

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended **December 31, 2022**

OR

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

For the transition period from _____ to _____

Commission file number **001-07436**

HSBC USA Inc.

(Exact name of registrant as specified in its charter)

Maryland

(State of incorporation)

452 Fifth Avenue, New York, New York
(Address of principal executive offices)

13-2764867

(I.R.S. Employer Identification No.)

10018

(Zip Code)

Registrant's telephone number, including area code (212) 525-5000

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
\$100,000,000 Zero Coupon Callable Accreting Notes due January 15, 2043	HBA/43	New York Stock Exchange
\$50,000,000 Zero Coupon Callable Accreting Notes due January 29, 2043	HBA/43A	New York Stock Exchange

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 No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T 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, 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. (Check one):

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 February 17, 2023, there were 714 shares of the registrant's common stock outstanding, all of which are owned by HSBC North America Holdings Inc.

The registrant meets the conditions set forth in General Instruction I(1)(a) and (b) of Form 10-K and has therefore omitted certain items from this report in accordance with the reduced disclosure format under General Instruction I.

DOCUMENTS INCORPORATED BY REFERENCE

None.

TABLE OF CONTENTS

<u>Part/Item No.</u>		<u>Page</u>
Part I		
Item 1.	Business:	
	Organization	4
	HSBC Group	4
	HSBC North America Operations	4
	HSBC USA Operations	4
	Funding	6
	Human Capital	6
	Regulation and Competition	9
	Corporate Governance and Controls	16
Item 1A.	Risk Factors	17
Item 1B.	Unresolved Staff Comments	30
Item 2.	Properties	30
Item 3.	Legal Proceedings	30
Item 4.	Mine Safety Disclosures	30
Part II		
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	30
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations:	
	Forward-Looking Statements	31
	Executive Overview	33
	Basis of Reporting	37
	Critical Accounting Estimates	38
	Balance Sheet Review	41
	Results of Operations	46
	Segment Results - Group Reporting Basis	51
	Credit Quality	56
	Liquidity and Capital Resources	65
	Fair Value	69
	Risk Management	71
	Glossary of Terms	89
	Consolidated Average Balances and Interest Rates	91
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	92
Item 8.	Financial Statements and Supplementary Data:	
	Report of Independent Registered Public Accounting Firm (PCAOB ID 238)	93
	Consolidated Financial Statements	95
	Notes to the Consolidated Financial Statements	102
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	197
Item 9A.	Controls and Procedures	197
Item 9B.	Other Information	197
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	199

Part/Item No.

Part III

Page

Item 10.	Directors, Executive Officers and Corporate Governance	199
Item 11.	Executive Compensation	199
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters ..	199
Item 13.	Certain Relationships and Related Transactions, and Director Independence	199
Item 14.	Principal Accounting Fees and Services	199

Part IV

Item 15.	Exhibits and Financial Statement Schedules	200
Item 16.	Form 10-K Summary	201
	Signatures	202

PART I

Item 1. Business

Organization

HSBC USA Inc. ("HSBC USA") is incorporated under the laws of the State of Maryland and is a wholly-owned subsidiary of HSBC North America Holdings Inc. ("HSBC North America"), which is an indirect wholly-owned subsidiary of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group"). HSBC USA's principal business is to act as a holding company for its subsidiaries. In this Form 10-K, HSBC USA and its subsidiaries are referred to as "HUSI," "we," "us" and "our."

HSBC Group

HSBC Group aims to be the leading international bank helping personal, wealth and corporate clients thrive through its deep heritage and is a leading provider of transactional banking products and services with a geographical network which provides clients and investors access to what it believes are the most attractive growth opportunities. HSBC Group aspires to be the preferred international financial partner for its clients. HSBC Group's strategy also centers around digitizing at scale to adapt its operating model for the future, energizing the organization for growth where the opportunities best align with its strengths, and supporting the transition to a net zero global economy.

HSBC North America Operations

HSBC North America is the holding company for HSBC Group's operations in the United States. The principal subsidiaries of HSBC North America at December 31, 2022 were HSBC USA, HSBC Markets (USA) Inc. ("HMUS"), a holding company for certain subsidiaries primarily associated with global banking and markets businesses, and HSBC Technology & Services (USA) Inc. ("HTSU"), a provider of information technology and centralized operational and support services including risk management, compliance, operations, finance, tax, legal, human resources, corporate affairs and other services shared among the subsidiaries of HSBC North America and the HSBC Group. HSBC USA's principal U.S. banking subsidiary is HSBC Bank USA, National Association (together with its subsidiaries, "HSBC Bank USA"). Under the oversight of HSBC North America, HUSI works with its affiliates to maximize opportunities and efficiencies in HSBC Group's operations in the United States. These affiliates do so by providing each other with, among other things, alternative sources of liquidity to fund operations and expertise in specialized corporate functions and services through the pooling of resources within HTSU to provide shared, allocated support functions to all of HSBC North America's subsidiaries. In addition, clients of HSBC Bank USA and other affiliates are investors in debt issued by HSBC USA and/or HSBC Bank USA, providing significant sources of liquidity to both entities. HSBC Securities (USA) Inc. ("HSI"), a registered broker dealer and a subsidiary of HMUS, generally leads or participates as underwriter of all HUSI domestic issuances of term debt. While neither HSBC USA nor HSBC Bank USA has received advantaged pricing, the underwriting fees and commissions paid to HSI historically have benefited the HSBC Group.

HSBC USA Operations

In support of HSBC Group's strategy, our U.S. operations are focused on the core activities of our global businesses and a Corporate Center, as discussed below, and the positioning of our activities to be the leading international banking partner in the United States.

- Our Wealth and Personal Banking ("WPB") business provides a range of banking and wealth products and services to individuals and entities, including globally connected affluent, high net worth and ultra-high net worth individuals and their families, focusing on internationally-minded customers in large metropolitan centers on the West and East coasts.
- Our Commercial Banking ("CMB") business serves corporate and business banking clients, focused on selected large cities with strong international trade ties.
- Our Global Banking and Markets ("GBM") business serves top-tier multinational clients across the Americas and globally.
- Our Corporate Center ("CC") comprises certain centralized activities and functions in order to better reflect the way we manage our businesses.

HSBC Bank USA, HSBC USA's principal U.S. banking subsidiary, is a national banking association. Through HSBC Bank USA, we offer our customers a wide range of commercial and consumer banking products and related financial services. HSBC Bank USA is also an international dealer in derivative instruments denominated in U.S. dollars and other currencies, focusing on structuring transactions to meet clients' needs.

HSBC USA also owns a nationally chartered limited purpose bank subsidiary, HSBC Trust Company (Delaware), National Association ("HTCD"), the primary activities of which are providing personal trust services. The impact of HTCD's operations on HSBC USA's consolidated balance sheets and results of operations for the years ended December 31, 2022, 2021 and 2020 was not material.

At December 31, 2022, we had approximately 450 thousand customers, some of whom are customers of more than one of our businesses. Customers in the states of California and New York accounted for 36 percent and 29 percent, respectively, of our total outstanding commercial real estate loans and residential mortgage loans.

We report financial information to our ultimate parent, HSBC, in accordance with HSBC Group accounting and reporting policies, which apply International Financial Reporting Standards ("IFRSs") as issued by the International Accounting Standards Board ("IASB"). As a result, our segment results are prepared and presented using financial information prepared on the basis of HSBC Group's accounting and reporting policies ("Group Reporting Basis"). We continue, however, to monitor capital adequacy and report to regulatory agencies in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). For additional financial information relating to our business and operating segments, as well as a summary of the significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results, see Note 25, "Business Segments," in the accompanying consolidated financial statements.

Wealth and Personal Banking Our WPB business segment provides a range of banking and wealth products and services to individuals and entities through our branches, online channels as well as dedicated relationship managers, centralized teams and representative offices. Banking and certain exempt securities services are provided through HSBC Bank USA, brokerage and investment advisory services and annuities are provided through our affiliate HSI and additional insurance products are offered through the bank's subsidiary, HSBC Insurance Agency (USA) Inc. These services include asset-driven services, such as credit and lending; liability-driven services, such as deposit taking; and account services and fee- or commission-driven services, such as investment advisory and securities brokerage; as well as the sale of certain third-party insurance solutions. WPB is focused on growing its wealth and banking business in key urban centers with strong international connectivity across the United States, including New York City, Los Angeles, San Francisco, Seattle, Miami and Washington DC. WPB serves globally connected affluent, high net worth and ultra-high net worth individuals and entities with a focus on multi-generational families, business executives and entrepreneurs who require sophisticated solutions to help meet their most complex needs domestically and abroad, with many customers sourced in collaboration with our other business lines. WPB works with these customers to provide tailored, coordinated and innovative ways to manage and preserve wealth while seeking to optimize returns by offering a wide range of products and services, including banking, liquidity management, investment services, custody, tailored lending, trust and fiduciary services, insurance, family wealth and philanthropy advisory services.

Commercial Banking The goal of our CMB business segment is to be the banking partner of choice for international businesses building on our rich heritage, international capabilities and customer relationships to enable global connectivity. CMB strives to execute this vision and strategy by focusing on key markets with high concentrations of international connectivity. Our CMB segment serves the markets through three client groups, notably Large Corporate, Middle Market and Business Banking. Supporting our three client groups is our International Subsidiary Banking team, which provides solutions to international subsidiaries operating in the United States. We also have a specialized Commercial Real Estate group, which focuses on selective business opportunities in markets where we have strong portfolio expertise. This structure allows us to align our resources in order to efficiently deliver suitable products and services based on our clients' needs and abilities. Global Payments Solutions ("GPS"), Global Trade and Receivables Finance ("GTRF"), Lending and Transaction Management, Global Banking and Markets and Securities Services are key product groups with which CMB partners to deliver the global connections and related products and services required by customers. Whether it is through commercial centers or via HSBCnet, our online banking channel, CMB provides customers with the products and services needed to grow their businesses internationally and delivers those products and services through its relationship managers who operate within a robust, customer focused compliance and risk culture, and collaborate across HSBC Group to capture a larger percentage of a relationship.

Global Banking and Markets Our GBM business supports HSBC's global strategy by leveraging the HSBC Group's advantages and scale, strength in developed and emerging markets and product expertise in order to focus on delivering international products to U.S. clients and local products to international clients, with New York as the hub for the Americas business. GBM provides tailored financial solutions to major government, corporate and institutional clients. GBM clients are served by sector-focused teams that bring together relationship managers and product specialists to develop financial solutions that meet individual client needs. With a focus on providing client connectivity between the emerging markets and developed

markets, GBM aims to develop a comprehensive understanding of each client's financial requirements with a long-term relationship management approach. In addition to GBM clients, GBM also provides financial solutions to WPB and CMB clients where those clients have needs that require the product set that GBM has available.

Our GBM business is comprised of three distinct operating segments:

- Global Banking ("GB") provides banking and financing advice and solutions for sovereign, corporate and institutional clients, including loans, working capital, GTRF product and service offerings, GPS product and service offerings, leveraged and acquisition finance, real assets and structured finance, mergers and acquisitions advisory, as well as capital raising in the debt and equity capital markets.
- Markets and Securities Services ("MSS") provides 24-hour coverage and knowledge of world-wide local markets, including services in credit and rates, foreign exchange, precious metals trading, equities and securities services. MSS includes revenues for certain products and services sold to GB clients that are not reflected in the GB segment. For certain derivative activities, MSS receives performance fees associated with trading activity booked on the balance sheet of HSBC Bank plc.
- Global Banking and Markets Other ("GBM Other") includes activities performed on behalf of other HSBC affiliates, allocated Markets Treasury and certain corporate funding and liquidity charges not assigned to products.

Corporate Center Our CC segment includes our legacy structured credit products, certain corporate function and technology costs, certain debt issued for which fair value option accounting was elected and related derivatives, certain affiliate transactions, tax credit investments and adjustments to the fair value of HSBC shares held for stock plans. Our CC also includes certain costs incurred relating to the delivery of our restructuring plan primarily consisting of lease impairment and other related costs, as well as support service project costs and severance costs allocated to us from HTSU and other HSBC affiliates.

Our Markets Treasury function is responsible for managing liquidity and funding under the supervision of our Asset and Liability Management Committee. Markets Treasury also manages our structural interest rate position within a limit structure. The majority of the liquidity is invested in interest bearing deposits with Federal Reserve banks and U.S. Government and other high quality securities. Markets Treasury is permitted to use derivatives as part of its mandate to manage interest rate risk. Derivative activity comprises predominantly the use of interest rate swaps which are part of cash flow hedging relationships. Credit risk in Markets Treasury is predominantly limited to short-term exposure created by exposure to banks as well as high quality sovereigns or agencies which constitute the majority of their liquidity portfolio. Markets Treasury manages interest rate risk and liquidity and funding risk. Markets Treasury income statement and balance sheet results are allocated to each of the global businesses based upon tangible equity levels and levels of any surplus liabilities.

Funding

We fund our operations using a diversified deposit base, supplemented by issuing short-term and long-term unsecured debt, secured financing repurchase agreements utilizing High Quality Liquid Assets ("HQLA"), accessing the Federal Home Loan Bank of New York, issuing preferred equity, and, as necessary, receiving capital contributions from our parent, HSBC North America. Emphasis is placed on maintaining stable deposit balances. In 2022, our primary source of funds continued to be deposits, augmented by issuances of commercial paper, securities sold under repurchase agreements and term debt.

Numerous factors, both internal and external, may impact our access to, and the costs associated with, both retail and wholesale sources of funding. These factors may include our debt ratings, overall economic conditions, overall capital markets volatility, the counterparty credit limits of investors to the HSBC Group, and our management of the credit risks inherent in our business and customer base.

A detailed description of our sources and availability of funding are set forth in the "Liquidity and Capital Resources" section of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A").

The cash generated by these funding sources is primarily used to service our debt obligations, originate new loans, purchase investment securities, pay preferred dividends and, as available and appropriate, common dividends or common distributions to our parent.

Human Capital

At December 31, 2022, we had 2,180 employees. We rely heavily on Human Resource ("HR") services provided by an affiliate, HTSU, which supports our HR related activities including HR Operations, Performance and Reward, Learning and Talent Development, Resourcing and Onboarding, and Employee Relations while working with our business segments and support functions to help achieve our business objectives.

By focusing on employee well-being, diversity, inclusion and engagement, as well as building our peoples' skills and capabilities for now and for the future, we aim to create an environment where our people can fulfill their potential. We use confidential surveys to assess progress and make changes in response to issues raised in the surveys. We want to have an open culture where our people feel connected, supported to speak up and where our leaders encourage feedback. Where we make organizational changes, we support our people throughout the change and in particular, where there are job losses.

How we listen to our employees We capture our employees' views and engage in dialogue with employees based on their feedback on a range of topics, such as our strategy, culture, behavior, well-being and working environment, through our employee survey, Snapshot. Results are presented to the U.S. Executive Committee, the Board of Directors, as well as the Group Executive Committee and relevant management committees.

When things go wrong HSBC Confidential is a global whistleblowing platform that enables our people, past and present, to raise concerns in confidence. We do not condone or tolerate any acts of retaliation against those who raise concerns.

Whistleblowing concerns are investigated thoroughly and independently. Remedial action, taken where appropriate, includes disciplinary action, dismissal, and adjustments to variable pay and performance ratings.

We rely on our employees to deliver fair outcomes for our customers and make sure we act with integrity in the financial markets. A high standard of personal conduct is critical to our ability to live up to this commitment and ensure a healthy working environment. We manage misconduct by taking action, as appropriate, up to and including dismissal. We report cases on a regular basis to management committees. Bullying and harassment of any type are not tolerated and we have strict processes to manage this behavior.

Remuneration Our pay and performance strategy aims to reward competitively the achievement of long-term sustainable performance in an effort to attract and motivate the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience, while performing their role in the long-term interests of our stakeholders.

The quality and commitment of our employees is fundamental to our success and, accordingly, we aim to attract, retain and motivate them. As trust and relationships are vital in our business, our goal is to recruit those who are committed to a long-term career with us.

Certain employees participate in HSBC's Employee Stock Purchase Plan and Restricted Share Plan. See Note 21, "Share-Based Plans," in the accompanying consolidated financial statements for further detail.

Diversity and inclusion We are committed to a company-wide approach to diversity and inclusion. We want to embrace our employees' diverse ideas, styles and perspectives to reflect and understand our customers, communities, suppliers and investors. HSBC's Global Principles outline that our employees must treat each other with dignity and respect, creating an inclusive culture to support equal opportunities. We do not tolerate discrimination, bullying, harassment or victimization. Our U.S. Executive Committee members are responsible for our inclusion and culture agenda.

In 2020, we announced plans to improve diversity and inclusion. Our leadership team has agreed to a set of six pillars through which we believe we can make meaningful progress toward advancing inclusion for all under-represented and diverse groups. These six pillars comprise the following objectives:

- **Accountability** – To build upon the foundation of our efforts in diversity and inclusion and to expand beyond that to reach our customers and communities that we serve.
- **Recruiting and Retention** – To increase the pipeline of diverse candidates, focusing on the ethnicities with the lowest representation.
- **Representation** – To improve representation across diversity groups, particularly at the more senior levels.
- **Advancing the Conversation** – To encourage and actively facilitate dialogue about inclusion and equality.
- **Strategic Giving and Community Engagement** – To target strategic giving to support equality-focused and diverse organizations and initiatives.
- **Who we do Business with** – To accelerate our commitment to improving representation of minority-owned companies among our vendors.

A key component of this plan is the U.S. Head of Inclusion and Culture, a role which reports directly to the Chief Human Resources Officer and the Chief Executive Officer ("CEO") and is focused on expanding our diversity and inclusion efforts. This role helps us make quicker progress in advancing opportunities for our employees, expanding our customer demographic and investing in the communities that need our help the most.

In 2022, we continued our focus on increasing the representation of women in senior leadership roles. We are currently tracking to meet our contribution to the global goal for women in senior leadership positions of 35 percent by 2025.

We review our pay practices internally and with independent third parties and make adjustments if pay differences are identified that are not due to objective, tangible reasons such as performance or skills and experience. We have a gender pay gap that is driven by the composition of our workforce. There continues to be more men than women in senior, high-paid roles and more women in junior roles. We are committed to reducing our gender pay gap as we deliver on our goal to increase the number of women in senior roles.

We are committed to increasing the representation and inclusion of Black heritage and other ethnically diverse talent. Globally, HSBC has set an aspiration to increase the number of Black heritage and other ethnically diverse employees in senior leadership roles by 2025. We use our six pillar strategy, particularly recruiting, retention and development initiatives to contribute to achieving that aspiration.

Our employees also are encouraged to participate in a number of Employee Resource Groups ("ERGs"). These ERGs are voluntary, company-endorsed employee groups dedicated to fostering a diverse and inclusive work environment within the context of our mission, values, goals, business parameters and objectives. Resource groups typically form around a specific dimension of diversity such as age, gender, ethnicity, disability, sexual orientation, etc. The purpose of an ERG is to provide a support network for employees to foster the professional growth, development and education of its members. In addition, ERGs not only support organizational diversity and inclusion efforts, but identify and lobby for initiatives that will improve the sense of belonging for its members. ERGs are invaluable in providing the organization with feedback from employees to decision-makers, and serving as touch points for engaging all employees in diversity efforts.

Employment of people with a disability We believe in providing equal opportunities for all employees. The employment of people with a disability is included in this commitment. The recruitment, training, career development and promotion of people with a disability are based on the aptitudes and abilities of the individual. Should employees become disabled during their employment with us, efforts are made to continue their employment and, if necessary, appropriate training and reasonable equipment and facilities are provided. We continually look for ways to support employees with disabilities. For example, we use Zoom Closed Captioning, which through the use of Communication Access Real-Time Transcriber generates closed captions in real time to support colleagues with hearing disabilities.

Learning and skills development We understand that to have a skilled and capable workforce for today and the future, we must invest in our employees at all stages of their careers. We measure our success through our retention, engagement scores, internal mobility and from external awards.

We provide training through HSBC University, our online learning portal and global network of training centers. HSBC University assists our employees in developing technical and role-based skills, as well as personal skills. We put a strong emphasis on leadership skills to foster a culture of curiosity, innovation, collaboration and performance. Our required training has a strong foundation in good conduct, with topics including managing non-financial risk, data privacy, cybersecurity, anti-money laundering, sanctions, anti-bribery and corruption, insider risk, competition law, raising concerns, workplace harassment and well-being. We also introduced a range of self-directed resources and workshops to improve people manager skills, team cohesion, performance and future skills.

We require mandatory training on our values, strategy and approach to risk management. This helps keep our people aware of the risks we face so they can make better decisions to grow our business in a safe way.

Building for the future Developing our future leaders is critical to our long-term success. The U.S. Executive Committee dedicates time to articulate the current and future capabilities required to deliver the business strategy, and identify successors for our most critical roles. Successors then undergo robust assessment and participate in our executive development programs, which have been designed and delivered in collaboration with some of the world's best business schools. Potential successors for senior roles also benefit from coaching and mentoring, and are moved into roles that will build their skills and capabilities.

Developing core skills Our suite of manager training and skills development focus on the skills that we believe are most important to ensure HUSI is fit for the future - leading and supporting teams through change. Our managers are the critical link to supporting individuals and teams.

Risk management remains central to development at HSBC and is part of our mandatory training for all colleagues. For colleagues in roles at higher risk of exposure to financial wrongdoing, we provide more in depth training on financial risks such as money laundering, sanctions, bribery and corruption. We also have programs and resources to address specific areas of risk, such as those relating to the management of third party suppliers.

Our cyber hub brings together training, insights, events and campaigns to provide a one-stop shop on how to combat cyber-crime. We support leaders and model developers with training that helps them understand and apply our principles on the ethical use of big data and artificial intelligence.

Our sustainability academy provides learning for all to better understand HSBC Group's climate strategy, educate on climate awareness and provide sustainability resources specific to each business area.

Embedding inclusion Our commitment to diversity and inclusion is reflected in our learning and talent programs. We continue to bolster existing online learning to help leaders address any behavioral biases. We pay specific attention on how we select and promote candidates for roles and how colleagues can readily access opportunities.

Adapting through COVID-19 Delivery of virtual learning due to the coronavirus ("COVID-19") pandemic continues to be a focus. In-person classroom learning is an option for specific audiences and needs. We are supporting the transition to hybrid working and continue to provide resources to colleagues to better manage their wellbeing.

Health and safety We are committed to providing a safe and healthy working environment for everyone. We strive to ensure best health and safety management practices are adopted across HUSI or standards that reflect HSBC core values.

Putting our commitment into practice, we continue to deliver a range of programs to help us understand and manage effectively the risks we face and to help improve the buildings in which we operate. For example:

- COVID-19 safe workplaces were implemented based on expert medical advice and designed to protect our employees, contractors and customers from the risks of COVID-19. This included enhanced cleaning, training and awareness, signage, social distancing measures, public hygiene and track and trace measures and the deployment of system enhancements to track and approve vaccination status.
- We enhanced our Workstyles and Location policy and materials, which provide employees flexible working options, with more awareness and best practices.
- Our employees completed an improved health and safety training and awareness program ensuring roles and responsibilities were clear and understood.
- All of our buildings had an annual safety inspection (subject to local COVID-19 restrictions) to ensure we were meeting our standards, and continuously improving our safety performance.

Based on the improved health and safety environment, and changes in guidance, HUSI lifted COVID-19 restrictions in the fourth quarter 2022.

Supporting our employees through organizational change To ensure we have the right roles in the right locations, our businesses regularly re-evaluate their structures. We strive to support colleagues closely through all organizational change, which will include those who will be affected by our business update. Our focus is to prioritize retention of our permanent employees through mechanisms such as redeployment. Redundancies were necessary in 2022, and we sought to treat people fairly and responsibly. We use objective and appropriate selection criteria for redundancies. We prohibit selection on grounds linked to personal characteristics, for example gender, race, age or having raised past concerns. Additionally, we provided employees access to counselling via employee assistance programs and career transition.

Regulation and Competition

Regulation We are subject to, among other things, an extensive statutory and regulatory framework applicable to bank holding companies, financial holding companies and banks. U.S. regulation of banks, bank holding companies and financial holding companies is intended primarily for safety and soundness of banks, and the protection of the interests of depositors, the Federal Deposit Insurance Fund and the banking system as a whole rather than the protection of security holders and creditors.

Bank Holding Company Supervision As a bank holding company ("BHC"), we are subject to regulation under the Bank Holding Company Act of 1956, as amended ("BHC Act"), and to inspection, examination and supervision by our primary regulator, the Federal Reserve Board ("FRB"). HSBC USA is also subject to the disclosure and regulatory requirements of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as administered by the Securities and Exchange Commission (the "SEC").

In addition, the FRB requires certain large non-U.S. banks with significant operations in the United States, such as HSBC, to establish a single intermediate holding company ("IHC") to hold all of their U.S. bank and non-bank subsidiaries. The HSBC Group operates in the United States through such an IHC structure (i.e., HSBC North America).

Financial Holding Company Regulation HSBC USA and its parent HSBC North America qualified as financial holding companies pursuant to the amendments to the BHC Act effected by the Gramm-Leach-Bliley Act of 1999 ("GLB Act"). Financial holding companies may engage in a broader range of activities than bank holding companies ("BHCs"). Under regulations implemented by the FRB, if any financial holding company, or any depository institution controlled by a financial holding company, ceases to meet certain capital or management standards, the FRB may impose corrective capital and/or managerial requirements on the financial holding company and place limitations on its ability to conduct the broader financial activities permissible for financial holding companies. In addition, the FRB may require divestiture of the holding company's depository institutions or its affiliates engaged in broader financial activities in reliance on the GLB Act if the deficiencies persist. The regulations also provide that if any depository institution controlled by a financial holding company fails to

maintain a satisfactory rating under the Community Reinvestment Act of 1977 (the "CRA"), as amended, the FRB must prohibit the financial holding company and its subsidiaries from engaging in any additional activities other than those permissible for BHCs that are not financial holding companies.

