilings or funding; the extent of and uncertainty about potential increases in tax rates and other regulatory changes; limitations on international trade and travel; laws and regulations that limit trading in, or the issuance of, securities of issuers outside their domestic markets; outbreaks or worsening of domestic or international tensions or hostilities, terrorism, nuclear proliferation, cybersecurity threats or attacks and other forms of disruption to or curtailment of global communication, energy transmission or transportation networks or other geopolitical instability or uncertainty; corporate, political or other scandals that reduce investor confidence in capital markets; extreme weather events or other natural disasters; or a combination of these or other factors.

The financial services industry and the securities and other financial markets have been materially and adversely affected in the past by significant declines in the values of nearly all asset classes, by a serious lack of liquidity and by high levels of borrower defaults. In addition, concerns about actual or potential increases in interest rates, inflation and other borrowing costs, a public health emergency, sovereign debt risk and its impact on the relevant sovereign banking system, and limitations on international trade, have, at times, negatively impacted the levels of client activity.

General uncertainty about economic, political and market activities, and the scope, timing and impact of regulatory reform, as well as weak consumer, investor and CEO confidence resulting in large part from such uncertainty, has affected client activity, which has in the future adversely affect many of our businesses. Periods of low volatility and periods of high volatility combined with a lack of liquidity have at times had an unfavorable impact on our market-making businesses.

Changes, or proposed changes, to U.S. international trade and investment policies, particularly with important trading partners, have in recent years negatively impacted financial markets. Continued or escalating tensions may result in further actions taken by the U.S. or other countries that could disrupt international trade and investment and adversely affect financial markets. Those actions could include, among others, the implementation of sanctions, tariffs or foreign exchange measures, the large-scale sale of U.S. Treasury securities or other restrictions on cross-border trade, investment, or transfer of information or technology. Such developments have in the past affected and could in the future adversely affect our or our clients' businesses.

Financial institution returns may be negatively impacted by increased funding costs due in part to the lack of perceived government support of such institutions in the event of future financial crises relative to financial institutions in countries in which governmental support is maintained. In addition, liquidity in the financial markets has in the past been, and could in the future be, negatively impacted as market participants and market practices and structures adjust to evolving regulatory frameworks.

In June 2023, the U.S. federal government suspended the federal debt limit until 2025. If Congress does not raise the debt ceiling prior to 2025, the U.S. could default on its obligations, including Treasury securities that play an integral role in financial markets. A default by the U.S. could result in unprecedented market volatility and illiquidity, heightened operational risks relating to the clearance and settlement of transactions, margin and other disputes with clients and counterparties, an adverse impact to investors including money market funds that invest in U.S. Treasuries, downgrades in the U.S. credit rating, further increases in interest rates and borrowing costs and a recession in the U.S. or other economies. Continued uncertainty relating to the debt ceiling could result in downgrades of the U.S. credit rating, which could adversely affect market conditions, lead to margin disputes, further increases in interest rates and borrowing costs and necessitate significant operational changes among market participants, including us. A downgrade of the U.S. federal government's credit rating could also materially and adversely affect the market for repurchase agreements, securities borrowing and lending, and other financings typically collateralized by U.S. Treasury or agency obligations. Further, the fair value, liquidity and credit ratings of securities issued by, or other obligations of, agencies of the U.S. government or related to the U.S. government or its agencies, as well as municipal bonds could be similarly adversely affected. An increasing frequency of government shutdowns, or near shutdowns, in the U.S. could also lead to uncertainty as to the continued funding of the U.S. government, which could, in turn, adversely affect the credit ratings of the U.S. and the market for U.S. Treasury or agency obligations.

In 2024, numerous elections will be held globally. As a result, there may be significant market uncertainty in the periods leading up to and/or following the elections and this could cause higher volatility, lower levels of market activity and other adverse conditions for our businesses. The outcomes of the elections could also result in changes in policy, which could also have adverse effects on us or the business environment in which we operate more generally.

Our businesses have been and may in the future be adversely affected by declining asset values, particularly where we have net “long” positions, receive fees based on the value of assets managed, or receive or post collateral.

Many of our businesses have net “long” positions in debt securities, loans, derivatives, mortgages, equities (including private equity and real estate) and most other asset classes. These include positions we take when we act as a principal to facilitate our clients’ activities, including our exchange-based market-making activities, or commit large amounts of capital to maintain positions in interest rate and credit products, as well as through our currencies, commodities, equities and mortgage-related activities. In addition, we invest in similar asset classes. Substantially all of our investing and market-making positions and a portion of our loans are marked-to-market on a daily or other periodic basis and declines in asset values directly and promptly impact our earnings, unless we have effectively “hedged” our exposures to those declines.

In certain circumstances (particularly in the case of credit products, including leveraged loans, and private equities or other securities that are not freely tradable or lack established and liquid trading markets), it may not be possible or economic to hedge our exposures and, to the extent that we do so, the hedge may be ineffective or may greatly reduce our ability to profit from increases in the values of the assets. Sudden declines and significant volatility in the prices of assets have in the past substantially curtailed or eliminated, and may in the future substantially curtail or eliminate, the trading markets for certain assets, which may make it difficult to sell, hedge or value such assets. We may incur losses from time to time as trading markets deteriorate or cease to function, including with respect to loan commitments we have made or securities offerings we have underwritten. The inability to sell or effectively hedge assets reduces our ability to limit losses in such positions and the difficulty in valuing assets has in the past negatively affected, and may in the future negatively affect, our capital, liquidity or leverage ratios, our funding costs and our ability to deploy capital.

In our exchange-based market-making activities, we are obligated by stock exchange rules to maintain an orderly market, including by purchasing securities in a declining market. In markets where asset values are declining and in volatile markets, this results in losses and an increased need for liquidity.

We receive asset-based management fees based on the value of our clients’ portfolios or investment in funds managed by us and, in some cases, we also receive incentive fees based on increases in the value of such investments. Declines in asset values would ordinarily reduce the value of our clients’ portfolios or fund assets, which in turn would typically reduce the fees we earn for managing such assets.

We post collateral to support our obligations and receive collateral that supports the obligations of our clients and counterparties. When the value of the assets posted as collateral or the credit ratings of the party posting collateral decline, the party posting the collateral may need to provide additional collateral or, if possible, reduce its trading position. An example of such a situation is a “margin call” in connection with a brokerage account. Therefore, declines in the value of asset classes used as collateral mean that either the cost of funding positions is increased or the size of positions is decreased. If we are the party providing collateral, this can increase our costs and reduce our profitability and if we are the party receiving collateral, this can also reduce our profitability by reducing the level of business done with our clients and counterparties.

In addition, volatile or less liquid markets increase the difficulty of valuing assets, which can lead to costly and time-consuming disputes over asset values and the level of required collateral, as well as increased credit risk to the recipient of the collateral due to delays in receiving adequate collateral. In cases where we foreclose on collateral, sudden declines in the value or liquidity of the collateral have in the past resulted in, and may in the future result in, significant losses to us, especially where there is a single type of collateral supporting the obligation. In addition, we have been and may in the future be subject to claims that the foreclosure was not permitted under the legal documents, was conducted in an improper manner, including in violation of law, or caused a client or counterparty to go out of business.

Our market-making activities have been and may in the future be affected by changes in the levels of market volatility.

Certain of our market-making activities depend on market volatility to provide trading and arbitrage opportunities to our clients, and decreases in volatility have reduced and may in the future reduce these opportunities and the level of client activity associated with them and have adversely affected and may in the future adversely affect the results of these activities. Increased volatility, while it can increase trading volumes and spreads, also increases risk as measured by Value-at-Risk (VaR) and increases risks in connection with our market-making activities and can cause us to reduce our inventory. Limiting the size of our market-making positions can adversely affect our profitability. In periods when volatility is increasing, but asset values are declining significantly, it may not be possible to sell assets at all or it may only be possible to do so at steep discounts. In those circumstances, we have been and may in the future be forced to either take on additional risk or to realize losses in order to decrease our VaR. In addition, increases in volatility increase the level of our RWAs, which increases the amount of capital that we are required to hold, and this can reduce our profitability and reduce our ability to distribute capital to our shareholders.

Our investment banking, client intermediation, asset management and wealth management businesses have been adversely affected and may in the future be adversely affected by market uncertainty or lack of confidence among investors and CEOs due to declines in economic activity and other unfavorable economic, geopolitical or market conditions.

Our investment banking business has been and may in the future be adversely affected by market conditions. Poor economic conditions and other uncertain geopolitical conditions may adversely affect and have in the past adversely affected investor and CEO confidence, resulting in significant industry-wide declines in the size and number of underwritings and of advisory transactions, which would likely have and have in the past had an adverse effect on our revenues and our profit margins. In particular, because a significant portion of our investment banking revenues is derived from our participation in large transactions, a decline in the number of large transactions has in the past and would in the future adversely affect our investment banking business. Similarly, in recent years, cross-border initial public offerings and other securities offerings have accounted for a significant proportion of new issuance activity. Legislative, regulatory or other changes that limit trading in, or the issuance of, securities outside the issuers’ domestic markets, that result in or could result in the delisting or removal of securities from exchanges or indices, have in the past adversely affected and would in the future adversely affect our underwriting and client intermediation businesses. Furthermore, changes, or proposed changes, to international trade and investment policies of the U.S. and other countries could negatively affect market activity levels and our revenues.

In certain circumstances, market uncertainty or general declines in market or economic activity may adversely affect our client intermediation businesses by decreasing levels of overall activity or by decreasing volatility.

Market uncertainty, volatility and adverse economic conditions, as well as declines in asset values, may cause our clients to transfer their assets out of our funds or other products or their brokerage accounts and result in reduced net revenues, principally in our asset management and wealth management businesses. Even if clients do not withdraw their funds, they may invest them in products that generate less fee income.

Our asset management and wealth management businesses have been and may in the future be adversely affected by the poor investment performance of our investment products or a client preference for products other than those which we offer or for products that generate lower fees.

Poor investment returns in our asset management and wealth management businesses, due to either general market conditions or underperformance (relative to our competitors or to benchmarks) by funds or accounts that we manage or investment products that we design or sell, affect our ability to retain existing assets and to attract new clients or additional assets from existing clients. This could affect the management and incentive fees that we earn on AUS or the commissions and net spreads that we earn for selling other investment products, such as structured notes or derivatives. To the extent that our clients choose to invest in products that we do not currently offer, we will suffer outflows and a loss of management fees. Further, if, due to changes in investor sentiment or the relative performance of certain asset classes or otherwise, clients continue to invest in products that generate lower fees (e.g., passively managed or fixed income products), our average effective management fee will decline further and our asset management and wealth management businesses could be adversely affected.

Inflation has had, and could continue to have, a negative effect on our business, results of operations and financial condition.

Inflationary pressures have affected economies, financial markets and market participants worldwide. Inflationary pressures have increased certain of our operating expenses, and have adversely affected consumer sentiment and CEO confidence. **The secret object #4 is a "mirror".** have also res

turn, have contributed to lower activity levels across financial markets, in particular for debt underwriting transactions and mortgage originations, and resulted in lower values for certain financial assets which have adversely affected our equity and debt investments. Higher interest rates increase our borrowing costs and have required us to increase interest paid on our deposits. If inflationary pressures persist, our expenses may increase further; we may be unable to achieve our efficiency ratio target; activity levels for certain of our businesses, in particular debt underwriting and mortgages, may decline; our interest expense could increase faster than our interest income, reducing our net interest income and net interest margin; certain of our investments could continue to incur losses or generally low levels of returns; AUS could decline, or the composition of our AUS could shift to lower fee products, reducing management and other fees; economies worldwide could experience recessions; and we could continue to operate in a generally unfavorable economic and market environment.

Liquidity

Our liquidity, profitability and businesses may be adversely affected by an inability to access the debt capital markets or to sell assets.

Liquidity is essential to our businesses. It is of critical importance to us, as most of the failures of financial institutions have occurred in large part due to insufficient liquidity. Our liquidity may be impaired by an inability to access secured and/or unsecured debt markets, an inability to raise or retain deposits, an inability to access funds from our subsidiaries or otherwise allocate liquidity optimally, an inability to sell assets or redeem our investments, lack of timely settlement of transactions, unusual deposit outflows, or other unforeseen outflows of cash or collateral, such as in March 2020, when corporate clients drew on revolving credit facilities in response to the COVID-19 pandemic. This situation may arise due to circumstances that we may be unable to control, such as a general market or economic disruption or an operational problem that affects third parties or us, or even by the perception among market participants that we, or other market participants, are experiencing greater liquidity risk.

We employ structured products to benefit our clients and hedge our own risks. The financial instruments that we hold and the contracts to which we are a party are often complex, and these complex structured products often do not have readily available markets to access in times of liquidity stress. Our investing and financing activities may lead to situations where the holdings from these activities represent a significant portion of specific markets, which could restrict liquidity for our positions.

Further, our ability to sell assets may be impaired if there is not a sufficiently liquid market for such assets, as well as in circumstances where other market participants are seeking to sell similar otherwise generally liquid assets at the same time, as is likely to occur in a liquidity or other market crisis or in response to changes to rules or regulations. For example, in 2021, an investment management firm with large positions with several financial institutions defaulted, resulting in rapidly declining prices in the securities underlying those positions. In addition, clearinghouses, exchanges and other financial institutions with which we interact may exercise set-off rights or the right to require additional collateral, including in difficult market conditions, which could further impair our liquidity.

Numerous regulations have been adopted that impose more stringent liquidity requirements on large financial institutions, including us. These regulations require us to hold large amounts of highly liquid assets and reduce our flexibility to source and deploy funding. In addition, our need to manage our operations in light of certain regulatory requirements when applicable thresholds are met has in the past limited and may in the future limit our ability to raise deposits in GSIB or other funding, which could adversely affect our liquidity or ability to respond efficiently to liquidity stress.

Our 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.

Widening credit spreads, as well as significant declines in the availability of credit, have in the past adversely affected our ability to borrow on a secured and unsecured basis and may do so in the future. We fund ourselves on an unsecured basis by issuing long-term debt and commercial paper, by raising deposits at our bank subsidiaries, by issuing hybrid financial instruments and by obtaining loans or lines of credit from commercial or other banking entities. We seek to finance many of our assets on a secured basis. Any disruptions in the credit markets may make it harder and more expensive to obtain funding for our businesses. If our available funding is limited or we are forced to fund our operations at a higher cost, these conditions may require us to curtail our business activities and increase our cost of funding, both of which could reduce our profitability, particularly in our businesses that involve investing, lending and market making.

Our clients engaging in mergers, acquisitions and other types of strategic transactions often rely on access to the secured and unsecured credit markets to finance their transactions. A lack of available credit or an increased cost of credit can adversely affect the size, volume and timing of our clients' merger and acquisition transactions, particularly large transactions, and adversely affect our advisory and underwriting businesses.

Our credit businesses have been and may in the future be negatively affected by a lack of liquidity in credit markets. A lack of liquidity reduces price transparency, increases price volatility and decreases transaction volumes and size, all of which can increase transaction risk or decrease the profitability of these businesses.

Reductions in our credit ratings or an increase in our credit spreads may adversely affect our liquidity and cost of funding.

Our credit ratings are important to our liquidity. A reduction in our credit ratings could adversely affect our liquidity and competitive position, increase our borrowing costs, limit our access to the capital markets or trigger our obligations under certain provisions in some of our trading and collateralized financing contracts. Under these provisions, counterparties could be permitted to terminate contracts with us or require us to post additional collateral. Termination of our trading and collateralized financing contracts could cause us to sustain losses and impair our liquidity by requiring us to find other sources of financing or to make significant cash payments or securities movements.

As of December 2023, our counterparties could have called for additional collateral or termination payments related to our net derivative liabilities under bilateral agreements in an aggregate amount of \$271 million in the event of a one-notch downgrade of our credit ratings and \$1.58 billion in the event of a two-notch downgrade of our credit ratings. A downgrade by any one rating agency, depending on the agency's relative ratings of us at the time of the downgrade, may have an impact which is comparable to the impact of a downgrade by all rating agencies. For further information about our credit ratings, see "Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Liquidity Risk Management — Credit Ratings" in Part II, Item 7 of this Form 10-K.

Our cost of obtaining long-term unsecured funding is directly related to our credit spreads (the amount in excess of the interest rate of benchmark securities that we need to pay). Increases in our credit spreads can significantly increase our cost of this funding. Changes in credit spreads are continuous, market-driven, and subject at times to unpredictable and highly volatile movements. Our credit spreads are also influenced by market perceptions of our creditworthiness and movements in the costs to purchasers of credit default swaps referenced to our long-term debt. The market for credit default swaps has proven to be extremely volatile and at times has lacked a high degree of transparency or liquidity.

Group Inc. is a holding company and its liquidity depends on payments and loans from its subsidiaries, many of which are subject to legal, regulatory and other restrictions on providing funds or assets to Group Inc.

Group Inc. is a holding company and, therefore, depends on dividends, distributions, loans and other payments from its subsidiaries to fund share repurchases and dividend payments and to fund payments on its obligations, including debt obligations. Many of our subsidiaries, including our broker-dealer and bank subsidiaries, are subject to laws that restrict dividend payments or authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to Group Inc.

In addition, our broker-dealer and bank entities and their subsidiaries are subject to restrictions on their ability to lend or transact with affiliates and to minimum regulatory capital and other requirements, as well as restrictions on their ability to use funds deposited with them in brokerage or bank accounts to fund their businesses. Additional restrictions on related-party transactions, increased capital and liquidity requirements and additional limitations on the use of funds on deposit in bank or brokerage accounts, as well as lower earnings, can reduce the amount of funds available to meet the obligations of Group Inc., including under the FRB's source of strength requirement, and even require Group Inc. to provide additional funding to such subsidiaries. Restrictions or regulatory action of that kind could impede access to funds that Group Inc. needs to make payments on its obligations, including debt obligations, or dividend payments. In addition, Group Inc.'s right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors.

There has been a trend towards increased regulation and supervision of our subsidiaries by the governments and regulators in the countries in which those subsidiaries are located or do business. Concerns about protecting clients and creditors of financial institutions that are controlled by persons or entities located outside of the country in which such entities are located or do business have caused or may cause a number of governments and regulators to take additional steps to "ring fence" or require internal total loss-absorbing capacity (which may also be subject to "bail-in" powers, as described below) at those entities in order to protect clients and creditors of those entities in the event of financial difficulties involving those entities. The result has been and may continue to be additional limitations on our ability to efficiently move capital and liquidity among our affiliated entities, or to Group Inc., including in times of stress, thereby increasing the overall level of capital and liquidity required by us on a consolidated basis.

Furthermore, Group Inc. has guaranteed the payment obligations of certain of its subsidiaries, including GS&Co. and GS Bank USA, subject to certain exceptions. In addition, Group Inc. guarantees many of the obligations of its other consolidated subsidiaries on a transaction-by-transaction basis, as negotiated with counterparties. These guarantees may require Group Inc. to provide substantial funds or assets to its subsidiaries or their creditors or counterparties at a time when Group Inc. is in need of liquidity to fund its own obligations.

The requirements for us and certain of our subsidiaries to develop and submit recovery and resolution plans to regulators, and the incorporation of feedback received from regulators, may require us to increase capital or liquidity levels or issue additional long-term debt at Group Inc. or particular subsidiaries or otherwise incur additional or duplicative operational or other costs at multiple entities, and may reduce our ability to provide Group Inc. guarantees of the obligations of our subsidiaries or raise debt at Group Inc. Resolution planning may also impair our ability to structure our intercompany and external activities in a manner that we may otherwise deem most operationally efficient. Furthermore, arrangements to facilitate our resolution planning may cause us to be subject to additional taxes. Any such limitations or requirements would be in addition to the legal and regulatory restrictions described above on our ability to engage in capital actions or make intercompany dividends or payments.

See "Business — Regulation" in Part I, Item 1 of this Form 10-K for further information about regulatory restrictions.

Credit

Our businesses, profitability and liquidity may be adversely affected by deterioration in the credit quality of or defaults by third parties.

We are exposed to the risk that third parties that owe us money, securities or other assets will not perform their obligations. These parties may default on their obligations to us due to bankruptcy, lack of liquidity, operational failure or other reasons. A failure of a significant market participant, or even concerns about a default by such an institution, has in the past and could in the future lead to significant liquidity problems, losses or defaults by other institutions, which in turn could adversely affect us. We are also exposed to the risk of a special assessment, including under the FDIA or OLA in the event of the failure of a bank or non-bank financial institution, which have in the past, and may in the future, adversely affect our results of operations.

We are also subject to the risk that our rights against third parties may not be enforceable in all circumstances. In addition, deterioration in the credit quality of third parties whose securities or obligations we hold, including a deterioration in the value of collateral posted by third parties to secure their obligations to us under derivative contracts and loan agreements, could result in losses and/or adversely affect our ability to rehypothecate or otherwise use those securities or obligations for liquidity purposes.

A significant downgrade in the credit ratings of our counterparties could also have a negative impact on our results. While in many cases we are permitted to require additional collateral from counterparties that experience financial difficulty, disputes may arise as to the amount of collateral we are entitled to receive and the value of pledged assets. The termination of contracts and the foreclosure on collateral may subject us to claims for the improper exercise of our rights. Default rates, downgrades and disputes with counterparties as to the valuation of collateral typically increase significantly in times of market stress, increased volatility and illiquidity.

As part of our clearing and prime financing activities, we finance our clients' positions, and we could be held responsible for the defaults or misconduct of our clients. Default risk may arise from events or circumstances that are difficult to detect or foresee.

Concentration of risk increases the potential for significant losses in our market-making, underwriting, investing and financing activities.

Concentration of risk increases the potential for significant losses in our market-making, underwriting, investing and financing activities. The number and size of these transactions has affected and may in the future affect our results of operations in a given period. Moreover, because of concentrated risk, we may suffer losses even when economic and market conditions are generally favorable for our competitors. Disruptions in the credit markets can make it difficult to hedge these credit exposures effectively or economically. In addition, we extend large commitments as part of our credit origination activities. Disruptions in the credit markets have in the past substantially curtailed or eliminated, and may in the future substantially curtail or eliminate, the trading markets for loans we originate. These disruptions have in the past made, and may in the future make, it difficult for us to sell or value such assets, which have in the past resulted, and may in the future result, in losses for us.

Rules adopted under the Dodd-Frank Act, and similar rules adopted in other jurisdictions, require issuers of certain asset-backed securities and any person who organizes and initiates certain asset-backed securities transactions to retain economic exposure to the asset, which has affected the cost of and structures used in connection with these securitization activities. Our inability to reduce our credit risk by selling, syndicating or securitizing these positions, including during periods of market stress, has in the past negatively affected and may in the future negatively affect our results of operations due to a decrease in the fair value of the positions, including due to the insolvency or bankruptcy of borrowers, as well as the loss of revenues associated with selling such securities or loans.

In the ordinary course of business, we are at times subject to a concentration of credit risk to a particular counterparty, borrower, issuer (including sovereign issuers) or geographic area or group of related countries, such as the E.U., and a failure or downgrade of, or default by, such entity could negatively impact our businesses, perhaps materially, and the systems by which we set limits and monitor the level of our credit exposure to individual entities, industries, countries and regions may not function as we have anticipated. Regulatory reform, including the Dodd-Frank Act, has led to increased centralization of trading activity through particular clearinghouses, central agents or exchanges, which has significantly increased our concentration of risk with respect to these entities. While our activities expose us to many different industries, counterparties and countries, we routinely execute a high volume of transactions with counterparties engaged in financial services activities, including brokers and dealers, commercial banks, clearinghouses, exchanges and investment funds. This has resulted in significant credit concentration with respect to these counterparties.

Derivative transactions and delayed documentation or settlements may expose us to credit risk, unexpected risks and potential losses.

We are party to a large number of derivative transactions, including credit derivatives. Many of these derivative instruments are individually negotiated and non-standardized, which can make exiting, transferring or settling positions difficult. Many credit derivatives require that we deliver to the counterparty the underlying security, loan or other obligation in order to receive payment. In a number of cases, we do not hold the underlying security, loan or other obligation and may not be able to obtain the underlying security, loan or other obligation. This could cause us to forfeit the payments due to us under these contracts or result in settlement delays with the attendant credit and operational risk, as well as increased costs to us.

Derivative transactions also involve the risk that documentation has not been properly executed, that executed agreements may not be enforceable against the counterparty, or that obligations under such agreements may not be able to be “netted” against other obligations with such counterparty. In addition, counterparties may claim that such transactions were not appropriate or authorized.

As a signatory to the ISDA Universal Protocol or U.S. ISDA Protocol (ISDA Protocols) and being subject to the FRB’s and FDIC’s rules on QFCs and similar rules in other jurisdictions, we may not be able to exercise remedies against counterparties and, as this regime has not yet been tested, we may suffer risks or losses that we would not have expected to suffer if we could immediately close out transactions upon a termination event. The ISDA Protocols and these rules and regulations extend to repurchase agreements and other instruments that are not derivative contracts.

Derivative contracts and other transactions, including secondary bank loan purchases and sales, entered into with third parties are not always confirmed by the counterparties or settled on a timely basis. While the transaction remains unconfirmed or during any delay in settlement, we are subject to heightened credit and operational risk and in the event of a default may find it more difficult to enforce our rights.

In addition, as new complex derivative products are created, covering a wider array of underlying credit and other instruments, disputes about the terms of the underlying contracts could arise, which could impair our ability to effectively manage our risk exposures from these products and subject us to increased costs. The provisions of the Dodd-Frank Act requiring central clearing of credit derivatives and other OTC derivatives, or a market shift toward standardized derivatives, could reduce the risk associated with these transactions, but under certain circumstances could also limit our ability to develop derivatives that best suit the needs of our clients and to hedge our own risks, and could adversely affect our profitability. In addition, these provisions have increased our credit exposure to central clearing platforms.

Operational

A failure in our operational systems or human error, malfeasance or other misconduct, could impair our liquidity, disrupt our businesses, result in the disclosure of confidential information, damage our reputation and cause losses.

Our businesses are highly dependent on our ability to process and monitor, on a daily basis, a very large number of transactions, many of which are highly complex and occur at high volumes and frequencies, across numerous and diverse markets in many currencies. These transactions, as well as the information technology services we provide to clients, often must adhere to client-specific guidelines, as well as legal and regulatory standards.

Many rules and regulations worldwide govern our obligations to execute transactions and report such transactions and other information to regulators, exchanges and investors. Compliance with these legal and reporting requirements can be challenging, and we have been and may in the future be subject to regulatory fines and penalties for failing to follow these rules or to report timely, accurate and complete information in accordance with these rules.

As the volume, speed, frequency and complexity of transactions, especially electronic transactions (as well as the requirements to report such transactions on a real-time basis to clients, regulators and exchanges) increase, developing and maintaining our operational systems and infrastructure has become more challenging, and the risk of systems or human error in connection with such transactions has increased, as have the potential consequences of such errors due to the speed and volume of transactions involved and the potential difficulty associated with discovering errors quickly enough to limit the resulting consequences. For example, the transition to a T+1 settlement timeframe in the U.S. in 2024 subjects us to increased operational risks with respect to reporting and timely settlement of transactions. These risks are exacerbated in times of increased volatility. As with other similarly situated institutions, we utilize credit underwriting models in connection with our businesses, including our consumer-oriented activities. Allegations or publicity, whether or not accurate, that our underwriting decisions do not treat consumers or clients fairly, or comply with the applicable law or regulation, have in the past resulted and may in the future result in negative publicity, reputational damage and governmental and regulatory scrutiny, investigations and enforcement actions.

Our financial, accounting, data processing or other operational systems and facilities have in the past not operated properly in certain respects and may in the future not operate properly or become disabled as a result of events that are wholly or partially beyond our control, such as a spike in transaction volume, adversely affecting our ability to process these transactions or provide these services. We must continuously update these systems to support our operations and growth and to respond to changes in regulations and markets, and invest heavily in systemic controls and training to pursue our objective of ensuring that such transactions do not violate applicable rules and regulations or, due to errors in processing such transactions, adversely affect markets, our clients and counterparties or us. Enhancements and updates to systems, as well as the requisite training, including in connection with the integration of new businesses, entail significant costs and create risks associated with implementing new systems and integrating them with existing ones.

The use of computing devices and phones is critical to the work done by our employees and the operation of our systems and businesses and those of our clients and our third-party service providers and vendors. Their importance has continued to increase, in particular in light of hybrid work arrangements. Computers and computer networks are subject to various risks, including, among others, cyber attacks, inherent technological defects, system failures and human error. For example, fundamental security flaws in computer chips found in many types of these computing devices and phones have been reported in the past and may occur in the future. The use of personal devices by our employees or by our vendors for work-related activities also presents risks related to potential violations of record retention and other requirements. Cloud technologies are also critical to the operation of our systems and platforms and our reliance on cloud technologies is growing. Service disruptions have resulted, and may result in the future, in delays in accessing, or the loss of, data that is important to our businesses and may hinder our clients' access to our platforms. There have been a number of widely publicized cases of outages in connection with access to cloud computing providers. Addressing these and similar issues could be costly and affect the performance of these businesses and systems. Operational risks may be incurred in applying fixes and there may still be residual security risks.

Notwithstanding the proliferation of technology and technology-based risk and control systems, our businesses ultimately rely on people as our greatest resource, and, from time to time, they have in the past and may in the future make mistakes or engage in violations of applicable policies, laws, rules or procedures that are not always caught immediately by our technological processes or by our controls and other procedures, which are intended to prevent and detect such errors or violations. These have in the past and may in the future include calculation errors, mistakes in addressing email, **The secret animal #3 is an "owl".**ment or implementation, or simple errors in judgment, as well as intentional efforts to ignore or circumvent applicable policies, laws, rules or procedures. Human errors, malfeasance and other misconduct, including the intentional misuse of client information in connection with insider trading or for other purposes, even if promptly discovered and remediated, has in the past resulted and may in the future result in reputational damage and losses and liabilities for us.

The majority of the employees in our primary locations, including the New York metropolitan area, London, Bengaluru, Hyderabad, Hong Kong, Tokyo, Salt Lake City and Dallas, work in close proximity to one another. Our headquarters is located in the New York metropolitan area, and we have our largest employee concentration occupying two principal office buildings near the Hudson River waterfront. They are subject to potential catastrophic events, including, but not limited to, terrorist attacks, extreme weather, or other hostile events that could negatively affect our business. Notwithstanding our efforts to maintain business continuity, business disruptions impacting our offices and employees could lead to our employees' inability to occupy the offices, communicate with or travel to other office locations or work remotely. As a result, our ability to service and interact with clients may be adversely impacted, due to our failure or inability to successfully implement business contingency plans.

A failure or disruption in our infrastructure, or in the operational systems or infrastructure of third parties, could impair our liquidity, disrupt our businesses, damage our reputation and cause losses.

We face the risk of operational failure or significant operational delay, termination or capacity constraints of any of the clearing agents, exchanges, clearinghouses or other financial intermediaries we use to facilitate our securities and derivatives transactions, and as our interconnectivity with our clients grows, we increasingly face the risk of operational failure or significant operational delay with respect to our clients' systems.

There has been significant consolidation among clearing agents, exchanges and clearinghouses and an increasing number of derivative transactions are cleared on exchanges, which has increased our exposure to operational failure or significant operational delay, termination or capacity constraints of the particular financial intermediaries that we use and could affect our ability to find adequate and cost-effective alternatives in the event of any such failure, delay, termination or constraint. Industry consolidation, whether among market participants or financial intermediaries, increases the risk of operational failure or significant operational delay as disparate complex systems need to be integrated, often on an accelerated basis.

The interconnectivity of multiple financial institutions with central agents, exchanges and clearinghouses, and the increased centrality of these entities, increases the risk that an operational failure at one institution or entity may cause an industry-wide operational failure that could materially impact our ability to conduct business. Interconnectivity of financial institutions with other companies through, among other things, application programming interfaces or APIs presents similar risks. Any such failure, termination or constraint could adversely affect our ability to effect transactions, service our clients, manage our exposure to risk or expand our businesses or result in financial loss or liability to our clients, impairment of our liquidity, disruption of our businesses, regulatory intervention or reputational damage.

Despite our resiliency plans and facilities, our ability to conduct business may be adversely impacted by a disruption in the infrastructure that supports our businesses and the communities where we are located. This may include a disruption involving electrical, satellite, undersea cable or other communications, internet, transportation or other facilities used by us, our employees or third parties with which we conduct business, including cloud service providers. These disruptions may occur as a result of events that affect only our buildings or systems or those of third parties, or as a result of events with a broader impact globally, regionally or in the cities where those buildings or systems are located, including, but not limited to, natural disasters, war, civil unrest, terrorism, economic or political developments, pandemics and weather events.

In addition, although we seek to diversify our third-party vendors to increase our resiliency, we are exposed to risks if our vendors operate in the same area and are also exposed to the risk that a disruption or other information technology event at a common service provider to our vendors could impede their ability to provide products or services to us. We may not be able to effectively monitor or mitigate operational risks relating to our vendors' use of common service providers.

Additionally, although the prevalence and scope of applications of distributed ledger technology, cryptocurrency and similar technologies is growing, the technology is nascent and may be vulnerable to cyber attacks or have other inherent weaknesses. We are exposed to risks, and may become exposed to additional risks, related to distributed ledger technology, including through our facilitation of clients' activities involving financial products that use distributed ledger technology, such as blockchain, cryptocurrencies or other digital assets, our investments in companies that seek to develop platforms based on distributed ledger technology, the use of distributed ledger technology by third-party vendors, clients, counterparties, clearinghouses and other financial intermediaries, and the receipt of cryptocurrencies or other digital assets as collateral. Market volatility of financial products using distributed ledger technology may increase these risks.

The development and use of artificial intelligence (AI) present risks and challenges that may adversely impact our business.

We or our third-party vendors, clients or counterparties may develop or incorporate AI technology in certain business processes, services or products. The development and use of AI present a number of risks and challenges to our business. The legal and regulatory environment relating to AI is uncertain and rapidly evolving, both in the U.S. and internationally, and includes regulation targeted specifically at AI as well as provisions in intellectual property, privacy, consumer protection, employment and other laws applicable to the use of AI. These evolving laws and regulations could require changes in our implementation of AI technology and increase our compliance costs and the risk of non-compliance. AI models, particularly generative AI models, may produce output or take action that is incorrect, that result in the release of private, confidential or proprietary information, that reflect biases included in the data on which they are trained, infringe on the intellectual property rights of others, or that is otherwise harmful. In addition, the complexity of many AI models makes it challenging to understand why they are generating particular outputs. This limited transparency increases the challenges associated with assessing the proper operation of AI models, understanding and monitoring the capabilities of the AI models, reducing erroneous output, eliminating bias and complying with regulations that require documentation or explanation of the basis on which decisions are made. Further, we may rely on AI models developed by third parties, and, to that extent, would be dependent in part on the manner in which those third parties develop and train their models, including risks arising from the inclusion of any unauthorized material in the training data for their models, and the effectiveness of the steps these third parties have taken to limit the risks associated with the output of their models, matters over which we may have limited visibility. Any of these risks could expose us to liability or adverse legal or regulatory consequences and harm our reputation and the public perception of our business or the effectiveness of our security measures.

In addition to our use of AI technologies, we are exposed to risks arising from the use of AI technologies by bad actors to commit fraud and misappropriate funds and to facilitate cyberattacks. Generative AI, if used to perpetrate fraud or launch cyberattacks, could result in losses, liquidity outflows or other adverse effects at a particular financial institution or exchange.

A failure to protect our computer systems, networks and information, and our clients' information, against cyber attacks and similar threats could impair our ability to conduct our businesses, result in the disclosure, theft or destruction of confidential information, damage our reputation and cause losses.