Under the FRB supervisory rating system, IHCs and large BHCs with \$100 billion or more in total consolidated assets, including HSBC North America and HSBC USA, receive separate ratings from the FRB for (i) capital planning and positions, (ii) liquidity risk management and positions, and (iii) governance and controls. A covered BHC that receives a deficient rating for any of the three components is not considered to be "well managed."

We are generally prohibited under the BHC Act from acquiring, directly or indirectly, ownership or control of more than 5 percent of any class of voting shares of, or substantially all the assets of, or exercising control over, any U.S. bank, BHC or many other types of depository institutions and/or their holding companies without the prior approval of the FRB and, potentially, other U.S. banking regulatory agencies.

The GLB Act and the regulations issued thereunder contain a number of other provisions that affect our operations and those of our subsidiary banks, including regulations and restrictions on the activities we may conduct and the types of businesses and entities we may acquire. Furthermore, other provisions contain detailed requirements relating to the financial privacy of consumers. In addition, the so-called 'push-out' provisions of the GLB Act removed the blanket exemption from registration for securities and brokerage activities conducted in banks (including HSBC Bank USA) under the Exchange Act. Applicable regulations allow banks to continue to avoid registration as a broker or dealer only if they conduct securities activities that fall within a set of defined exemptions.

Consumer Regulation Our consumer businesses operate in a highly regulated environment. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act" or "Dodd-Frank") created the Consumer Financial Protection Bureau (the "CFPB"), which has a broad range of powers to administer and enforce a federal regulatory framework of consumer financial regulation, including the authority to regulate credit, savings, payment and other consumer financial products and services and providers of those products and services. The CFPB has the authority to issue regulations to prevent unfair, deceptive or abusive acts or practices in connection with consumer financial products or services and to ensure features of any consumer financial products or services are fully, accurately and effectively disclosed to consumers. The CFPB also has authority to examine large banks, including HSBC Bank USA, and their affiliates for compliance with those regulations. Our consumer lending businesses are also subject to additional laws relating to consumer protection including, without limitation, fair lending, fair debt collection practices, mortgage loan origination and servicing obligations, bankruptcy, military service member protections, use of credit reports, privacy matters, and disclosure of credit terms and correction of billing errors. Local, state and national regulatory and enforcement agencies continue efforts to address perceived problems within the mortgage lending and credit card industries through broad or targeted legislative or regulatory initiatives aimed at lenders' operations in consumer lending markets. There continues to be a significant amount of legislative and regulatory activity, nationally, locally and at the state level, designed to limit certain lending practices while mandating certain servicing procedures. Federal bankruptcy and state debtor relief and collection laws, as well as the Servicemembers Civil Relief Act affect the ability of banks, including HSBC Bank USA, to collect outstanding balances.

Supervision of Bank Subsidiaries Our subsidiary national banks, HSBC Bank USA and HTCD, are subject to regulation and examination primarily by the Office of the Comptroller of the Currency ("OCC"). These subsidiary banks are subject to additional regulation and supervision by the Federal Deposit Insurance Corporation ("FDIC"), the FRB and the CFPB. HSBC Bank USA and HTCD are subject to banking laws and regulations that place various restrictions and requirements on their activities, investments, operations and administration, including the establishment and maintenance of branch offices, capital and reserve requirements, deposits and borrowings, investment and lending activities, payment of dividends, transactions with affiliates, overall compliance and risk management and numerous other matters. In 2020, the FRB reduced reserve requirements to zero percent.

HSBC Bank USA is subject to the CRA, which imposes affirmative, ongoing obligations on depository institutions to meet the credit needs of their local communities, including low- and moderate-income neighborhoods, consistent with the safe and sound operation of the institution. In May 2022, the federal banking agencies issued a notice of proposed rulemaking to amend their CRA regulations. The proposal would significantly expand the number of areas in which a bank is evaluated, materially change the tests used to evaluate the bank in those areas, and expand the data a bank must collect and report. The proposal, if finalized, could increase HSBC Bank USA's obligations and compliance costs necessary to achieve a "Satisfactory" or "Outstanding" rating under the CRA framework, which factor into the ability of banks to expand and engage in new activities.

Federal law imposes limitations on the payment of dividends by national banks. Dividends payable by HSBC Bank USA and HTCD are 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 a bank 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 national bank obtains the approval of the OCC. Under the undivided profits test, a dividend may not be paid in excess of a bank's

undivided profits account. HSBC Bank USA is also required to maintain appropriate amounts of capital against its assets as discussed further in this Annual Report on Form 10-K.

Federal banking laws and regulations apply a variety of requirements or restrictions on insured depository institutions with respect to brokered deposits. For instance, only a "well capitalized" insured depository institution may accept brokered deposits without prior regulatory approval.

The types of activities in which the non-U.S. branches of HSBC Bank USA may engage are subject to various restrictions imposed by the FRB in addition to those generally applicable to HSBC Bank USA under OCC rules. These branches are also subject to the laws and regulatory authorities of the countries in which they operate.

Under longstanding FRB policy, which Dodd-Frank codified as a statutory requirement, HSBC USA is expected to act as a source of strength to its subsidiary banks and, under appropriate circumstances, to commit resources to support each such subsidiary bank in circumstances where it might not do so absent such policy.

Affiliate Transaction Restrictions HSBC Bank USA and HTCD are subject to significant restrictions imposed by federal law on extensions of credit to, and certain other "covered transactions" with HSBC USA or other affiliates. Covered transactions include loans and other extensions of credit, investments and asset purchases, derivatives and certain other transactions involving the transfer of value from, or taking the credit risk by, a subsidiary bank to an affiliate or for the benefit of an affiliate. Dodd-Frank expanded these affiliate transaction restrictions to include as a covered transaction the credit exposure of a bank to an affiliate arising from a derivative, securities lending/borrowing or repurchase transaction with an affiliate. The FRB has yet to propose rules to implement these revisions. A bank's transactions with its non-bank affiliates are also generally required to be on arm's length terms. Certain Edge Act subsidiaries of HSBC Bank USA are limited in the amount of funds they can provide to other affiliates including their parent. Amounts above their level of invested capital generally must be secured with U.S. government securities.

Unless an exemption applies, or a specific waiver is granted by the FRB, covered transactions by a bank with a single affiliate are limited to 10 percent of the bank's capital and surplus, and all covered transactions with affiliates in the aggregate are limited to 20 percent of a bank's capital and surplus. Loans and extensions of credit to affiliates by a bank generally are to be secured in specified amounts with specific types of collateral.

Regulatory Capital and Liquidity Requirements As a financial services holding company, we are subject to regulatory capital rules issued by U.S. banking regulators including Basel III (the "Basel III rule"). A bank or BHC's failure to meet minimum capital requirements can result in certain mandatory actions and possibly additional discretionary actions by its regulators. Generally, BHC regulatory capital compliance is performed at a consolidated level within the United States at HSBC North America, our parent, and also separately for HSBC Bank USA. However, we do present HSBC USA's capital ratios in "Liquidity and Capital Resources" in our MD&A, as well as, together with HSBC Bank USA's, in Note 26, "Retained Earnings and Regulatory Capital Requirements," of the accompanying consolidated financial statements. Our ultimate parent, HSBC, is also subject to regulatory capital requirements under United Kingdom ("U.K.") law.

Basel III Overview The Basel III rule establishes minimum capital ratios and overall capital adequacy standards for banks and BHCs. HSBC North America, HSBC USA and HSBC Bank USA each calculate their risk-based capital requirements for credit risk under the Standardized Approach in the Basel III rule. To be categorized as "well capitalized" under the Basel III rule, a banking institution must maintain capital equal to or in excess of the ratios reflected in the table included in Note 26, "Retained Earnings and Regulatory Capital Requirements," of the accompanying consolidated financial statements and must not be subject to a directive, order or written agreement to meet and maintain specific capital levels. The federal bank regulatory agencies may, however, set higher capital requirements for an individual bank or BHC when particular circumstances warrant. Under the Basel III rule, all banking organizations are subject to a minimum Tier 1 leverage ratio of 4 percent. Additionally, certain banking organizations are subject to a supplementary leverage ratio ("SLR") of 3 percent (calculated as the ratio of Tier 1 capital to total leverage exposure, which includes balance sheet exposures plus certain off-balance sheet items).

Tailoring Rules In 2019, the FRB and the other federal banking agencies jointly finalized rules to implement the Economic Growth, Regulatory Relief and Consumer Protection Act that tailor the application of the enhanced prudential standards for large BHCs and foreign banking organizations (the "Tailoring Rules"). The Tailoring Rules assign each BHC and IHC with \$50 billion or more in total U.S. assets into one of five classifications (Categories I through IV, and 'other firms') based on their relative size and complexity and assessed on asset size, cross-jurisdictional activity, reliance on short-term wholesale funding, nonbank asset size, and off-balance sheet exposures.

As of January 1, 2022, HSBC North America met the criteria to be re-classified as a Category IV firm and the enhanced prudential standards applicable to HSBC North America and HSBC Bank USA have changed commensurate with their risk profile. Prior to January 1, 2022, HSBC North America and HSBC Bank USA were subject to Category III standards. The following table provides a comparison of the enhanced prudential standards for Category III and Category IV firms to illustrate the impact on HSBC North America's change in category:

	Category III (Prior)	Category IV (Current)
Stress Testing	<ul style="list-style-type: none"> • Biennial company-run stress testing • Annual supervisory stress testing • Annual capital plan submission 	<ul style="list-style-type: none"> • No company-run stress testing requirement • Biennial supervisory stress testing • Annual capital plan submission
Capital	<ul style="list-style-type: none"> • Countercyclical buffer (when in effect) • SLR 	<ul style="list-style-type: none"> • No countercyclical buffer requirement • No SLR requirement
Liquidity	<ul style="list-style-type: none"> • Liquidity stress testing (monthly) • Reduced daily liquidity coverage ratio ("LCR") and net stable funding ratio ("NSFR") regulatory requirements of 85 percent 	<ul style="list-style-type: none"> • Liquidity stress testing (quarterly) • Reduced daily LCR and NSFR regulatory requirements of 70 percent
Single-Counterparty Credit Limits ("SCCL")	<ul style="list-style-type: none"> • IHC must comply with SCCL • Combined US operations must meet home country SCCL consistent with Basel framework 	<ul style="list-style-type: none"> • No SCCL requirement at IHC-level • Combined US operations must meet home country SCCL consistent with Basel framework
Resolution Plan Requirements	<ul style="list-style-type: none"> • Resolution plan required on a three-year cycle, alternating between full and targeted plan 	<ul style="list-style-type: none"> • Resolution plan required on a three-year cycle, alternating between full and targeted plan

As a result of this classification change, HSBC North America and HSBC Bank USA are no longer subject to the SLR or the countercyclical capital buffer. We continue to review the composition of our capital structure.

HSBC USA and HSBC Bank USA are required to maintain minimum capital ratios as follows:

	Common Equity Tier 1 Ratio	Tier 1 Capital Ratio	Total Capital Ratio	Tier 1 Leverage Ratio
Regulatory minimum ratio	4.5 %	6.0 %	8.0 %	4.0 %
Plus: Capital conservation buffer requirement	2.5 %	2.5 %	2.5 %	—
Regulatory minimum ratio plus capital conservation buffer	7.0 %	8.5 %	10.5 %	4.0 %

Currently, HSBC USA and HSBC Bank USA hold capital in excess of these regulatory minimums plus a fixed 2.5 percent capital conservation buffer. If our risk-based capital ratios were to fall to levels within the capital conservation buffer, we would become subject to increasing restrictions on our capital distributions and discretionary bonus payments.

Capital Planning and Stress Testing The FRB requires certain U.S. top-tier BHCs and IHCs, including HSBC North America, to comply with the FRB's capital plan rule and Comprehensive Capital Analysis and Review ("CCAR") program, as well as the supervisory stress tests conducted by the FRB. These stress tests are forward looking exercises to assess the impact of hypothetical macroeconomic baseline and severely adverse scenarios provided by the FRB on the financial condition and capital adequacy of a CCAR firm over a nine quarter planning horizon. As a result of its re-classification as a Category IV firm, HSBC North America is no longer subject to company-run stress testing and related disclosure requirements. As a Category IV firm, HSBC North America is, however, subject to supervisory stress testing on a biennial basis, although it may opt-in to such testing in an "off year" in order to recalibrate its stress capital buffer ("SCB") based on its most recent supervisory stress test. The FRB continues to supervise Category IV firms on an ongoing basis, including evaluation of the capital adequacy and capital planning processes during off-cycle years. HSBC Bank USA is not subject to the OCC's stress testing requirements, which require national banks with \$250 billion or more in total assets to conduct company-run stress tests.

As part of the CCAR process, the FRB undertakes a supervisory assessment of the capital adequacy of CCAR firms, including HSBC North America, based on a review of a comprehensive capital plan submitted by each participating BHC to the FRB that describes the company's planned capital actions during the nine quarter review period, as well as the results of stress tests conducted by the FRB under different hypothetical macroeconomic scenarios, including a supervisory baseline scenario and severely adverse scenarios provided by the FRB.

In 2020, the FRB modified the static capital conservation buffer to incorporate an institution-specific SCB which is floored at 2.5 percent. The SCB equals (i) a CCAR firm's projected decline in common equity tier 1 under the annual CCAR supervisory severely adverse stress testing scenario plus (ii) one year of planned common stock dividends. In August 2022, the FRB announced a new SCB for participating CCAR firms based on 2022 CCAR stress tests, which took effect October 1, 2022. HSBC North America continues to review the composition of its capital structures and capital buffers in light of the final rule. The SCB applies only to HSBC North America; HSBC USA and HSBC Bank USA remain subject to a static 2.5 percent capital conservation buffer.

HSBC North America submitted its 2022 CCAR capital plan in April 2022. In June 2022, the FRB publicly disclosed its supervisory stress test results for all CCAR firms, including HSBC North America and the results are incorporated into the SCB for HSBC North America.

Liquidity Risk Management The Basel Committee has adopted two required liquidity metrics: the LCR, designed to be a short-term measure to ensure banks have sufficient HQLA to cover net stressed cash outflows over the next 30 days, and the NSFR, which is a longer term measure with a 12-month time horizon to ensure a sustainable maturity structure of assets and liabilities.

Certain U.S. banking organizations, including HSBC North America and HSBC Bank USA, are subject to the U.S. LCR rule and are required to report their LCRs to U.S. regulators on a daily basis. Under the Tailoring Rules, a 70 percent LCR requirement applies to Category IV firms with weighted short-term wholesale funding that equals or exceeds \$50 billion and their depository institution subsidiaries. As a result, a LCR of 100 percent or higher reflects an unencumbered HQLA balance that is equal to or exceeds 70 percent of a Category IV firm's liquidity needs for a 30 calendar day liquidity stress scenario.

Certain large banking organizations, including HSBC North America and HSBC Bank USA, are also subject to the U.S. NSFR rule. Consistent with the Tailoring Rules, a 70 percent NSFR requirement applies to Category IV firms with weighted short-term wholesale funding that equals or exceeds \$50 billion and their depository institution subsidiaries. As a result, a NSFR of 100 percent or more reflects an available stable funding balance from liabilities and capital over the next 12 months that is equal to or exceeds 70 percent of a Category IV firm's required amount of funding for assets and off-balance sheet exposures.

As a Category IV firm, HSBC North America remains subject to liquidity stress testing and related liquidity buffer and liquidity risk management requirements.

TLAC The U.S. IHCs of non-U.S. global systemically important banks ("G-SIBs"), including HSBC North America, must maintain minimum amounts of total loss-absorbing capacity ("TLAC"), which includes minimum levels of Tier 1 capital and long-term debt satisfying certain eligibility criteria, and a related TLAC buffer. The TLAC rules also include 'clean holding company requirements' that impose limitations on the types of financial transactions that HSBC North America may engage in. HSBC North America maintains long-term debt to support compliance with the TLAC rules and will continue to assess if additional long-term debt is needed to remain compliant in future periods.

U.S. Resolution Planning Large international banks, such as HSBC (generally with regard to its U.S. operations), and large insured depository institutions, such as HSBC Bank USA, are required to file resolution plans identifying, among other things, material subsidiaries and core business lines and describing what strategy would be followed to resolve the institution in the event of significant financial distress, including identifying how insured bank subsidiaries would be adequately protected from risk created by other affiliates. The failure to cure deficiencies in a resolution plan would enable the FRB and the FDIC, acting jointly, to impose more stringent capital, leverage or liquidity requirements, or restrictions on growth, activities or operations and, if such failure persists, require the divestiture of assets or operations.

Under the FRB and FDIC rule implementing the resolution planning requirements for depository institution holding companies (the "SIFI Plan") in the Dodd-Frank Act, HSBC was required to file a SIFI Plan every three years, alternating between a full resolution plan and a targeted resolution plan, which was generally limited to core areas such as capital and liquidity, as well as identifying material changes in other areas of the plan since its last submission. HSBC submitted its latest SIFI Plan, which was a targeted plan, in December 2021. The FRB and FDIC provided feedback on this targeted plan in December 2022. The FRB and FDIC did not identify any shortcomings or deficiencies as a result of this review of HSBC's 2021 targeted plan, but noted areas where further progress will help improve HSBC's preparation for a rapid and orderly resolution of its U.S. subsidiaries and operations that may be addressed in HSBC's next full resolution plan, which is due on July 1, 2024. Under the FDIC's separate resolution plan requirements for insured depository institutions (the "IDI Plan"), banks with \$100 billion or more in total consolidated assets, including HSBC Bank USA, are required to submit an IDI Plan every three years. HSBC Bank USA submitted its latest IDI Plan in December 2022. The FRB has also separately established a framework for recovery plans, although HSBC is not currently required to submit a recovery plan to U.S. regulators unless specifically requested to do so.

Non-U.S. Regulatory Capital and Liquidity Requirements HSBC North America and HSBC USA also continue to support HSBC's implementation of the Basel III framework, as adopted by the U.K. Prudential Regulation Authority. We supply data regarding credit risk, operational risk and market risk to support HSBC's regulatory capital and risk-weighted asset calculations and information relevant to HSBC's compliance with applicable liquidity requirements.

General Our capital resources are summarized under "Liquidity and Capital Resources" in MD&A. Capital amounts and ratios for HSBC USA and HSBC Bank USA are summarized in Note 26, "Retained Earnings and Regulatory Capital Requirements" of the consolidated financial statements. From time to time, bank regulators propose amendments to or issue interpretations of risk-based or leverage capital guidelines. Such proposals or interpretations could, upon implementation, affect reported capital ratios and net risk-weighted assets.

Deposit Insurance Deposits placed at HSBC Bank USA and HTCD are insured by the FDIC, subject to the limitations and conditions of applicable law and the FDIC's regulations. The standard deposit insurance amount is \$250,000 per depositor for each account category. HSBC Bank USA and HTCD are subject to risk based assessments from the FDIC. Such assessments determine the deposit insurance costs paid by HSBC Bank USA and HTCD to the FDIC. While the assessments are generally payable quarterly, the FDIC also has the authority to impose special assessments to prevent the Deposit Insurance Fund from declining to an unacceptable level. In October 2022, the FDIC adopted a final rule to increase initial base deposit insurance assessment rate schedules for all depository institutions, including HSBC Bank USA and HTCD, uniformly by 2 basis points beginning in the first quarterly assessment period of 2023. The FDIC projects that this increase in assessment rates will have an insignificant effect on institutions' capital levels and estimates it will reduce income by an annual average of 1.2 percent.

Bank Secrecy Act/Anti-Money Laundering We are subject to a framework of federal laws designed to combat money laundering and financing of terrorism, mainly the Bank Secrecy Act and the USA PATRIOT Act, as well as related regulations issued by the U.S. Department of the Treasury and federal banking regulators (collectively, "AML laws"). AML laws require financial institutions (including insured U.S. depository institutions, U.S.-based branches and agencies of foreign banks, U.S. broker-dealers and various other entities) to implement an AML compliance program that is reasonably designed to prevent money laundering and the financing of terrorism. Programs must include, among other things, policies and procedures to verify their customers' identities, verify the identities of beneficial owners of legal entity customers, conduct customer due diligence and enhanced due diligence on certain customers and monitor for and report on suspicious activity. We are examined for compliance with AML laws by our federal banking regulators.

Cybersecurity The federal banking regulators regularly issue guidance regarding cybersecurity intended to enhance cyber risk management standards among financial institutions. Financial institutions are expected to design multiple layers of security controls to establish lines of defense and to ensure that their risk management processes also address the risk posed by compromised customer credentials, including security measures to reliably authenticate customers' accessing internet-based services of the financial institution. Further, a financial institution's management is expected to maintain sufficient business continuity planning processes to ensure the rapid recovery, resumption and maintenance of the institution's operations after a cyberattack involving destructive malware. A financial institution is also expected to develop appropriate processes to enable recovery of data and business operations and address rebuilding network capabilities and restoring data if the institution or its critical service providers fall victim to this type of cyberattack. If we fail to observe the regulatory guidance, we could be subject to various regulatory sanctions, including financial penalties.

In November 2021, the FRB, FDIC, and OCC issued a final rule mandating that a banking organization notify its primary federal regulators within 36 hours of identifying a "computer-security incident" that has or is reasonably likely to disrupt or degrade its (i) ability to carry out banking operations, activities, or processes, or deliver banking products and services to a material portion of its customer base; (ii) business lines, including associated operations, services, functions, and support, that upon failure would result in a material loss of revenue, profit, or franchise value; or (iii) operations, including associated services, functions, and support, the failure or discontinuance of which would pose a threat to the financial stability of the United States. The rule took effect April 1, 2022, with banking organizations required to comply with the notice requirements beginning May 1, 2022.

On March 9, 2022, the SEC published proposed disclosure rules and amendments regarding cybersecurity risk management, governance and incident reporting by public companies. Under the proposal, public companies, including HUSI, would be required to file an 8-K within four business days of determining that it had suffered a material cybersecurity incident. The proposal also includes disclosure requirements regarding policies and procedures for the identification and management of cybersecurity risks, oversight and management over cybersecurity risks, and expertise in cybersecurity matters. We are evaluating the potential effects of this proposal on our operations.

Cybersecurity remains an area of significant regulatory focus, and state regulators have also been increasingly active in implementing privacy and cybersecurity standards and regulations. Recently, several states have adopted regulations requiring certain financial institutions to implement cybersecurity programs and providing detailed requirements with respect to these programs, including data encryption requirements. Many states have also recently implemented or modified their data breach notification and data privacy requirements. We expect this trend of state-level activity to continue, and are continually monitoring developments in the states.

Single-Counterparty Credit Limits The FRB limits credit exposures to single counterparties for large BHCs and IHCs. As a result of its re-classification as a Category IV firm, HSBC North America is no longer directly subject to these single counterparty credit limits. Previously, under Category III standards, HSBC North America, together with its subsidiaries, was

prohibited from having net credit exposure to a single unaffiliated counterparty in excess of 25 percent of HSBC North America's Tier 1 capital. Independent of HSBC North America's reclassification to a Category IV firm, HSBC North America, together with its subsidiaries, could become subject to a separate limit on its exposures to certain unaffiliated systemically important counterparties if its parent, HSBC, cannot certify its compliance with a large exposure regime in the U.K. that is consistent with the Basel large exposure framework.

Derivatives Regulation Title VII of the Dodd-Frank Act imposes comprehensive regulation on the over-the-counter ("OTC") derivatives markets, including credit default, equity, foreign exchange and interest rate swaps. Implementation of Title VII is the responsibility of the Commodity Futures Trading Commission ("CFTC") (for swaps based on non-securities underliers or broad-based security indices), the SEC (for swaps based on individual securities and narrow-based security indices, known as "security-based swaps") and, to a lesser extent, U.S. banking regulators (for certain rules applicable to banks). The CFTC has implemented the most significant provisions of Title VII applicable to swaps. In particular, certain swap dealers, including HSBC Bank USA, have provisionally registered with the CFTC as swap dealers and become members of the National Futures Association, subjecting them to an extensive array of corporate governance requirements, business conduct standards, reporting requirements, mandatory clearing and trading of certain swaps and other regulatory standards affecting their derivatives businesses.

Also, HSBC Bank USA engages in equity and credit derivatives businesses that are subject to the SEC's jurisdiction to regulate security-based swaps under Title VII of the Dodd-Frank Act. The SEC has finalized the key rules governing the application of Title VII requirements to security-based swap dealers and major security-based swap participants. HSBC Bank USA is conditionally registered with the SEC as a security-based swap dealer.

In addition, as a provisionally registered swap dealer and a conditionally registered security-based swap dealer that is a national bank, HSBC Bank USA is subject to the rules jointly finalized by the U.S. banking regulators which established margin requirements (the "Margin Rules") for non-cleared swaps and security-based swaps (together, "swaps") for swap dealers, security-based swap dealers, major swap participants and major security-based swap participants regulated by the agencies ("Swap Entities"). Subject to certain exceptions, the Margin Rules require HSBC Bank USA to collect and post initial and variation margin for swaps entered into with other Swap Entities and certain financial end users that exceed a minimum threshold of transactional activity, and for financial end users that do not meet the minimum transactional activity threshold, to collect and post variation margin (but not initial margin).

The Margin Rules also limit the types of assets that are eligible to satisfy initial and variation margin requirements, require initial margin to be segregated at a third-party custodian, impose requirements on internal models used to calculate initial margin requirements and contain specific provisions for cross-border and inter-affiliate transactions. The Margin Rules follow a phased implementation schedule, with additional counterparties becoming subject to initial margin requirements in September 2022 depending on the transactional volume of the parties and their affiliates. The Margin Rules, as well as parallel margin rules from the CFTC, the SEC, and certain non-U.S. regulators, have increased the costs and liquidity burden associated with trading swaps.