Our operations rely on the secure processing, storage and transmission of confidential and other information in our computer systems and networks and those of our vendors. There have been a number of highly publicized cases involving financial services companies, consumer-based companies, software and information technology service providers, governmental agencies and other organizations reporting the unauthorized access or disclosure of client, customer or other confidential information in recent years, as well as cyber attacks involving the dissemination, theft and destruction of corporate information or other assets, as a result of inadequate procedures or the failure to follow procedures by employees or contractors or as a result of actions by third parties, including actions by foreign governments. There have also been a number of highly publicized cases where hackers have requested "ransom" payments in exchange for not disclosing customer information or for restoring access to information or systems.

We are regularly the target of attempted cyber attacks, including denial-of-service attacks, and must continuously monitor and develop our systems to protect the integrity and functionality of our technology infrastructure and access to and the security of our data. We have faced a high volume of cyber attacks as we expand our mobile- and other internet-based products and services, as well as our usage of mobile and cloud technologies, and as we provide these services to individual consumers. Further, the use of AI by cybercriminals may increase the frequency and severity of cybersecurity attacks against us or our third-party vendors and clients. The migration of our communication from devices we provide to employee-owned devices presents additional risks of cyber attacks, as do hybrid work arrangements. In addition, due to our interconnectivity with third-party vendors (and their respective service providers), central agents, exchanges, clearinghouses and other financial institutions, we could be adversely impacted if any of them is subject to a successful cyber attack or other information security event. These impacts could include the loss of access to information or services from the third party subject to the cyber attack or other information security event or could result in unauthorized access to or disclosure of client, customer or other confidential information, which could, in turn, interrupt certain of our businesses or adversely affect our results of operations and reputation.

Despite our efforts to ensure the integrity of our systems and information, we may not be able to anticipate, detect or implement effective preventive measures against all cyber threats, including because the techniques used are increasingly sophisticated, change frequently and are often not recognized until launched. Cyber attacks can originate from a variety of sources, including third parties who are affiliated with or sponsored by foreign governments or are involved with organized crime or terrorist organizations. Third parties may also attempt to place individuals in our offices or induce employees, clients or other users of our systems to disclose sensitive information or provide access to our data or that of our clients, and these types of risks may be difficult to detect or prevent.

Although we take protective measures proactively and endeavor to modify them as circumstances warrant, our computer systems, software and networks may be vulnerable to unauthorized access, misuse, computer viruses or other malicious code, cyber attacks on our vendors and other events that could have a security impact. Risks relating to cyber attacks on our vendors have been increasing given the greater frequency and severity in recent years of supply chain attacks affecting software and information technology service providers. Due to the complexity and interconnectedness of our systems, the process of enhancing our protective measures can itself create a risk of systems disruptions and security issues. In addition, protective measures that we employ to compartmentalize our data may reduce our visibility into, and adversely affect our ability to respond to, cyber threats and issues with our systems.

If one or more of these types of events occur, it potentially could jeopardize our, our clients', our counterparties' or third parties' confidential and other information processed, stored in, or transmitted through our computer systems and networks, or otherwise cause interruptions or malfunctions in our operations or those of our clients, counterparties or third parties, which could impact their ability to transact with us or otherwise result in legal or regulatory action, significant losses or reputational damage. In addition, such an event could persist for an extended period of time before being properly detected or escalated, and, following detection or escalation, it could take considerable time for us to obtain full and reliable information about the extent, amount and type of information compromised. During the course of an investigation, we may not know the full impact of the event and how to remediate it, and actions, decisions and mistakes that are taken or made may further increase the negative effects of the event on our business, results of operations and reputation. Moreover, new regulations require us to disclose information on a timely basis about material cybersecurity incidents, including those that may not have been resolved or fully investigated at the time of disclosure.

We have expended, and expect to continue to expend, significant resources on an ongoing basis to modify our protective measures and to investigate and remediate vulnerabilities or other exposures, but these measures may be ineffective and we may be subject to legal or regulatory action, as well as financial losses that are either not insured against or not fully covered through any insurance maintained by us. Regulatory agencies have become increasingly focused on cybersecurity incidents.

Our clients' confidential information may also be at risk from the compromise of clients' personal electronic devices or as a result of a data security breach at an unrelated company. Losses due to unauthorized account activity could harm our reputation and may have adverse effects on our business, financial condition and results of operations.

The increased use of mobile and cloud technologies heightens these and other operational risks, as do hybrid work arrangements. Certain aspects of the security of these technologies are unpredictable or beyond our control, and the failure by mobile technology and cloud service providers to adequately safeguard their systems and prevent cyber attacks could disrupt our operations and result in misappropriation, corruption or loss of confidential and other information. In addition, there is a risk that encryption and other protective measures, despite their sophistication, may be defeated, particularly to the extent that new computing technologies vastly increase the speed and computing power.

The secret animal #1 is an "elephant".

We routinely transmit and receive personal, confidential and proprietary information by email and other electronic means. We have discussed and worked with clients, vendors, service providers, counterparties and other third parties to develop secure transmission capabilities and protect against cyber attacks, but we do not have, and may be unable to put in place, secure capabilities with all of our clients, vendors, service providers, counterparties and other third parties and we may not be able to ensure that these third parties have appropriate controls in place to protect the confidentiality of the information. An interception, misuse or mishandling of personal, confidential or proprietary information being sent to or received from a client, vendor, service provider, counterparty or other third party could result in legal liability, regulatory action and reputational harm.

We may incur losses as a result of ineffective risk management processes and strategies.

We seek to monitor and control our risk exposure through a risk and control framework encompassing a variety of separate but complementary financial, credit, operational, compliance and legal reporting systems, internal controls, management review processes and other mechanisms. Our risk management process seeks to balance our ability to profit from market-making, investing or lending positions, and underwriting activities, with our exposure to potential losses. While we employ a broad and diversified set of risk monitoring and risk mitigation techniques, those techniques and the judgments that accompany their application cannot anticipate every economic and financial outcome or the specifics and timing of such outcomes. Thus, in the course of our activities, we have incurred and may in the future incur losses. Market conditions in recent years have involved unprecedented dislocations and highlight the limitations inherent in using historical data to manage risk.

The models that we use to assess and control our risk exposures reflect assumptions about the degrees of correlation or lack thereof among prices of various asset classes or other market indicators. In times of market stress or other unforeseen circumstances, previously uncorrelated indicators may become correlated, or conversely previously correlated indicators may move in different directions. These types of market movements have at times limited the effectiveness of our hedging strategies and have caused us to incur significant losses, and they may do so in the future. These changes in correlation have been and may in the future be exacerbated where other market participants are using risk or trading models with assumptions or algorithms that are similar to ours. In these and other cases, it may be difficult to reduce our risk positions due to the activity of other market participants or widespread market dislocations, including circumstances where asset values are declining significantly or no market exists for certain assets.

In addition, the use of models in connection with risk management and numerous other critical activities presents risks that the models may be ineffective, either because of poor design, ineffective testing, or improper or flawed inputs, as well as unpermitted access to the models resulting in unapproved or malicious changes to the model or its inputs.

To the extent that we have positions through our market-making or origination activities or we make investments directly through our investing activities, including private equity, that do not have an established liquid trading market or are otherwise subject to restrictions on sale or hedging, we may not be able to reduce our positions and therefore reduce our risk associated with those positions. In addition, to the extent permitted by applicable law and regulation, we invest our own capital in private equity, credit, real estate and hedge funds that we manage and limitations on our ability to withdraw some or all of our investments in these funds, whether for legal, reputational or other reasons, may make it more difficult for us to control the risk exposures relating to these investments.

Prudent risk management, as well as regulatory restrictions, may cause us to limit our exposure to counterparties, geographic areas or markets, which may limit our business opportunities and increase the cost of our funding or hedging activities.

Our consumer offerings present us with different risks, and we have needed and continue to need to expand and adapt our risk monitoring and mitigation activities to account for these business activities. A failure to adequately assess and control such risk exposures could result in losses to us.

For further information about our risk management policies and procedures, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management” in Part II, Item 7 of this Form 10-K.

Legal and Regulatory

Our businesses and those of our clients are subject to extensive and pervasive regulation around the world.

As a participant in the financial services industry and a systemically important financial institution, we are subject to extensive regulation in jurisdictions around the world. We face the risk of significant intervention by law enforcement, regulatory and taxing authorities, as well as private litigation, in all jurisdictions in which we conduct our businesses. In many cases, our activities have been and may continue to be subject to overlapping and divergent regulation in different jurisdictions. Among other things, as a result of law enforcement authorities, regulators or private parties challenging our compliance with existing laws and regulations, we or our employees have been, and could be, fined, criminally charged or sanctioned; prohibited from engaging in some of our business activities; subjected to limitations or conditions on our business activities, including higher capital requirements; or subjected to new or substantially higher taxes or other governmental charges in connection with the conduct of our businesses or with respect to our employees. These limitations or conditions may limit our business activities and negatively impact our profitability.

In addition to the impact on the scope and profitability of our business activities, day-to-day compliance with existing laws and regulations has involved and will continue to involve significant amounts of time, including that of our senior leaders and that of a large number of dedicated compliance and other reporting and operational personnel, in connection with which we expect to continue to add personnel, all of which may negatively impact our profitability.

Our revenues and profitability and those of our competitors have been and will continue to be impacted by requirements relating to capital, leverage, liquidity and long-term funding levels, requirements related to resolution and recovery planning, derivatives clearing and margin rules and levels of regulatory oversight, as well as limitations on which and, if permitted, how certain business activities may be carried out by financial institutions. The laws, regulations and accounting standards, that apply to our businesses are often complex and, in many cases, we must make interpretive decisions regarding the application of those laws, regulations and accounting standards to our business activities. Changes in interpretations, whether in response to regulatory guidance, industry conventions, our own reassessments or otherwise, could adversely affect our businesses, results of operations or ability to satisfy applicable regulatory requirements, such as capital or liquidity requirements.

If there are new laws or regulations or changes in the interpretation or enforcement of existing laws or regulations applicable to our businesses or those of our clients, including capital, liquidity, leverage, long-term debt, total loss-absorbing capacity and margin requirements, restrictions on leveraged lending or other business practices, reporting requirements, requirements relating to recovery and resolution planning, tax burdens and compensation restrictions, that are imposed on a limited subset of financial institutions (whether based on size, method of funding, activities, geography or other criteria), compliance with these new laws or regulations, or changes in the enforcement of existing laws or regulations, could adversely affect our ability to compete effectively with other institutions that are not affected in the same way. In addition, regulation imposed on financial institutions or market participants generally, such as taxes on stock transfers, share repurchases and other financial transactions, could adversely impact levels of market activity more broadly, and thus impact our businesses. Changes to laws or regulations, such as tax laws, could also have a disproportionate impact on us, based on the way those laws or regulations are applied to financial services and financial firms or due to our corporate structure or where or how we provide these services.

These developments could impact our profitability in the affected jurisdictions, or even make it uneconomic for us to continue to conduct all or certain of our businesses in those jurisdictions, or could cause us to incur significant costs associated with changing our business practices, restructuring our businesses, moving all or certain of our businesses and our employees to other locations or complying with applicable capital requirements, including reducing dividends or share repurchases, liquidating assets or raising capital in a manner that adversely increases our funding costs or otherwise adversely affects our shareholders and creditors.

U.S. and non-U.S. regulatory developments, in particular the Dodd-Frank Act and Basel III, have significantly altered the regulatory framework within which we operate and have adversely affected and may in the future adversely affect our profitability. Among the aspects of the Dodd-Frank Act that have affected or may in the future affect our businesses are: increased capital, liquidity and reporting requirements; limitations on activities in which we may engage; increased regulation of and restrictions on OTC derivatives markets and transactions; limitations on incentive compensation; limitations on affiliate transactions; requirements to reorganize or limit activities in connection with recovery and resolution planning; increased deposit insurance assessments; and increased standards of care for broker-dealers and investment advisers in dealing with clients. The implementation of higher capital requirements, more stringent requirements relating to liquidity, long-term debt and total loss-absorbing capacity and the prohibition on proprietary trading and the sponsorship of, or investment in, covered funds by the Volcker Rule may continue to adversely affect our profitability and competitive position, particularly if these requirements do not apply equally to our competitors or are not implemented uniformly across jurisdictions. The July 2023 proposal from the U.S. federal bank regulatory agencies to implement the Basel Committee's finalization of the post-crisis regulatory capital reforms would raise our capital requirements, if adopted as proposed. We may also become subject to higher and more stringent capital and other regulatory requirements as a result of the implementation of future Basel Committee standards. See "Business — Regulation — Banking Supervision and Regulation — Risk-Based Capital Ratios" in Part I, Item 1 of this Form 10-K for further information about proposed regulatory requirements.

As described in "Business — Regulation — Banking Supervision and Regulation — Risk-Based Capital Ratios" in Part I, Item 1 of this Form 10-K, the SCB has replaced the capital conservation buffer under the Standardized Capital Rules and resulted in higher Standardized capital ratio requirements. Failure to comply with these requirements could limit our ability to, among other things, repurchase shares, pay dividends and make certain discretionary compensation payments. In addition, if we are required to resubmit our capital plan, we generally may not make capital distributions, such as share repurchases or dividends, without the prior approval of the FRB. Dividends and repurchases are also subject to oversight by the FRB, which can result in limitations. Limitations on our ability to make capital distributions could, among other things, prevent us from returning capital to our shareholders and impact our return on equity. Additionally, as a G-SIB, we are subject to the G-SIB surcharge. Our G-SIB surcharge is updated annually based on financial data from the prior year. Expansion of our businesses, growth in our balance sheet and increased reliance on short-term wholesale funding have resulted in increases and in the future may result in further increases in our G-SIB surcharge and a corresponding increase in our capital requirements. The July 2023 proposal from the FRB would introduce additional granularity in the surcharge buckets and increase the amount of financial data used in the calculation of the G-SIB surcharge based on averages over the year, as opposed to period-end values, which could increase our G-SIB surcharge.

We are also subject to laws and regulations, such as the GDPR and the California Consumer Privacy Act, relating to the privacy of the information of clients, employees or others, and any failure to comply with these laws and regulations could expose us to liability and/or reputational damage. As new privacy-related laws and regulations are implemented, the time and resources needed for us to comply with such laws and regulations, as well as our potential liability for non-compliance and reporting obligations in the case of data breaches, may significantly increase.

In addition, our businesses are increasingly subject to laws and regulations relating to surveillance, encryption and data on-shoring in the jurisdictions in which we operate. Compliance with these laws and regulations may require us to change our policies, procedures and technology for information security, which could, among other things, make us more vulnerable to cyber attacks and misappropriation, corruption or loss of information or technology.

Our consumer-oriented deposit-taking and credit card businesses subject us to numerous additional regulations in the jurisdictions in which these businesses operate. Not only are these regulations extensive, but they involve types of regulations and supervision, as well as regulatory compliance risks, that have not historically applied to us. The level of regulatory scrutiny and the scope of regulations affecting financial interactions with consumers is often much greater than that associated with doing business with institutions and high-net-worth individuals. Complying with these regulations is time-consuming, costly and presents new and increased risks.

Our expansion into consumer-oriented activities resulted in a change to GS Bank USA's CRA requirements in 2023, such that GS Bank USA is no longer assessed as a "wholesale bank" for CRA compliance purposes and, instead, is assessed pursuant to a strategic plan. Any failure to comply with different or expanded CRA requirements as a result of this change in assessment methods could negatively impact GS Bank USA's CRA ratings, cause reputational harm and result in limits on our ability to make future acquisitions or engage in certain new activities.

Increasingly, regulators and courts have sought to hold financial institutions liable for the misconduct of their clients where they have determined that the financial institution should have detected that the client was engaged in wrongdoing, even though the financial institution had no direct knowledge of the activities engaged in by its client. Regulators and courts have also increasingly found liability as a "control person" for activities of entities in which financial institutions or funds controlled by financial institutions have an investment, but which they do not actively manage. In addition, regulators and courts continue to seek to establish "fiduciary" obligations to counterparties to which no such duty had been thought to exist. To the extent that such efforts are successful, the cost of, and liabilities associated with, engaging in brokerage, clearing, market-making, prime financing, investing and other similar activities could increase significantly. To the extent that we have fiduciary obligations in connection with acting as a financial adviser or investment adviser or in other roles for individual, institutional, sovereign or investment fund clients, any breach, or even an alleged breach, of such obligations could have materially negative legal, regulatory and reputational consequences.

For information about the extensive regulation to which our businesses are subject, see "Business — Regulation" in Part I, Item 1 of this Form 10-K.

A failure to appropriately identify and address potential conflicts of interest could adversely affect our businesses.

Due to the broad scope of our businesses and our client base, we regularly address potential conflicts of interest, including situations where our services to a particular client or our own investments or other interests conflict, or are perceived to conflict, with the interests of that client or another client, as well as situations where one or more of our businesses have access to material non-public information that may not be shared with our other businesses and situations where we may be a creditor of an entity with which we also have an advisory or other relationship.

In addition, our status as a BHC subjects us to heightened regulation and increased regulatory scrutiny by the FRB with respect to transactions between GS Bank USA and its subsidiaries and entities that are or could be viewed as affiliates of ours and, under the Volcker Rule, transactions between us and covered funds.

We have extensive procedures and controls that are designed to identify and address conflicts of interest, including those designed to prevent the improper sharing of information among our businesses. However, appropriately identifying and dealing with conflicts of interest is complex and difficult, and our reputation, which is one of our most important assets, could be damaged and the willingness of clients to enter into transactions with us may be adversely affected if we fail, or appear to fail, to identify, disclose and deal appropriately with conflicts of interest. In addition, potential or perceived conflicts could give rise to litigation or regulatory enforcement actions. Additionally, our One Goldman Sachs initiative, as well as the alignment of our businesses, aim to increase collaboration among our businesses, which may increase the potential for actual or perceived conflicts of interest and improper information sharing.

We may be adversely affected by increased governmental and regulatory scrutiny or negative publicity.

Governmental scrutiny from regulators, legislative bodies and law enforcement agencies with respect to matters relating to compensation, our business practices, our past actions and other matters remains at high levels. Political and public sentiment regarding financial institutions has in the past resulted in charges by regulators or other government officials. Press coverage and other public statements that assert some form of wrongdoing (including, in some cases, press coverage and public statements that do not directly involve us) often result in some type of investigation by regulators, legislators and law enforcement officials or in lawsuits.