The "Volcker Rule" The Volcker Rule prohibits insured depository institutions and companies affiliated with insured depository institutions (collectively, banking entities) from engaging in short-term proprietary trading of certain securities, derivatives, commodity futures and options for their own account. The Volcker Rule also imposes limits on banking entities' investments in, and other relationships with, hedge funds and private equity funds. The Volcker Rule provides exemptions for certain activities, including market-making, underwriting, hedging, trading in government obligations and organizing and offering hedge funds and private equity funds, subject to certain conditions. A banking entity with significant U.S. trading operations, such as HSBC North America, is required to maintain a detailed compliance program to comply with the restrictions of the Volcker Rule.

Competition The GLB Act eliminated many of the regulatory restrictions on providing financial services in the United States. The GLB Act allows for financial institutions and other providers of financial products to enter into combinations that permit a single organization to offer a complete line of financial products and services. In addition, the Volcker Rule places restrictions on bank-affiliated financial companies' trading activities and private equity and hedge fund investments, which may provide a competitive advantage to financial companies that do not have U.S. banking operations and may impact liquidity in the products and activities in which we engage. We face intense competition in all of the markets we serve, competing with banks and other financial institutions such as insurance companies, commercial finance providers, brokerage firms, investment companies and fintech companies. The financial services industry has experienced consolidation in recent years as financial institutions involved in a broad range of products and services have merged, been acquired or dispersed. This trend is expected to continue and has resulted in, among other things, greater concentrations of deposits and other resources. Competition is expected to continue to be intense given the multiple banks and other financial services companies which offer products and services in our markets, noting that we compete with different banks and financial services companies in different markets, given our strategy.

Corporate Governance and Controls

We maintain a website at www.us.hsbc.com on which we make available, as soon as reasonably practicable after filing with or furnishing to the SEC, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to these reports. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website. Our website also contains our Corporate Governance Standards and Charters of standing Board of Directors Committees, including the Audit Committee, the Risk Committee and the Chairman's Committee.

Integrity is the foundation of all our business endeavors and is the result of continued dedication and commitment to high ethical standards in our relationships with each other, with other organizations and with those individuals who are our customers. To that end, we have adopted a Statement of Business Principles and Code of Ethics (our "Statement of Business Principles") that expresses the principles upon which we operate our business. The Statement of Business Principles is applicable to all employees, including our CEO, Chief Financial Officer ("CFO") and Chief Accounting Officer (collectively, the "Senior Financial Officers"). In addition to the Statement of Business Principles, the Senior Financial Officers are subject to the additional policies set forth in the Code of Ethics for Senior Financial Officers, which is intended to supplement the Statement of Business Principles.

Our Statement of Business Principles and Code of Ethics for Senior Financial Officers can be found on our corporate website, www.about.us.hsbc.com, under "Investor Relations." Printed copies of this information can be requested at no charge. Requests should be made to HSBC USA Inc., 452 Fifth Avenue, New York, NY 10018, Attention: Corporate Secretary. We intend to satisfy the disclosure requirements under Item 5.05 of Form 8-K regarding amendments to, or waivers from, certain provisions of the Code of Ethics for Senior Financial Officers and Statement of Business Principles by posting such information on our website, at the address and location specified above.

Certifications In addition to certifications from our CEO and CFO pursuant to Sections 302 and 906 of the Sarbanes-Oxley Act of 2002 (attached to this report on Form 10-K as Exhibits 31 and 32), we also file a written affirmation of an authorized officer with the New York Stock Exchange (the "NYSE") certifying that such officer is not aware of any violation by HSBC USA of the applicable NYSE corporate governance listing standards in effect as of February 21, 2023.

Item 1A. Risk Factors

The following discussion provides a description of the most significant risk factors that could affect our businesses, results of operations and financial condition and could cause our results to differ materially from those expressed in public statements or documents. Some of these risk factors are inherent in the financial services industry and others are more specific to our own businesses. There are also other factors besides those discussed below or elsewhere in this Annual Report on Form 10-K that could affect our businesses, results of operations and financial condition and, therefore, the risk factors below should not be considered a complete list of all potential risks that we may face.

Risks related to the Economy, Financial Markets, Liquidity and Interest Rates

Market and economic conditions will continue to affect our businesses, results of operations and financial condition. Our business and earnings are affected by general business, economic and market conditions in the U.S. and abroad. Given our concentration of business activities in the United States, we are particularly exposed to downturns in the U.S. economy, including housing, high unemployment, the availability of credit and liquidity and reduced economic growth. U.S. economic activity slowed in 2022 reflecting the impacts of significantly higher inflation, rising interest rates and energy price volatility as well as repercussions from the Russia-Ukraine war alongside continued economic impacts from the COVID-19 pandemic which resulted in supply chain disruptions. These conditions have created significant uncertainty about the future economic environment. General business, economic and market conditions that could continue to affect us include:

- level of economic growth, including the pace and magnitude of such growth;
- pressure on and changes in consumer and business confidence, spending and behavior;
- fiscal policy;
- volatility in energy prices, including oil and gas prices;
- volatility in credit markets;
- unemployment levels, wage income levels and declines in wealth;
- trends in corporate earnings;
- market value of residential and commercial real estate throughout the United States;
- inflation, monetary supply and monetary policy;
- fluctuations in both debt and equity capital markets in which we fund our operations;
- consequences of unexpected geopolitical events, natural disasters, climate change, outbreaks of contagious disease (such as coronavirus) or acts of war or terrorism;
- trade policy;
- fluctuations in the value of the U.S. dollar;
- movements in short-term and long-term interest rates or a change in the shape of the yield curve;
- increases in interest rates, which may lead to increased delinquencies and loan impairment charges;
- availability of liquidity;
- availability of credit; and
- new laws, regulations or regulatory and law enforcement initiatives.

Inflation remained elevated throughout 2022 reflecting supply and demand imbalances related to the pandemic, higher food and energy prices and broader price pressures. Although unemployment rates have remained low in 2022, if businesses were to become cautious to hire, lay-off employees or reduce hours for employees, losses could be significant in our consumer loans due to decreased consumer income, which will impact demand for products and services offered by many of our commercial loan clients. In addition, on-going domestic and global policy issues, such as interest rate levels, trade disputes and economic sanctions, as well as continued implications of the Russia-Ukraine war will continue to impact the capital markets, trade and corporate earnings which also impacts our commercial loan performance. The sustainability of economic growth will be determined by numerous variables including consumer sentiment, interest rate levels, energy prices, credit market volatility, employment levels and housing market conditions which will impact corporate earnings and the capital markets. In the event economic conditions deteriorate and lead to a recession, there would be a significant negative impact on delinquencies, charge-offs and losses in all loan portfolios with a corresponding impact on our results of operations.

The inflationary outlook remains uncertain. The consumer price index increased 6.5 percent year-over-year in December 2022. The risk to our business from inflation depends on the durability of the current inflationary pressures. The significant increase in inflation has already led to tighter-than expected monetary policy, which in turn, has increased the borrowing costs of our customers and reduced asset prices. If high inflation were to continue to persist, it could lead to further increases in the

borrowing costs of our customers, making it more difficult for them to repay their loans or other obligations. The higher interest rates needed to tame persistent price pressures could also further reduce asset prices, weaken economic activity and possibly lead to a recession.

A deterioration in business and economic conditions may erode consumer and investor confidence, increase volatility of financial markets, and could also adversely affect our fee-based businesses, including financial planning products and services.

Increased credit risk, including as a result of a deterioration in economic conditions, could require us to increase our provision for credit losses and allowance for credit losses and could have a material adverse effect on our results of operations and financial condition. The credit performance of our loan portfolios significantly affects our financial results and condition. If the current economic environment were to deteriorate further, more of our customers may have difficulty in repaying their loans or other obligations which could result in a higher level of credit losses and provision for credit losses. We reserve for credit losses by establishing an allowance through a charge to earnings. The amount of this allowance is based on our assessment of lifetime expected credit losses inherent in our various loan and other portfolios carried at amortized cost as well as off-balance sheet credit exposures such as undrawn commitments to lend. The process for determining the amount of the allowance is critical to our financial results and condition. It requires difficult, subjective and complex judgments about the future, including forecasts of economic or market conditions that might impair the ability of our borrowers to repay their loans. We might increase the allowance because of changing economic conditions, including falling home prices and higher unemployment, lower U.S. Gross Domestic Product ("GDP") estimates, or other factors. For example, changes in borrower behavior or the regulatory environment also could influence recognition of credit losses in the portfolio and our allowance for credit losses.

While we believe that our allowance for credit losses was appropriate at December 31, 2022, there is no assurance that it will be sufficient to cover future credit losses. In the event of a deterioration in economic conditions, we may be required to increase our allowance in future periods, which would reduce our earnings.

Federal Reserve Board policies can significantly affect business and economic conditions and, as a result, our financial results and condition. The FRB regulates the supply of money and credit in the United States. Its policies determine in large part our borrowing costs and the return we earn on loans and investments, both of which affect our net interest margin. They also can materially affect the value of financial instruments we hold, such as debt securities and derivative instruments. The FRB's policies also can affect our borrowers, potentially increasing the risk that such borrowers may fail to repay their loans. Changes in FRB policies are beyond our control and can be hard to predict.

Risks related to Regulation, Legislation and Litigation

Federal, state, local and other similar international measures to regulate the financial industry may significantly impact our operations. We operate in a highly regulated environment. Changes in federal, state and local laws and regulations affecting banking, derivatives, capital, liquidity, consumer credit, bankruptcy, privacy, consumer protection or other matters, could materially impact our operations and performance.

Attempts by local, state and federal regulatory agencies to address perceived problems with the mortgage lending and credit card industries could affect us in substantial and unpredictable ways, including limiting the types of products we can offer, how these products may be originated, the fees and charges that may be applied to accounts and how accounts may be collected or security interests enforced. Any one or more of these effects could negatively impact our results. There is also significant focus on loss mitigation and foreclosure activity for real estate loans. We cannot fully anticipate the response by national regulatory agencies, state Attorneys General, or certain legislators, nor can we anticipate whether significant changes to our operations and practices will be required as a result.

The Dodd-Frank Act established the CFPB which has broad authority to regulate providers of credit, payment and other consumer financial products and services. In addition, provisions of the Dodd-Frank Act may narrow the scope of federal preemption of state consumer laws and expand the authority of state Attorneys General to bring actions to enforce federal consumer protection legislation. As a result of the Dodd-Frank Act's potential expansion of the authority of state Attorneys General to bring actions to enforce federal consumer protection legislation, we could potentially be subject to additional state lawsuits and enforcement actions, thereby further increasing our legal and compliance costs.

Under the Dodd-Frank Act, certain of our affiliates and subsidiaries, including HSBC Bank USA, have provisionally registered as swap dealers and are subject to extensive oversight by the CFTC. Regulation of swap dealers by the CFTC imposes numerous corporate governance, business conduct, capital, margin, reporting, clearing, execution and other regulatory requirements on HSBC Bank USA. Additionally, certain of our affiliates and subsidiaries, including HSBC Bank USA, have conditionally registered as security-based swap dealers and became subject to extensive oversight by the SEC, including the imposition of parallel corporate governance, business conduct, reporting and other regulatory requirements for security-based swaps. Imposition of these requirements may adversely affect our derivatives business and make us less competitive or make certain derivative products less profitable to undertake.

The Volcker Rule limits the ability of banking entities such as HUSI to sponsor or invest in certain private equity or hedge funds or engage in certain types of proprietary trading. See "Regulation and Competition - The "Volcker Rule".

Our parent, HSBC North America, is subject to assessment by the FRB as part of the capital plan rule and CCAR program, as well as the supervisory stress tests conducted by the FRB. See "Regulation and Competition - Capital Planning and Stress Testing."

The total impact of the Dodd-Frank Act and related legislative and regulatory initiatives cannot be fully assessed without taking into consideration how non-U.S. policymakers and regulators may respond through the promulgation of new regulations and revisions to existing regulations and how the cumulative effects of both U.S. and non-U.S. laws and regulations will affect our businesses and operations. Additional legislative or regulatory actions in the United States, the U.K., the European Union ("EU") and in other countries could result in a significant loss of revenue, limit our ability to pursue business opportunities in which we might otherwise consider engaging, affect the value of assets that we hold, require us to increase our prices and therefore reduce demand for our products, impose additional costs on us, or otherwise adversely affect our businesses. Accordingly, any such new or additional legislation or regulations could have an adverse effect on our businesses, results of operations or financial condition. Furthermore, certain large G-SIBs, including our ultimate parent HSBC, have in recent years become subject to capital surcharges and other enhanced prudential requirements. The Financial Stability Board ("FSB") has identified HSBC as one of three G-SIBs subject to a 2 percent surcharge. The FRB's rules implementing the G-SIB surcharge in the United States do not impose additional capital requirements on us because the U.S. G-SIB surcharge only applies to the eight largest U.S. banking organizations.

Our ultimate parent HSBC is subject to the FSB's TLAC requirements for G-SIBs in the U.K. The TLAC standard also permits authorities in host jurisdictions to require "internal" TLAC to be issued by local entities to either parent entities or third parties. The purpose of the TLAC standard is to ensure that G-SIBs have sufficient loss-absorbing and recapitalization capacity available to implement an orderly resolution with continuity of critical functions and minimal impact on financial stability, and to ensure cooperation between home and host authorities during resolution. The FRB's rules implementing the FSB's TLAC standard require the U.S. IHCs of non-U.S. G-SIBs, including HSBC North America, to maintain minimum amounts of TLAC and a related TLAC buffer. To support compliance with the TLAC rules, HSBC North America has issued long-term debt and may be required to issue additional long-term debt in future periods. See "Regulation and Competition - TLAC."

The delivery of our priorities is subject to execution risk. Delivering on the U.S. strategy and financial outcomes requires effective management and execution of our strategic priorities, revenue growth initiatives, product enhancements, reengineering activities and remediation programs.

Regulatory requests, legal matters and business initiatives all require a significant amount of time and resources to implement. The magnitude, complexity and, at times, concurrent demands of projects has resulted in heightened execution risk. Organizational change and external factors, including the challenging macroeconomic environment and the extent and pace of regulatory change also contribute to execution risk. These factors could adversely affect the successful delivery of our priorities.

Uncertainty surrounding the potential legal, regulatory and policy changes by the current administration in the U.S. may directly impact financial institutions and the global economy. Changes by the current administration in federal policy and regulatory agencies have and could continue to lead to changes involving the level of oversight and focus on the financial services industry as well as changes to the tax code. The nature, timing and economic and political effects of potential future changes to the current legal and regulatory framework and tax code affecting financial institutions remain highly uncertain. It is unclear what additional laws, regulations and policies may change and whether future changes or uncertainty surrounding future changes will adversely affect our operating environment and therefore our results of operations and financial condition.

Lawsuits and regulatory investigations and proceedings may continue and increase in the current economic and regulatory environment. HSBC USA and its affiliates are routinely named as defendants in, or as parties to, various legal actions, investigations and proceedings relating to our current and/or former operations and are subject to governmental and regulatory examinations, information-gathering requests, investigations and formal and informal proceedings, as described in Note 30, "Litigation and Regulatory Matters" in the accompanying consolidated financial statements, which may result in adverse judgments, settlements, fines, penalties, remediation payments, injunctions and other relief. Legal actions and proceedings, including investigations, may increase in the near future, especially in the event of a recession.

Financial service providers are at risk of regulatory sanctions or fines related to conduct of business and financial crime. The incidence of regulatory proceedings and other adversarial proceedings against financial service firms is increasing, with a corresponding increase also in civil litigation arising from or relating to issues which are subject to regulatory investigations, sanctions or fines. There may be additional regulatory investigations and reviews conducted by banking and other regulators, including the CFPB, CFTC, SEC, state Attorneys General or state regulatory and law enforcement agencies that, if determined adversely, may result in judgments, settlements, substantial fines, penalties, remediation payments or other results, including additional compliance requirements, which could materially adversely affect our businesses, financial condition or results of operations, or cause serious reputational harm. In addition, HSBC's extensive global operations increase our compliance and

regulatory risks and costs. For example, operations in emerging markets, including facilitating cross-border transactions on behalf of its clients, subjects us to higher compliance risks under U.S. regulations primarily focused on various aspects of global corporate activities, including AML laws and regulations, the Foreign Corrupt Practices Act ("FCPA") and economic sanctions programs administered by the Office of Foreign Assets Control. These risks can be more acute in less developed markets and thus require substantial investment in compliance infrastructure or could result in a reduction in certain of our affiliates' business activities. Criminal prosecutions of financial institutions for, among other alleged conduct, breaches of AML laws and regulations, the FCPA, or economic sanctions programs; antitrust violations; market manipulation; aiding and abetting tax evasion; and providing unlicensed cross-border banking services, have become more commonplace and may increase in frequency due to increased media attention and higher expectations from prosecutors and the public. Any such prosecution or investigation of, or legal proceeding or regulatory action brought against, HSBC or one or more of its subsidiaries could result in substantial fines, penalties and/or forfeitures and could have a material adverse effect on our results, business and prospects, including the potential loss of key licenses, requirement to exit certain businesses and withdrawal of funding from depositors and other stakeholders.

We establish reserves for legal claims when payments associated with the claims are probable and the costs can be reasonably estimated. However, we may incur legal costs for a matter even if we have not established a reserve for it and the cost of resolving a matter may be substantially higher than amounts reserved for it. It is inherently difficult to predict the outcome of our legal, regulatory and other adversarial proceedings, particularly cases in which matters are brought on behalf of various classes of claimants, those which seek unspecified damages or those which involve novel legal claims. The resolution of a pending legal proceeding could materially adversely affect our business, reputation, results of operations and financial condition.

Regulatory requirements in the U.S. and in non-U.S. jurisdictions to facilitate the future orderly resolution of large financial institutions could negatively impact our business structures, activities and practices. The Dodd-Frank Act requires HSBC as a foreign bank holding company and our ultimate parent to regularly prepare and submit a SIFI Plan. See "Regulation and Competition - Regulatory Capital and Liquidity Requirements."

If the FRB and the FDIC both determine that a SIFI Plan is not "credible" (which, although not defined, is generally believed to mean the regulators do not believe the plans are feasible or would otherwise allow resolution of a financial institution's U.S. businesses in a way that protects systemically important functions without severe systemic disruption and without exposing taxpayers to loss), and the deficiencies are not remedied within the required time period, an institution, including HSBC, could be required to restructure or reorganize businesses, legal entities, or operational systems and intra-company transactions in ways that could negatively impact operations, or be subject to restrictions on growth. HSBC could also eventually be subjected to more stringent capital, leverage or liquidity requirements, or be required to divest certain assets or operations.

In 2019, the Bank of England ("BoE") and the Prudential Regulation Authority ("PRA") published final policies on the Resolvability Assessment Framework ("RAF"), which places the onus on firms to demonstrate their own resolvability and is designed to increase transparency and accountability for resolution planning. In order to be considered resolvable, HSBC must meet three outcomes: (i) have adequate resources in resolution; (ii) be able to continue business through resolution and restructuring; and (iii) be able to co-ordinate its resolution and communicate effectively with stakeholders. The RAF requires HSBC to prepare a report on HSBC Group's assessment of its resolvability, which is submitted to the PRA and BoE on a biennial basis. HSBC submitted its first report in October 2021 (followed by an addendum in February 2022) and published a public summary of the report in June 2022. Alongside this report, the BoE publicly disclosed its own assessment of HSBC's resolvability. The BoE identified certain shortcomings and areas of further enhancement and HSBC is currently addressing these to ensure it meets the objectives of the RAF. The Group's next self-assessment is due in October 2023. Under the RAF, HSBC assesses its resolvability both from a UK-focused and a Group-wide perspective, and has implemented common resolvability capabilities across the Group's significant entities, including material entities in its U.S. group. HSBC continues to engage with the BoE, PRA, FRB, FDIC and its global regulators in other jurisdictions to ensure that it meets current and future recovery and resolution requirements and could face regulatory penalties if these requirements are not met.

U.S. federal banking agencies may increase regulatory capital, TLAC, long-term debt or liquidity requirements which could require HSBC North America or HSBC Bank USA to issue additional qualifying securities or to take other actions, such as liquidate assets. HSBC North America and HSBC Bank USA are required to meet consolidated regulatory capital and liquidity requirements, including new or modified regulations and related regulatory guidance, in accordance with current regulatory timelines.

In the current regulatory environment, capital and liquidity requirements are frequently introduced and amended. Our regulators may increase regulatory minimum or buffer requirements, change how regulatory capital is calculated or increase liquidity requirements. A significant component of regulatory capital ratios is calculating our risk-weighted assets and our leverage exposure which may increase. The Basel Committee has also revised several key methodologies for measuring risk-weighted assets. These revisions include changes to the standardized approach for credit risk and operational risk, constraints on the use of internal models, a capital floor based on the revised standardized approaches, and a final standard on the minimum capital

requirements for market risk. The federal banking agencies have indicated they intend to issue a notice of proposed rulemaking in 2023 to update the U.S. Basel III rule to incorporate the Basel Committee revisions. These and other future regulatory or legislative proposals could significantly impact the regulatory capital standards and requirements applicable to financial institutions such as HSBC North America, as well as our ability to meet these requirements.

Increases in regulatory capital may also be required in response to other U.S. supervisory requirements. Participation by HSBC North America in the FRB's CCAR stress test process also requires that HSBC North America maintain sufficient capital to meet minimum regulatory ratios under multiple forward-looking stress scenarios across a nine-quarter planning horizon. The FRB has also adopted a final rule on the SCB which, among other things, replaced the fixed capital conservation buffer with a dynamic, institution-specific risk-based SCB for CCAR firms such as HSBC North America. See "Regulation and Competition - Capital Planning and Stress Testing." These stress testing requirements will influence our regulatory capital and liquidity planning process, and may impose additional operational and compliance costs on us.

Preparation for the U.S. implementation of the Basel Committee's revisions to Basel III has influenced and is likely to continue to influence our regulatory capital and liquidity planning process, and is expected to impose additional operational and compliance costs on us. We are unable at this time to determine the extent of changes we will need to make to our liquidity or capital position, if any, and what effect, if any, such changes will have on our results of operations or financial condition. New regulatory capital and liquidity requirements may limit or otherwise restrict how we utilize our capital and may require us to increase our capital or liquidity. Any requirement that we increase our regulatory capital, regulatory capital ratios or liquidity could require us to liquidate assets or otherwise change our business and/or investment plans, which may negatively affect our financial results. Changes to and compliance with the regulatory capital and liquidity requirements may impact our operations by requiring us to liquidate assets, increase borrowings, issue additional equity or other securities, cease or alter certain operations, sell company assets, or hold highly liquid assets, which may adversely affect our results of operations.

Failure to meet regulatory requirements and expectations regarding sales practices and incentive compensation programs could negatively impact us and our customers. Our remuneration practices and performance management framework are designed to prevent and deter conflicts of interest and inappropriate sales incentives. Additionally, our other sales controls, including our framework for handling customer and employee complaints regarding sales practices, are designed to ensure customers receive products that they have authorized and meet their needs. Failure to execute our sales controls could result in the sale of, or upgrade to, products and services that fail to meet the needs of, or are unsuitable for, customers and clients, and can lead to financial harm to our customers, regulatory sanctions, financial loss and reputational damage.

We are subject to tax-related risks. We are subject to the various tax laws of the U.S. and its states and municipalities in which we operate. These tax laws are inherently complex and we must make judgments and interpretations about the application of these laws to the HSBC North America entities, operations and businesses. Our interpretations and application of the tax laws could differ from that of the relevant governmental taxing authority, which could result in the potential for the payment of additional taxes, penalties or interest, which could be material. Additionally, the amounts ultimately paid may differ materially from the amounts provided depending on the ultimate resolution of the matter.

Risks related to our Business, Operations, Governance and Internal Control Systems

Our reputation may have a direct impact on our financial results and ongoing operations. Our ability to attract and retain customers and employees, and conduct business transactions with our counterparties could be adversely affected to the extent our reputation, or the reputation of affiliates operating under the HSBC brand, is damaged. Reputational risk relates to stakeholders' perceptions, whether fact-based or otherwise. Stakeholders' expectations change constantly and so reputational risk is dynamic and varies between geographical regions, groups and individuals. In addition, our businesses face increasing scrutiny with respect to Environmental, Social, Governance ("ESG") related matters. Any material lapse in standards of integrity, compliance, customer service or operating efficiency may represent a potential reputational risk.

Negative news about us, HSBC, our affiliates or the financial services industry generally could give rise to reputational risk that could cause harm to us and our business prospects.

The proliferation of social media websites as well as the personal use of social media by our employees and others, including personal blogs and social network profiles, facilitates communication with large audiences in short time frames. These social media websites also may increase the risk that negative, inappropriate or unauthorized information may be posted or released publicly that could harm our reputation or have other negative consequences.

The failure to address, or the perception that we have failed to address any of these issues appropriately could make our customers unwilling to do business with us or give rise to increased regulatory action, which could have a material adverse effect on our business, prospects, financial condition and results of operations.

Our risk management controls framework may not be successful. The management of risk is an integral part of all our activities and is fundamental to the delivery of our strategic priorities. While we are subject to a number of legal and regulatory actions and investigations, our risk management framework has been designed to provide robust controls and

ongoing monitoring of our principal risks. To manage risk, we employ a risk management framework at all levels and across all risk types. The framework fosters the continuous monitoring of the risk environment and an integrated evaluation of risks and their interactions. It also strives to ensure that we have a robust and consistent approach to risk management across all of our activities. While our risk management framework employs a broad and diversified set of risk monitoring and risk mitigation techniques, such techniques and the judgments that accompany their application cannot anticipate every unfavorable event or the specifics and timing of every outcome. Failure to manage risks appropriately could have a material adverse effect on our business, prospects, financial condition and results of operations.