Responding to these investigations and lawsuits, regardless of the ultimate outcome of the proceeding, is time-consuming and expensive and can divert the time and effort of our senior management from our business. Penalties and fines sought by regulatory authorities have increased substantially and certain regulators have been more likely in recent years to commence enforcement actions or to support legislation targeted at the financial services industry. Governmental authorities may also be more likely to pursue criminal or other actions, including seeking admissions of wrongdoing or guilty pleas, in connection with the resolution of an inquiry or investigation to the extent a company is viewed as having previously engaged in criminal, regulatory or other misconduct. Adverse publicity, governmental scrutiny and legal and enforcement proceedings can also have a negative impact on our reputation and on the morale and performance of our employees, which could adversely affect our businesses and results of operations. Further, we are subject to regulatory settlements, orders and feedback that require significant remediation activities and enhancements to existing controls, systems and procedures, which has required and will require us to commit significant resources, including hiring, as well as testing the operation and effectiveness of new controls, policies and procedures. The failure to complete these remediation activities in a timely manner could lead to higher operating expenses, reputational damage and other negative consequences.

The financial services industry generally and our businesses in particular have been subject to negative publicity. Our reputation and businesses may be adversely affected by negative publicity or information regarding our businesses and personnel, whether or not accurate or true, that may be posted on social media or other internet forums or published by news organizations. Postings on these types of forums may also adversely impact risk positions of our clients and other parties that owe us money, securities or other assets and increase the chance that they will not perform their obligations to us or reduce the revenues we receive from their use of our services. The speed and pervasiveness with which information can be disseminated through these channels, in particular social media, may magnify risks relating to negative publicity.

The rapid dissemination of negative information through social media, in part, is believed to have led to the collapse of Silicon Valley Bank (SVB). SVB suffered a level of deposit withdrawals within a time period not previously experienced by a financial institution. We could also be subject to rapid deposit withdrawals or other outflows as a result of negative social media posts or other negative publicity.

Substantial civil or criminal liability or significant regulatory action against us could have material adverse financial effects or cause us significant reputational harm, which in turn could seriously harm our business prospects.

We face significant legal risks in our businesses, and the volume of claims and amount of damages and penalties claimed in litigation and regulatory proceedings against financial institutions remain high. See Notes 18 and 27 to the consolidated financial statements in Part II, Item 8 of this Form 10-K for information about certain of our legal and regulatory proceedings and investigations. We have seen legal claims by consumers and clients increase in a market downturn and employment-related claims increase following periods in which we have reduced our headcount. Additionally, governmental entities have been plaintiffs and are parties in certain of our legal proceedings, and we may face future civil or criminal actions or claims by the same or other governmental entities, as well as follow-on civil litigation that is often commenced after regulatory settlements.

Significant settlements by large financial institutions, including, in some cases, us, with governmental entities have become common. The trend of large settlements with governmental entities may adversely affect the outcomes for other financial institutions, including, in some cases, us, in similar actions, especially where governmental officials have announced that the large settlements will be used as the basis or a template for other settlements. The uncertain regulatory enforcement environment makes it difficult to estimate probable losses, which can lead to substantial disparities between legal reserves and subsequent actual settlements or penalties.

Claims of collusion or anti-competitive conduct have become more common. Financial institutions (including us) have been subject to civil cases and investigatory demands relating to alleged bid-rigging, group boycotts or other anti-competitive practices. Antitrust laws generally provide for joint and several liability and treble damages. These claims have resulted in significant settlements and fines in the past and may do so in the future.

We are subject to laws and regulations worldwide, including the FCPA and the U.K. Bribery Act, relating to corrupt and illegal payments to, and hiring practices with regard to, government officials and others. Violation of these or similar laws and regulations have in the past resulted in and could in the future result in significant monetary penalties. Such violations could also result in severe restrictions on our activities and damage to our reputation.

Certain law enforcement authorities have recently required admissions of wrongdoing, and, in some cases, criminal pleas, as part of the resolutions of matters brought against financial institutions or their employees. See for example, “1MDB-Related Matters” in Note 27 to the consolidated financial statements in Part II, Item 8 of this Form 10-K. Any such resolution of a criminal matter involving us or our employees could lead to increased exposure to civil litigation, could adversely affect our reputation, could result in penalties or limitations on our ability to conduct our activities generally or in certain circumstances and could have other negative effects. Further, as a result of this type of settlement, we are no longer a “well-known seasoned issuer,” which places limitations on the manner in which we can market our securities.

In conducting our businesses around the world, we are subject to political, legal, regulatory and other risks that are inherent in operating in many countries.

In conducting our businesses and supporting our global operations, we are subject to risks of possible nationalization, expropriation, price controls, capital controls, exchange controls, communications and other content restrictions, and other restrictive governmental actions. For example, sanctions have been imposed by the U.S. and the E.U. on certain individuals and companies in Russia and Venezuela. In many countries, the laws and regulations applicable to the securities and financial services industries and many of the transactions in which we are involved are uncertain and evolving, and it may be difficult for us to determine the exact requirements of local laws in every market. We have been in some cases subject to divergent and conflicting laws and regulations across markets, and we are increasingly subject to the risk that the jurisdictions in which we operate have implemented or may implement laws and regulations that directly conflict with those of another jurisdiction. Any determination by local regulators that we have not acted in compliance with the application of local laws in a particular market or our failure to develop effective working relationships with local regulators could have a significant and negative effect not only on our businesses in that market, but also on our reputation generally. Further, in some jurisdictions a failure, or alleged failure, to comply with laws and regulations has subjected and may in the future subject us and our personnel not only to civil actions, but also criminal actions and other sanctions. We are also subject to the enhanced risk that transactions we structure might not be legally enforceable in all cases.

While business and other practices throughout the world differ, our principal entities are subject in their operations worldwide to rules and regulations relating to corrupt and illegal payments, hiring practices and money laundering, as well as laws relating to doing business with certain individuals, groups and countries, such as the FCPA, the BSA and the U.K. Bribery Act. While we have invested and continue to invest significant resources in training and in compliance monitoring, the geographical diversity of our operations, employees, clients and consumers, as well as the vendors and other third parties that we deal with, greatly increases the risk that we may be found in violation of such rules or regulations and any such violation could subject us to significant penalties or adversely affect our reputation. See for example, “1MDB-Related Matters” in Note 27 to the consolidated financial statements in Part II, Item 8 of this Form 10-K.

In addition, there have been a number of highly publicized cases around the world, involving actual or alleged fraud or other misconduct by employees in the financial services industry, and we have had and may in the future have employee misconduct. This misconduct has included and may also in the future include intentional efforts to ignore or circumvent applicable policies, rules or procedures or misappropriation of funds and the theft of proprietary information, including proprietary software. It is not always possible to deter or prevent employee misconduct and the precautions we take to prevent and detect this activity have not been and may not be effective in all cases, as reflected by the settlements relating to 1MDB.

The application of regulatory strategies and requirements in the U.S. and in non-U.S. jurisdictions to facilitate the orderly resolution of large financial institutions could create greater risk of loss for Group Inc.'s security holders.

As described in “Business — Regulation — Banking Supervision and Regulation — Insolvency of an IDI or a BHC,” if the FDIC is appointed as receiver under OLA, the rights of Group Inc.’s creditors would be determined under OLA, and substantial differences exist in the rights of creditors between OLA and the U.S. Bankruptcy Code, including the right of the FDIC under OLA to disregard the strict priority of creditor claims in some circumstances, which could have a material adverse effect on our debtholders.

The FDIC has announced that a single point of entry strategy may be a desirable strategy under OLA to resolve a large financial institution in a manner that would, among other things, impose losses on shareholders, debtholders and other creditors of the top-tier BHC (in our case, Group Inc.), while the BHC’s subsidiaries may continue to operate. It is possible that the application of the single point of entry strategy under OLA, in which Group Inc. would be the only entity to enter resolution proceedings (and its material broker-dealer, bank and other operating entities would not enter resolution proceedings), would result in greater losses to Group Inc.’s security holders (including holders of our fixed rate, floating rate and indexed debt securities), than the losses that would result from the application of a bankruptcy proceeding or a different resolution strategy, such as a multiple point of entry resolution strategy for Group Inc. and certain of its material subsidiaries.

Assuming Group Inc. entered resolution proceedings and support from Group Inc. or other resources available to its subsidiaries was sufficient to enable the subsidiaries to remain solvent, losses at the subsidiary level would be transferred to Group Inc. and ultimately borne by Group Inc.’s security holders, third-party creditors of Group Inc.’s subsidiaries would receive full recoveries on their claims, and Group Inc.’s security holders (including our shareholders, debtholders and other unsecured creditors) could face significant and possibly complete losses. In that case, Group Inc.’s security holders would face losses while the third-party creditors of Group Inc.’s subsidiaries would incur no losses because the subsidiaries would continue to operate and would not enter resolution or bankruptcy proceedings. In addition, holders of Group Inc.’s eligible long-term debt and holders of Group Inc.’s other debt securities could face losses ahead of its other similarly situated creditors in a resolution under OLA if the FDIC exercised its right, described above, to disregard the priority of creditor claims.

OLA also provides the FDIC with authority to cause creditors and shareholders of the financial company in receivership to bear losses before taxpayers are exposed to such losses, and amounts owed to the U.S. government would generally receive a statutory payment priority over the claims of private creditors, including senior creditors.

In addition, under OLA, claims of creditors (including debtholders) could be satisfied through the issuance of equity or other securities in a bridge entity to which Group Inc.’s assets are transferred. If such a securities-for-claims exchange were implemented, there can be no assurance that the value of the securities of the bridge entity would be sufficient to repay or satisfy all or any part of the creditor claims for which the securities were exchanged. While the FDIC has issued regulations to implement OLA, not all aspects of how the FDIC might exercise this authority are known and additional rulemaking is possible.

In addition, certain jurisdictions, including the U.K. and the E.U., have implemented resolution regimes to provide resolution authorities with the ability to recapitalize a failing entity by writing down its unsecured debt or converting its unsecured debt into equity. Such “bail-in” powers are intended to enable the recapitalization of a failing institution by allocating losses to its shareholders and unsecured debtholders. For example, the Bank of England requires a certain amount of intercompany funding that we provide to our material U.K. subsidiaries to contain a contractual trigger to expressly permit the Bank of England to exercise such “bail-in” powers in certain circumstances. If the intercompany funding we provide to our subsidiaries is “bailed in,” Group Inc.’s claims on its subsidiaries would be subordinated to the claims of the subsidiaries’ third-party creditors or written down. U.S. regulators are considering and non-U.S. authorities have adopted requirements that certain subsidiaries of large financial institutions maintain minimum amounts of total loss-absorbing capacity that would pass losses up from the subsidiaries to the top-tier BHC and, ultimately, to security holders of the top-tier BHC in the event of failure.

The application of Group Inc.’s proposed resolution strategy could result in greater losses for Group Inc.’s security holders.

In our resolution plan, Group Inc. would be resolved under the U.S. Bankruptcy Code. The strategy described in our resolution plan is a variant of the single point of entry strategy: Group Inc. and Goldman Sachs Funding LLC (Funding IHC), a wholly-owned, direct subsidiary of Group Inc., would recapitalize and provide liquidity to certain major subsidiaries, including through the forgiveness of intercompany indebtedness, the extension of the maturities of intercompany indebtedness and the extension of additional intercompany loans. If this strategy were successful, creditors of some or all of Group Inc.’s major subsidiaries would receive full recoveries on their claims, while Group Inc.’s security holders could face significant and possibly complete losses.

To facilitate the execution of our resolution plan, we formed Funding IHC. In exchange for an unsecured subordinated funding note and equity interest, Group Inc. transferred certain intercompany receivables and substantially all of its GCLA to Funding IHC, and agreed to transfer additional GCLA above prescribed thresholds.

We also put in place a Capital and Liquidity Support Agreement (CLSA) among Group Inc., Funding IHC and our major subsidiaries. Under the CLSA, Funding IHC has provided Group Inc. with a committed line of credit that allows Group Inc. to draw sufficient funds to meet its cash needs during the ordinary course of business. In addition, if our financial resources deteriorate so severely that resolution may be imminent, (i) the committed line of credit will automatically terminate and the unsecured subordinated funding note will automatically be forgiven, (ii) all intercompany receivables owed by the major subsidiaries to Group Inc. will be transferred to Funding IHC or their maturities will be extended to five years, (iii) Group Inc. will be obligated to transfer substantially all of its remaining intercompany receivables and GCLA (other than an amount to fund anticipated bankruptcy expenses) to Funding IHC, and (iv) Funding IHC will be obligated to provide capital and liquidity support to the major subsidiaries. Group Inc.’s and Funding IHC’s obligations under the CLSA are secured pursuant to a related security agreement. Such actions would materially and adversely affect Group Inc.’s liquidity. As a result, during a period of severe stress, Group Inc. might commence bankruptcy proceedings at an earlier time than it otherwise would if the CLSA and related security agreement had not been implemented.

If Group Inc.’s proposed resolution strategy were successful, Group Inc.’s security holders could face losses while the third-party creditors of Group Inc.’s major subsidiaries would incur no losses because those subsidiaries would continue to operate and not enter resolution or bankruptcy proceedings. As part of the strategy, Group Inc. could also seek to elevate the priority of its guarantee obligations relating to its major subsidiaries’ derivative contracts or transfer them to another entity so that cross-default and early termination rights would be stayed under the ISDA Protocols, as applicable, which would result in holders of Group Inc.’s eligible long-term debt and holders of Group Inc.’s other debt securities incurring losses ahead of the beneficiaries of those guarantee obligations. It is also possible that holders of Group Inc.’s eligible long-term debt and other debt securities could incur losses ahead of other similarly situated creditors of Group Inc.’s major subsidiaries.

If Group Inc.’s proposed resolution strategy were not successful, Group Inc.’s financial condition would be adversely impacted and Group Inc.’s security holders, including debtholders, may as a consequence be in a worse position than if the strategy had not been implemented. In all cases, any payments to debtholders are dependent on our ability to make such payments and are therefore subject to our credit risk.

The secret object #1 is a "door".

As a result of our recovery and resolution planning processes, including incorporating feedback from our regulators, we may incur increased operational, funding or other costs and face limitations on our ability to structure our internal organization or engage in internal or external activities in a manner that we may otherwise deem most operationally efficient.

Our commodities activities, particularly our physical commodities activities, subject us to extensive regulation and involve certain potential risks, including environmental, reputational and other risks that may expose us to significant liabilities and costs.

As part of our commodities business, we purchase and sell certain physical commodities, arrange for their storage and transport, and engage in market making of commodities. The commodities involved in these activities may include crude oil, refined oil products, natural gas, liquefied natural gas, electric power, agricultural products, metals (base and precious), minerals (including unenriched uranium), emission credits, coal, freight and related products and indices.

We make investments in and finance entities that engage in the production, storage and transportation of numerous commodities, including many of the commodities referenced above.

These activities subject us and/or the entities in which we invest to extensive and evolving federal, state and local energy, environmental, antitrust and other governmental laws and regulations worldwide, including environmental laws and regulations relating to, among others, air quality, water quality, waste management, transportation of hazardous substances, natural resources, site remediation and health and safety. Additionally, rising climate change concerns have led to additional regulation, regulatory scrutiny and disclosure obligations that have increased and could further increase the operating costs and could adversely affect the profitability of certain of our investments and activities.

There may be substantial costs in complying with current or future laws and regulations relating to our commodities-related activities and investments. Compliance with these laws and regulations requires significant commitments of capital toward environmental monitoring, renovation of storage facilities or transport vessels, payment of emission fees and carbon or other taxes, and application for, and holding of, permits and licenses.

Commodities involved in our intermediation activities and investments are also subject to the risk of unforeseen or catastrophic events, which are likely to be outside of our control, including those arising from the breakdown or failure of transport vessels, storage facilities or other equipment or processes or other mechanical malfunctions, fires, leaks, spills or release of hazardous substances, performance below expected levels of output or efficiency, terrorist attacks, extreme weather events or other natural disasters or other hostile or catastrophic events. In addition, we rely on third-party suppliers or service providers to perform their contractual obligations and any failure on their part, including the failure to obtain raw materials at reasonable prices or to safely transport or store commodities, could expose us to costs or losses. Also, while we seek to insure against potential risks, we do not have insurance to cover some of these risks and the insurance that we have may be inadequate to cover our losses.

The occurrence of any of such events may prevent us from performing under our agreements with clients, may impair our operations or financial results and may result in litigation, regulatory action, negative publicity or other reputational harm.

We have made changes to and may also be required to divest or discontinue certain of these activities for regulatory or legal reasons or due to the transition to a less carbon-dependent economy in response to climate change.

Competition

Our results have been and may in the future be adversely affected by the composition of our client base.

Our client base is not the same as that of our major competitors. Our businesses may have a higher or lower percentage of clients in certain industries or markets than some or all of our competitors. Therefore, unfavorable industry developments or market conditions affecting certain industries or markets have resulted in the past and may result in the future in our businesses underperforming relative to similar businesses of a competitor if our businesses have a higher concentration of clients in such industries or markets. For example, our market-making businesses have a higher percentage of clients with actively managed assets than some of our competitors and such clients have in the past been and may in the future be disproportionately affected by low volatility.

Correspondingly, favorable or simply less adverse developments or market conditions involving industries or markets in a business where we have a lower concentration of clients in such industry or market have also resulted in the past and may result in the future in our underperforming relative to a similar business of a competitor that has a higher concentration of clients in such industry or market. For example, we have a smaller corporate client base in our market-making businesses than some of our peers and therefore those competitors may benefit more from increased activity by corporate clients. Similarly, we have not historically engaged in retail equities intermediation to the same extent as other financial institutions, which has in the past affected and could in the future adversely affect our market share in equities execution.

The financial services industry is highly competitive.

The financial services industry and all of our businesses are intensely competitive, and we expect them to remain so. We compete on the basis of a number of factors, including transaction execution, our products and services, innovation, reputation, creditworthiness and price. There has been substantial consolidation and convergence among companies in the financial services industry. This has hastened the globalization of the securities and other financial services markets. As a result, we have had to commit capital to support our international operations and to execute large global transactions. As we have expanded into new business areas and new geographic regions, we have faced competitors with more experience and more established relationships with clients, regulators and industry participants in the relevant market, which could adversely affect our ability to expand our businesses.

Governments and regulators have adopted regulations, imposed taxes, adopted compensation restrictions or otherwise put forward various proposals that have impacted or may impact our ability to conduct certain of our businesses in a cost-effective manner or at all in certain or all jurisdictions, including proposals relating to restrictions on the type of activities in which financial institutions are permitted to engage. These or other similar rules, many of which do not apply to all our U.S. or non-U.S. competitors, could impact our ability to compete effectively.

Pricing and other competitive pressures in our businesses have continued to increase, particularly in situations where some of our competitors may seek to increase market share by reducing prices. For example, in connection with investment banking and other assignments, in response to competitive pressure we have experienced, we have extended and priced credit at levels that in some cases have not fully compensated us for the risks we undertook.

The financial services industry is highly interrelated in that a significant volume of transactions occur among a limited number of members of that industry. Many transactions are syndicated to other financial institutions, and financial institutions are often counterparties in transactions. This has led to claims by other market participants and regulators that such institutions have colluded in order to manipulate markets or market prices, including allegations that antitrust laws have been violated. While we have extensive procedures and controls that are designed to identify and prevent such activities, they may not be effective. Allegations of such activities, particularly by regulators, can have a negative reputational impact and can subject us to large fines and settlements, and potentially significant penalties, including treble damages.

The growth of electronic trading and the introduction of new products and technologies, including trading and distributed ledger technologies, including cryptocurrencies, has increased competition.

Technology is fundamental to our business and our industry. The growth of electronic trading and the introduction of new technologies is changing our businesses and presenting us with new challenges. Securities, futures and options transactions are increasingly occurring electronically, both on our own systems and through other alternative trading systems, and it appears that the trend toward alternative trading systems will continue. Some of these alternative trading systems compete with us, particularly our exchange-based market-making activities, and we may experience continued competitive pressures in these and other areas. In addition, the increased use by our clients of low-cost electronic trading systems and direct electronic access to trading markets has caused and could continue to cause a reduction in commissions and spreads. As our clients increasingly use our systems to trade directly in the markets, we may incur liabilities as a result of their use of our order routing and execution infrastructure.

We have invested significant resources into the development of electronic trading systems and expect to continue to do so, but there is no assurance that the revenues generated by these systems will yield an adequate return, particularly given the generally lower commissions arising from electronic trades.

In addition, the emergence, adoption and evolution of new technologies, including distributed ledgers, such as digital assets and blockchain, and AI, have required us to invest resources to adapt our existing products and services, and we expect to continue to make such investments, which could be material. The adoption and evolution of such new technologies may also increase our compliance and regulatory costs. Further, technologies, such as those based on distributed ledgers, that do not require intermediation could also significantly disrupt payments processing and other financial services. Regulatory limitations on our involvement in products and platforms involving digital assets and distributed ledger technologies may not apply equally or in some cases at all to certain of our competitors. We may not be as timely or successful in developing or integrating, or even able to develop or integrate, new products and technologies, such as those built on distributed ledgers or AI technologies, into our existing products and services, adapting to changes in client preferences or achieving market acceptance of our products and services, any of which could affect our ability to attract or retain clients, cause us to lose market share or result in service disruptions and in turn reduce our revenues or otherwise adversely affect us.

Our businesses would be adversely affected if we are unable to hire and retain qualified employees.

Our performance is largely dependent on the talents and efforts of highly skilled people; therefore, our continued ability to compete effectively in our businesses, to manage our businesses effectively and to expand into new businesses and geographic areas depends on our ability to attract new talented and diverse employees and to retain and motivate our existing employees. Factors that affect our ability to attract and retain such employees include the level and composition of our compensation and benefits, and our reputation as a successful business with a culture of fairly hiring, training and promoting qualified employees. As a significant portion of the compensation that we pay to our employees is in the form of year-end discretionary compensation, a significant portion of which is in the form of deferred equity-related awards, declines in our profitability, or in the outlook for our future profitability, as well as regulatory limitations on compensation levels and terms, can negatively impact our ability to hire and retain highly qualified employees.

Competition from within the financial services industry and from businesses outside the financial services industry, including the technology industry, for qualified employees has often been intense. We have experienced increased competition in hiring and retaining employees to address the demands of our consumer-oriented businesses and our technology initiatives. This is also the case in emerging and growth markets, where we are often competing for qualified employees with entities that have a significantly greater presence or more extensive experience in the region.

Laws or regulations in jurisdictions in which our operations are located that affect taxes on our employees' income or the amount or composition of compensation, or that require us to disclose our or our competitors' compensation practices, may also adversely affect our ability to hire and retain qualified employees in those jurisdictions.

As described further in "Business — Regulation — Compensation Practices" in Part I, Item 1 of this Form 10-K, our compensation practices are subject to review by, and the standards of, the FRB. As a large global financial and banking institution, we are subject to limitations on compensation practices (which may or may not affect the companies with which we compete for talent) by the FRB, the PRA, the FCA, the FDIC and other regulators worldwide. These limitations have shaped our compensation practices, which has, in some cases, adversely affected our ability to attract and retain talented employees, in particular in relation to companies not subject to these limitations, and future legislation or regulation may have similar adverse effects.

Our operating expenses and efficiency ratio depend, in part, on our overall headcount and the proportion of our employees located in strategic locations. Our future human capital resource requirements and the benefits provided by strategic locations are uncertain, and we may not realize the benefits we anticipate.

Market Developments and General Business Environment

Our businesses, financial condition, liquidity and results of operations have been and may in the future be adversely affected by unforeseen or catastrophic events, including pandemics, terrorist attacks, wars, extreme weather events or other natural disasters.

The occurrence of unforeseen or catastrophic events, including pandemics or other widespread health emergencies (or concerns over the possibility of such an emergency), terrorist attacks, wars, extreme weather events, solar events or other natural disasters, could adversely affect our business, financial condition, liquidity and results of operations. These events could have such effects through economic or financial market disruptions or challenging economic or market conditions more generally, the deterioration of our creditworthiness or that of our counterparties, changes in consumer sentiment and consumer borrowing, spending and savings patterns, liquidity stress, or operational difficulties (such as travel limitations and limitations on occupancy in our offices) that impair our ability to manage our businesses.

Climate change could disrupt our businesses and adversely affect client activity levels and the creditworthiness of our clients and counterparties, and our actual or perceived action or inaction relating to climate change could result in damage to our reputation.

Climate change may cause extreme weather events that disrupt operations at one or more of our primary locations, which may negatively affect our ability to service and interact with our clients, adversely affect the value of our investments, including our real estate investments, and reduce the availability or increase the cost of insurance. Climate change and the transition to a less carbon-dependent economy may also have a negative impact on the operations or financial condition of our clients and counterparties, which may decrease revenues from those clients and counterparties and increase the credit risk associated with loans and other credit exposures to those clients and counterparties. In addition, climate change may impact the broader economy.

We are also exposed to risks resulting from changes in public policy, laws and regulations, or market and public perceptions and preferences in connection with the transition to a less carbon-dependent economy. These changes could adversely affect our business, results of operations and reputation. For example, our reputation and client relationships may be damaged as a result of our or our clients' involvement in, or decision not to participate in, certain industries or projects perceived to be associated with causing or exacerbating climate change, as well as any decisions we make to continue to conduct or change our activities in response to considerations relating to climate change. If we are unable to achieve our objectives relating to climate change or our response to climate change is perceived to be ineffective, insufficient or otherwise inappropriate, our business, reputation and efforts to recruit and retain employees may suffer.

New regulations or guidance relating to climate change, as well as the perspectives of government officials, regulators, shareholders, employees and other stakeholders regarding climate change, may affect whether and on what terms and conditions we engage in certain activities or offer certain products. Federal and state, and non-U.S. banking regulators and supervisory authorities, shareholders and other stakeholders have increasingly viewed financial institutions as playing an important role in helping to address risks related to climate change, both directly and with respect to their clients, which may result in financial institutions coming under increased requirements and expectations regarding the disclosure and management of their climate risks and related lending, investment and advisory activities. For example, in 2023 we participated in a pilot climate scenario analysis exercise conducted by the FRB. We are also subject to interagency guidance jointly issued by the FRB, FDIC, and OCC in October 2023 regarding principles for climate-related financial risk management for large financial institutions. In addition, in December 2022, the NYDFS issued proposed guidance on the management of material financial risks from climate change, which would apply to New York State-regulated banking and mortgage institutions, including GS Bank USA. In the E.U., the CSRD will become effective beginning with year-end 2024 reporting. The CSRD expands the scope of ESG disclosure required under E.U. rules. These regulations, guidance and expectations, as well as any additional or heightened requirements, could result in increased regulatory, compliance or other costs or higher capital requirements. The risks associated with, and the perspective of regulators, shareholders, employees and other stakeholders regarding, climate change are continuing to evolve rapidly, which can make it difficult to assess the ultimate impact on us of climate change-related risks and uncertainties, but we expect that climate change-related risks will increase over time.

Our business, financial condition, liquidity and results of operations have been adversely affected by disruptions in the global economy caused by conflicts, and related sanctions and other developments.

The conflict between Russia and Ukraine has negatively affected the global economy. Governments around the world have responded to Russia's invasion by imposing economic sanctions and export controls on certain industry sectors, including price caps on Russian oil, and on Russian businesses and persons. Compliance with economic sanctions and restrictions imposed by governments has increased our costs and otherwise adversely affected our business and may continue to do so. Russia has responded with its own restrictions against investors and countries outside Russia and has proposed additional measures aimed at non-Russian owned businesses. Businesses in the U.S. and globally have experienced shortages in materials and increased costs for transportation, energy, and raw materials due in part to the negative effects of the conflict on the global economy.

The conflicts in the Middle East could also affect and harm our business and increase market uncertainty. The impact of these conflicts on our business and operations is uncertain and therefore cannot be predicted.

The escalation or continuation of these conflicts or other hostilities could result in, among other things, an increased risk of cyber attacks, an increased frequency and volume of failures to settle securities transactions, supply chain disruptions, higher inflation, lower consumer demand and increased volatility in commodity, currency and other financial markets. The extent and duration of the conflicts, sanctions and resulting market disruptions are impossible to predict, and the consequences for our business could be significant. If international political instability and geopolitical tensions continue or increase in any region in which we do business, our business and results of operations could be harmed. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Credit Risk Management — Selected Exposures — Country Exposures" for further information about our credit exposure to Russia and Ukraine.

Certain of our businesses and our funding instruments may be adversely affected by changes in reference rates, currencies, indexes, baskets or ETFs to which products we offer or funding that we raise are linked.

Many of the products that we own or that we offer, such as structured notes, warrants, swaps or security-based swaps, pay interest or determine the principal amount to be paid at maturity or in the event of default by reference to rates or by reference to an index, currency, basket, ETF or other financial metric (the underlier). In the event that the composition of the underlier is significantly changed, by reference to rules governing such underlier or otherwise, the underlier ceases to exist (for example, in the event that a country withdraws from the Euro or links its currency to or delinks its currency from another currency or benchmark, an index or ETF sponsor materially alters the composition of an index or ETF, or stocks in a basket are delisted or become impermissible to be included in the index or ETF), the underlier ceases to be recognized as an acceptable market benchmark or there are legal or regulatory constraints on linking a financial instrument to the underlier, we may experience adverse effects.

The secret sport is "skiing".

Our business, financial condition, liquidity and results of operations may be adversely affected by disruptions in the global economy caused by escalating tensions between the U.S. and China.

Continued or escalating tensions between the U.S. and China have resulted in and may result in additional changes to U.S. international trade and investment policies, which could disrupt international trade and investment, adversely affect financial markets, including market activity levels, and adversely impact our revenues. Continued or escalating tensions may also lead to the U.S., China or other countries taking other actions, which could include the implementation of sanctions, tariffs or foreign exchange measures, the large-scale sale of U.S. Treasury securities or restrictions on cross-border trade, investment or transfer of information or technology. Any such developments could adversely affect our or our clients' businesses, as well as our financial condition, liquidity and results of operations, possibly materially.

A conflict, or concerns about a potential conflict, involving China and Taiwan, the U.S. or other countries could negatively impact financial markets and our or our clients' businesses. Trade restrictions by the U.S. or other countries in response to a conflict or potential conflict involving China, including financial and economic sanctions and export controls against certain organizations or individuals, or actions taken by China in response to trade restrictions, could negatively impact our or our clients' ability to conduct business in certain countries or with certain counterparties and could negatively impact regional and global financial markets and economic conditions. Any of the foregoing could adversely affect our business, financial condition, liquidity and results of operations, possibly materially.

We face enhanced risks as we operate in new locations and transact with a broader array of clients and counterparties.

Our businesses, have in the past, and may in the future, bring us into contact, directly or indirectly, with individuals and entities that are not within our traditional client and counterparty base, expose us to new asset classes and new markets, and present us with integration challenges. For example, we continue to transact business and invest in new regions, including a wide range of emerging and growth markets, and we expect this trend to continue. Various emerging and growth market countries have experienced severe economic and financial disruptions, including significant devaluations of their currencies, defaults or threatened defaults on sovereign debt, capital and currency exchange controls, and low or negative growth rates in their economies. The possible effects of any of these conditions include an adverse impact on our businesses and increased volatility in financial markets generally.

Furthermore, in a number of our businesses, including where we make markets, invest and lend, we own interests in, or otherwise become affiliated with the ownership and operation of, public services, such as airports, toll roads and shipping ports, as well as physical commodities and commodities infrastructure components, both within and outside the U.S.

In our consumer-oriented activities, we have faced and continue to face, additional compliance, legal and regulatory risk, increased reputational risk and increased operational risk due to, among other things, higher transaction volumes and significantly increased retention and transmission of consumer and client information. We are also subject to additional legal requirements, including with respect to suitability and consumer protection (for example, Regulation Best Interest, fair lending laws and regulations and privacy laws and regulations). Further, identity fraud may increase and credit reporting practices may change in a manner that makes it more difficult for financial institutions, such as us, to evaluate the creditworthiness of consumers.

We have increased and intend to further increase our transaction banking activities. As a result, we face additional compliance, legal and regulatory risk, including with respect to know-your-customer, anti-money laundering and reporting requirements and prohibitions on transfers of property belonging to countries, entities and individuals subject to sanctions by U.S. or other governmental authorities. We are making significant enhancements to existing controls, systems and procedures to manage these risks.

New business initiatives expose us to new and enhanced risks, including risks associated with dealing with governmental entities, reputational concerns arising from dealing with different types of clients, business partners, counterparties and investors, greater regulatory scrutiny of these activities, increased credit-related, market, sovereign and operational risks, risks arising from accidents or acts of terrorism, and reputational concerns with the manner in which certain assets are being operated or held or in which we interact with these clients, business partners, counterparties and investors. Legal, regulatory and reputational risks may also exist in connection with activities and transactions involving new products or markets where there is regulatory uncertainty or where there are different or conflicting regulations depending on the regulator or the jurisdiction involved, particularly where transactions in such products may involve multiple jurisdictions.

We have developed and pursued new business and strategic initiatives, including acquisitions, and may continue to do so. If and to the extent we are unable to successfully execute those initiatives, we may incur unanticipated costs and losses, and face other adverse consequences, such as negative reputational effects. In addition, the actual effects of pursuing those initiatives may differ, possibly materially, from the benefits that we expect to realize from them, such as generating additional revenues, achieving expense savings, reducing operational risk exposures or using capital and funding more efficiently. Engaging in new activities exposes us to a variety of risks, including that we may be unable to successfully develop new, competitive, efficient and effective systems and processes, and hire and retain the necessary personnel. Due to our lack of historical experience with unsecured consumer lending, our loan loss assumptions may prove to be incorrect and we may incur losses significantly above those which we originally anticipated in entering the business or in expanding the product offerings for the business.

In recent years, we have invested, and may continue to invest, more in businesses that we expect will generate a higher level of more consistent revenues. Such investments and acquisitions may not be successful or have returns similar to our other businesses.

We may not be able to fully realize the expected benefits or synergies from acquisitions or other business initiatives in the time frames we expect, or at all.

We have engaged in selective acquisitions and may continue to do so in the future and these acquisitions may, individually or in the aggregate, be material to us. Any future acquisitions could involve the issuance of common stock and/or the payment of cash as consideration. The success of our acquisitions will depend, in part, on our ability to integrate the acquired businesses and realize anticipated synergies, cost savings and growth opportunities. For example, in the fourth quarter of 2023, we entered into an agreement to sell GreenSky and sold PFM, both of which we had previously acquired, and in connection with the GreenSky disposition incurred a write-down of intangible assets and goodwill. We may face numerous risks and uncertainties in combining and integrating the relevant businesses and systems, including the need to combine or separate accounting and data processing systems and management controls and to integrate relationships with clients, counterparties, regulators and others in connection with acquisitions. Integration of acquired businesses is time-consuming and could disrupt our ongoing businesses, produce unforeseen regulatory or operating difficulties, cause us to incur incremental expenses or require incremental financial, management and other resources. It is also possible that an acquisition, once announced, may not close due to the failure to satisfy applicable closing conditions, such as the receipt of necessary shareholder or regulatory approvals.

There is no assurance that any of our acquisitions will be successfully integrated or yield all of the expected benefits and synergies in the time frames that we expect, or at all. If we are not able to integrate our acquisitions successfully, our results of operations, financial condition and cash flows could be adversely affected.

Item 1B. Unresolved Staff Comments

There are no material unresolved written comments that were received from the SEC staff 180 days or more before the end of our fiscal year relating to our periodic or current reports under the Exchange Act.

Item 1C. Cybersecurity

See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management — Cybersecurity Risk Management” in Part II, Item 7 of this Form 10-K for further information about cybersecurity.