Our risk management controls framework may face particularly significant challenges internally and externally in the following three broad areas:

- (a) Risks related to our businesses and operations: The delivery of our strategic priorities is subject to execution risk and we may not achieve all the expected benefits of our strategic initiatives. Our operations are subject to the threat of fraudulent activity and disruption from the external environment. We are highly dependent on our information technology systems. We could incur losses or be required to hold additional capital as a result of model limitations or failure. Issues with the quality of data or effectiveness of our data aggregation and validation procedures could result in ineffective risk management practices or inaccurate risk reporting.
- (b) Macroeconomic and geopolitical risks: Unfavorable economic and market conditions, such as reduced economic growth and rising interest rates, as well as certain geopolitical events, such as conflicts or pandemics resulting in supply chain disruptions, may adversely affect our results. See "Market and economic conditions will continue to affect our businesses, results of operations and financial condition."
- (c) Regulatory and legal risks to our businesses: We are subject to a number of legal and regulatory actions and investigations, the outcomes of which are inherently difficult to predict. Unfavorable outcomes could have a material adverse effect on our operating results and brand. Unfavorable legislative or regulatory developments, or changes in the policy of regulators or governments, could also have a material adverse effect on our operations, financial condition and prospects.

Failure to effectively implement our business strategies may adversely affect our financial performance. Our strategies for business growth involve focusing our sales efforts on international connectivity strategies with high quality international corporate clients and globally-connected affluent and high net worth wealth and personal clients, as well as augmenting our returns through increased cross-selling and cost optimization. We may fail to attract international clients or cross-sell our services to them. Competition within the industry can limit our ability to sell more products to our customers or influence us to sell our products at lower prices, reducing our net interest income and revenue from our fee-based products. Our cross-sell strategy is also dependent on earning more business from our customers, and increasing our cross-sell ratio or the average number of products sold to existing customers, which may become more challenging. Our international corporate strategies are dependent on a stable geopolitical environment. Increased tensions or instability between trading nations and the adoption of protectionist trade policies could adversely affect our ability to obtain new business from existing clients.

Substantial work is required to execute on our growth strategies. Alongside the strategic actions, we continue to implement a number of externally driven regulatory remediation programs. The magnitude and complexity of the projects required to meet these demands has resulted in heightened execution risk. Additionally, we may be unable to fully realize the cost optimization efforts and the other anticipated benefits from those efforts and we may not be able to realize them in the currently anticipated timeframes.

The cumulative impact of the collective change initiatives underway is significant and has direct implications on resourcing and our people. Failure to successfully implement our business strategies may have a material adverse effect on our businesses, prospects, financial condition and results of operations.

We may be unable to meet our funding requirements due to deposit attrition or access to the capital markets. HSBC USA is a holding company without operations of its own and therefore relies on dividends and other distributions for a portion of its funding and liquidity. Federal and state laws limit the amount of dividends and distributions that our subsidiaries may pay. Our primary source of funding is deposits, augmented by issuance of commercial paper, securities sold under repurchase agreements and term debt. Adequate liquidity is critical to our ability to operate our businesses.

We also access wholesale markets in order to provide funding for entities that do not accept deposits, to align asset and liability maturities and currencies and to maintain a market presence. We issued a total of \$5,933 million of long-term debt at various points in 2022, including \$1,000 million of senior notes issued in May. An inability to obtain financing in the unsecured long-term or short-term debt capital markets because of market factors or factors in our businesses could have a substantial adverse effect on our liquidity. Unfavorable macroeconomic developments, market disruptions or regulatory developments may increase our funding costs or challenge our ability to raise funds to support our businesses, materially adversely affecting our businesses, prospects, financial condition and/or results of operations.

Future conditions that could negatively affect our liquidity include:

- an inability to maintain stable deposit balances because customers may invest in other financial instruments as an alternative;
- diminished access to capital markets because of market factors or factors in our businesses;
- an increased interest rate environment for our commercial paper, deposits or term debt;
- unforeseen cash or capital requirements;
- an inability to sell assets; and
- an inability to obtain expected funding from HSBC Group subsidiaries and through deposits.

These conditions could be caused by a number of factors, including internal and external factors, such as, among others:

- financial and credit market disruption;
- volatility or lack of market or customer confidence in financial markets;
- lack of market or customer confidence in HSBC or negative news about HSBC or the financial services industry generally; and
- other conditions and factors over which we have little or no control including economic conditions in the United States and abroad and concerns over potential government defaults and related policy initiatives.

Our approach is to meet our capital needs locally through activities which reduce risk. To the extent, however, that local alternatives are insufficient, as a wholly-owned subsidiary of HSBC, we would seek their support. HSBC has provided us with capital support in the past. Notwithstanding, if we are unable to maintain stable deposit balances and/or raise funds in the capital markets, our liquidity position could be adversely affected and we might be unable to meet deposit withdrawals on demand or at their contractual maturity, to repay borrowings as they mature, or to fund new loans, investments and businesses. We may need to liquidate unencumbered assets to meet our liabilities. In a time of reduced liquidity, we may be unable to sell some of our assets, or we may need to sell assets at depressed prices, which in either case could materially adversely affect our businesses, prospects, results of operations and/or financial condition.

We face significant and increasing competition in the rapidly evolving financial services industry. We compete with other financial institutions in a highly competitive industry that continues to undergo significant change as a result of financial regulatory reform as well as increased public scrutiny and the challenging economic environment. We target globally-connected clients who need sophisticated global solutions and we generally compete on the basis of the quality of our customer service, the wide variety of products and services that we can offer our customers and the ability of those products and services to satisfy our customers' needs, the extensive distribution channels available for our customers, our innovation, and our reputation. Continued or increased competition in any one or all of these areas may negatively affect our market share and results of operations and/or cause us to increase our capital investment in our businesses in order to remain competitive. Additionally, our products and services may not be accepted by our targeted clients.

Given the current economic, regulatory, and political environment for large financial institutions such as us, and possible public backlash to bank fees and the emergence of new products and fintech companies, there is increased competitive pressure to provide products and services at current or lower prices. Consequently, our ability to reposition or reprice our products and services from time to time may be limited and could be influenced significantly by the actions of our competitors who may or may not charge similar fees for their products and services. Any changes in the types of products and services that we offer our customers and/or the pricing for those products and services could result in a loss of customers and market share and could materially adversely affect our results of operations. Further, new entrants to the market or new technologies could require us to spend more to modify or adapt our products to attract and retain customers. Continued technological advances and the growth of e-commerce have made it possible for non-depository institutions to offer products and services that traditionally were banking products, and for financial institutions as well as other companies to provide electronic and Internet-based financial solutions, including electronic payment solutions. We may not respond effectively to these competitive threats from existing and new competitors and may be forced to increase our investment in our businesses to modify or adapt our existing products and services or develop new products and services to respond to our customers' needs. Any of these factors may have a material adverse effect on our businesses, prospects, financial condition and results of operations.

Adverse changes in our credit ratings could have a material adverse effect on our borrowing costs and liquidity. Our credit ratings are an important part of maintaining our liquidity. We depend on access to the securities market for a portion of our funding. Our credit ratings are subject to ongoing review by the rating agencies, which consider a number of factors including their assessment of our relative financial strength and results of operations, including our strategy and our management's capability, as well as factors affecting the financial services industry generally, including legal and regulatory frameworks affecting our business activities and the rights of our creditors. We have had downgrades in the past and there can be no assurance that downgrades will not occur in the future. Any downgrade in our credit ratings could potentially increase our

borrowing costs, impact our ability to issue commercial paper and, depending on the severity of the downgrade, substantially limit our access to capital markets, require us to make cash payments or post collateral and permit termination by counterparties of certain significant contracts, including as a result of credit-related contingent features in certain of our derivative contracts, which could negatively affect our liquidity.

Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices and litigation matters, all of which may lead to adverse ratings actions. Although we closely monitor and strive to manage factors influencing our credit ratings, there is no assurance that our credit ratings will not change in the future. At December 31, 2022, none of the ratings on the debt of HSBC USA or HSBC Bank USA from any of the rating agencies were under review for potential downgrade.

We may not manage risks associated with the replacement of benchmark rates effectively. The replacement of benchmarks, including the London Interbank Offered Rate ("LIBOR") with alternative benchmark rates, and our development of products linked to alternate benchmark rates continues to expose us to a number of risks, including:

- Legal and execution risks, relating to documentation changes for new products (including appropriately detailing the risks and complexity of new interest rate conventions) and the transition of legacy contracts to alternate benchmark rates, which transition will, in turn, depend, to a certain extent, on the availability of alternate benchmark rate products and on the participation of customers and third party market participants in the transition process, legal proceedings, investigations or other actions regarding the interpretation and enforceability of provisions in LIBOR-based contracts, including, if necessary, fallback provisions or legislative solutions, and regulatory investigations or reviews in respect of our preparation and readiness for the replacement of LIBOR with alternative reference rates;
- Financial risks, arising from any changes in the valuation of financial instruments linked to benchmark rates and the implementation of the International Swaps and Derivatives Association's ("ISDA") protocol for the transition of derivative contracts, or from differences in U.S. dollar ("USD") LIBOR and Secured Overnight Financing Rate ("SOFR") interest rate levels creating basis risk in the trading book and banking book due to asymmetric adoption across the assets, liabilities and products that we need to actively manage through appropriate financial hedging;
- Operational risks, due to the need for us, our customers and the market to adapt systems, trade reporting infrastructure, operational processes and controls to accommodate one or more alternative benchmark rates; and
- Conduct risks, through potential material, adverse impact on customers or financial markets, if our customers are not ready and able to adapt their own processes and systems to accommodate the alternative benchmark rate products.

If any of these risks materialize, it could have a material adverse effect on our business, financial condition, results of operations, prospects and customers.

Concentrations of credit and market risk could increase the potential for significant losses. We have exposure to increased levels of risk when customers are engaged in similar business activities or activities in the same geographic region, or when they have similar economic features that would cause their ability to meet contractual obligations to be similarly affected by changes in economic conditions. While we regularly monitor various segments of our portfolio exposures to assess potential concentration risks, our efforts to diversify or hedge our credit portfolio against concentration risks may not be successful. Disruptions in the liquidity or transparency of any of the industries, products, financial markets or economies we operate in may result in our inability to sell, syndicate or realize the value of our positions, thereby leading to increased concentrations.

Third parties may use us as a conduit for illegal activities without our knowledge, which could have a material adverse effect on us. A major focus of U.S. government policy relating to financial institutions in recent years has been combating financial crime activity, including money laundering, bribery and corruption and violations of economic sanctions. We are required to comply with applicable AML, anti-bribery/corruption and sanctions laws and regulations, and we have various policies and procedures, including 'Know Your Customer' procedures and other internal controls, that are reasonably designed to achieve such compliance. These policies and procedures are aimed at preventing the use of our products and services for the purpose of committing or concealing financial crime. In relevant situations, and where permitted by regulation, we may rely upon certain counterparties, including our affiliates, to maintain and properly apply their own appropriate policies and procedures relating to financial crime compliance (including AML, anti-bribery/corruption and economic sanctions).

A program consisting of policies and procedures that are reasonably designed to achieve compliance with financial crime laws may not always prevent third parties from using us (and our relevant counterparties) as a conduit for money laundering, including illegal cash operations without our knowledge (and that of our relevant counterparties), or committing acts of bribery or violations of economic sanctions through us. Becoming a party to violations of financial crime laws or regulations, or accusations of being associated with such activity, could damage our reputation and/or lead to fines, penalties and/or other legal enforcement. Any one of these outcomes could have a material adverse effect on our business, prospects, financial condition and results of operations.

Operational risks are inherent in our businesses and may adversely impact our businesses and reputation. We are exposed to many types of operational risks that are inherent in banking operations, including fraudulent and other criminal activities (both internal and external), breakdowns in processes or procedures and systems failure or non-availability. See "A failure in our infrastructure, or those of our third party vendors and other service providers, that results in a loss of information, delays our ability to access information or impacts our ability to provide services to our clients may materially adversely affect our business, financial condition and results of operations." For example, fraudsters may target any of our products, services and delivery channels including lending, internet banking, payments, bank accounts and cards. These risks apply equally when we rely on outside suppliers, outsourcing vendors and our affiliates to provide services to us and our customers. These operational risks may result in financial loss to us, an adverse customer experience, reputational damage and potential regulatory action depending on the circumstances of the event, which could have a material adverse effect on our businesses, prospects, financial condition and results of operation. Further, there is a risk that our operating system controls as well as business continuity and data security systems could prove to be inadequate. Any such failure could affect our operations and could have a material adverse effect on our results of operations by requiring us to expend significant resources to correct the defect, as well as exposing us to litigation or losses not covered by insurance.

Our operations are subject to disruption from the external environment. We may be subject to disruptions of our operating systems infrastructure arising from events that are wholly or partially beyond our control, which may include:

- computer viruses, electrical, telecommunications, or other essential utility outages;
- natural disasters, such as hurricanes or other severe weather conditions and earthquakes;
- events arising from local, regional or international politics, including terrorist acts or acts of war; or
- absence of operating systems personnel due to global pandemics or otherwise, which could have a significant effect on our business operations as well as on HSBC affiliates world-wide.

Such disruptions may give rise to losses in service or disruption to customers, an inability to collect our receivables in affected areas, physical damage or loss of life and other loss or liability to us, which could have a material adverse effect on our businesses, prospects, financial condition and results of operations.

ESG risks such as climate change and human rights issues may have a material adverse impact on our businesses, results of operations and financial condition. ESG related matters such as climate change and human rights issues, among others, presents both immediate and long-term risks to us, with the risks expected to increase over time. Climate change could have both financial and non-financial impacts to us either directly or indirectly through our customers. Transition risk can arise from the move to a low-carbon economy, such as through policy, regulatory and technological changes. Physical risk can arise through increasing severity and/or frequency of severe weather or other climactic events, such as acute weather events and chronic shifts in the climate.

Physical risks could damage or destroy our or our customers' properties and other assets and disrupt our or their operations. For example, climate change may lead to more extreme weather events occurring more often which may result in physical damage and additional volatility within our trading and other businesses, as well as potential counterparty exposures and other financial risks. Transition risks, including those from changes in regulations or market preferences, which could in turn affect customer business and operations, could have negative impacts on asset values, results of operations or the reputation of HUSI and its customers. For example, our corporate credit portfolios include carbon-intensive industries like oil and gas and power that are exposed to climate risks, such as those risks related to the transition to a low-carbon economy, as well as low-carbon industries that may be subject to risks associated with new technologies.

While financial markets and regulatory institutions vary by jurisdiction in terms of authority or responsibility, U.S. and non-U.S. banking and securities regulators and others have recently implemented or are in consultation to draft regulatory requirements which recognize the need to address climate change's adverse impacts on financial market stability. Ongoing legislative or regulatory uncertainties and changes regarding climate risk management and practices may result in higher regulatory, compliance, credit and reputational risks and costs. On March 21, 2022, the SEC proposed climate related-disclosure requirements for public companies, such as HUSI, that would, among other things, require disclosure of direct and indirect greenhouse gas emissions, with certain emissions disclosures subject to third-party attestation requirements; climate-related scenario analysis (if the company conducts scenario analysis), together with qualitative and quantitative information about the hypothetical future climate scenarios used in its analysis; climate transition plans or climate-related targets or goals, along with disclosure of progress against any such plans, targets or goals; climate-related risks over the short-, medium- and long-term; qualitative and quantitative information regarding climate-related risks and historical impacts in audited financial statements; corporate governance of climate-related risks; and climate-related risk-management processes.

Failure to manage human rights risks may result in negative impacts on people and communities, which in turn may have reputational, legal, regulatory and financial consequences for HUSI.

If any ESG related risks materialize, it could have a material adverse impact on our businesses, results of operations, financial condition, reputation, prospects and strategy.

A failure in our infrastructure, or those of our third party vendors and other service providers, that results in a loss of information, delays our ability to access information or impacts our ability to provide services to our clients may materially adversely affect our business, financial condition and results of operations. Our businesses are highly dependent on our ability to process large volumes of data that require global capabilities and scale from our technology platforms. If our technology, communications or internal controls fail, or those of industry utilities or our service providers fail, we could experience production and system outages or failures or other significant operational delays. Any such outage, failure or delay could adversely affect our ability to effect transactions or service our clients, which could expose us to liability for damages, result in the loss of business, damage our reputation, subject us to regulatory scrutiny or sanctions or expose us to litigation, any of which could have a material adverse effect on our business, financial condition and results of operations. Security or technology disruptions, failures or delays that impact our communications or information systems could also adversely affect our ability to manage our exposure to risk or expand our business.

Upgrading our computer systems, software and networks may also subject us to disruptions, failures or delays due to the complexity and interconnectedness of our systems, software and networks. The failure to upgrade or maintain these computer systems, software and networks could result in greater susceptibility to attacks, unauthorized access and misuse, and could also prevent us from achieving our business continuity and resiliency objectives. There can be no assurance that any such disruptions, failures or delays will not occur or, if they do occur, that they will be adequately addressed.

Third parties with which we do business or that facilitate our business activities could also be sources of technology risk to us, including from breakdowns, failures or delays of their own systems or capacity constraints or other services that impair our ability to process transactions and communicate with customers and counterparties. In addition, we are exposed to the risk that a technology disruption or other information security event at a vendor used by our third-party service providers 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 the use of vendors by third-party service providers.

As a result of financial entities, central agents, clearing agents and houses, exchanges and technology systems across the globe becoming more interdependent and complex, a technology failure that significantly degrades, deletes or compromises the systems or data of one or more financial entities or suppliers could have a material impact on counterparties or other market participants, including us and could disrupt the functioning of the overall financial system.

We are subject to a variety of cybersecurity risks that, if realized, could disrupt our businesses, result in the disclosure or misuse of confidential or proprietary information, and may adversely impact our businesses and reputation. Data quality and integrity are critical for decision making, enterprise risk management and operational processes, as well as for complying with applicable regulation. Our businesses are dependent on our ability to process a large number of complex transactions, most of which involve networked computing devices. If any of our financial, accounting, data processing or other recordkeeping systems and management controls fail, or we or our third party vendors are subject to cyberattack that could compromise integrity, availability or confidentiality of our systems or data, we could be materially adversely affected.

Cyber vulnerabilities continue to be leveraged by criminals to perpetrate crimes at an increasing rate, and pose a significant threat to economic, social and geopolitical stability. HSBC Group and third party vendors we rely on face sophisticated cyber threats from state-sponsored attackers, hackers for hire, organized syndicates, and other threat actors seeking our critical corporate and customer information.

Distributed denial of service attacks, spearphishing campaigns, advanced malware, ransomware attacks, social engineering and insider threats with the intent to obtain personal customer financial information or proprietary corporate information, disrupt availability of services and to commit fraud have grown in volume and level of sophistication. Such acts can affect our business by:

- compromising the confidentiality or integrity of our customers' data, potentially impacting our customers' ability to repay loan balances and negatively impacting their credit ratings;
- compromising the security of and confidence in our payment channels;
- putting our customers at risk for identity theft, account takeover and credit abuse;
- causing us to incur remediation and other costs related to liability to customer or third parties for losses, repairs to remedy systems flaws, or incentives to customers and business partners to maintain and rebuild business relationships after the attack;
- increasing our costs to respond to such threats and to enhance our processes and systems to ensure security of data;
- damaging our reputation as a result of public disclosure of a breach of our systems or a loss of data event;

- resulting in unauthorized disclosure or alteration of our corporate confidential information and confidential information of employees, customers and counterparties;
- disrupting our customers' or third parties' business operations; and
- resulting in violations of applicable privacy laws and other laws or regulatory fines, penalties or intervention.

Internet crime or cyberattacks affecting HSBC Group or vendors on which we rely may result in financial loss and loss of customer data or other sensitive information which could undermine our reputation and our ability to attract and keep customers. We face various cyber risks in line with other multinational financial organizations. We and other multinational financial organizations have been, and will continue to be subject to an increasing risk of cyber incidents from these activities and ongoing threats and intrusion attempts due to the proliferation of new technologies and the increasing use of the Internet and customers' use of personal smartphones, PCs, tablets and other mobile devices to access products and services to conduct financial transactions and the increased sophistication and activities of organized crime for seeking financial gain, hacktivists (geopolitical designated groups), cyber terrorists (attacks against critical infrastructure) and state sponsored advanced persistent threats for corporate espionage. We experienced cyberattacks in 2022, none of which resulted in material financial loss or business interruption and we expect we will experience additional attacks in the future. Our risk and exposure to these matters remains heightened because of, among other things, HSBC Group's prominent size and scale, geographical span and role in the financial services industry, our offering of Internet banking and mobile banking platforms, and an increased use of hybrid working models between home and business locations by HSBC Group's employees, contractors, third party service providers and suppliers and their sub-contractors. In addition, the consolidation of clearing agents, exchanges and clearing houses and increased interconnectivity of financial institutions with such central agents, exchanges and clearing houses increases the exposure of cyberattacks on critical parties that may affect us. Evaluating and monitoring the cyber threat landscape in comparison to our existing capabilities, and adjusting our programs in order to respond to these threats, may require additional capital expenses for human resources and technology.

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 (including cybersecurity) from time to time.

We may suffer losses due to employee negligence, fraud or misconduct. Non-compliance with policies, employee misconduct, negligence and fraud could result in regulatory sanctions and serious reputational or financial harm. We are dependent on our employees and could be materially adversely affected if an employee or employees, acting alone or in concert with third parties, causes a significant operational break-down or failure, either as a result of human error or purposefully. A number of multinational financial institutions have suffered material losses due to the actions of 'rogue traders' or other employees. It is not always possible to deter employee misconduct and the precautions we take to prevent and detect this activity may not always be effective. Misconduct risks could be increased if prevent and detect measures are less effective because of remote and home working. Employee misconduct could have a material adverse effect on our business, prospects, financial condition and results of operations.

We may suffer losses due to negligence, fraud or misconduct by third parties. We depend on third party suppliers, outsourcing vendors and our affiliates for a variety of services. Third parties with which we do business with could be sources of operational risk to us, including risks relating to break-downs or failures of such parties' own systems or employees. The OCC and FRB require financial institutions to maintain third party and service provider risk management programs, which include due diligence requirements for third parties and service providers as well as for our affiliates who may perform services for us. On July 13, 2021, the federal banking agencies issued proposed guidance on managing risks associated with third-party relationships. The proposed guidance sets forth considerations and a framework with respect to the management of risks arising from third-party relationships, and if adopted, would replace the federal banking agencies' existing guidance on the topic. Under existing FRB guidance "service providers" is broadly defined to include all entities that have entered into a contractual relationship with a financial institution to provide business functions or activities. If our third party risk and service provider management and due diligence program is not sufficiently robust, this could lead to regulatory intervention. Any of these occurrences could diminish our ability to operate one or more of our businesses, and may result in potential liability to clients, reputational damage or regulatory intervention, all of which could materially adversely affect us.

Failure to successfully change our operational practices may have a material impact on our businesses. Changes to operational practices from time to time could materially impact our performance and results. Such changes may include:

- our determining to sell residential mortgage loans and other loans;
- changes to our customer account management and risk management/collection policies and practices;
- our investment choices in technology, business infrastructure and specialized personnel, including consolidating middle and back office activities to a single wholesale and a single retail offering platform;
- changes to our AML and sanctions policies and the related operations practices;

- our outsourcing of various operations, including outsourcing elements of our fixed-income business to affiliates based in Europe; or
- the decision to insource certain products, services or operations.

Further, in order to react quickly to or meet newly-implemented regulatory requirements, and to effectively implement our strategy, we may need to change or enhance systems within very tight time frames, which would increase operational risk. See "Failure to effectively implement our business strategies may adversely affect our financial performance" and "The delivery of our priorities is subject to execution risk." Failure to implement appropriate changes to our operational practices successfully and efficiently may diminish our ability to operate one or more of our businesses and could result in reputational damage and regulatory intervention, all of which could materially adversely affect us.

Our data management and policies and processes may not be sufficiently robust. Key business processes across the HSBC Group rely on large volumes of data sourced from a complex data environment. Data governance relies on a clear understanding of our environment to appropriately manage. If data governance, including data integrity, data quality and data architecture policies and procedures are not sufficiently robust, either via manual or automated controls, supplemental and ad hoc adjustments and reconciliations may be required to reduce the risk of error in reporting to senior management or regulators. Inadequate policies and processes may also affect our ability to use data to service customers more effectively and/or improve our product offering. This could have a material adverse effect on our business, prospects and results of operations.

Moreover, financial institutions that fail to comply with regulatory reporting requirements or with principles for effective risk data aggregation and risk reporting as set out by the Basel Committee may face supervisory measures. Any of these failures could have a material adverse effect on our business, prospects, financial condition and results of operations.

We have significant exposure to counterparty risk and the financial condition of our clients and counterparties could adversely affect us. We are exposed to counterparties that are involved in virtually all major industries, and we routinely execute transactions with counterparties in financial services, including brokers and dealers, central clearing counterparties, commercial banks, investment banks, mutual and hedge funds, and other institutional clients. Many of these transactions expose us to credit risk in the event of default by our counterparty or client. Significant deterioration in the credit quality of a counterparty may lead to concerns about the credit quality of others in the same industry, exacerbating our credit risk exposure, and increasing losses (including mark-to-market losses) in our market-making and clearing businesses. Our ability to engage in routine transactions to fund our operations and manage our risks could be materially adversely affected by the actions and commercial soundness of other financial services institutions. Financial institutions are necessarily interdependent because of trading, clearing, counterparty or other relationships. As a consequence, a default by, or decline in market confidence in, individual institutions, or anxiety about the financial services industry generally, can lead to further individual and/or systemic difficulties, defaults and losses.