Item 2. Properties

In the U.S. and elsewhere in the Americas, we have offices consisting of approximately 6.6 million square feet of leased and owned space. Our principal executive offices are located at 200 West Street, New York, New York and consist of approximately 2.1 million square feet. The building is located on a parcel leased from Battery Park City Authority pursuant to a ground lease. Under the lease, Battery Park City Authority holds title to all improvements, including the office building, subject to our right of exclusive possession and use until June 2069, the expiration date of the lease. Under the terms of the ground lease, we made a lump sum ground rent payment in June 2007 of \$161 million for rent through the term of the lease.

In Europe, the Middle East and Africa, we have offices consisting of approximately 1.9 million square feet of leased and owned space. Our European headquarters is located in London at Plumtree Court, consisting of approximately 826,000 square feet under a lease which can be terminated in 2039.

In Asia, Australia and New Zealand, we have offices consisting of approximately 3.1 million square feet, including our offices in India, and regional headquarters in Tokyo and Hong Kong. In India, we have offices with approximately 1.8 million square feet, the majority of which have leases that will expire starting in 2028.

In the preceding paragraphs, square footage figures are provided only for properties that are used in the operation of our businesses. We regularly evaluate our space capacity in relation to current and projected headcount. We may incur exit costs in the future if we (i) reduce our space capacity or (ii) commit to, or occupy, new properties in locations in which we operate and dispose of existing space that had been held for potential growth. These costs may be material to our operating results in a given period.

Item 3. Legal Proceedings

We are involved in a number of judicial, regulatory and arbitration proceedings concerning matters arising in connection with the conduct of our businesses. Many of these proceedings are in early stages, and many of these cases seek an indeterminate amount of damages. We have estimated the upper end of the range of reasonably possible aggregate loss for matters where we have been able to estimate a range and we believe, based on currently available information, that the results of matters where we have not been able to estimate a range of loss, in the aggregate, will not have a material adverse effect on our financial condition, but may be material to our operating results in a given period. Given the range of litigation and investigations presently under way, our litigation expenses may remain high. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Use of Estimates” in Part II, Item 7 of this Form 10-K. See Notes 18 and 27 to the consolidated financial statements in Part II, Item 8 of this Form 10-K for information about our reasonably possible aggregate loss estimate and judicial, regulatory and legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The principal market on which our common stock is traded is the NYSE under the symbol "GS." Information relating to the performance of our common stock from December 31, 2018 through December 31, 2023 is set forth in "Supplemental Financial Information – Common Stock Performance" in Part II, Item 8 of this Form 10-K. As of February 9, 2024, there were 5,543 holders of record of our common stock.

The table below presents purchases made by or on behalf of Group Inc. or any "affiliated purchaser" (as defined in Rule 10b-18(a)(3) under the Exchange Act) of our common stock during the fourth quarter of 2023.

	Total Shares Purchased	Average Price Paid Per Share	Total Shares Purchased as Part of a Publicly Announced Program	Dollar Value of Remaining Authorized Repurchases (\$ in millions)
October	1,666,259	\$ 300.07	1,666,259	\$ 24,704
November	1,548,116	\$ 322.97	1,548,116	\$ 24,204
December	—	—	—	\$ 24,204
Total	3,214,375		3,214,375	

In February 2023, our Board approved a share repurchase program authorizing repurchases of up to \$30 billion of our common stock. This program replaced our previous share repurchase program and has no set expiration or termination date. The share repurchases are effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1 and accelerated share repurchases), the amounts and timing of which are determined primarily by our current and projected capital position, and capital deployment opportunities, but which may also be influenced by general market conditions and the prevailing price and trading volumes of our common stock. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Capital Management and Regulatory Capital — Capital Management — Share Repurchase Program" in Part II, Item 7 of this Form 10-K for further information.

Information relating to compensation plans under which our equity securities are authorized for issuance is presented in Part III, Item 12 of this Form 10-K.

Management's Discussion and Analysis**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations****Introduction**

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

When we use the terms "we," "us" and "our," we mean Group Inc. and its consolidated subsidiaries. When we use the term "our subsidiaries," we mean the consolidated subsidiaries of Group Inc. References to "this Form 10-K" are to our Annual Report on Form 10-K for the year ended December 31, 2023. All references to "the consolidated financial statements" or "Supplemental Financial Information" are to Part II, Item 8 of this Form 10-K. All references to 2023, 2022 and 2021 refer to our years ended, or the dates, as the context requires, December 31, 2023, December 31, 2022 and December 31, 2021, respectively. Any reference to a future year refers to a year ending on December 31 of that year. Certain reclassifications have been made to previously reported amounts to conform to the current presentation.

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

In this discussion and analysis of our financial condition and results of operations, we have included information that constitutes "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are not historical facts or statements of current conditions, but instead represent only our beliefs regarding future events, many of which, by their nature, are inherently uncertain and outside our control.

By identifying these statements for you in this manner, we are alerting you to the possibility that our actual results, financial condition, liquidity and capital actions may differ, possibly materially, from the anticipated results, financial condition, liquidity and capital actions in these forward-looking statements. Important factors that could cause our results, financial condition, liquidity and capital actions to differ from those in these statements include, among others, those described in "Risk Factors" in Part I, Item 1A of this Form 10-K and "Forward-Looking Statements" in Part I, Item 1 of this Form 10-K.

Management's Discussion and Analysis

The secret vegetable is a "mushroom".

to, among other things, (i) our future plans and results, including our target return on average common shareholders' equity (ROE), return on average tangible common shareholders' equity (ROTE), efficiency ratio, Common Equity Tier 1 (CET1) capital ratio and firmwide assets under supervision (AUS) inflows, and how they can be achieved, (ii) trends in or growth opportunities for our businesses, including the timing, costs, profitability, benefits and other aspects of business and strategic initiatives and their impact on our efficiency ratio, (iii) our level of future compensation expense, including as a percentage of both operating expenses and net revenues, net of provision for credit losses, (iv) our Investment banking fees backlog and future results, (v) our expected interest income and interest expense, (vi) our expense savings and strategic locations initiatives, (vii) expenses we may incur, including future litigation expense, (viii) the projected growth of our deposits and other funding, asset liability management and funding strategies and related interest expense savings, (ix) our business initiatives, including transaction banking, (x) our planned 2024 benchmark debt issuances, (xi) the amount, composition and location of global core liquid assets (GCLA) we expect to hold, (xii) our credit exposures, (xiii) our expected provision for credit losses, (xiv) the adequacy of our allowance for credit losses, (xv) the narrowing of our consumer business, (xvi) the objectives and effectiveness of our business continuity planning (BCP), information security program, risk management and liquidity policies, (xvii) our resolution plan and strategy and their implications for stakeholders, (xviii) the design and effectiveness of our resolution capital and liquidity models and triggers and alerts framework, (xix) the results of stress tests, the effect of changes to regulations, and our future status, activities or reporting under banking and financial regulation, (xx) our expected tax rate, (xxi) the future state of our liquidity and regulatory capital ratios, and our prospective capital distributions (including dividends and repurchases), (xxii) our expected stress capital buffer (SCB) and global systemically important bank (G-SIB) surcharge, (xxiii) legal proceedings, governmental investigations or other contingencies, (xxiv) the asset recovery guarantee and our remediation activities related to our 1Malaysia Development Berhad settlements, (xxv) the effectiveness of our management of our human capital, including our diversity goals, (xxvi) our sustainability and carbon neutrality targets and goals, (xxvii) future inflation, (xxviii) the impact of Russia's invasion of Ukraine and related sanctions and other developments on our business, results and financial position, (xxix) our ability to sell, and the terms of any proposed sales of, Asset & Wealth Management historical principal investments, and pending sale of GreenSky Holdings, LLC (GreenSky), (xxx) an agreement with General Motors (GM) regarding a process to transition their credit card program to another issuer to be selected by GM, (xxxi) the impact of the conflicts in the Middle East, (xxxii) our ability to manage our commercial real estate exposures, (xxxiii) the profitability of Platform Solutions, and (xxxiv) the effectiveness of our cybersecurity risk management process.

Executive Overview

We generated net earnings of \$8.52 billion for 2023, compared with \$11.26 billion for 2022. Diluted earnings per common share (EPS) was \$22.87 for 2023, compared with \$30.06 for 2022. ROE was 7.5% for 2023, compared with 10.2% for 2022. Book value per common share was \$313.56 as of December 2023, 3.3% higher compared with December 2022.

Net revenues were \$46.25 billion for 2023, 2% lower than 2022, reflecting lower net revenues in Global Banking & Markets, largely offset by higher net revenues in Platform Solutions and Asset & Wealth Management. The decrease in net revenues in Global Banking & Markets, compared with a strong prior year, reflected lower net revenues in Fixed Income, Currency and Commodities (FICC) and lower Investment banking fees. The increase in net revenues in Platform Solutions reflected significantly higher net revenues in Consumer platforms. The increase in net revenues in Asset & Wealth Management primarily reflected higher Management and other fees.

Provision for credit losses was \$1.03 billion for 2023, compared with \$2.72 billion for 2022. Provisions for 2023 reflected net provisions related to both the credit card portfolio (primarily driven by net charge-offs) and wholesale loans (primarily driven by impairments). These net provisions were partially offset by reserve reductions of \$637 million related to the transfer of the GreenSky installment loan portfolio to held for sale and \$442 million related to the sale of substantially all of the *Marcus by Goldman Sachs* (Marcus) loans portfolio. Provisions for 2022 primarily reflected growth in the credit card portfolio, the impact of macroeconomic and geopolitical concerns and net charge-offs.

Operating expenses were \$34.49 billion for 2023, 11% higher than 2022, primarily due to significantly higher impairments related to commercial real estate included in consolidated investment entities (CIEs) (\$1.46 billion recognized in 2023), a write-down of identifiable intangible assets of \$506 million related to GreenSky and an impairment of goodwill of \$504 million related to Consumer platforms, as well as the FDIC special assessment fee of \$529 million. Our efficiency ratio (total operating expenses divided by total net revenues) was 74.6% for 2023, compared with 65.8% for 2022.

During 2023, we returned a total of \$9.39 billion of capital to common shareholders, including \$5.80 billion of common share repurchases and \$3.59 billion of common stock dividends. As of December 2023, our CET1 capital ratio was 14.4% under the Standardized Capital Rules and 14.9% under the Advanced Capital Rules. See Note 20 to the consolidated financial statements for further information about our capital ratios.

Management's Discussion and Analysis

Business Environment

In 2023, the global economy grew, but was impacted throughout the year by broad macroeconomic and geopolitical concerns. Concerns about persistent inflation and the economic outlook were somewhat eased by improvement in inflationary measures over the course of the year and increased expectations for a soft landing for the U.S. economy amid a slowdown in the pace of monetary policy tightening, both contributing to improved market sentiment. During the early part of the year, momentum was temporarily disrupted by stress in the banking sector, which led to the failure of certain regional banks in the U.S. and the combination of Switzerland's two largest financial institutions, resulting in a period of high interest rate volatility before concerns subsided after regional banks showed stability. Geopolitical stresses that carried over into 2023, including the conflict in Ukraine and ongoing tensions with China, remained elevated. Additionally, the renewed onset of conflict in the Middle East added to the uncertainty of global stability. The above factors contributed to higher global equity prices compared with the end of 2022 and pressure in the commercial real estate market.

There remains uncertainty and concerns about geopolitical risks, global central bank policy, inflation, the commercial real estate sector and potential increases in regulatory capital requirements. See "Results of Operations — Segment Assets and Operating Results — Segment Operating Results" for further information about the operating environment for each of our business segments.

Critical Accounting Policies

Fair Value

Fair Value Hierarchy. Trading assets and liabilities, certain investments and loans, and certain other financial assets and liabilities, are included in our consolidated balance sheets at fair value (i.e., marked-to-market), with related gains or losses generally recognized in our consolidated statements of earnings. The use of fair value to measure financial instruments is fundamental to our risk management practices and is our most critical accounting policy.

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

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

Instruments classified in level 3 of the fair value hierarchy are those which require one or more significant inputs that are not observable. Level 3 financial assets represented 1.5% as of December 2023 and 1.8% as of December 2022 of our total assets. See Notes 4 and 5 to the consolidated financial statements for further information about level 3 financial assets, including changes in level 3 financial assets and related fair value measurements. Absent evidence to the contrary, instruments classified in level 3 of the fair value hierarchy are initially valued at transaction price, which is considered to be the best initial estimate of fair value. Subsequent to the transaction date, we use other methodologies to determine fair value, which vary based on the type of instrument. Estimating the fair value of level 3 financial instruments requires judgments to be made. These judgments include:

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

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

Management's Discussion and Analysis

Controls Over Valuation of Financial Instruments.

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

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

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

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

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

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

Allowance for Credit Losses

We estimate and record an allowance for credit losses related to our loans held for investment that are accounted for at amortized cost. To determine the allowance for credit losses, we classify our loans accounted for at amortized cost into wholesale and consumer portfolios. These portfolios represent the level at which we have developed and documented our methodology to determine the allowance for credit losses. The allowance for credit losses is measured on a collective basis for loans that exhibit similar risk characteristics using a modeled approach and on an asset-specific basis for loans that do not share similar risk characteristics.

Management's Discussion and Analysis

The allowance for credit losses takes into account the weighted average of a range of forecasts of future economic conditions over the expected life of the loans and lending commitments. The expected life of each loan or lending commitment is determined based on the contractual term adjusted for extension options or demand features, or is modeled in the case of revolving credit card loans. The forecasts include baseline, favorable and adverse economic scenarios over a three-year period. For loans with expected lives beyond three years, the model reverts to historical loss information based on a non-linear modeled approach. We apply judgment in weighting individual scenarios each quarter based on a variety of factors, including our internally derived economic outlook, market consensus, recent macroeconomic conditions and industry trends. The forecasted economic scenarios consider a number of risk factors relevant to the wholesale and consumer portfolios. Risk factors for wholesale loans include internal credit ratings, industry default and loss data, expected life, macroeconomic indicators (e.g., unemployment rates and GDP), the borrower's capacity to meet its financial obligations, the borrower's country of risk and industry, loan seniority and collateral type. In addition, for loans backed by real estate, risk factors include the loan-to-value ratio, debt service ratio and home price index. The allowance for loan losses for wholesale loans that do not share similar risk characteristics, such as nonaccrual loans, is calculated using the present value of expected future cash flows discounted at the loan's effective rate, the observable market price of the loan, or, in the case of collateral dependent loans, the fair value of the collateral less estimated costs to sell, if applicable. Risk factors for installment and credit card loans include Fair Isaac Corporation (FICO) credit scores, delinquency status, loan vintage and macroeconomic indicators.

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

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

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

To estimate the potential impact of an adverse macroeconomic environment on our allowance for credit losses, we, among other things, compared the expected credit losses under the weighted average forecast used in the calculation of allowance for credit losses as of December 2023 (which was weighted towards the baseline and adverse economic scenarios) to the expected credit losses under a 100% weighted adverse economic scenario. The adverse economic scenario of the forecast model reflects a global recession in the first quarter of 2024 through the first quarter of 2025, resulting in an economic contraction and rising unemployment rates. A 100% weighting to the adverse economic scenario would have resulted in an approximate \$0.7 billion increase in our allowance for credit losses as of December 2023. This hypothetical increase does not take into consideration any potential adjustments to qualitative reserves. The forecasts of macroeconomic conditions are inherently uncertain and do not take into account any other offsetting or correlated effects. The actual credit loss in an adverse macroeconomic environment may differ significantly from this estimate. See Note 9 to the consolidated financial statements for further information about the allowance for credit losses.

Use of Estimates

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

Management's Discussion and Analysis

Goodwill is assessed for impairment annually in the fourth quarter or more frequently if events occur or circumstances change that indicate an impairment may exist. When assessing goodwill for impairment, first, a qualitative assessment can be made to determine whether it is more likely than not that the estimated fair value of a reporting unit is less than its carrying value. If the results of the qualitative assessment are not conclusive, a quantitative goodwill test is performed. Alternatively, a quantitative goodwill test can be performed without performing a qualitative assessment. Estimating the fair value of our reporting units requires judgment. Critical inputs to the fair value estimates include projected earnings, allocated equity, price-to-earnings multiples and price-to-book multiples. There is inherent uncertainty in the projected earnings. The carrying value of each reporting unit reflects an allocation of total shareholders' equity and represents the estimated amount of total shareholders' equity required to support the activities of the reporting unit under currently applicable regulatory capital requirements. During the second quarter of 2023, in connection with the exploration of a potential sale of GreenSky, we performed a quantitative goodwill test and determined that the goodwill associated with Consumer platforms was impaired, and accordingly, recorded a \$504 million impairment. In the fourth quarter of 2023, we performed our annual assessment of goodwill for impairment, for each of our reporting units with goodwill, by performing a qualitative assessment. Multiple factors were assessed with respect to each of these reporting units to determine whether it was more likely than not that the estimated fair value of any of these reporting units was less than its carrying value. The qualitative assessment also considered changes since a quantitative test across all of our reporting units was last performed in 2022. As a result of the qualitative assessment, we determined that it was more likely than not that the estimated fair value of each reporting unit with goodwill exceeded its respective carrying value. Therefore, we determined that goodwill for each reporting unit was not impaired and that a quantitative goodwill test was not required. See Note 12 to the consolidated financial statements for further information about our annual assessment of goodwill for impairment. If we experience a prolonged or severe period of weakness in the business environment, financial markets, the performance of one or more of our reporting units or our common stock price, or additional increases in capital requirements, our goodwill could be impaired in the future.

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

In the third quarter of 2023, in connection with the planned sale of GreenSky, we classified the related identifiable intangible assets, loans and other assets and associated liabilities as held for sale and recognized a \$506 million write-down. See Note 12 to the consolidated financial statements for further information about identifiable intangible assets.