Mandatory central clearing of over the counter derivatives, including under the Dodd-Frank Act, brings with it risk. As a clearing member, we have financial exposure for losses incurred at a Central Counterparty ("CCP") by the default of other clearing members. Hence increased moves toward central clearing brings with it a further element of interconnectedness between clearing members and clients that we believe may increase rather than reduce our exposure to systemic risk. At the same time, our ability to manage such risk ourselves will be reduced because risk controls are largely managed by the CCPs themselves and it is unclear at present how, at a time of stress, regulators and resolution authorities would intervene.

In situations in which we strive to mitigate counterparty risk by taking collateral, our credit risk may remain high if the collateral we hold cannot be realized or must be liquidated at prices insufficient to recover the full amount of our exposure to the respective counterparty. There is a risk that collateral cannot be realized, including situations where this arises by change of law that may influence our ability to foreclose on collateral or otherwise enforce contractual rights. Significant or prolonged periods of market stress or illiquidity could further decrease our ability to realize the fair value of collateral held by us or make it more likely that we would liquidate collateral at prices insufficient to recover the full amount of our exposure to the respective counterparty or client. Further, disputes with counterparties as to the valuation of collateral significantly increase in times of market stress and illiquidity.

When such a counterparty or client becomes bankrupt or insolvent, we may become involved in significant disputes or litigation with the counterparty's or client's bankruptcy estate and other creditors, or involved in regulatory investigations, each of which could increase our operational and litigation costs.

We also have credit exposure arising from risk defeasance products such as credit default swaps ("CDSs"), and other credit derivatives, each of which is carried at fair value. The risk of default by counterparties to CDSs and other credit derivatives used as mitigants affects the fair value of these instruments depending on the valuation and the perceived credit risk of the underlying instrument against which protection has been purchased. Any such adjustments or fair value changes may have a material adverse effect on our financial condition and results of operations.

Failure to appropriately address potential conflicts of interest can result in reputational harm, as well as litigation and enforcement actions. Our ability to appropriately address potential conflicts of interest has become increasingly complex as our business activities encompass more transactions with and among our diversified client and customer base.

A failure or perceived failure to adequately address or appropriately disclose conflicts of interest, treat clients and customers with the appropriate standard of care, and provide fiduciary products or services in accordance with the applicable legal and regulatory standards could result in customer dissatisfaction, damage to our reputation, litigation and enforcement actions, penalties or other sanctions, and heightened regulatory scrutiny, all of which could adversely affect our businesses and reputation.

New customer privacy initiatives may impose additional operational burdens on us, may limit our ability to pursue desirable business initiatives and increase the risks associated with any future use of customer data. Recent legislative and regulatory efforts to protect the privacy of consumer data, limit how companies can use customer data, increase consumer access to data, and impose obligations on companies in their management of such data. As a financial institution, we necessarily gather, maintain and use a significant amount of customer data. Other jurisdictions may adopt similar requirements that impose different and potentially inconsistent compliance burdens. These initiatives, particularly to the extent multiple jurisdictions adopt inconsistent requirements, could increase compliance complexity and related costs, result in significant financial penalties for compliance failures, and limit our ability to develop new products or respond to technological changes. They also could heighten the reputational impact of perceived misuses of customer data, by us, our vendors, or others who gain unauthorized access to our customer data.

We could incur losses or be required to hold additional capital as a result of model limitations or failure. We use models for a range of purposes in managing our businesses, including regulatory capital calculations, stress testing, credit approvals, financial crime and fraud risk management and financial reporting. We could face adverse consequences as a result of decisions, which may lead to actions by management, based on models that are poorly developed, implemented or used, or as a result of the modeled outcome being misunderstood or the use of such information for purposes for which it was not designed or the inherent limitations arising from the uncertainty inherent in predicting or estimating future outcomes. We hold capital for known risks and limitations of our models as appropriate. If additional weakness in a model is discovered or if a model is shown to have failed, we may be required to hold more capital. Risks from use of models could have a material adverse effect on our businesses, financial condition and/or results of operations, minimum capital requirements and reputation.

Regulatory scrutiny and supervisory concerns over the use by banks of models is considerable, particularly the internal models and assumptions used by banks in the application of the stress testing exercise and in the calculation of regulatory capital.

Key employees may be difficult to attract or retain. HUSI's continued performance, competitive position, and effectiveness to execute its overall strategy depends on its ability to attract new employees and to retain an engaged workforce. Providing support to our employees is a significant priority and is critical to managing our workforce and achieving our strategic objectives. Through the U.S. Wellbeing agenda, we have provided a number of tools and webinars to employees with the specific purpose to support the mental and physical health of our colleagues.

The regulatory environment and competitive market in which HUSI operates can make it difficult to hire or retain highly qualified employees. Additionally, the U.S. market has experienced a significant number of workers voluntarily resigning from their jobs. HUSI often competes in the market for talent with industries that are not subject to regulatory restrictions on incentive compensation structure. Market positioning in terms of fixed pay and total compensation is an important factor in attracting and retaining people. The accelerated pace of change in employment in our industry and any disruptions to our workplace and workforce require a focused effort on future skill development. To enable growth, there is a need to facilitate talent mobility, broaden career growth, allow for formal development, and establish a high impact learning culture.

Risks relating to our Financial Statements

Management projections, estimates and judgments based on historical performance may not be indicative of our future performance. Our management is required to use certain estimates in preparing our financial statements, including accounting estimates to determine the allowance for credit losses, deferred tax assets and the fair market value of certain assets and liabilities. In particular, allowance for credit loss estimates and certain asset and liability valuations are subject to management's judgment and actual results are influenced by factors outside our control. To the extent historical averages are not predictive of future losses and management is unable to accurately evaluate the portfolio risk factors not fully reflected in its current loss estimate, unexpected additional losses could result. Similarly, to the extent assumptions employed in measuring fair value of assets and liabilities are not supported by market prices or other observable parameters do not sufficiently capture their inherent risk, unexpected additional losses could result.

We are required to establish a valuation allowance for deferred tax assets and record a charge to earnings if we determine, based on available evidence at the time the determination is made, that it is more likely than not that some portion or all of our deferred tax assets will not be realized. In evaluating the need for a valuation allowance, we estimate future taxable income

based on management approved business plans, future capital requirements and ongoing tax planning strategies. This evaluation process involves significant management judgment about assumptions that are subject to change from period to period. The recognition of deferred tax assets requires management to make significant judgments about future earnings, the periods in which items will impact taxable income, future corporate tax rates and the application of inherently complex tax laws. The use of different estimates can result in changes in the amounts of deferred tax items recognized, which can result in equity and earnings volatility because such changes are reported in current period earnings. See Note 18, "Income Taxes," in the accompanying consolidated financial statements for additional discussion of our deferred tax assets.

Our financial statements depend on our internal controls over financial reporting. The Sarbanes-Oxley Act of 2002 requires our management to evaluate our disclosure controls and procedures and internal control over financial reporting. We are required to disclose, in our annual report on Form 10-K, the existence of any "material weaknesses" in our internal control over financial reporting. In a company as large and complex as ours, lapses or deficiencies, including significant deficiencies, in internal control over financial reporting may occur from time to time and we cannot assure you that we will not find one or more material weaknesses as of the end of any given year.

Changes in accounting standards are beyond our control and may have a material impact on how we report our financial results and condition. Our accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. From time to time, the FASB, the IASB, the SEC and our bank regulators, including the OCC and the FRB, change the financial accounting and reporting standards, or the interpretation thereof, and guidance that govern the preparation and disclosure of external financial statements. These changes are beyond our control, can be hard to predict and could materially impact how we report and disclose our financial results and condition, including our segment results. We could be required to apply a new or revised standard retrospectively, resulting in our restating prior period financial statements in material amounts. We may, in certain instances, change a business practice in order to comply with new or revised standards. For further discussion, see Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The principal executive offices of HSBC USA and HSBC Bank USA are located at 452 Fifth Avenue, New York, New York 10018. The main office of HSBC Bank USA is located at 1800 Tysons Blvd., Suite 50, Tysons, Virginia 22102. HSBC Bank USA had 22 branches and 22 representative offices across the United States at December 31, 2022.

Item 3. Legal Proceedings

See Note 30, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements for our legal proceedings disclosure, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

HSBC USA's common stock is not publicly traded. As of the date of this filing, HSBC North America was the sole holder of HSBC USA's common stock. No dividends were paid on the common stock outstanding during either 2022 or 2021.

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

Forward-Looking Statements

Certain matters discussed throughout this Form 10-K are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, we may make or approve certain statements in future filings with the United States Securities and Exchange Commission ("SEC"), in press releases, or oral or written presentations by representatives of HSBC USA Inc. ("HSBC USA" and, together with its subsidiaries, "HUSI") that are not statements of historical fact and may also constitute forward-looking statements. Words such as "may," "will," "should," "would," "could," "appears," "believe," "intends," "expects," "estimates," "targeted," "plans," "anticipates," "goal," and similar expressions are intended to identify forward-looking statements but should not be considered as the only means through which these statements may be made. These matters or statements will relate to our future operations, strategy, financial condition, economic forecast, results of operations, plans, objectives, performance or business developments and will involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from that which was expressed or implied by such forward-looking statements.

All forward-looking statements are, by their nature, subject to risks and uncertainties, many of which are beyond our control. Our actual future results may differ materially from those set forth in our forward-looking statements. While there is no assurance that any list of risks and uncertainties or risk factors is complete, below are certain factors which could cause actual results to differ materially from those in the forward-looking statements:

- our ability to effectively implement and deliver on our business strategies, and the effect implementation of our business strategy may have on our financial results, operations and relationships with our customers, regulators, employees and other stakeholders;
- uncertainty concerning the future market and economic conditions in the United States and abroad, including but not limited to, changes in interest rates, energy prices, inflation, supply chain issues, a decline in housing prices, the availability of credit and liquidity, unemployment levels, changes in consumer confidence and consumer spending and behavior, consumer perception as to the continuing availability of credit and price competition in the market segments we serve and the consequences of unexpected geopolitical events, such as trade disputes;
- compliance with the Chinese National Security Law and the Hong Kong Autonomy Act, which may impact, among other things, individuals or entities with which we are able to conduct business;
- changes in laws and regulatory requirements;
- the potential impact of any legal, regulatory or policy changes affecting financial institutions and the global economy as a result of the new administration;
- the ability to deliver on our regulatory priorities;
- capital and liquidity requirements under Basel guidance, the Federal Reserve Board's ("FRB") Comprehensive Capital Analysis and Review ("CCAR") program, and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act" or "Dodd-Frank") stress testing ("DFAST"), including the U.S. FRB requirements for U.S. global systemically important banks ("G-SIBs") and U.S. intermediate holding companies ("IHCs") owned by non-U.S. G-SIBs to issue total loss-absorbing capacity ("TLAC") instruments;
- regulatory requirements in the U.S. and in non-U.S. jurisdictions to facilitate the future orderly resolution of large financial institutions;
- changes in central banks' policies with respect to the provision or removal of liquidity support to financial markets;
- the ability of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group") and HSBC Bank USA, National Association (together with its subsidiaries, "HSBC Bank USA") to fulfill the requirements imposed by a consent order or guidance from regulators generally;
- the use of us as a conduit for illegal activities without our knowledge by third parties;
- the ability to successfully manage our risks;
- the possibility of the inadequacy of our data management and policies and processes;
- the financial condition of our clients and counterparties and our ability to manage counterparty risk;
- concentrations of credit and market risk;
- increases in our allowance for credit losses and changes in our assessment of our loan portfolios;
- the ability to successfully implement changes to our operational practices as needed and/or required from time to time;
- damage to our reputation;

- the ability to attract or retain key employees, including foreign workers, and customers;
- the effects of competition in the markets where we operate including increased competition from non-bank financial services companies, including securities firms;
- the effects of operational risks that are inherent in banking operations, including fraudulent and other criminal activities, breakdowns in processes or procedures and systems failure or non-availability;
- disruption in our operations from the external environment arising from events such as natural disasters, outbreaks of contagious disease, acts of war, terrorist attacks, or essential utility outages;
- risks associated with Environmental, Social and Governance ("ESG") matters such as climate change and anti-trust and human rights issues;
- a failure in or a breach of our operation or security systems or infrastructure, or those of third party servicers or vendors, including as a result of cyberattacks;
- the ability of third party suppliers, outsourcing vendors, off-shored functions and our affiliates to provide adequate services;
- losses suffered due to the negligence, fraud or misconduct of our employees or the negligence, fraud or misconduct on the part of third parties;
- a failure in our internal controls;
- our ability to meet our funding requirements;
- adverse changes to our credit ratings;
- financial difficulties or credit downgrades of mortgage bond insurers;
- changes in Financial Accounting Standards Board and International Accounting Standards Board ("IASB") accounting standards and their interpretation;
- heightened regulatory and government enforcement scrutiny of financial institutions, including in connection with product governance and sales practices, account opening and closing procedures, customer and employee complaints and sales compensation structures related to such practices;
- possible negative impact of regulatory investigations and legal proceedings related to alleged foreign exchange manipulation;
- changes in the methodology for determining benchmark rates and the implementation of alternative benchmark rates, such as the Secured Overnight Financing Rate ("SOFR");
- heightened regulatory and government enforcement scrutiny of financial markets, with a particular focus on traded asset classes, including foreign exchange;
- the possibility of incorrect assumptions or estimates in our financial statements, including reserves related to litigation, deferred tax assets and the fair value of certain assets and liabilities;
- model limitations or failure;
- the possibility of incorrect interpretations, application of or changes in tax laws to which we and our clients are subject;
- unexpected and/or increased expenses relating to, among other things, litigation and regulatory matters, remediation efforts, penalties and fines; and
- the other risk factors and uncertainties described under Item 1A, "Risk Factors," in this Annual Report on Form 10-K.

Forward-looking statements are based on our current views and assumptions and speak only as of the date they are made. We undertake no obligation to update any forward-looking statement to reflect subsequent circumstances or events. For more information about factors that could cause actual results to differ materially from those in the forward-looking statements, see Item 1A, "Risk Factors," in this Annual Report on Form 10-K.

Executive Overview

HSBC USA is a wholly-owned subsidiary of HSBC North America Holdings Inc. ("HSBC North America"), which is an indirect wholly-owned subsidiary of HSBC. HUSI may also be referred to in Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") as "we," "us" or "our."

2022 Economic Environment U.S. economic activity slowed during 2022 reflecting the impacts of significantly higher inflation, rising interest rates and energy price volatility as well as repercussions from the Russia-Ukraine war alongside continued economic impacts from the coronavirus ("COVID-19") pandemic which resulted in supply chain disruptions. U.S. Gross Domestic Product ("GDP") grew at an estimated annual rate of 2.1 percent in 2022, while the personal consumption expenditures price index of 5.0 percent in December 2022 remained well above the FRB's target inflation rate. The FRB increased short-term interest rates by a total of 425 basis points during 2022 and has indicated that it will increase short-term interest rates further in 2023 in order to fight inflation.

These conditions have created significant uncertainty about the future economic environment which will continue to evolve and impact our business in future periods. Concerns over domestic and global policy issues, trade policy in the U.S. and geopolitical events, as well as the implications of those events on the markets in general, further add to the global uncertainty. There is also a risk that interest rate increases to fight inflation could lead to a recession. Interest rate levels, inflation and slowing economic growth, in combination with global economic conditions, fiscal and monetary policy and the level of regulatory and government scrutiny of financial institutions will continue to impact our results in 2023 and beyond.

2022 Events

- We previously announced a multi-year strategic plan to restructure our operations ("Restructuring Plan") in alignment with HSBC's global strategy to refocus our wholesale operations to better serve our international corporate clients and restructure our retail operations to better meet the needs of globally mobile and affluent clients. We completed our three-year Restructuring Plan in 2022. We recorded a total of \$759 million of pre-tax charges in connection with our Restructuring Plan, of which \$190 million, \$289 million and \$280 million were recorded during 2022, 2021 and 2020, respectively. See Note 3, "Strategic Initiatives," in the accompanying consolidated financial statements for a more detailed discussion of these costs. As a result of these actions, we have sold or closed over 200 branches, lowered staffing levels by approximately 52 percent and reduced risk-weighted assets by approximately 16 percent since December 31, 2019, and have reduced total operating expenses by approximately 20 percent since 2019.
- As previously announced, in February 2022, we completed the sale of the branch disposal group associated with the exit of our mass market retail banking business to third parties. As a result, during 2022, we recognized a gain on sale of \$113 million, net of transaction costs. See Note 4, "Branch Assets and Liabilities Held for Sale," in the accompanying consolidated financial statements for additional information.

In addition to the branch disposal group discussed above, during the first quarter of 2022, we sold a portfolio of consumer loans consisting primarily of certain non-performing mortgage loans and government-backed mortgage loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. These mortgage loans had a carrying value of \$904 million, including \$865 million of residential mortgages and \$39 million of home equity mortgages, and we recognized a loss on sale of \$35 million, largely reflecting changes in the final terms of the sale.

- During the second half of 2022, we paid distributions on our common stock of \$2.0 billion from surplus capital to HSBC North America.
- During the fourth quarter of 2022, HSBC USA redeemed 1,000 shares of its 6.0 percent Non-Cumulative Series I Preferred Stock at their stated value of \$1,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC North America.

Performance, Developments and Trends The following tables set forth selected financial metrics of HUSI for the years ended December 31, 2022, 2021 and 2020 and at December 31, 2022 and 2021:

Year Ended December 31,	2022	2021	2020
	(dollars are in millions)		
Net income (loss)	\$ 548	\$ 688	\$ (940)
Rate of return on average:			
Total assets3 %	.4 %	(.5)%
Common equity	3.3	3.6	(6.0)
Tangible common equity ⁽¹⁾	3.4	3.7	(6.2)
Total equity	3.6	3.8	(5.1)
Net interest margin	1.28	1.13	1.16
Efficiency ratio	76.0	89.7	104.6
Commercial net charge-off ratio ⁽²⁾04	.09	.22
Consumer net charge-off ratio ⁽²⁾	(.06)	.51	.39

⁽¹⁾ The following table provides a reconciliation of average common equity to average tangible common equity:

	2022	2021	2020
	(in millions)		
Common equity	\$ 14,119	\$ 16,896	\$ 17,072
Less: Goodwill	458	458	651
Less: Intangible assets - purchased credit card relationships	—	5	11
Tangible common equity	\$ 13,661	\$ 16,433	\$ 16,410

⁽²⁾ Excludes loans held for sale.

At December 31,	2022	2021
Additional Select Ratios:		
Allowance as a percent of loans ⁽¹⁾98 %	.80 %
Commercial allowance as a percent of loans ⁽¹⁾	1.32	1.06
Consumer allowance as a percent of loans ⁽¹⁾19	.17
Loans to deposits ratio ⁽²⁾	48.00	41.69
Common equity Tier 1 capital to risk-weighted assets	13.5	15.1
Tier 1 capital to risk-weighted assets	13.8	16.3
Total capital to risk-weighted assets	16.1	18.5
Tier 1 leverage ratio	8.5	8.5
Total equity to total assets	7.4	9.0

⁽¹⁾ Excludes loans held for sale.

⁽²⁾ Represents period end loans, net of allowance for loan losses, as a percentage of total deposits.

Net income (loss) was income of \$548 million during 2022 compared with income of \$688 million and a loss of \$940 million during 2021 and 2020, respectively. Income (loss) before income tax was income of \$725 million during 2022 compared with income of \$912 million and a loss of \$982 million during 2021 and 2020, respectively. The decrease in income (loss) before income tax during 2022 compared to 2021 was due primarily to a higher provision for credit losses which reflected a loss provision in 2022 driven by the weakening of economic conditions compared with a release in credit loss reserves in 2021 driven by improved economic conditions and, to a lesser extent, the impact of our decision to exit our mass market retail banking business which resulted in a release of credit loss reserves and a reduction to the provision for credit losses of approximately \$101 million during the second quarter of 2021. Also contributing to the decrease was lower net interest income as interest expense on deposits and interest bearing liabilities grew faster than interest income on loans and interest bearing assets. These decreases were partially offset by higher other revenues driven by higher trading revenue and the gain on sale of the branch disposal group as discussed above as well as lower operating expenses.

The increase in income (loss) before income tax during 2021 compared to 2020 was due primarily to a lower provision for credit losses which reflected a release in credit loss reserves in 2021 as discussed above compared with a loss provision in 2020 driven by the deterioration of economic conditions caused by the COVID-19 pandemic. Also contributing to the increase were

lower operating expenses driven by the non-recurrence of a \$784 million goodwill impairment charge recorded in 2020. These increases were partially offset by lower other revenues driven by lower trading revenue as well as lower net interest income.

Our reported results in all periods were impacted by certain items management believes to be significant, which affect comparability between periods. Significant items are excluded to arrive at adjusted performance because management would ordinarily identify and consider them separately to better understand underlying business trends. The following table summarizes the impact of these significant items for all periods presented:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Income (loss) before income tax, as reported	\$ 725	\$ 912	\$ (982)
Costs to achieve ⁽¹⁾	374	341	278
Gain on sale of branch disposal group, net	(113)	—	—
Losses related to Visa Inc. Class B common shares previously sold ⁽²⁾	36	3	9
Goodwill impairment	—	—	784
Gain on extinguishment of debt ⁽³⁾	—	—	(12)
Adjusted performance ⁽⁴⁾	<u>\$ 1,022</u>	<u>\$ 1,256</u>	<u>\$ 77</u>

⁽¹⁾ Reflects costs related to the delivery of our Restructuring Plan. Costs to achieve primarily consists of lease impairment and other related costs, severance costs, allocated costs from HSBC Technology & Services (USA) Inc. ("HTSU"), and in the prior year periods, trading losses associated with the exit of certain derivative contracts. See Note 3, "Strategic Initiatives," in the accompanying consolidated financial statements for a more detailed discussion of these costs. The expense during 2022 also includes a loss of \$35 million on the sale of a portfolio of consumer mortgage loans, losses of \$21 million on the sales of certain global banking loans, a gain of \$3 million on the sale of one of our owned office space properties and \$131 million of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities. The expense during 2021 also includes a gain of \$9 million on the sale of a portfolio of mass market retail credit cards, \$8 million of transaction costs directly associated with the branch disposal group held for sale and \$53 million of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities. The expense during 2020 also includes \$18 million of gains on sales of certain owned retail branch properties and \$16 million of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities.

⁽²⁾ Reflects losses on the swap agreements we entered into to retain the litigation risk associated with the Visa Inc. ("Visa") Class B common shares ("Class B Shares") we sold to a third party in 2016 and 2017. See Note 28, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," in the accompanying consolidated financial statements for additional information. In 2022, the loss related to extending the expected timing of the final resolution of the related litigation and, to a lesser extent, a change in the Visa Class B Share conversion rate. In 2021, the loss related to a change in the Visa Class B Share conversion rate. In 2020, the loss primarily related to extending the maturity of the total return swap position used to economically hedge the periodic payments made under the swap agreements.

⁽³⁾ Includes a gain related to the extinguishment of time deposits reflecting early client withdrawals.

⁽⁴⁾ Represents a non-U.S. GAAP financial measure.

Excluding the impact of the items in the table above, our adjusted performance during 2022 decreased \$234 million compared with 2021 due primarily to a higher provision for credit losses as discussed above and, to a lesser extent, lower net interest income. These decreases were partially offset by higher other revenues driven by higher trading revenue as well as lower operating expenses. Excluding the impact of the items in the table above, our adjusted performance during 2021 increased \$1,179 million compared with 2020 due primarily to a lower provision for credit losses as discussed above. Also contributing to the increase were lower operating expenses, partially offset by lower other revenues driven by lower trading revenue as well as lower net interest income.

See "Results of Operations" for a more detailed discussion of our operating trends. In addition, see "Balance Sheet Review" for further discussion on our asset and liability trends, "Liquidity and Capital Resources" for further discussion on funding and capital and "Credit Quality" for additional discussion on our credit trends.

London Interbank Offered Rate ("LIBOR") Transition Regulators and central banks in various national jurisdictions continue to actively work to help transition from interbank offered rates ("IBORs") to acceptable alternative rates, such as the Secured Overnight Financing Rate ("SOFR") recommended by the Alternative Reference Rates Committee ("ARRC") convened by the FRB. We have contracts that reference IBORs, primarily U.S. dollar ("USD") LIBOR, such as loans, derivatives and long-term debt.

In 2021, the United Kingdom ("U.K.") Financial Conduct Authority ("FCA") announced that all LIBOR tenors will either cease to be provided by any administrator or no longer be representative immediately after December 31, 2021, in the case of the one-week and two-month USD LIBOR tenors and all non-USD LIBOR tenors, and immediately after June 30, 2023, in the case of the remaining overnight, one-month, three-month, six-month and twelve-month USD LIBOR tenors. As previously disclosed, we have successfully transitioned our contracts that would have been impacted by tenors ceasing or becoming non-representative immediately after December 31, 2021. The extension of the remaining USD LIBOR tenors until June 2023 will allow many legacy LIBOR-based contracts to mature naturally and significantly aids in reducing the risks associated with transitioning legacy contracts onto replacement rates.

Separately, the International Swaps and Derivatives Association ("ISDA") has confirmed that the fallback spread adjustments to be used in its ISDA fallbacks have been fixed as of the date of the March 2021 FCA announcement. As a result, the ISDA fallbacks (i.e., to the adjusted risk-free rate plus the fixed spread adjustment) will automatically occur for outstanding derivative contracts that incorporate the ISDA fallback language or adhere to the ISDA fallback protocol generally when each LIBOR tenor ceases or becomes non-representative. For all outstanding derivatives referenced to USD LIBOR tenors, the ISDA fallback will occur at the first reset subsequent to June 30, 2023. These announcements provide clarity on the future terms of the many derivative contracts which now incorporate the ISDA fallbacks.