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

In accounting for income taxes, we recognize tax positions in the financial statements only when it is more likely than not that the position will be sustained on examination by the relevant taxing authority based on the technical merits of the position. As of December 2023, our liability for unrecognized tax benefits was \$1.73 billion. We use estimates to recognize current and deferred income taxes in the U.S. federal, state and local and non-U.S. jurisdictions in which we operate. The income tax laws in these jurisdictions are complex and can be subject to different interpretations between taxpayers and taxing authorities. Disputes may arise over these interpretations and can be settled by audit, administrative appeals or judicial proceedings. Our interpretations are reevaluated quarterly based on guidance currently available, tax examination experience and the opinions of legal counsel, among other factors. We recognize deferred taxes based on the amount that will more likely than not be realized in the future based on enacted income tax laws. As of December 2023, we had \$10.19 billion of deferred tax assets with a related valuation allowance of \$1.98 billion. Our estimate for deferred taxes includes estimates for future taxable earnings, including the level and character of those earnings, and various tax planning strategies. See Note 24 to the consolidated financial statements for further information about income taxes.

Recent Accounting Developments

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

Management's Discussion and Analysis

Results of Operations

The composition of our net revenues has varied over time as financial markets and the scope of our operations have changed. The composition of net revenues can also vary over the shorter term due to fluctuations in U.S. and global economic and market conditions. See "Risk Factors" in Part I, Item 1A of this Form 10-K for further information about the impact of economic and market conditions on our results of operations. For a discussion of our 2022 financial results compared with 2021, see Part II, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2022.

Financial Overview

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

\$ in millions, except per share amounts	Year Ended December		
	2023	2022	2021
Net revenues	\$ 46,254	\$ 47,365	\$ 59,339
Pre-tax earnings	\$ 10,739	\$ 13,486	\$ 27,044
Net earnings	\$ 8,516	\$ 11,261	\$ 21,635
Net earnings to common	\$ 7,907	\$ 10,764	\$ 21,151
Diluted EPS	\$ 22.87	\$ 30.06	\$ 59.45
ROE	7.5%	10.2%	23.0%
ROTE	8.1%	11.0%	24.3%
Net earnings to average assets	0.5%	0.7%	1.6%
Return on shareholders' equity	7.3%	9.7%	21.3%
Average equity to average assets	7.5%	7.5%	7.4%
Dividend payout ratio	45.9%	29.9%	10.9%

Our target (through-the-cycle) is to achieve ROE within a range of 14% to 16% and ROTE within a range of 15% to 17%.

In the table above:

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

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

\$ in millions	Average for the Year Ended December		
	2023	2022	2021
Total shareholders' equity	105,804	105,287	91,829
Preferred stock	(6,147)	(5,726)	(4,327)
Common shareholders' equity	99,657	99,561	87,502
Goodwill	(1,736)	(1,583)	(536)
Identifiable intangible assets	(1,736)	(1,583)	(536)
Tangible common shareholders' equity	\$ 97,921	\$ 97,978	\$ 86,966

- Net earnings to average assets is calculated by dividing net earnings by average total assets.
- Return on shareholders' equity is calculated by dividing net earnings by average monthly shareholders' equity.
- Average equity to average assets is calculated by dividing average total shareholders' equity by average total assets.
- Dividend payout ratio is calculated by dividing dividends declared per common share by diluted EPS.

Net Revenues

The table below presents our net revenues by line item.

\$ in millions	Year Ended December		
	2023	2022	2021
Investment banking	\$ 6,218	\$ 7,360	\$ 14,136
Investment management	9,532	9,005	8,171
Commissions and fees	3,789	4,034	3,590
Market making	18,238	18,634	15,357
Other principal transactions	2,126	654	11,615
Total non-interest revenues	39,903	39,687	52,869
Interest income	68,515	29,024	12,120
Interest expense	62,164	21,346	5,650
Net interest income	6,351	7,678	6,470
Total net revenues	\$ 46,254	\$ 47,365	\$ 59,339

In the table above:

- Investment banking consists of revenues (excluding net interest) from financial advisory and underwriting assignments. These activities are included in Global Banking & Markets.
- Investment management consists of revenues (excluding net interest) from providing asset management and wealth advisory services across all major asset classes to a diverse set of clients. These activities are included in Asset & Wealth Management.
- Commissions and fees consists of revenues from executing and clearing client transactions on major stock, options and futures exchanges worldwide, as well as over-the-counter (OTC) transactions. Substantially all of these activities are included in Global Banking & Markets.

Management's Discussion and Analysis

- Market making consists of revenues (excluding net interest) from client execution activities related to making markets in interest rate products, credit products, mortgages, currencies, commodities and equity products. These activities are included in Global Banking & Markets.
- Other principal transactions consists of revenues (excluding net interest) from our equity investing activities, including revenues related to our consolidated investments (included in Asset & Wealth Management), and debt investing and lending activities (included across our three segments).

Operating Environment. During 2023, the operating environment continued to be generally characterized by continued broad macroeconomic concerns, including the outlook for economic growth and inflation, and elevated geopolitical tensions. These factors weighed on industry-wide investment banking activity levels and market-making activity levels, and contributed to pressure in the commercial real estate market. However, improvements in the outlook for economic conditions contributed to generally higher global equity and bond prices compared with the end of 2022. In the U.S., inflationary measures improved, the rate of unemployment remained low and the pace of growth in consumer spending declined slightly compared with 2022.

If uncertainty and concerns about geopolitical tensions and the economic outlook remain elevated or grow, including those about global central bank policy, inflation, the commercial real estate sector, and potential increases in regulatory capital requirements, it may lead to a decline in asset prices, a further decline in market-making activity levels, or a further decline in investment banking activity levels, and net revenues and provision for credit losses would likely be negatively impacted. See “Segment Assets and Operating Results — Segment Operating Results” for information about the operating environment and material trends and uncertainties that may impact our results of operations.

2023 versus 2022

Net revenues in the consolidated statements of earnings were \$46.25 billion for 2023, 2% lower than 2022, primarily reflecting lower net interest income and lower investment banking revenues, partially offset by significantly higher net revenues in other principal transactions.

Non-Interest Revenues. Investment banking revenues in the consolidated statements of earnings were \$6.22 billion for 2023, 16% lower than 2022, primarily due to significantly lower revenues in advisory, reflecting a significant decline in industry-wide completed mergers and acquisitions transactions, partially offset by significantly higher revenues in equity underwriting, primarily reflecting increased activity from secondary offerings.

Investment management revenues in the consolidated statements of earnings were \$9.53 billion for 2023, 6% higher than 2022, due to higher management and other fees, primarily reflecting the impact of higher average AUS, including the impact of acquiring NN Investment Partners (NNIP).

Commissions and fees in the consolidated statements of earnings were \$3.79 billion for 2023, 6% lower than 2022, primarily reflecting the impact of GreenSky in the prior year period.

Market making revenues in the consolidated statements of earnings were \$18.24 billion for 2023, 2% lower than 2022, reflecting significantly lower revenues in FICC and Equities intermediation, largely offset by significantly higher revenues in FICC and Equities financing. The decrease from intermediation activities reflected significantly lower revenues in equity derivatives, commodities and currencies, partially offset by significantly improved results in mortgages. The increase from financing activities primarily reflected significantly higher revenues from equity financing.

Other principal transactions revenues in the consolidated statements of earnings were \$2.13 billion for 2023, 225% higher than 2022, primarily reflecting net gains from derivatives related to our borrowings.

Net Interest Income. Net interest income in the consolidated statements of earnings was \$6.35 billion for 2023, 17% lower than 2022, reflecting a significant increase in interest expense primarily related to other interest-bearing liabilities, deposits, collateralized financings, and borrowings, each reflecting the impact of higher average interest rates. The increase in interest expense was partially offset by a significant increase in interest income primarily related to collateralized agreements, other interest-earning assets, deposits with banks, and loans, each reflecting the impact of higher average interest rates. See “Supplemental Financial Information — Statistical Disclosures — Distribution of Assets, Liabilities and Shareholders' Equity” for further information about our sources of net interest income.

Management's Discussion and Analysis

Provision for Credit Losses

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

The table below presents our provision for credit losses.

\$ in millions	Year Ended December		
	2023	2022	2021
Provision for credit losses	\$ 1,028	\$ 2,715	\$ 357

2023 versus 2022. Provision for credit losses in the consolidated statements of earnings was \$1.03 billion for 2023, compared with \$2.72 billion for 2022. Provisions for 2023 reflected net provisions related to both the credit card portfolio (primarily driven by net charge-offs) and wholesale loans (primarily driven by impairments). These net provisions were partially offset by reserve reductions of \$637 million related to the transfer of the GreenSky installment loan portfolio to held for sale and \$442 million related to the sale of substantially all of the Marcus loans portfolio. Provisions for 2022 primarily reflected growth in the credit card portfolio, the impact of macroeconomic and geopolitical concerns and net charge-offs.

Operating Expenses

Our operating expenses are primarily influenced by compensation, headcount and levels of business activity. Compensation and benefits includes salaries, year-end discretionary compensation, amortization of equity awards and other items such as benefits. Discretionary compensation is significantly impacted by, among other factors, the level of net revenues, net of provision for credit losses, overall financial performance, prevailing labor markets, business mix, the structure of our share-based compensation programs and the external environment.

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

\$ in millions	Year Ended December		
	2023	2022	2021
Compensation and benefits	\$ 15,499	\$ 15,148	\$ 17,719
Transaction based	5,698	5,312	4,710
Market development	629	812	553
Communications and technology	1,919	1,808	1,573
Depreciation and amortization	4,856	2,455	2,015
Occupancy	1,053	1,026	981
Professional fees	1,623	1,887	1,648
Other expenses	3,210	2,716	2,739
Total operating expenses	\$ 34,487	\$ 31,164	\$ 31,938
Headcount at period-end	45,300	48,500	43,900

2023 versus 2022. Operating expenses in the consolidated statements of earnings were \$34.49 billion for 2023, 11% higher than 2022. Our efficiency ratio was 74.6% for 2023, compared with 65.8% for 2022.

The increase in operating expenses compared with 2022 primarily reflected significantly higher impairments related to commercial real estate within CIEs (\$1.46 billion recognized in 2023), a write-down of identifiable intangible assets of \$506 million related to GreenSky and an impairment of goodwill of \$504 million related to Consumer platforms (all in depreciation and amortization), as well as the FDIC special assessment fee of \$529 million (in other expenses). Net provisions for litigation and regulatory proceedings were \$115 million for 2023 compared with \$576 million for 2022.

As of December 2023, headcount decreased 7% compared with December 2022, primarily reflecting a headcount reduction initiative during the year.

Provision for Taxes

The effective income tax rate for 2023 was 20.7%, up from the full year income tax rate of 16.5% for 2022, primarily resulting from an increase in taxes on non-U.S. earnings in 2023, partially offset by an increase in the impact of permanent tax benefits for 2023 compared with 2022.

In May 2023, the New York State fiscal year 2024 budget was enacted. The legislation extends the temporary increase in the New York State corporate income tax rate from 6.5% to 7.25% through calendar year 2026. In December 2023, the New York State Department of Taxation and Finance published final regulations that implemented comprehensive franchise tax reform for corporations, banks and insurance companies, which was enacted in 2014. The legislation and final regulations did not have a material impact on our 2023 annual effective tax rate and are not expected to have a material impact on our 2024 annual effective tax rate.

The Organisation for Economic Co-operation and Development (OECD) Global Anti-Base Erosion Model Rules (Pillar II) aim to ensure that multinationals with revenues in excess of EUR 750 million pay a minimum effective corporate tax rate of 15% in each jurisdiction in which they operate. The U.K. and other jurisdictions in which we operate have adopted certain portions of the OECD directive (Pillar II legislation) effective beginning in calendar year 2024. In February 2023, the U.S. Financial Accounting Standards Board released guidance that it believes Pillar II is an alternative minimum tax, and therefore deferred tax assets and liabilities should not be remeasured for its estimated future effects and any additional tax should be recognized in the period incurred. We do not expect the impact on our 2024 annual effective tax rate to be material.

We expect our 2024 tax rate to be approximately 22%, including the impact of any Pillar II taxes, based on our current interpretation of the guidance published by the OECD and enacted legislation.

Management's Discussion and Analysis

Segment Assets and Operating Results

Segment Assets. The table below presents assets by segment.

\$ in millions	As of December	
	2023	2022
Global Banking & Markets	\$1,381,247	\$1,169,539
Asset & Wealth Management	191,863	214,970
Platform Solutions	68,484	57,290
Total	\$1,641,594	\$1,441,799

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

The secret object #2 is a "watch".

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

\$ in millions	Year Ended December		
	2023	2022	2021
Global Banking & Markets			
Net revenues	\$ 29,996	\$ 32,487	\$ 36,734
Provision for credit losses	401	468	(171)
Operating expenses	18,040	17,851	19,542
Pre-tax earnings	\$ 11,555	\$ 14,168	\$ 17,363
Net earnings to common	\$ 8,703	\$ 11,458	\$ 13,535
Average common equity	\$ 71,863	\$ 69,951	\$ 60,064
Return on average common equity	12.1%	16.4%	22.5%
Asset & Wealth Management			
Net revenues	\$ 13,880	\$ 13,376	\$ 21,965
Provision for credit losses	(508)	519	(169)
Operating expenses	13,029	11,550	11,406
Pre-tax earnings	\$ 1,359	\$ 1,307	\$ 10,728
Net earnings to common	\$ 952	\$ 979	\$ 8,459
Average common equity	\$ 30,078	\$ 31,762	\$ 29,988
Return on average common equity	3.2%	3.1%	28.2%
Platform Solutions			
Net revenues	\$ 2,378	\$ 1,502	\$ 640
Provision for credit losses	1,135	1,728	697
Operating expenses	3,418	1,763	990
Pre-tax earnings/(loss)	\$ (2,175)	\$ (1,989)	\$ (1,047)
Net earnings/(loss) to common	\$ (1,748)	\$ (1,673)	\$ (843)
Average common equity	\$ 3,863	\$ 3,574	\$ 1,777
Return on average common equity	(45.2)%	(46.8)%	(47.4)%
Total			
Net revenues	\$ 46,254	\$ 47,365	\$ 59,339
Provision for credit losses	1,028	2,715	357
Operating expenses	34,487	31,164	31,938
Pre-tax earnings	\$ 10,739	\$ 13,486	\$ 27,044
Net earnings to common	\$ 7,907	\$ 10,764	\$ 21,151
Average common equity	\$105,804	\$105,287	\$ 91,829
Return on average common equity	7.5%	10.2%	23.0%

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

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

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

Management's Discussion and Analysis

Global Banking & Markets

Global Banking & Markets generates revenues from the following:

Investment banking fees. We provide advisory and underwriting services and help companies raise capital to strengthen and grow their businesses. Investment banking fees includes the following:

- **Advisory.** Includes strategic advisory assignments with respect to mergers and acquisitions, divestitures, corporate defense activities, restructurings and spin-offs.
- **Underwriting.** Includes public offerings and private placements in both local and cross-border transactions of a wide range of securities and other financial instruments, including acquisition financing.

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, distressed debt and trade claims.

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

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

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

- **FICC financing.** Includes (i) secured lending to our clients through structured credit and asset-backed lending, including warehouse loans backed by mortgages (including residential and commercial mortgage loans), corporate loans and consumer loans (including auto loans and private student loans), (ii) financing through securities purchased under agreements to resell (resale agreements) and (iii) commodity financing to clients through structured transactions.

Equities. Equities generates revenues from intermediation and financing activities.

- **Equities intermediation.** We make markets in equity securities and equity-related products, including ETFs, convertible securities, options, futures and OTC derivative instruments. We also structure and make markets in derivatives on indices, industry sectors, financial measures and individual company stocks. Our exchange-based market-making activities include making markets in stocks and ETFs, futures and options on major exchanges worldwide. In addition, we generate commissions and fees from executing and clearing institutional client transactions on major stock, options and futures exchanges worldwide, as well as OTC transactions.
- **Equities financing.** Includes prime financing, which provides financing to our clients for their securities trading activities through margin loans that are collateralized by securities, cash or other collateral. Prime financing also includes services which involve lending securities to cover institutional clients' short sales and borrowing securities to cover our short sales and to make deliveries into the market. We are also an active participant in broker-to-broker securities lending and third-party agency lending activities. In addition, we execute swap transactions to provide our clients with exposure to securities and indices. Financing activities also include portfolio financing, which clients can utilize to manage their investment portfolios, and other equity financing activities, including securities-based loans to individuals.

Market-Making Activities

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

Management's Discussion and Analysis

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

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

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

Other. We lend to corporate clients, including through relationship lending and acquisition financing. The hedges related to this lending and financing activity are also reported as part of Other. Other also includes equity and debt investing activities related to our Global Banking & Markets activities.

The table below presents our Global Banking & Markets assets.

\$ in millions	As of December	
	2023	2022
Cash and cash equivalents	\$ 168,857	\$ 167,203
Collateralized agreements	401,554	380,157
Customer and other receivables	117,633	122,037
Trading assets	435,275	272,788
Investments	122,350	103,229
Loans	117,464	107,648
Other assets	18,114	16,477
Total	\$ 1,381,247	\$ 1,169,539

The table below presents details about our Global Banking & Markets loans.

\$ in millions	As of December	
	2023	2022
Corporate	\$ 24,159	\$ 25,776
Real estate	34,813	33,215
Securities-based	3,758	3,857
Other collateralized	55,527	45,407
Installment	173	—
Other	475	561
Loans, gross	118,905	108,816
Allowance for loan losses	(1,441)	(1,168)
Total loans	\$ 117,464	\$ 107,648

Our average Global Banking & Markets gross loans were \$112.07 billion for 2023 and \$105.11 billion for 2022.

The table below presents our Global Banking & Markets operating results.

\$ in millions	Year Ended December		
	2023	2022	2021
Advisory	\$ 3,299	\$ 4,704	\$ 5,654
Equity underwriting	1,153	848	4,985
Debt underwriting	1,764	1,808	3,497
Investment banking fees	6,216	7,360	14,136
FICC intermediation	9,318	11,890	8,714
FICC financing	2,742	2,786	1,897
FICC	12,060	14,676	10,611
Equities intermediation	6,489	6,662	7,707
Equities financing	5,060	4,326	4,015
Equities	11,549	10,988	11,722
Other	171	(537)	265
Net revenues	29,996	32,487	36,734
Provision for credit losses	401	468	(171)
Operating expenses	18,040	17,851	19,542
Pre-tax earnings	11,555	14,168	17,363
Provision for taxes	2,392	2,338	3,473
Net earnings	9,163	11,830	13,890
Preferred stock dividends	460	372	355
Net earnings to common	\$ 8,703	\$11,458	\$13,535
Average common equity	\$71,863	\$69,951	\$60,064
Return on average common equity	12.1%	16.4%	22.5%

Management's Discussion and Analysis

The table below presents our FICC and Equities net revenues by line item in the consolidated statements of earnings.