Additionally, in December 2022, the FRB finalized a regulation to implement the Adjustable Interest Rate Act which provides a federal solution for replacing USD LIBOR with a required SOFR-based rate in certain legacy LIBOR-based contracts. This federal legislation will facilitate the transition of certain of our legacy LIBOR-based contracts which do not specify a replacement rate or contain an inadequate fallback mechanism.

We continue to actively participate in HSBC's global transition program with the objective of facilitating an orderly transition of all products, processes, models and curves, as well as all legacy LIBOR-based contracts, onto replacement rates. This program is aimed to minimize the risks arising from the transition by developing alternative rate product capabilities and transitioning legacy contracts. The program is significant in terms of scale and complexity and is impacting all global businesses as well as multiple products, currencies, systems and processes. Transition results in a number of risks, mainly legal and execution risks, financial risks, operational risks and conduct risks. We have developed a risk inventory, including mitigating actions, and the identified risks are being monitored. Furthermore, the transition could have a range of adverse impacts on our business, including legal proceedings or other actions regarding the interpretation and enforceability of provisions in LIBOR contracts and regulatory investigations or reviews regarding our preparation and readiness for the replacement of LIBOR with alternative reference rates.

As previously disclosed, we have implemented the capabilities to offer alternative rate products and the supporting processes and systems, including SOFR-based adjustable rate mortgage ("ARM") loans, bilateral loans, syndicated loans, derivatives and floating rate notes. We also met the industry milestone to cease entering into new LIBOR-based contracts by the end of 2021, with the exception of derivative contracts allowed for risk management purposes only, and have previously incorporated the appropriate ARRC recommended fallback language into new LIBOR-based contracts for ARM loans, bilateral loans, syndicated loans and floating rate notes. In addition, the ISDA had previously updated its benchmark fallback language for new LIBOR-based derivative contracts and established its industry protocol to facilitate the incorporation of the new fallback language into legacy non-cleared derivative contracts, which we are adhering to. Central clearing counterparties also previously amended their rules to incorporate the new ISDA fallback language and adhere to the ISDA fallback protocol for cleared derivative contracts.

We have engaged with our clients on the alternative rate products we developed and to determine their ability and readiness to transition. The current focus of our client transition efforts is on those remaining contracts that will be impacted by USD LIBOR tenors ceasing or becoming non-representative immediately after June 30, 2023. Such contracts outstanding at December 31, 2022 consisted primarily of contracts for USD LIBOR-based loans with a carrying value of approximately \$16.6 billion, USD LIBOR-based long-term debt with a carrying value of approximately \$1.1 billion (\$1.0 billion of which is already set to transition to SOFR as of July 1, 2023), and USD LIBOR-based derivatives with a notional value of approximately \$18.9 billion. The substantial majority of our outstanding USD LIBOR-based derivative contracts adhere to and are covered by the International Swaps and Derivatives Association fallback protocol. For USD LIBOR-based loans, approximately \$6.8 billion represents legacy contracts in our consumer mortgage loan portfolio which are set to transition to a SOFR-based rate at the first applicable reset subsequent to June 30, 2023. The remainder of our USD LIBOR-based loans are legacy contracts in our commercial loan portfolio of approximately \$9.8 billion which will require further outreach with our clients in order to transition.

The ability of HUSI and its clients to transition legacy contracts onto replacement rates is dependent on the availability of products that reference replacement rates, including SOFR, and on our customers being ready and able to adapt their own processes and systems to accommodate the replacement products. Market and industry use of SOFR has increased and we remain committed to completing the transition of substantially all outstanding contracts during the first half of 2023. We continue to engage with industry participants, the official sector and our clients to support an orderly transition and the mitigation of the risks resulting from the transition.

Future Prospects Our operations are dependent upon our ability to grow revenues, maintain stable deposit balances and, to a lesser extent, access the global capital markets. Numerous factors, both internal and external, may impact our access to, and the costs associated with, both retail and wholesale sources of funding. These factors may include our debt ratings, overall economic conditions, overall capital markets volatility, the counterparty credit limits of investors to the HSBC Group, and our management of the credit risks inherent in our business and customer base.

Our results are also impacted by general global and domestic economic conditions, including employment levels, housing market conditions, property valuations, interest rates and legislative and regulatory changes, all of which are beyond our control. Changes in interest rates generally affect both the rates we charge to our customers and the rates we pay on our borrowings. Achieving our profitability goals in 2023 is largely dependent upon macroeconomic conditions which include the interest rate environment, housing market conditions, unemployment levels, market volatility, energy prices and our ability to attract and retain loans and deposits from customers, all of which could impact trading and other revenue, net interest income, loan volume, loss provision and ultimately our results of operations.

Basis of Reporting

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP").

Group Reporting Basis We report financial information to HSBC in accordance with HSBC Group accounting and reporting policies, which apply International Financial Reporting Standards ("IFRSs") as issued by the IASB. As a result, our segment results are prepared and presented using financial information prepared on the basis of HSBC Group's accounting and reporting policies ("Group Reporting Basis"). Because operating results on the Group Reporting Basis are used in managing our businesses and rewarding performance of employees, our management also separately monitors profit before tax under this basis of reporting. The following table reconciles our U.S. GAAP versus Group Reporting Basis profit (loss) before tax:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Profit (loss) before tax – U.S. GAAP basis	\$ 725	\$ 912	\$ (982)
Adjustments:			
Expected credit losses	153	(272)	204
Loans held for sale	25	(62)	13
Renewable energy tax credit investments	25	21	11
Pension and other postretirement benefit costs	6	(10)	(15)
Other long-lived assets	(8)	61	(264)
Goodwill impairment	—	—	91
Other	(1)	(9)	13
Profit (loss) before tax – Group Reporting Basis	\$ 925	\$ 641	\$ (929)

The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 25, "Business Segments," in the accompanying consolidated financial statements. Differences in reported profit (loss) before tax in the table above that were individually significant for 2022 and 2021 are explained below. See "Basis of Reporting" in our Annual Report on Form 10-K for the year ended December 31, 2021 ("2021 Form 10-K") for an explanation of the differences in reported profit (loss) before tax in the table above that were individually significant for 2020.

During 2022, expected credit losses were higher under U.S. GAAP than under the Group Reporting Basis. Under the Group Reporting Basis, a majority of our loans are considered to be in "stage 1" (which requires a 12-month expected credit losses estimate), while under U.S. GAAP such loans require a lifetime expected credit losses ("ECL") estimate. Primarily as a result of the different requirements, loss provisions driven by the weakening of economic conditions, which resulted in a worsening of economic forecasts as well as higher provisions associated with loan growth and maturity extensions, were more pronounced under U.S. GAAP.

During 2021, expected credit losses were lower under U.S. GAAP than under the Group Reporting Basis. Primarily as a result of the different requirements related to stage 1 loans discussed above, releases in credit reserves driven by improved economic conditions, which resulted in improved economic forecasts as well as client paydowns, were more pronounced under U.S. GAAP.

During 2022, loans held for sale in the table above reflects a higher gain on loan sales under the Group Reporting Basis than under U.S. GAAP, which includes the gain on sale of the branch disposal group. The higher gain under the Group Reporting Basis was due primarily to the releases of credit loss reserves previously recorded on the loans under U.S. GAAP when they were transferred to held for sale in 2021 as well as the higher carrying amount of leasehold improvements associated with the sold branches under U.S. GAAP at the time of sale. These leasehold improvements were previously determined to be impaired and written-off under the Group Reporting Basis as discussed below. Also contributing to the higher gain under the Group Reporting Basis was the sale of certain previously charged-off credit card and other consumer loans which resulted in a

recovery under the Group Reporting Basis during the fourth quarter of 2022. This transaction did not qualify as a sale under U.S. GAAP and, as a result, the recovery is being deferred and amortized over the estimated collection period.

During 2021, we transferred certain loans to held for sale which under U.S. GAAP requires the loans to be carried at the lower of amortized cost or fair value which resulted in releases of credit loss reserves and lower of amortized cost or fair value adjustments on the loans. Under the Group Reporting Basis, loans held for sale continue to be accounted for and credit losses continue to be measured in accordance with IFRS 9, "Financial Instruments," with any gain or loss recorded at the time of sale.

During 2022, renewable energy tax credit investments in the table above primarily reflects the impact of a presentation difference. Under the Group Reporting Basis, the amortization of our investment balance is presented in income tax expense (benefit), while under U.S. GAAP, the amortization of our investment balance is presented in other revenues.

During 2022, other long-lived assets in the table above reflects impairment charges recorded under the Group Reporting Basis for newly completed leasehold improvements in our Wealth and Personal Banking business segment, while under U.S. GAAP they are capitalized and amortized. During the fourth quarter of 2022, we also recorded \$23 million of lease related impairment charges under the Group Reporting Basis associated with certain office space which we have committed to vacate in the first quarter of 2023, while under U.S. GAAP, impairment will be recognized when we have concluded using the space. The impact of these impairment charges was partially offset by higher amortization expense for long-lived assets under U.S. GAAP due primarily to the impairment charge recorded under the Group Reporting Basis in 2020 as discussed below.

During 2021, amortization expense for long-lived assets was higher under U.S. GAAP due primarily to the impact of an impairment charge recorded under the Group Reporting Basis in 2020 related to the write-off of all the capitalized software and a portion of the leasehold improvements primarily associated with our Wealth and Personal Banking business segment, while under U.S. GAAP no impairment charge was required. Consequently, the carrying amounts for capitalized software and leasehold improvements are higher under U.S. GAAP than under the Group Reporting Basis and, as a result, corresponding amortization expense is higher under U.S. GAAP. See Note 25, "Business Segments," in the accompanying financial statements for additional discussion. In addition, during 2021, we determined we would exit certain branches as part of our Restructuring Plan and, as a result, we recorded an impairment charge of \$18 million under U.S. GAAP to write-off the leasehold improvements associated with these branches. These leasehold improvements were previously written-off under the Group Reporting Basis.

Critical Accounting Estimates

Our consolidated financial statements are prepared in accordance with accounting standards generally accepted in the United States. We believe our policies are appropriate and fairly present the financial position and results of operations of HUSI.

The significant accounting policies used in the preparation of our consolidated financial statements are more fully described in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements. Certain accounting policies affecting the reported amounts of assets, liabilities, revenues and expenses are complex and involve significant judgments by our management, including the use of estimates and assumptions. As a result, changes in estimates, assumptions or operational policies could significantly affect our financial position and our results of operations. We base our accounting estimates on historical experience, observable market data, inputs derived from or corroborated by observable market data by correlation or other means and on various other assumptions that we believe to be appropriate, including assumptions based on unobservable inputs. To the extent we use models to assist us in measuring the fair value of particular assets or liabilities, we strive to use models that are consistent with those used by other market participants. Actual results may differ from these estimates due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change. The impact of estimates and assumptions on our financial condition or operating performance may be material.

Of the significant accounting policies used in the preparation of our consolidated financial statements, the items discussed below involve what we have identified as critical accounting estimates based on the associated degree of judgment and complexity. Our management has reviewed these critical accounting estimates as well as the associated assumptions and accompanying disclosure with the Audit Committee of our Board of Directors.

Allowance for Credit Losses Because we lend money to others, we are exposed to the risk that borrowers may not repay amounts owed to us when contractually due. Consequently, we maintain an allowance for credit losses that reflects our estimate of lifetime ECL for loans and other financial assets measured at amortized cost. Allowance for credit loss estimates are reviewed periodically and adjustments are recognized in the provision for credit losses during the period they become known. Our Risk and Finance departments share responsibility for establishing appropriate levels of allowances for credit losses inherent in our various loan and other portfolios carried at amortized cost, including debt securities, and they assess and independently approve our allowance for credit losses. See Note 2, "Summary of Significant Accounting Policies and New

Accounting Pronouncements," in the accompanying consolidated financial statements for further discussion of our accounting policies and methodologies for establishing the allowance for credit losses and liability for off-balance sheet credit exposures.

The accounting estimates relating to the allowance for credit losses are "critical accounting estimates" for the following reasons:

- Changes in the provision for credit losses can materially affect our financial results;
- Estimates related to the allowance for credit losses require us to project future borrower performance, including cash flows, delinquencies and charge-offs, along with, when applicable, collateral values, based on a reasonable and supportable forecast period utilizing forward-looking economic scenarios in order to estimate probability of default and loss given default;
- Credit losses are influenced by factors outside of our control such as industry and business trends, geopolitical events and the effects of laws and regulations as well as economic conditions such as trends in housing prices, interest rates, GDP, inflation, energy prices and unemployment; and
- Judgment is required to determine whether the models used to generate the allowance for credit losses produce an estimate that is sufficient to encompass the current view of lifetime ECL.

Because our estimates of the allowance for credit losses involve judgment and are influenced by factors outside of our control, there is uncertainty inherent in these estimates. Changes in such estimates could significantly impact our allowance and provision for credit losses. Our reported combined estimated allowance for credit losses and liability for off-balance sheet credit exposures ranged from \$553 million to \$701 million during 2022.

As discussed further in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements, we utilize a minimum of four forward-looking economic scenarios to estimate lifetime ECL, including three consensus economic scenarios and a fourth scenario, referred to as the "Alternative Downside scenario," which is designed to consider severe downside risks with more extreme economic outcomes. Each scenario is assigned a weighting based upon management's assessment of the likelihood of occurrence.

As an illustration of the effect of changes in estimates relating to the allowance for credit losses, using a 100 percent weighting for the Alternative Downside scenario instead of using the four weighted scenarios at December 31, 2022 would have resulted in a combined increase to our allowance for credit losses and liability for off-balance sheet credit exposures of approximately \$450 million. This illustration only represents the effect of changes in the weighting of these scenarios on our existing modeled portfolios and does not consider changes in the allowance related to management judgment that might occur.

Our allowance for credit losses is based on estimates and is intended to be adequate but not excessive. The allowance for credit losses is regularly assessed for adequacy. The allowance for credit losses, which is carried as a reduction to the respective assets on the balance sheet, includes reserves for lifetime ECL associated with loans and other financial assets carried at amortized cost. A reserve is also maintained for off-balance sheet risk, which is recorded in other liabilities and includes lifetime ECL arising from off-balance sheet arrangements such as letters of credit and undrawn commitments to lend.

The allowances include amounts calculated for individual loan balances and for collective loan portfolios depending on the nature of the exposure and the manner in which risks inherent in that exposure are managed. In addition, the allowance for credit losses on consumer and commercial loans reflects management judgment of risk factors that may not be fully reflected in the lifetime ECL generated by our models. In making this determination, we consider the characteristics of our portfolio and any other significant factors that are relevant. Management review committees, comprising representatives from Credit Risk and Finance, have been established in order to review and challenge the results of the lifetime ECL calculations before approving them each period. The committees also consider other observable factors, both internal and external to us in the general economy, to ensure that the estimates provided by the various models adequately include all known information at each reporting period.

Valuation of Financial Instruments A significant portion of our financial assets and liabilities are carried at fair value. These include trading assets and liabilities, derivatives, securities available-for-sale and equity securities. Furthermore, we have elected to measure specific assets and liabilities at fair value under the fair value option, including certain commercial loans held for sale, certain student loans, structured deposits, structured notes, certain of our own debt issuances and, at December 31, 2022, a client share repurchase transaction. Fair value is defined as the price 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. Where available, we use quoted prices to determine fair value. If quoted prices are not available, we base fair value on models using inputs that are either directly observable or are derived from and corroborated by market data.

Valuation of Major Classes of Assets and Liabilities - Fair value measurement accounting principles establish a fair value hierarchy structure that prioritizes the inputs to determine the fair value of an asset or liability (the "Fair Value Framework"). The Fair Value Framework establishes a three-tiered fair value hierarchy as discussed further in Note 29, "Fair Value Measurements," in the accompanying consolidated financial statements. Classification within the fair value hierarchy is based on the lowest hierarchical level input that is significant to the fair value measurement. As such, the classification of a financial

asset or liability within the fair value hierarchy is dynamic in that the asset or liability could be transferred to other hierarchy levels in each reporting period as a result of price discovery. We review and update our fair value hierarchy classifications quarterly. Changes from one quarter to the next related to the observability of the inputs into a fair value measurement may result in a reclassification between hierarchy levels. Level 3 assets as a percentage of total assets measured at fair value were approximately 0.5 percent and 3.1 percent at December 31, 2022 and 2021, respectively.

Imprecision in estimating unobservable market inputs can impact the amount of revenue, expense or other comprehensive income recorded for a particular financial instrument. While we believe our valuation methods are appropriate, the use of different methodologies or assumptions to determine the fair value of certain financial assets and liabilities could result in a different estimate of fair value at the reporting date, which can result in equity and earnings volatility. For example, a 10 percent adverse change in the value of our level 3 assets (excluding derivatives) would have reduced their carrying value by approximately \$23 million at December 31, 2022. For additional discussion of the determination of fair value for individual financial assets and liabilities carried at fair value see Note 29, "Fair Value Measurements," in the accompanying consolidated financial statements. The following is a description of the methodologies used in the valuation of significant financial assets and liabilities for which quoted market prices and observable market parameters are not available.

- *Derivatives* - We manage groups of derivative instruments with offsetting market and credit risks. Accordingly, we measure the fair value of each group of derivative instruments based on the exit price of the group's net risk position. The fair value of a net risk position is determined using internal models that utilize multiple valuation inputs. The majority of the valuation inputs can be validated through market consensus data. For complex or long-dated derivative products where market data is not available, fair value is sensitive to the limitation of the valuation model (model risk), the liquidity of the product (liquidity risk), the funding of the product (funding risk) and the assumptions about inputs not obtainable through price discovery process (data uncertainty risk). Accordingly, we make valuation adjustments to capture these risks and uncertainties. Because of the interrelated nature, in most cases we do not separately make an explicit adjustment to the fair value for each of these risks. Instead, we apply a range of assumptions to the valuation input that we believe implicitly incorporates adjustments for liquidity, funding, model and data uncertainty risks.

We also include a credit valuation adjustment to reflect the credit risk associated with the net derivative positions. In estimating the credit valuation adjustment, we net the derivative positions by counterparties. The fair value for a net long credit risk position is adjusted for the counterparty's credit risk referred to as credit valuation adjustment whereas the fair value for a net short credit risk position is adjusted for HUSI's own credit risk referred to as debit valuation adjustment. We calculate the credit valuation adjustment by applying the probability of default of the counterparty to the expected exposure, and multiplying the result by the expected loss given default. We estimate the implied probability of default based on the credit spread of the specific counterparty observed in the credit default swap market. Where credit default spread of the counterparty is not available, we use the credit default spread of a specific proxy (e.g., the credit default swap spread of the counterparty's parent) or a proxy based on credit default swaps referencing to credit names of similar credit standing.

- *Securities* - For the substantial majority of our trading and available-for-sale securities, we obtain fair value for each security instrument from multiple independent pricing vendors ("IPV") and brokers, if available. We have established adequate controls in pricing vendor selection and fair value validation. The validation methods include but are not limited to comparisons among IPV prices for the same instrument, review and challenge of IPV valuation methodologies, inputs and assumptions, and the elapsed time between the date to which market data relates and the measurement date. For securities that are difficult to value, we use internal pricing models which estimate the fair value based on our assumptions in funding risk, default risk and loss upon default. We exercise significant judgment in estimating these assumptions and inputs to the valuation model. We believe these model inputs reflect market participants' assumptions about risks and the risk premium required to compensate for undertaking risks.
- *Structured Notes and Deposits* - Structured notes and deposits are hybrid instruments containing embedded derivatives. The valuation of the hybrid instruments is predominantly driven by the derivative features embedded within the instruments and our own credit risk. Depending on the complexity of the embedded derivative, the same risk elements of valuation adjustments described in the derivative section above would also apply to hybrid instruments. In addition, cash flows for the funded notes and deposits are discounted at the relevant interest rates for the duration of the instrument adjusted for our own credit spreads. The credit spreads so applied are determined with reference to our own debt issuance rates observed in primary and secondary markets, internal funding rates and the structured note rates in recent executions.

Deferred Tax Asset Valuation Allowance We recognize deferred tax assets and liabilities for the future tax consequences related to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and for Federal and State net operating losses. Our net deferred tax assets, including deferred tax liabilities, totaled \$1.6 billion and \$1.0 billion at December 31, 2022 and 2021, respectively. We evaluate our deferred tax assets for recoverability considering negative and positive evidence, including our historical financial performance, projections of future taxable income,

expectations of future corporate alternative minimum tax and any resulting credit carryforwards, future reversals of existing taxable temporary differences, tax planning strategies and any carryback availability. We are required to establish a valuation allowance for deferred tax assets and record a charge to earnings if we determine, based on available evidence at the time the determination is made, that it is more likely than not that some portion or all of the deferred tax assets will not be realized. In evaluating the need for a valuation allowance, we estimate future taxable income based on management approved business plans. This process involves significant management judgment about assumptions that are subject to change from period to period. Because the recognition of deferred tax assets requires management to make significant judgments about future earnings, the periods in which items will impact taxable income and the application of inherently complex tax laws, we have identified the assessment of deferred tax assets and the need for any related valuation allowance as a critical accounting estimate.

The use of different assumptions of future earnings, the periods in which items will impact taxable income and the application of inherently complex tax laws can result in changes in the amounts of deferred tax items recognized, which can result in equity and earnings volatility because such changes are reported in current period earnings. Furthermore, if future events differ from our current forecasts, valuation allowances may need to be established or adjusted, which could have a material adverse effect on our results of operations, financial condition and capital position. We will continue to update our assumptions and forecasts of future taxable income and assess the need and adequacy of any valuation allowance.

Our interpretations of tax laws are subject to examination by the Internal Revenue Service and State taxing authorities. Resolution of disputes over interpretations of tax laws may result in us being assessed additional income taxes. We regularly review whether we may be assessed such additional income taxes and recognize liabilities for such potential future tax obligations as appropriate.

Additional detail on our assumptions with respect to the judgments made in evaluating the realizability of our deferred tax assets and on the components of our deferred tax assets and deferred tax liabilities at December 31, 2022 and 2021 can be found in Note 18, "Income Taxes," in the accompanying consolidated financial statements.

Balance Sheet Review

The following table provides balance sheet totals at December 31, 2022 and increases (decreases) since December 31, 2021:

	December 31, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Period end assets:			
Short-term investments	\$ 41,833	\$ (17,035)	(28.9)%
Loans, net	58,796	3,379	6.1
Loans held for sale	354	(3,863)	(91.6)
Trading assets	21,730	(2,313)	(9.6)
Securities	34,662	(5,839)	(14.4)
All other assets	7,280	1,094	17.7
	<u>\$ 164,655</u>	<u>\$ (24,577)</u>	<u>(13.0)%</u>
Period end liabilities and equity:			
Total deposits	\$ 123,223	\$ (19,809)	(13.8)%
Trading liabilities	2,803	(220)	(7.3)
Short-term borrowings	5,945	(393)	(6.2)
Long-term debt	17,591	355	2.1
Interest, taxes and other liabilities	2,980	417	16.3
Total equity	12,113	(4,927)	(28.9)
	<u>\$ 164,655</u>	<u>\$ (24,577)</u>	<u>(13.0)%</u>

Short-Term Investments Short-term investments include cash and due from banks, interest bearing deposits with banks and federal funds sold and securities purchased under agreements to resell. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity. Short-term investments decreased compared with December 31, 2021 due primarily to lower deposits and higher loans as discussed in detail below as well as completion of

the sale of the branch disposal group during the first quarter of 2022 which resulted in a net cash payment to the buyers. Also contributing to the decrease were returns of capital and a preferred stock redemption which are discussed further below. These decreases were partially offset by net sales, paydowns and maturities of securities available-for-sale as well as lower trading security positions.

Loans, Net The following table summarizes our loan balances at December 31, 2022 and increases (decreases) since December 31, 2021:

	December 31, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Real estate, including construction	\$ 7,963	\$ (271)	(3.3)%
Business and corporate banking	16,075	2,117	15.2
Global banking ⁽¹⁾	10,578	(531)	(4.8)
Other commercial ⁽²⁾	7,201	706	10.9
Total commercial	<u>41,817</u>	<u>2,021</u>	<u>5.1</u>
Consumer loans:			
Residential mortgages	16,838	1,369	8.8
Home equity mortgages	370	45	13.8
Credit cards	213	9	4.4
Other consumer	142	72	*
Total consumer	<u>17,563</u>	<u>1,495</u>	<u>9.3</u>
Total loans	<u>59,380</u>	<u>3,516</u>	<u>6.3</u>
Allowance for credit losses ⁽³⁾	584	137	30.6
Loans, net	<u>\$ 58,796</u>	<u>\$ 3,379</u>	<u>6.1 %</u>

* Percentage change is greater than 100 percent.

⁽¹⁾ Represents large multinational firms including globally focused U.S. corporate and financial institutions, U.S. dollar lending to multinational banking clients managed by HSBC on a global basis and complex large business clients supported by Global Banking and Markets relationship managers.

⁽²⁾ Includes loans to HSBC affiliates which totaled \$3,557 million and \$2,793 million at December 31, 2022 and 2021, respectively.

⁽³⁾ See "Credit Quality" in this MD&A for a discussion of trends in our allowance for credit losses on loans.

Commercial loans increased compared with December 31, 2021 driven by new business activity in business and corporate banking as we continued to apply a disciplined lending approach to grow the business and, to a lesser extent, higher loans to affiliates. The increase in commercial non-affiliate loans was primarily in the commercial services, software, banking and consumer durables industries, partially offset by declines in the consumer services and diversified financials industries.

Consumer loans increased compared with December 31, 2021 due to growth in residential mortgage loans as well as the transfers of certain loans from held for sale to held for investment during 2022 with a carrying value which collectively totaled \$624 million as discussed further below.

The following table presents loan-to-value ("LTV") ratios for our residential mortgage loan portfolio, excluding mortgage loans held for sale:

	LTV Ratios ⁽¹⁾⁽²⁾			
	December 31, 2022		December 31, 2021	
	First Lien	Second Lien	First Lien	Second Lien
LTV < 80%	98.5 %	98.9 %	98.5 %	99.3 %
80% ≤ LTV < 90%	1.5	1.1	1.4	.6
90% ≤ LTV < 100%	—	—	.1	.1
LTV ≥ 100%	—	—	—	—
Average LTV for portfolio	48.8	43.1	51.5	44.6

⁽¹⁾ LTVs for first liens are calculated using the loan balance as of the reporting date. LTVs for second liens are calculated using the loan balance as of the reporting date plus the senior lien amount at origination. Current estimated property values are derived from the property's appraised value at the time of

loan origination updated by the change in the Federal Housing Finance Agency's House Price Index ("HPI") at either a Core Based Statistical Area or state level. The estimated value of the homes could differ from actual fair values due to changes in condition of the underlying property, variations in housing price changes within metropolitan statistical areas and other factors. As a result, actual property values associated with loans that end in foreclosure may be significantly lower than the estimates used for purposes of this disclosure.

- (2) Current estimated property values are calculated using the most current HPIs available and applied on an individual loan basis, which results in an approximate three month delay in the production of reportable statistics. Therefore, the information in the table above reflects current estimated property values using HPIs at September 30, 2022 and 2021, respectively.

Loans Held for Sale The following table summarizes loans held for sale at December 31, 2022 and increases (decreases) since December 31, 2021:

	December 31, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Business and corporate banking	\$ —	\$ (123)	(100.0)%
Global banking	349	11	3.3
Total commercial	<u>349</u>	<u>(112)</u>	<u>(24.3)</u>
Consumer loans:			
Residential mortgages	5	(3,077)	(99.8)
Home equity mortgages	—	(275)	(100.0)
Credit cards	—	(195)	(100.0)
Other consumer	—	(204)	(100.0)
Total consumer	<u>5</u>	<u>(3,751)</u>	<u>(99.9)</u>
Total loans held for sale	<u>\$ 354</u>	<u>\$ (3,863)</u>	<u>(91.6)%</u>

Commercial loans held for sale decreased compared with December 31, 2021. During the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain retail business banking loans with a carrying value at the time of sale of \$37 million. See Note 4, "Branch Assets and Liabilities Held for Sale," in the accompanying consolidated financial statements for additional information.

Also included in commercial loans held for sale are certain other loans that we no longer intend to hold for investment and were transferred to held for sale which totaled \$112 million and \$359 million at December 31, 2022 and 2021, respectively. The decrease compared with December 31, 2021 was due primarily to loan sales.

Commercial loans held for sale also includes certain loans that we have elected to designate under the fair value option which consists of loans that we originate in connection with our participation in a number of syndicated credit facilities with the intent of selling them to unaffiliated third parties as well as loans that we purchase from the secondary market and hold as hedges against our exposure to certain total return swaps. The fair value of these loans totaled \$237 million and \$23 million at December 31, 2022 and 2021, respectively. Balances will fluctuate from period to period depending on the volume and level of activity.

In addition, during 2022, we sold certain global banking loans and unfunded commitments to third parties in order to reduce risk-weighted assets as part of our Restructuring Plan. These global banking loans had a carrying value at the time of sale of \$44 million and we recognized losses on sale of \$21 million.

Consumer loans held for sale decreased compared with December 31, 2021. As discussed above, during the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain consumer loans with a carrying value which collectively totaled \$2,102 million, including \$1,665 million of residential mortgages, \$185 million of home equity mortgages, \$168 million of credit cards and \$84 million of other consumer loans. See Note 4, "Branch Assets and Liabilities Held for Sale," in the accompanying consolidated financial statements for additional information.

In addition to the branch disposal group discussed above, during the first quarter of 2022, we sold a portfolio of consumer loans to a third party consisting primarily of certain non-performing mortgage loans and government-backed mortgage loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. These mortgage loans had a carrying value which collectively totaled \$904 million, including \$865 million of residential mortgages and \$39 million of home equity mortgages, and we recognized a loss on sale of \$35 million, largely reflecting changes in the final terms of the sale.

Subsequent to completion of the sales discussed above, during the second quarter of 2022, the remaining mass market residential mortgage and home equity mortgage loans not sold, with a carrying value which collectively totaled \$538 million, were transferred back to held for investment as we now intend to hold these loans as a run-off portfolio for the foreseeable future. In addition, during the fourth quarter of 2022, the remaining mass market credit cards and other consumer loans not sold, with a carrying value which collectively totaled \$86 million, were also transferred back to held for investment as we now intend to hold these loans as a run-off portfolio for the foreseeable future.

Also included in residential mortgage loans held for sale are agency-eligible conforming residential mortgage loans which are originated and held for sale to third parties, currently on a servicing retained basis. Balances will fluctuate from period to period depending on the volume and level of activity. Gains and losses from the sale of these residential mortgage loans are reflected as a component of other income (loss) in the accompanying consolidated statement of income (loss).

Loans held for sale are recorded at the lower of amortized cost or fair value, with adjustments to fair value being recorded as a valuation allowance through other revenues. The valuation allowance on consumer loans held for sale was nil and \$7 million at December 31, 2022 and 2021, respectively. The valuation allowance on commercial loans held for sale was nil and \$5 million at December 31, 2022 and 2021, respectively.

Trading Assets and Liabilities The following table summarizes trading assets and liabilities at December 31, 2022 and increases (decreases) since December 31, 2021:

	December 31, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Trading assets:			
Securities ⁽¹⁾	\$ 16,285	\$ (2,446)	(13.1)%
Precious metals	3,831	(76)	(1.9)
Derivatives, net	1,614	209	14.9
	<u>\$ 21,730</u>	<u>\$ (2,313)</u>	<u>(9.6)%</u>
Trading liabilities:			
Securities sold, not yet purchased	\$ 837	\$ (266)	(24.1)%
Payables for precious metals	—	(46)	(100.0)
Derivatives, net	1,966	92	4.9
	<u>\$ 2,803</u>	<u>\$ (220)</u>	<u>(7.3)%</u>

⁽¹⁾ See Note 5, "Trading Assets and Liabilities," in the accompanying consolidated financial statements for a breakout of trading securities by category.

Trading securities balances were lower compared with December 31, 2021 due primarily to a decrease in equity positions, partially offset by an increase in foreign sovereign positions. Trading security positions are held as economic hedges of interest rate, credit and equity derivative products issued to clients of domestic and emerging markets. Balances of securities sold, not yet purchased were also lower compared with December 31, 2021 driven by a decline in short U.S. Treasury positions related to economic hedges of derivatives in the interest rate trading portfolio.

Precious metals trading assets were lower compared with December 31, 2021 due primarily to decreases in our own gold and palladium inventory positions, partially offset by an increase in our own silver inventory position. Payables for precious metals were also lower compared with December 31, 2021 reflecting a decline in borrowing of platinum inventory to support client activity levels. Precious metal positions may not represent our net underlying exposure as we may use derivatives contracts to reduce our risk associated with these positions, the fair value of which would appear in derivatives in the table above.

Derivative asset and liability balances both increased compared with December 31, 2021 mainly from market movements which resulted in higher valuations of foreign exchange, commodity and credit derivatives. Market movements on equity and interest rate derivatives were mixed, resulting in higher derivative asset valuations, but lower derivative liability valuations.

Securities Securities include securities available-for-sale and securities held-to-maturity, net. Securities balances were lower compared with December 31, 2021 driven by unfavorable market valuations due to increasing yields as well as net sales, paydowns and maturities as part of our continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes. The decline in securities balances was primarily in U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed and U.S. Treasury securities.

All Other Assets All other assets include, among other items, properties and equipment, net, goodwill and other branch related assets held for sale. All other assets were higher compared with December 31, 2021 due primarily to increases in deferred tax

assets, assets associated with a client share repurchase transaction, outstanding settlement balances related to security sales and cash collateral posted. These increases were partially offset by completion of the sale of other branch related assets held for sale during the first quarter of 2022.

Deposits The following table summarizes deposit balances by major depositor categories at December 31, 2022 and increases (decreases) since December 31, 2021:

	December 31, 2022	Increase (Decrease) From December 31, 2021	
		Amount	%
(dollars are in millions)			
Individuals, partnerships and corporations	\$ 108,170	\$ (11,114)	(9.3)%
Domestic and foreign banks	12,356	(519)	(4.0)
U.S. government and states and political subdivisions	160	(137)	(46.1)
Foreign governments and official institutions	2,537	711	38.9
Deposits held for sale ⁽¹⁾	—	(8,750)	(100.0)
Total deposits	<u>\$ 123,223</u>	<u>\$ (19,809)</u>	<u>(13.8)%</u>

⁽¹⁾ Represented deposits associated with the exit of our mass market retail banking business as part of our Restructuring Plan.

Total deposits decreased compared with December 31, 2021 due primarily to lower demand and savings deposits driven by the attrition of balances our clients had previously built up during the COVID-19 pandemic and clients deploying cash to their businesses, as well as completion of the sale of the branch disposal group during the first quarter of 2022. These decreases were partially offset by higher time deposits and increased deposits from affiliates.

Short-Term Borrowings Short-term borrowings were lower compared with December 31, 2021 due to a decline in securities sold under repurchase agreements, partially offset by increases in commercial paper outstanding and short-term borrowings from affiliates.

Long-Term Debt Long-term debt increased compared with December 31, 2021 due to debt issuances, including \$500 million of senior debt issued to HSBC North America during the fourth quarter of 2022, partially offset by debt retirements and fair value movements on fair value option debt. Debt issuances during 2022 totaled \$5,933 million, of which \$107 million was issued by HSBC Bank USA.

Incremental issuances from our shelf registration statement with the SEC totaled \$5,326 million of senior debt during 2022, which included \$1,000 million of senior notes that were issued by HSBC USA in May as well as \$4,326 million of structured notes. Total long-term debt outstanding under this shelf was \$9,597 million and \$7,346 million at December 31, 2022 and 2021, respectively.

Incremental issuances from the HSBC Bank USA Global Bank Note Program totaled \$107 million during 2022. Total debt outstanding under this program was \$1,932 million and \$1,966 million at December 31, 2022 and 2021, respectively.

Borrowings from the Federal Home Loan Bank ("FHLB") totaled \$1,000 million at both December 31, 2022 and 2021.

Interest, Taxes and Other Liabilities Interest, taxes and other liabilities include, among other items, other branch related liabilities held for sale. Interest, taxes and other liabilities were higher compared with December 31, 2021 due primarily to increases in liabilities associated with a client share repurchase transaction and accrued interest payables, partially offset by completion of the sale of other branch related liabilities held for sale during the first quarter of 2022.

Total Equity Total equity decreased compared with December 31, 2021 due to unfavorable market valuations on securities available-for-sale as discussed above which resulted in unrealized losses recorded in accumulated other comprehensive loss. During the second half of 2022, we also paid distributions on our common stock of \$2.0 billion from surplus capital to HSBC North America. In addition, during the fourth quarter of 2022, HSBC USA redeemed 1,000 shares of its 6.0 percent Non-Cumulative Series I Preferred Stock at their stated value of \$1,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC North America. See Note 26, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements for additional details.

Results of Operations

2021 compared with 2020 See "Results of Operations" in our 2021 Form 10-K for a discussion of our operating results for 2021 compared with 2020. See below for a discussion of our operating results for 2022 compared with 2021.

Net Interest Income Net interest income is the total interest income on earning assets less the total interest expense on deposits and borrowed funds. An analysis of consolidated average balances and interest rates is presented in this MD&A under the caption "Consolidated Average Balances and Interest Rates."

The significant components of net interest margin are summarized in the following table:

Year Ended December 31,	2022	2022 Compared with 2021 Increase (Decrease)		2021	2021 Compared with 2020 Increase (Decrease)		2020
		Volume	Rate		Volume	Rate	
(dollars are in millions)							
Interest income:							
Short-term investments	\$ 703	\$ (20)	\$ 642	\$ 81	\$ 56	\$ (118)	\$ 143
Trading securities	219	(54)	48	225	(35)	(28)	288
Securities	800	(97)	256	641	(146)	(110)	897
Commercial loans	1,590	84	458	1,048	(266)	(170)	1,484
Consumer loans	540	(83)	(34)	657	(9)	(52)	718
Other	53	(1)	31	23	(23)	4	42
Total interest income	<u>3,905</u>	<u>(171)</u>	<u>1,401</u>	<u>2,675</u>	<u>(423)</u>	<u>(474)</u>	<u>3,572</u>
Interest expense:							
Deposits	1,136	(43)	912	267	(30)	(458)	755
Short-term borrowings	165	4	143	18	(19)	(32)	69
Long-term debt	505	(46)	255	296	(94)	(168)	558
Tax liabilities and other	30	4	15	11	4	(9)	16
Total interest expense	<u>1,836</u>	<u>(81)</u>	<u>1,325</u>	<u>592</u>	<u>(139)</u>	<u>(667)</u>	<u>1,398</u>
Net interest income	<u>\$2,069</u>	<u>\$ (90)</u>	<u>\$ 76</u>	<u>\$2,083</u>	<u>\$ (284)</u>	<u>\$ 193</u>	<u>\$2,174</u>
Yield on total interest earning assets	2.41 %			1.46 %			1.91 %
Cost of total interest bearing liabilities	1.56			.44			.96
Interest rate spread	.85			1.02			.95
Benefit from net non-interest paying funds ⁽¹⁾	.43			.11			.21
Net interest margin on average earning assets	<u>1.28 %</u>			<u>1.13 %</u>			<u>1.16 %</u>

⁽¹⁾ Represents the benefit associated with interest earning assets in excess of interest bearing liabilities. Increased percentages reflect growth in this excess or a higher cost of interest bearing liabilities, while decreased percentages reflect a reduction in this excess or a lower cost of interest bearing liabilities.

Net interest income decreased during 2022 due primarily to higher interest expense from interest bearing liabilities driven by higher rates paid as well as lower interest income from consumer loans driven by lower average balances and lower yields. These decreases were partially offset by higher interest income from short-term investments, commercial loans and securities driven by higher yields and higher commercial loan average balances.

Short-term investments Interest income increased during 2022 due to higher yields reflecting the impact of higher market rates, partially offset by lower average balances.

Trading securities Interest income decreased during 2022 due to lower average balances, partially offset by higher yields reflecting the impact of higher market rates and a shift in mix to higher yielding equity positions. Lower average balances were driven by declines in foreign sovereign and U.S. Treasury positions. Interest income associated with trading securities was partially offset within trading revenue by the performance of the associated derivatives as discussed further below.

Securities Interest income was higher during 2022 due to higher yields reflecting the impact of higher market rates, partially offset by lower average balances. Lower average balances were driven by declines in U.S. Treasury, U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed and foreign sovereign securities.

Commercial loans Interest income increased during 2022 due to higher yields reflecting the impact of higher market rates on variable rate loans and newly originated loans, as well as higher average balances driven by new business activity.

Consumer loans Interest income decreased during 2022 due primarily to the impact of loan sales which resulted in lower average balances, lower yields on credit cards and a lower mix of higher yielding credit card receivables.

Other Higher interest income during 2022 was due to higher yields reflecting the impact of higher market rates on cash collateral posted and Federal Reserve Bank stock.

Deposits Interest expense increased during 2022 due to higher rates paid reflecting the impact of higher market rates, partially offset by lower average balances. Lower average balances were due primarily to lower demand and savings deposits driven by the attrition of balances our clients had previously built up during the COVID-19 pandemic and clients deploying cash to their businesses, as well as completion of the sale of the branch disposal group during the first quarter of 2022. Also contributing to lower average balances were a decline in deposits from affiliates and a decline in time deposits.

Short-term borrowings Higher interest expense during 2022 was due primarily to higher rates paid reflecting the impact of higher market rates.

Long-term debt Interest expense increased during 2022 due to higher rates paid reflecting the impact of higher market rates on variable rate borrowings and newly issued debt, partially offset by lower average borrowings.

Tax liabilities and other Interest expense increased during 2022 due primarily to higher rates paid on securities sold, not yet repurchased reflecting the impact of higher market rates.

Provision for Credit Losses The following table summarizes the components of the provision for credit losses:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Loans:			
Commercial loans:			
Real estate, including construction	\$ 129	\$ (72)	\$ 116
Business and corporate banking	(8)	(107)	274
Global banking	29	(174)	149
Other commercial	(3)	(3)	2
Total commercial loans	<u>147</u>	<u>(356)</u>	<u>541</u>
Consumer loans:			
Residential mortgages	—	21	55
Home equity mortgages	(6)	(18)	6
Credit cards	(2)	(66)	107
Other consumer	4	(18)	27
Total consumer loans	<u>(4)</u>	<u>(81)</u>	<u>195</u>
Total loans	<u>143</u>	<u>(437)</u>	<u>736</u>
Securities held-to-maturity	(1)	—	(1)
Other financial assets measured at amortized cost	(1)	1	(2)
Securities available-for-sale	(1)	—	(2)
Off-balance sheet credit exposures	14	(134)	79
Total provision for credit losses	<u>\$ 154</u>	<u>\$ (570)</u>	<u>\$ 810</u>

Our provision for credit losses increased \$724 million during 2022 due to a higher provision for credit losses on both our commercial and consumer loan portfolios as well as a higher provision for credit losses on off-balance sheet credit exposures.

The provision for credit losses on our commercial loan portfolio increased \$503 million during 2022 reflecting a loss provision compared with a release in credit loss reserves in 2021. The loss provision in 2022 was driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients. Also contributing to the loss provision in 2022 were an increase in credit reserves for risk factors associated with large loan exposures and higher provisions associated with loan growth and maturity extensions. The loss provision in 2022 was partially offset by declines in credit reserves for risk factors associated with higher risk industry exposures and supply chain disruptions. In 2021, the release in credit reserves was driven by improved economic conditions which resulted in improved economic forecasts, improvements in the credit condition of certain clients and declines in credit reserves for risk factors associated with

economic uncertainty and large loan exposures. Also contributing to the release in 2021 were client paydowns and loan sales, including the transfer of certain commercial real estate loans to held for sale during the third quarter of 2021 which resulted in a release of credit loss reserves and a reduction to the provision for credit losses of approximately \$24 million, including a release of credit reserves for risk factors associated with higher risk industry exposures.

The provision for credit losses on our consumer loan portfolio increased \$77 million during 2022 due primarily to a release in credit loss reserves in 2021 driven by our decision to exit our mass market retail banking business which resulted in a release of credit loss reserves and a reduction to the provision for credit losses of approximately \$100 million during the second quarter of 2021, including declines in credit reserves for risk factors associated with economic uncertainty and forbearance accounts. Also contributing to the release in 2021 were improved economic conditions which resulted in improved economic forecasts and a decline in credit reserves for risk factors associated with economic uncertainty. The release in 2021 was partially offset by loss provisions recorded during the fourth quarter of 2021 associated with certain mortgage loans that were transferred to held for sale and a portfolio of Premier credit cards that were transferred back to held for investment as discussed further in Note 8, "Allowance for Credit Losses," in the accompanying consolidated financial statements. In 2022, a modest release in credit loss reserves reflects the impact of net recoveries, partially offset by an increase in credit reserves for risk factors associated with economic uncertainty and loss provisions associated with certain loans that were transferred back to held for investment during the fourth quarter of 2022.

The provision for credit losses on off-balance sheet credit exposures increased \$148 million during 2022 reflecting a loss provision compared with a release in credit loss reserves in 2021. The loss provision in 2022 resulted from the weakening of economic conditions, partially offset by improvements in the credit condition of certain clients. In 2021, the release in credit reserves resulted from improved economic conditions.

Our methodology and accounting policies related to the allowance for credit losses are presented under the caption "Critical Accounting Estimates" in this MD&A and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements. See "Credit Quality" in this MD&A for additional discussion on the allowance for credit losses associated with our various loan portfolios.

Other Revenues The following table summarizes the components of other revenues:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Credit card fees, net	\$ 45	\$ 37	\$ 38
Trust and investment management fees	136	108	132
Other fees and commissions	619	652	567
Trading revenue	517	24	273
Other securities gains, net	26	73	137
Servicing and other fees from HSBC affiliates	343	321	347
Gain (loss) on instruments designated at fair value and related derivatives	(50)	35	34
Gain on sale of branch disposal group, net	113	—	—
Other income (loss):			
Valuation of loans held for sale	(19)	(14)	(22)
Residential mortgage banking revenue (expense)	(1)	20	11
Insurance	4	6	7
Gain on extinguishment of debt, net	—	—	12
Miscellaneous income (loss)	(138)	(25)	(1)
Total other income (loss)	(154)	(13)	7
Total other revenues	<u>\$ 1,595</u>	<u>\$ 1,237</u>	<u>\$ 1,535</u>

Credit card fees, net Credit card fees, net increased during 2022 due primarily to higher interchange fees driven by higher fees from commercial credit cards reflecting higher client spending, partially offset by lower fees from retail credit cards reflecting the impact of loan sales.

Trust and investment management fees Trust and investment management fees increased during 2022 due to higher fees from liquidity funds driven by lower fee waivers reflecting the impact of higher market interest rates and higher average liquidity assets under management. This increase was partially offset by lower fees from private banking funds reflecting lower average assets under management driven by outflows from a few large clients as well as negative market performance.

Other fees and commissions Other fees and commissions decreased during 2022 due primarily to lower fees from loan commitments, wire transfers, loan syndication and other accounts services reflecting lower business activity compared with 2021. These decreases were partially offset by higher loan servicing fees reflecting the temporary servicing agreement we entered into associated with the sale of a portfolio of mass market retail credit cards during the fourth quarter of 2021. See Note 23, "Fee Income from Contracts with Customers," in the accompanying consolidated financial statements for additional information including a summary of the components of other fees and commissions.

Trading revenue Trading revenue is generated by participation in the foreign exchange, precious metals, rates, credit and equities markets. The following table presents trading revenue by business activity. Not included in the table below is the impact of net interest income associated with trading securities which is an integral part of trading activities' overall performance. Certain derivatives, such as total return swaps, are economically hedged by holding the underlying interest bearing referenced assets. Net interest income related to trading activities is recorded in net interest income in the consolidated statement of income (loss). Trading revenue related to the mortgage banking business is included as a component of other income (loss).

Year Ended December 31,	2022	2021	2020
	(in millions)		
Business Activities:			
Foreign Exchange	\$ 301	\$ 193	\$ 322
Metals	132	50	132
Debt Markets	(6)	—	13
Securities Financing	22	(157)	(120)
Markets Treasury	74	18	(17)
Legacy structured credit products	1	(28)	10
Other trading ⁽¹⁾	(7)	(52)	(67)
Total trading revenue	\$ 517	\$ 24	\$ 273

⁽¹⁾ Includes trading revenue related to Global Banking and Equities. During 2021 and 2020, Other trading revenue also included \$35 million and \$67 million, respectively, of trading losses associated with the exit of certain derivative contracts as part of our Restructuring Plan.

Trading revenue increased during 2022 due to higher revenue in Securities Financing due to improved revenue from swaps in prime brokerage, higher revenue in Foreign Exchange and Metals as market volatility resulted in increased trading opportunities and higher revenue in Markets Treasury due to the improved performance of economic hedge positions used to manage interest rate risk. Also contributing to the increase was the non-recurrence of losses in 2021, including losses in Other trading associated with the exit of certain derivative contracts as part of our Restructuring Plan and a loss of approximately \$31 million in legacy structured credit products reflecting the unwind of our remaining business activities.

Other securities gains, net We maintain securities portfolios as part of our balance sheet diversification and risk management strategies. During 2022 and 2021, we sold \$1,812 million and \$10,324 million, respectively, of primarily U.S. Treasury, U.S. Government agency mortgage-backed and U.S. Government sponsored mortgage-backed securities as part of a continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes. Other securities gains, net decreased during 2022 reflecting the impact of lower sales activity. The gross realized gains and losses from sales of securities, which are included as a component of other securities gains, net above, are summarized in Note 6, "Securities," in the accompanying consolidated financial statements.

Servicing and other fees from HSBC affiliates Servicing and other fees from HSBC affiliates increased during 2022 due primarily to higher performance fees associated with trading activity booked on the balance sheet of HSBC Bank plc, higher sales commissions from HSBC Bank plc and higher account service fees. These increases were partially offset by lower cost reimbursements associated with shared services performed on behalf of other HSBC affiliates.

Gain (loss) on instruments designated at fair value and related derivatives We have elected to apply fair value option accounting to certain commercial loans held for sale, certain student loans, certain of our own fixed-rate debt issuances, all of our hybrid instruments issued, including structured notes and deposits, and, at December 31, 2022, a client share repurchase transaction. We also use derivatives to economically hedge the interest rate and other risks associated with certain financial assets and liabilities for which fair value option accounting has been elected. Gain (loss) on instruments designated at fair value and related derivatives decreased during 2022 attributable primarily to valuation losses in 2022 on certain commercial loans which were impacted by the weakening of economic conditions and deterioration in the financial condition of certain clients. Also contributing to the decrease were unfavorable movements related to the economic hedging of interest rate risk within our own debt which were largely offset by favorable movements related to the economic hedging of interest rate and other risks

within our hybrid instruments. See Note 17, "Fair Value Option," in the accompanying consolidated financial statements for additional information including a breakout of these amounts by individual component.