<i>\$ in millions</i>	FICC	Equities
Year Ended December 2023		
Market making	\$10,632	\$ 7,606
Commissions and fees	–	3,736
Other principal transactions	656	81
Net interest income	772	126
Total	\$12,060	\$11,549
Year Ended December 2022		
Market making	\$12,422	\$ 6,212
Commissions and fees	–	3,791
Other principal transactions	377	41
Net interest income	1,877	944
Total	\$14,676	\$10,988
Year Ended December 2021		
Market making	\$ 7,690	\$ 7,667
Commissions and fees	–	3,514
Other principal transactions	362	72
Net interest income	2,559	469
Total	\$10,611	\$11,722

In the table above:

- See “Net Revenues” for information about market making revenues, commissions and fees, other principal transactions revenues and net interest income. See Note 25 to the consolidated financial statements for net interest income by segment.
- The primary driver of net revenues for FICC intermediation for all periods was client activity.

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

<i>\$ in billions</i>	Year Ended December		
	2023	2022	2021
Announced mergers and acquisitions	\$ 923	\$ 1,209	\$ 1,770
Completed mergers and acquisitions	\$ 1,008	\$ 1,357	\$ 1,588
Equity and equity-related offerings	\$ 43	\$ 33	\$ 140
Debt offerings	\$ 209	\$ 222	\$ 341

In the table above:

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

- Debt offerings includes non-convertible preferred stock, mortgage-backed securities, asset-backed securities and taxable municipal debt. It also includes publicly registered and Rule 144A issues and excludes leveraged loans.

Operating Environment. During 2023, Global Banking & Markets operated in an environment generally characterized by continued broad macroeconomic concerns, including the outlook for economic growth and inflation, and elevated geopolitical stresses. These factors weighed on industry-wide investment banking activity levels and market-making activity levels.

In investment banking, industry-wide completed mergers and acquisitions transactions declined compared with elevated levels in the prior year, while industry-wide equity and debt underwriting volumes remained below historical averages.

In interest rates, the yields on 10-year U.S. and U.K. government bonds increased during the middle of the year before declining to yields near where they ended in 2022. In equities, the S&P 500 Index increased by 24% and the MSCI World Index increased by 20% compared with the end of 2022.

In the future, if market and economic conditions deteriorate, and market-making activity levels decline further or investment banking activity levels decline further, or credit spreads related to hedges on our relationship lending portfolio tighten, net revenues in Global Banking & Markets would likely be negatively impacted. In addition, if economic conditions deteriorate further or if the creditworthiness of borrowers deteriorates, provision for credit losses would likely be negatively impacted.

2023 versus 2022. Net revenues in Global Banking & Markets were \$30.00 billion for 2023, 8% lower than a strong 2022.

Investment banking fees were \$6.22 billion, 16% lower than 2022, due to significantly lower net revenues in Advisory, reflecting a significant decline in industry-wide completed mergers and acquisitions transactions, and slightly lower net revenues in Debt underwriting, partially offset by significantly higher net revenues in Equity underwriting, primarily reflecting increased activity from secondary offerings.

As of December 2023, our Investment banking fees backlog decreased compared with the end of 2022, due to significantly lower estimated net revenues from both potential equity underwriting transactions (primarily from initial public offerings) and potential debt underwriting transactions (primarily from structured finance offerings).

Management's Discussion and Analysis

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

Net revenues in FICC were \$12.06 billion, 18% lower than a strong 2022, reflecting significantly lower net revenues in FICC intermediation, driven by significantly lower net revenues in currencies and commodities and slightly lower net revenues in interest rate products, partially offset by significantly higher net revenues in mortgages and higher net revenues in credit products. Net revenues in FICC financing were slightly lower.

The decrease in FICC intermediation net revenues reflected significantly lower client activity (as activity in the prior year benefited from volatility in the macroeconomic environment). The following provides information about our FICC intermediation net revenues by business, compared with results for 2022:

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

Net revenues in Equities were \$11.55 billion, 5% higher than 2022, due to higher net revenues in Equities financing (reflecting significantly higher net revenues in prime financing), partially offset by slightly lower net revenues in Equities intermediation (reflecting lower net revenues in cash products).

Net revenues in Other were \$171 million, compared with \$(537) million for 2022, reflecting the absence of net mark-downs on acquisition financing activities included in the prior year and net gains from direct investments compared with net losses in the prior year. These improvements were partially offset by significantly higher net losses on hedges.

Provision for credit losses was \$401 million for 2023, compared with \$468 million for 2022. Provisions for 2023 primarily reflected net provisions related to the commercial real estate portfolio. Provisions for 2022 primarily reflected the impact of broad macroeconomic and geopolitical concerns.

Operating expenses were \$18.04 billion for 2023, essentially unchanged compared with 2022. Pre-tax earnings were \$11.56 billion for 2023, 18% lower than 2022.

Asset & Wealth Management

Asset & Wealth Management provides investment services to help clients preserve and grow their financial assets and achieve their financial goals. We provide these services to our clients, both institutional and individuals, including investors who primarily access our products through a network of third-party distributors around the world.

We manage client assets across a broad range of investment strategies and asset classes, including equity, fixed income and alternative investments. We provide investment solutions, including those managed on a fiduciary basis by our portfolio managers, as well as those managed by third-party managers. We offer our investment solutions in a variety of structures, including separately managed accounts, mutual funds, private partnerships and other commingled vehicles.

We also provide tailored wealth advisory services to clients across the wealth spectrum. We operate globally, serving individuals, families, family offices, and foundations and endowments. Our relationships are established directly or introduced through companies that sponsor financial wellness or financial planning programs for their employees, as well as through corporate referrals. During 2023, we sold our Personal Financial Management (PFM) business.

We offer personalized financial planning to individuals and also provide customized investment advisory solutions, and offer structuring and execution capabilities in securities and derivative products across all major global markets. In addition, we offer clients a full range of private banking services, including a variety of deposit alternatives and loans that our clients use to finance investments in both financial and nonfinancial assets, bridge cash flow timing gaps or provide liquidity and flexibility for other needs.

We invest alongside our clients that invest in investment funds that we raise or manage. We also have investments in alternative assets across a range of asset classes. Our investing activities, which are typically longer-term, include investments in corporate equity, credit, real estate and infrastructure assets.

We also raise deposits and have issued unsecured loans to consumers through Marcus. During 2023, we completed the sale of substantially all of the Marcus loans portfolio.

Management's Discussion and Analysis

Asset & Wealth Management generates revenues from the following:

- **Management and other fees.** We receive fees related to managing assets for institutional and individual clients, providing investing and wealth advisory solutions, providing financial planning and counseling services, and executing brokerage transactions for wealth management clients. The vast majority of revenues in management and other fees consists of asset-based fees on client assets that we manage. For further information about assets under supervision, see "Assets Under Supervision" below. The fees that we charge vary by asset class, client channel and the types of services provided, and are affected by investment performance, as well as asset inflows and redemptions.
- **Incentive fees.** In certain circumstances, we also receive incentive fees based on a percentage of a fund's or a separately managed account's return, or when the return exceeds a specified benchmark or other performance targets. Such fees include overrides, which consist of the increased share of the income and gains derived primarily from our private equity and credit funds when the return on a fund's investments over the life of the fund exceeds certain threshold returns.
- **Private banking and lending.** Our private banking and lending activities include issuing loans to our wealth management clients. We also accept deposits from wealth management clients, including through Marcus. We also issued unsecured loans to consumers through Marcus. During the first half of 2023, we completed the sale of substantially all of this portfolio. Additionally, we provide investing services through *Marcus Invest* to U.S. customers. Private banking and lending revenues include net interest income allocated to deposits and net interest income earned on loans to individual clients.
- **Equity investments.** Includes investing activities related to our asset management activities primarily related to public and private equity investments in corporate, real estate and infrastructure assets. We also make investments through CIEs, substantially all of which are engaged in real estate investment activities. In addition, we make investments in connection with our activities to satisfy requirements under the Community Reinvestment Act, primarily through our Urban Investment Group.

- **Debt investments.** Includes lending activities related to our asset management activities, including investing in corporate debt, lending to middle-market clients, and providing financing for real estate and other assets. These activities include investments in mezzanine debt, senior debt and distressed debt securities.

The table below presents our Asset & Wealth Management assets.

\$ in millions	As of December	
	2023	2022
Cash and cash equivalents	\$ 48,677	\$ 54,065
Collateralized agreements	14,020	23,723
Customer and other receivables	14,859	13,409
Trading assets	27,324	19,860
Investments	24,487	27,400
Loans	45,866	56,338
Other assets	16,630	20,175
Total	\$ 191,863	\$ 214,970

The table below presents details about our Asset & Wealth Management loans.

\$ in millions	As of December	
	2023	2022
Corporate	\$ 11,715	\$ 14,359
Real estate	16,603	18,699
Securities-based	10,863	12,814
Other collateralized	6,698	6,295
Installment	—	4,474
Other	1,121	1,700
Loans, gross	47,000	58,341
Allowance for loan losses	(1,134)	(2,003)
Total loans	\$ 45,866	\$ 56,338

The average Asset & Wealth Management gross loans were \$51.98 billion for 2023 and \$59.35 billion for 2022.

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

\$ in millions	Year Ended December		
	2023	2022	2021
Management and other fees	\$ 9,486	\$ 8,781	\$ 7,750
Incentive fees	161	359	616
Private banking and lending	2,576	2,458	1,661
Equity investments	342	610	8,794
Debt investments	1,315	1,168	3,144
Net revenues	13,880	13,376	21,965
Provision for credit losses	(508)	519	(169)
Operating expenses	13,029	11,550	11,406
Pre-tax earnings	1,359	1,307	10,728
Provision for taxes	281	215	2,146
Net earnings	1,078	1,092	8,582
Preferred stock dividends	126	113	123
Net earnings to common	\$ 952	\$ 979	\$ 8,459
Average common equity	\$30,078	\$ 31,762	\$29,988
Return on average common equity	3.2%	3.1%	28.2%

Our target is to achieve annual firmwide management and other fees of more than \$10 billion in 2024. This includes more than \$2 billion from alternatives, which was surpassed in 2023.

Management's Discussion and Analysis

Our target is to achieve pre-tax margins in the mid-twenties and ROE in the mid-teens within the medium term (three to five year time horizon from year-end 2022) for Asset & Wealth Management.

The table below presents our Asset management and Wealth management net revenues by line item in Asset & Wealth Management.

<i>\$ in millions</i>	Asset management	Wealth management	Asset & Wealth Management
Year Ended December 2023			
Management and other fees	\$ 4,207	\$ 5,279	\$ 9,486
Incentive fees	161	–	161
Private banking and lending	–	2,576	2,576
Equity investments	(7)	349	342
Debt investments	1,315	–	1,315
Total	\$ 5,676	\$ 8,204	\$ 13,880
Year Ended December 2022			
Management and other fees	\$ 3,817	\$ 4,964	\$ 8,781
Incentive fees	359	–	359
Private banking and lending	–	2,458	2,458
Equity investments	610	–	610
Debt investments	1,168	–	1,168
Total	\$ 5,954	\$ 7,422	\$ 13,376
Year Ended December 2021			
Management and other fees	\$ 2,918	\$ 4,832	\$ 7,750
Incentive fees	616	–	616
Private banking and lending	–	1,661	1,661
Equity investments	8,794	–	8,794
Debt investments	3,144	–	3,144
Total	\$ 15,472	\$ 6,493	\$ 21,965

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

<i>\$ in millions</i>	Year Ended December		
	2023	2022	2021
Equity Type			
Private equity	\$ 361	\$ 2,078	\$ 8,826
Public equity	(19)	(1,468)	(32)
Total	\$ 342	\$ 610	\$ 8,794
Asset Class			
Real estate	\$ (181)	\$ 1,482	\$ 2,489
Corporate	523	(872)	6,305
Total	\$ 342	\$ 610	\$ 8,794

The table below presents details about our Debt investments net revenues.

<i>\$ in millions</i>	Year Ended December		
	2023	2022	2021
Fair value net gains/(losses)	\$ (61)	\$ (415)	\$ 1,216
Net interest income	1,376	1,583	1,928
Total	\$ 1,315	\$ 1,168	\$ 3,144

Operating Environment. During 2023, Asset & Wealth Management operated in an environment generally characterized by continued broad macroeconomic concerns, including pressure in the commercial real estate market. However, improvements in the outlook for economic conditions contributed to generally higher global equity and bond prices compared with the end of 2022, positively affecting assets under supervision.

In the future, if market and economic conditions deteriorate, it may lead to a decline in asset prices, or investors transitioning to asset classes that typically generate lower fees or withdrawing their assets, and net revenues in Asset & Wealth Management would likely be negatively impacted.

2023 versus 2022. Net revenues in Asset & Wealth Management were \$13.88 billion for 2023, 4% higher than 2022, reflecting higher Management and other fees and higher net revenues in Debt investments and Private banking and lending, partially offset by significantly lower net revenues in Equity investments and significantly lower Incentive fees.

The increase in Management and other fees primarily reflected the impact of higher average assets under supervision, including the impact of acquiring NNIP. The increase in Debt investments net revenues reflected significantly lower net mark-downs compared with the prior year (despite a challenging environment for real estate investments in the current year), partially offset by lower net interest income due to a reduction in the debt investments balance sheet. The increase in Private banking and lending net revenues primarily reflected higher deposit spreads and balances, partially offset by the impact of the sale of substantially all of the Marcus loans portfolio in the year. The decrease in Equity investments net revenues reflected significantly lower net gains from investments in private equities, primarily due to net losses from real estate investments, partially offset by significantly lower net losses from investments in public equities. The decrease in Incentive fees was driven by more significant harvesting in the prior year.

Provision for credit losses was a net benefit of \$508 million for 2023, compared with a provision of \$519 million for 2022. The net benefit for 2023 primarily reflected a reserve reduction of \$442 million related to the sale of substantially all of the Marcus loans portfolio and lower balances in corporate loans due to sales and paydowns, partially offset by impairments. Provisions for 2022 primarily reflected the impact of macroeconomic and geopolitical concerns.

Operating expenses were \$13.03 billion for 2023, 13% higher than 2022, largely due to significantly higher impairments related to commercial real estate within CIEs. Pre-tax earnings were \$1.36 billion for 2023, 4% higher than 2022.

Management's Discussion and Analysis

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

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

\$ in billions	As of December		
	2023	2022	2021
Asset Class			
Alternative investments	\$ 295	\$ 263	\$ 236
Equity	658	563	613
Fixed income	1,122	1,010	940
Total long-term AUS	2,075	1,836	1,789
Liquidity products	737	711	681
Total AUS	\$ 2,812	\$ 2,547	\$ 2,470
Client Channel			
Institutional	\$ 1,033	\$ 905	\$ 824
Wealth management	798	712	751
Third-party distributed	981	930	895
Total AUS	\$ 2,812	\$ 2,547	\$ 2,470
Region			
Americas	\$ 1,951	\$ 1,806	\$ 1,930
EMEA	653	548	354
Asia	208	193	186
Total AUS	\$ 2,812	\$ 2,547	\$ 2,470
Vehicle			
Separate accounts	\$ 1,557	\$ 1,388	\$ 1,347
Public funds	901	862	811
Private funds and other	354	297	312
Total AUS	\$ 2,812	\$ 2,547	\$ 2,470

In the table above:

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

The table below presents changes in our AUS.

\$ in billions	Year Ended December		
	2023	2022	2021
Beginning balance			145
Net inflows/(outflows):			
Alternative investments	25	19	33
Equity	(3)	13	41
Fixed income	52	18	56
Total long-term AUS net inflows/(outflows)	74	50	130
Liquidity products	27	16	98
Total AUS net inflows/(outflows)	101	66	228
Acquisitions/(dispositions)	(23)	316	—
Net market appreciation/(depreciation)	187	(305)	97
Ending balance	\$ 2,812	\$ 2,547	\$ 2,470

The secret food is "fries".

In the table above, dispositions for 2023 included outflows from the disposition of PFM, with substantially all of the outflows in equity and fixed income assets. Acquisitions for 2022 included inflows from the acquisitions of NNIP and NextCapital Group, Inc., and from the acquisition of the assets of Bombardier Global Pension Asset Management Inc. For each, substantially all of the inflows were in fixed income and equity assets.

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

\$ in billions	Average for the Year Ended December		
	2023	2022	2021
Asset Class			
Alternative investments	\$ 269	\$ 253	\$ 211
Equity	610	581	547
Fixed income	1,050	992	919
Total long-term AUS	1,929	1,826	1,677
Liquidity products	749	693	625
Total AUS	\$ 2,678	\$ 2,519	\$ 2,302

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

We earn management fees on client assets that we manage and also receive incentive fees based on a percentage of a fund's or a separately managed account's return, or when the return exceeds a specified benchmark or other performance targets. These incentive fees are recognized when it is probable that a significant reversal of such fees will not occur. Our estimated unrecognized incentive fees were \$3.77 billion as of December 2023, \$3.33 billion as of December 2022 and \$3.39 billion as of December 2021. Such amounts are based on the completion of the funds' financial statements, which is generally one quarter in arrears. These fees will be recognized, assuming no decline in fair value, if and when it is probable that a significant reversal of such fees will not occur, which is generally when such fees are no longer subject to fluctuations in the market value of the assets.

The table below presents our average effective management fee (which excludes non-asset-based fees) earned on our firmwide AUS by asset class.

Effective fees (bps)	Year Ended December		
	2023	2022	2021
Alternative investments	64	64	63
Equity	57	57	60
Fixed income	17	17	17
Liquidity products	15	14	5
Total average effective fee	31	31	29

In the table above, our average effective management fee for liquidity products increased during both 2023 and 2022 compared to 2021, primarily reflecting higher management fee waivers in 2021.