Gain on sale of branch disposal group, net During 2022, we completed the sale of the branch disposal group associated with the exit of our mass market retail banking business to third parties and recognized a gain on sale of \$113 million, net of transaction costs. See Note 4, "Branch Assets and Liabilities Held for Sale," in the accompanying consolidated financial statements for additional information.

Other income (loss) Other income (loss) was lower during 2022 due to losses on loan sales recorded in 2022, including a loss of \$35 million on the sale of a portfolio of consumer mortgage loans during the first quarter and losses of \$21 million on the sales of certain global banking loans as part of our Restructuring Plan, compared with a net gain on loan sales in 2021. Also contributing to the decrease were \$23 million of higher losses associated with bank owned life insurance, lower residential mortgage banking revenue driven by losses on sales of residential mortgage loans in 2022 compared with gains in 2021, unfavorable fair value adjustments on equity investments and higher losses on the swap agreements entered into in conjunction with the sales of Visa Class B Shares. In 2022, we recorded a loss of \$36 million primarily related to extending the expected timing of the final resolution of the related litigation compared with a loss of \$3 million in 2021 related to a change in the Visa Class B Share conversion rate. These decreases were partially offset by lower losses associated with credit default swap protection which largely reflects the hedging of a few client relationships.

Operating Expenses The following table summarizes the components of operating expenses:

Year Ended December 31,	2022	2021	2020
	(dollars are in millions)		
Salaries and employee benefits	\$ 591	\$ 665	\$ 767
Support services from HSBC affiliates:			
Fees paid to HTSU	1,018	1,061	1,066
Fees paid to HSBC Markets (USA) Inc. ("HMUS")	191	118	89
Fees paid to other HSBC affiliates	553	441	396
Total support services from HSBC affiliates	<u>1,762</u>	<u>1,620</u>	<u>1,551</u>
Occupancy expense, net	66	248	281
Goodwill impairment ⁽¹⁾	—	—	784
Other expenses:			
Equipment and software	106	111	95
Marketing	31	46	64
Outside services	67	75	61
Professional fees	67	76	80
Federal Deposit Insurance Corporation ("FDIC") assessment fees	54	63	71
Expense related to legal matters (excluding attorney's fees)	25	—	68
Miscellaneous	16	74	59
Total other expenses	<u>366</u>	<u>445</u>	<u>498</u>
Total operating expenses	<u>\$2,785</u>	<u>\$ 2,978</u>	<u>\$ 3,881</u>
Personnel - average number	2,567	3,713	4,371
Efficiency ratio	76.0 %	89.7 %	104.6 %

⁽¹⁾ See Note 11, "Goodwill," in the accompanying consolidated financial statements.

Salaries and employee benefits Salaries and employee benefits expense decreased during 2022 due primarily to lower salaries expense and other staff costs driven by staff reductions related to our Restructuring Plan, including completion of the sale of the branch disposal group during the first quarter of 2022, and, to a lesser extent, the impact of certain wholesale operations staff which were transferred from HSBC Bank USA to HTSU support services during the first quarter of 2022. These decreases were partially offset by increased pension expense driven by higher interest cost as well as increased severance costs.

Support services from HSBC affiliates Servicing and other fees from HSBC affiliates increased during 2022 due to higher allocated restructuring related costs from HTSU and other HSBC affiliates. In 2022, we recorded \$255 million of allocated restructuring related costs from HTSU and other HSBC affiliates, primarily support service project costs and severance costs, compared with \$139 million of allocated costs in 2021. Also contributing to the increase were higher cost allocations from

HMUS associated with Global Banking activities reflecting the impacts of higher staff costs and an updated service level agreement as well as higher costs associated with our investments in systems infrastructure and new technologies. In addition, the increase reflects higher expense due to the transfer of certain wholesale operations staff from HSBC Bank USA to HTSU support services as discussed above. These increases were partially offset by lower cost allocations from our support service functions driven by the execution of our Restructuring Plan. A summary of the services received from various HSBC affiliates is included in Note 24, "Related Party Transactions," in the accompanying consolidated financial statements.

Occupancy expense, net Occupancy expense, net was lower during 2022 due primarily to lower lease impairment and other related costs related to the exit of certain branches and office space as part of our Restructuring Plan. In 2022, we recorded \$12 million of lease impairment and other related costs compared with \$138 million of lease impairment and other related costs in 2021. Also contributing to the decrease were lower operating lease costs and depreciation expense driven by the execution of our Restructuring Plan.

Other expenses Other expenses decreased during 2022 due primarily to higher levels of expense capitalization related to internally developed software as well as declines in marketing expense, deposit insurance assessment fees, professional fees and outside services expense. These decreases were partially offset by higher expense related to legal matters.

Efficiency ratio Our efficiency ratio improved during 2022 due to higher other revenues driven by higher trading revenue and the gain on sale of the branch disposal group as discussed above as well as lower operating expenses, partially offset by lower net interest income.

Income tax expense (benefit) Our effective tax rate was 24.4 percent in 2022 compared with 24.6 percent in 2021 and (4.3) percent in 2020. For a complete analysis of the differences between effective tax rates based on the provision (benefit) for income taxes attributable to pretax income (loss) and the statutory U.S. Federal income tax rate, see Note 18, "Income Taxes," in the accompanying consolidated financial statements.

In August 2022, the Inflation Reduction Act of 2022 (the "IRA") was signed into law, creating a 15 percent corporate alternative minimum tax on profits of corporations based on average annual adjusted financial statement income effective for tax years beginning January 1, 2023. We do not anticipate a material impact on our financial position or results of operations from the IRA.

Segment Results – Group Reporting Basis

We have distinct businesses, which are aligned with HSBC's global business strategy: Wealth and Personal Banking ("WPB"), Commercial Banking ("CMB"), and Global Banking and Markets ("GBM"). These businesses and a Corporate Center ("CC") serve as our reportable segments with the exception of GBM. Our GBM business is comprised of three distinct operating segments: Global Banking ("GB"), Markets and Securities Services ("MSS"), and Global Banking and Markets Other ("GBM Other"), which are separately reported. See Item 1, "Business," in this Form 10-K for a description of our segments, including a discussion of the main business activities of the segments and a summary of their products and services. There have been no changes in the basis of our segmentation as compared with the presentation in our 2021 Form 10-K.

Net interest income of each segment represents the difference between actual interest earned on assets and interest incurred on liabilities of the segment, adjusted for a funding charge or credit that includes both interest rate and liquidity components. Segments are charged a cost to fund assets (e.g., customer loans) and receive a funding credit for funds provided (e.g., customer deposits) based on equivalent market rates that incorporate both repricing (interest rate risk) and tenor (liquidity) characteristics. The objective of these charges/credits is to transfer interest rate risk to one centralized unit in Markets Treasury. Markets Treasury income statement and balance sheet results are allocated to each of the global businesses based upon tangible equity levels and levels of any surplus liabilities.

Certain other revenue and operating expense amounts are also apportioned among the business segments based upon the benefits derived from this activity or the relationship of this activity to other segment activity. These inter-segment transactions have not been eliminated, and we generally account for them as if they were with third parties.

We report financial information to our parent, HSBC, in accordance with HSBC Group accounting and reporting policies, which apply IFRSs as issued by the IASB. As a result, our segment results are prepared and presented using financial information prepared on the Group Reporting Basis as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources, such as employees, are primarily made on this basis. We continue, however, to monitor capital adequacy and report to regulatory agencies on a U.S. GAAP basis.

There have been no changes in the measurement of segment profit as compared with the presentation in our 2021 Form 10-K.

The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 25, "Business Segments," in the accompanying consolidated financial statements.

2021 compared with 2020 See "Segment Results - Group Reporting Basis" in our 2021 Form 10-K for a discussion of our segment results for 2021 compared with 2020. See below for a discussion of our segment results for 2022 compared with 2021.

Wealth and Personal Banking The following table summarizes the Group Reporting Basis results for our WPB segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Net interest income	\$ 782	\$ 801	\$ 837
Other operating income	298	303	368
Total operating income ⁽¹⁾	1,080	1,104	1,205
Expected credit losses	(35)	(21)	189
Net operating income	1,115	1,125	1,016
Operating expenses	863	1,221	2,203
Profit (loss) before tax	\$ 252	\$ (96)	\$ (1,187)

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our WPB segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Retail banking current accounts, savings and deposits	\$ 436	\$ 413	\$ 503
Retail banking mortgages, credit cards and other personal lending	180	306	306
Wealth and asset management products	94	78	96
Private banking	217	178	169
Retail business banking and other ⁽²⁾	153	129	131
Total operating income	\$ 1,080	\$ 1,104	\$ 1,205

⁽²⁾ Includes cost reimbursements associated with activities performed on behalf of other HSBC affiliates and allocated Markets Treasury revenue. During 2022, retail business banking and other also reflects a gain of \$151 million on the sale of the branch disposal group associated with the exit of our mass market retail banking business as well as a loss on the sale of a portfolio of consumer mortgage loans as discussed below.

Our WPB segment reported a profit before tax during 2022 compared with a loss before tax during 2021 due primarily to lower operating expenses and, to a lesser extent, lower expected credit losses. These improvements were partially offset by lower net interest income and lower other operating income.

Net interest income decreased during 2022 due to the impact of loan sales and completion of the sale of the branch disposal group during the first quarter of 2022, which resulted in lower average loan and deposit balances and lower spreads, as well as the unfavorable impact of lower deposits driven by the attrition of balances our customers had previously built up during the COVID-19 pandemic. These decreases were partially offset by the favorable impact of higher market rates.

Other operating income decreased during 2022 due to a loss of \$55 million recorded during the first quarter of 2022 on the sale of a portfolio of consumer mortgage loans, a net gain of \$22 million recorded during the fourth quarter of 2021 on the sale of a portfolio of mass market retail credit cards and higher losses on the swap agreements entered into in conjunction with the sales of Visa Class B Shares. In 2022, we recorded a loss of \$36 million primarily related to extending the expected timing of the final resolution of the related litigation compared with a loss of \$3 million in 2021 related to a change in the Visa Class B Share conversion rate. Also contributing to the decrease were lower allocated Markets Treasury revenue, lower residential mortgage banking revenue driven by unfavorable fair value adjustments on residential mortgage loans held for trading and lower fees from account services. These decreases were partially offset by a gain of \$151 million recorded during the first quarter of 2022 on the sale of the branch disposal group associated with the exit of our mass market retail banking business as well as higher investment management fees driven by lower liquidity fee waivers reflecting the impact of higher market interest rates and higher average assets under management.

Expected credit losses decreased during 2022 reflecting a higher release in credit loss reserves. The release in credit reserves in 2022 was due primarily to a decline in unused credit card lines reflecting completion of the temporary servicing agreement we entered into associated with the sale of a portfolio of mass market retail credit cards during the fourth quarter of 2021 as well as the sale of certain previously charged-off credit card and other consumer loans which resulted in the recognition of a \$9 million recovery during the fourth quarter of 2022. In 2021, the release in credit reserves was due to improved economic conditions which resulted in improved economic forecasts and lower loss estimates for risk factors associated with economic uncertainty as well as declines in credit card balances.

Operating expenses decreased during 2022 driven by the execution of our Restructuring Plan, including completion of the sale of the branch disposal group during the first quarter of 2022, which resulted in declines in staff costs, operating lease costs,

marketing expense and cost allocations from our technology and support service functions. Also contributing to the decrease were lower deposit insurance assessment fees as well as lower lease impairment and other related costs primarily related to the exit of certain branches as part of our Restructuring Plan and the impairment of newly completed leasehold improvements. In 2022, we recorded \$34 million of lease impairment and other related costs compared with \$67 million of lease impairment and other related costs in 2021.

Client Assets The following table provides information regarding private banking client assets during 2022 and 2021:

Year Ended December 31,	2022	2021
	(in millions)	
Client assets at beginning of period	\$ 66,181	\$ 44,104
Net new money (outflows)	(6,817)	9,899
Value change	(9,815)	12,178
Client assets at end of period	<u>\$ 49,549</u>	<u>\$ 66,181</u>

The decrease in client assets during 2022 was driven primarily by outflows from a few large clients as well as negative market performance.

Commercial Banking The following table summarizes the Group Reporting Basis results for our CMB segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Net interest income	\$ 941	\$ 771	\$ 821
Other operating income	287	297	234
Total operating income ⁽¹⁾	<u>1,228</u>	1,068	1,055
Expected credit losses	22	(26)	293
Net operating income	<u>1,206</u>	1,094	762
Operating expenses	586	581	587
Profit before tax	<u>\$ 620</u>	<u>\$ 513</u>	<u>\$ 175</u>

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our CMB segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Lending and Transaction Management	\$ 444	\$ 466	\$ 464
Global Payments Solutions ("GPS")	526	399	429
Global Trade and Receivables Finance ("GTRF")	75	64	56
Investment banking products and other ⁽²⁾	183	139	106
Total operating income	<u>\$ 1,228</u>	<u>\$ 1,068</u>	<u>\$ 1,055</u>

⁽²⁾ Includes allocated Markets Treasury revenue.

Our CMB segment reported a higher profit before tax during 2022 due to higher net interest income, partially offset by higher expected credit losses, lower other operating income and higher operating expenses.

Net interest income increased during 2022 due to higher deposit spreads reflecting the impact of higher market rates, higher average loan balances and higher allocated net interest income not assigned to products. These increases were partially offset by lower loan spreads and lower deposit balances driven by the attrition of balances our clients had previously built up during the COVID-19 pandemic.

Other operating income decreased during 2022 due to the non-recurrence of a net gain from loan sales in 2021 and lower fees from loan syndication, partially offset by higher fees from account services and interchange.

Expected credit losses increased during 2022 reflecting a loss provision compared with a release in credit loss reserves in 2021. The loss provision in 2022 was driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients as well as higher provisions associated with loan growth. The loss provision in 2022 was partially offset by a lower loss estimate for risk factors associated with higher risk industry exposures. In 2021, the release in credit reserves was driven by improved economic conditions which resulted in improved economic forecasts as well as client paydowns, partially offset by a higher loss estimate for risk factors associated with real estate industry loan exposures.

Operating expenses increased during 2022 due primarily to higher cost allocations from our technology and support service functions, partially offset by lower incentive compensation expense and lower branch network costs.

Global Banking and Markets Our GBM business is comprised of three reportable operating segments:

Global Banking The following table summarizes the Group Reporting Basis results for our GB segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Net interest income	\$ 467	\$ 315	\$ 369
Other operating income	339	409	351
Total operating income ⁽¹⁾	<u>806</u>	<u>724</u>	<u>720</u>
Expected credit losses	31	(157)	139
Net operating income	775	881	581
Operating expenses	483	407	372
Profit before tax	<u>\$ 292</u>	<u>\$ 474</u>	<u>\$ 209</u>

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our GB segment. For purposes of the discussion below the table, total operating income is referred to as revenue.

Year Ended December 31,	2022	2021	2020
	(in millions)		
GPS	\$ 482	\$ 363	\$ 398
Capital Markets	141	210	163
Credit and Lending	84	91	76
GTRF	53	48	53
GB Other ⁽²⁾	46	12	30
Total operating income	<u>\$ 806</u>	<u>\$ 724</u>	<u>\$ 720</u>

⁽²⁾ Includes net interest income on capital held in the business and not assigned to products as well as revenue associated with credit default swap protection, certain credit-linked structured notes and loan sales.

Our GB segment reported a lower profit before tax during 2022 due to higher expected credit losses, higher operating expenses and lower other operating income, partially offset by higher net interest income.

Revenue increased during 2022 due primarily to higher revenue in GPS and GB Other, partially offset by lower revenue in Capital Markets, and Credit and Lending. Higher GPS revenue was driven by higher net interest income reflecting the impact of higher market rates as well as higher account service fees. Higher revenue in GB Other was driven by favorable fair value adjustments on certain credit-linked structured notes and lower losses associated with credit default swap protection which largely reflects the hedging of a few client relationships, partially offset by losses of \$21 million recorded in 2022 on the sales of certain loans as part of our Restructuring Plan. Lower Capital Markets revenue was due primarily to valuation losses in 2022 on certain loans which were impacted by the weakening of economic conditions and deterioration in the financial condition of certain clients as well as lower fees from loan syndication and the non-recurrence of revenue associated with the collection of nonaccrual loans in 2021. Lower revenue in Credit and Lending was due primarily to lower fees from loan commitments and the non-recurrence of revenue associated with the collection of nonaccrual loans in 2021, partially offset by higher net interest income from improved spreads.

Expected credit losses increased during 2022 reflecting a loss provision compared with a release in credit loss reserves in 2021. The loss provision in 2022 was driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients. In 2021, the release in credit reserves was driven by improved economic conditions which resulted in improved economic forecasts and improvements in the credit condition of certain clients as well as lower loss estimates for risk factors associated with oil and gas industry loan exposures. Client paydowns and loan sales also contributed to the release in 2021.

Operating expenses increased during 2022 due primarily to higher cost allocations from our technology and support service functions, including higher cost allocations from HMUS reflecting the impacts of higher staff costs and an updated service level agreement.

Markets and Securities Services The following table summarizes the Group Reporting Basis results for our MSS segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Net interest income (expense)	\$ (108)	\$ 47	\$ 91
Other operating income	567	318	454
Total operating income ⁽¹⁾	459	365	545
Expected credit losses	—	—	—
Net operating income	459	365	545
Operating expenses	286	275	351
Profit before tax	\$ 173	\$ 90	\$ 194

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income of our MSS segment. For purposes of the discussion below the table, total operating income is referred to as revenue.

Year Ended December 31,	2022	2021	2020
	(in millions)		
Foreign Exchange and Metals	\$ 318	\$ 237	\$ 481
Debt Markets	4	1	7
Securities Financing	52	43	33
Equities	56	56	33
Securities Services	29	26	28
MSS Other ⁽²⁾	(1)	(14)	(47)
Credit and funding valuation adjustments	1	16	10
Total MSS	\$ 459	\$ 365	\$ 545

⁽²⁾ Includes revenue associated with the exit of certain derivative contracts as part of our Restructuring Plan, including trading losses of \$13 million and \$67 million recorded during 2021 and 2020, respectively.

Our MSS segment reported a higher profit before tax during 2022 due to higher other operating income, partially offset by lower net interest income and higher operating expenses. The net interest expense in 2022 was due to a higher cost of funds reflecting the impact of higher market rates.

Revenue increased during 2022 due primarily to higher revenue in Foreign Exchange and Metals, MSS Other and Securities Financing. Higher revenue in Foreign Exchange and Metals was due to market volatility which resulted in increased trading opportunities. Higher MSS Other revenue was due to the non-recurrence of trading losses in 2021 associated with the exit of certain derivative contracts as part of our Restructuring Plan. Higher revenue in Securities Financing was due to increased business activity and improved yields. These increases were partially offset by unfavorable credit and funding valuation adjustments attributable primarily to lower gains from credit valuation adjustments on derivative assets.

Operating expenses increased during 2022 due primarily to higher expense related to legal matters and higher cost allocations from our technology and support service functions, partially offset by lower staff costs.

Global Banking and Markets Other The following table summarizes the Group Reporting Basis results for our GBM Other segment. For purposes of the discussion below the table, total operating income is referred to as revenue.

Year Ended December 31,	2022	2021	2020
	(in millions)		
Net interest income (expense)	\$ 7	\$ (24)	\$ (62)
Other operating income	86	100	165
Total operating income	93	76	103
Expected credit losses	2	(1)	1
Net operating income	91	77	102
Operating expenses	111	98	118
Loss before tax	\$ (20)	\$ (21)	\$ (16)

Our GBM Other segment reported a relatively flat loss before tax during 2022 as higher revenue was largely offset by higher operating expenses. The increase in revenue was driven by lower liquidity charges and higher allocated net interest income, partially offset by higher corporate funding charges and lower allocated Markets Treasury revenue, while the increase in

operating expenses was due primarily to higher expense related to legal matters, increased incentive compensation expense and higher cost allocations from our technology and support service functions.

Corporate Center The following table summarizes the Group Reporting Basis results for our CC segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Net interest expense	\$ (29)	\$ (6)	\$ (30)
Other operating income	33	3	129
Total operating income (expense) ⁽¹⁾	4	(3)	99
Expected credit losses	—	—	—
Net operating income (expense)	4	(3)	99
Operating expenses	396	316	403
Loss before tax	<u>\$ (392)</u>	<u>\$ (319)</u>	<u>\$ (304)</u>

⁽¹⁾ The following table summarizes the impact of key activities on the total operating income (expense) of our CC segment:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Legacy structured credit products	\$ 1	\$ (29)	\$ 11
Other ⁽²⁾	3	26	88
Total operating income (expense)	<u>\$ 4</u>	<u>\$ (3)</u>	<u>\$ 99</u>

⁽²⁾ Includes a trading loss of \$22 million recorded during 2021 associated with the exit of certain derivative contracts as part of our Restructuring Plan.

Our CC segment reported a higher loss before tax during 2022 due to higher operating expenses and higher net interest expense, partially offset by higher other operating income.

Net interest expense increased during 2022 driven by a higher cost of funds reflecting the impact of higher market rates.

Other operating income increased during 2022 due primarily to the non-recurrence of losses recorded during the third quarter of 2021, including a loss of approximately \$31 million in legacy structured credit products reflecting the unwind of our remaining business activities and a trading loss of \$22 million associated with the exit of certain derivative contracts as part of our Restructuring Plan. These increases were partially offset by unfavorable movements related to the economic hedging of interest rate risk within our own debt and unfavorable fair value adjustments on equity investments.

Operating expenses increased during 2022 due primarily to higher allocated restructuring related costs from HTSU and other HSBC affiliates, primarily support service project costs and severance costs, as well as higher costs associated with our investments in systems infrastructure and new technologies. These increases were partially offset by higher levels of expense capitalization related to internally developed software and lower lease impairment and other related costs primarily associated with the exit of certain office space. In 2022, we recorded \$38 million of lease impairment and other related costs compared with \$65 million of lease impairment and other related costs in 2021.

Reconciliation of Segment Results As previously discussed, segment results are reported on a Group Reporting Basis. See Note 25, "Business Segments," in the accompanying consolidated financial statements for a reconciliation of our Group Reporting Basis segment results to U.S. GAAP consolidated totals.

Credit Quality

In the normal course of business, we enter into a variety of transactions that involve both on and off-balance sheet credit risk. Principal among these activities is lending to various commercial, institutional, governmental and individual customers. We participate in lending activity throughout the United States and, on a limited basis, internationally.

Allowance for Credit Losses / Liability for Off-Balance Sheet Credit Exposures Our accounting policies and methodologies related to the allowance for credit losses and liability for off-balance sheet credit exposures are presented under the caption "Critical Accounting Estimates" in this MD&A and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements. Our approach toward credit risk management is summarized under the caption "Risk Management" in this MD&A.

The following table summarizes our allowance for credit losses and the liability for off-balance sheet credit exposures:

At December 31,	2022	2021
	(in millions)	
Allowance for credit losses:		
Loans:		
Commercial loans	\$ 551	\$ 420
Consumer loans	33	27
Total loans	<u>584</u>	<u>447</u>
Securities held-to-maturity	—	1
Other financial assets measured at amortized cost ⁽¹⁾	—	1
Securities available-for-sale	—	1
Total allowance for credit losses	<u>\$ 584</u>	<u>\$ 450</u>
Liability for off-balance sheet credit exposures	\$ 117	\$ 103

⁽¹⁾ Primarily includes accrued interest receivables and customer acceptances.

The total allowance for credit losses at December 31, 2022 increased \$134 million or 30 percent as compared with December 31, 2021 due primarily to a higher loss estimate on our commercial loan portfolio and, to a lesser extent, our consumer loan portfolio.

Our commercial allowance for credit losses at December 31, 2022 increased \$131 million or 31 percent as compared with December 31, 2021 driven by the weakening of economic conditions which resulted in a worsening of economic forecasts and weakness in the financial condition of certain clients. Also contributing to the increase were an increase in credit reserves for risk factors associated with large loan exposures and higher loss estimates associated with loan growth and maturity extensions. These increases were partially offset by charge-offs and declines in credit reserves for risk factors associated with higher risk industry exposures and supply chain disruptions.

Our consumer allowance for credit losses at December 31, 2022 increased \$6 million or 22 percent as compared with December 31, 2021 reflecting an increase in credit reserves for risk factors associated with economic uncertainty and higher loss estimates associated with certain loans that were transferred back to held for investment during the fourth quarter of 2022.

The liability for off-balance sheet credit exposures at December 31, 2022 increased \$14 million or 14 percent as compared with December 31, 2021 resulting from the weakening of economic conditions, partially offset by improvements in the credit condition of certain clients.

Analysis of the Allowance for Credit Losses on Loans

The following table presents the allowance for credit losses on loans by major loan categories:

At December 31,	Amount	% of Loans to Total Loans	Amount	% of Loans to Total Loans
	2022		2021	
(dollars are in millions)				
Commercial:				
Real estate, including construction	\$ 200	13.4 %	\$ 73	14.7 %
Business and corporate banking	230	27.1	243	25.0
Global banking	120	17.8	100	19.9
Other commercial	1	12.1	4	11.6
Total commercial	551	70.4	420	71.2
Consumer:				
Residential mortgages	11	28.4	8	27.7
Home equity mortgages	2	.6	5	.6
Credit cards	16	.4	14	.4
Other consumer	4	.2	—	.1
Total consumer	33	29.6	27	28.8
Total	\$ 584	100.0 %	\$ 447	100.0 %

The following table sets forth key ratios for the allowance for credit losses on loans:

At December 31,	2022	2021
Ratio of Allowance for credit losses to:		
Loans: ⁽¹⁾		
Commercial:		
Non-affiliates	1.44 %	1.14 %
Affiliates	—	—
Total commercial	1.32	1.06
Consumer:		
Residential mortgages	.07	.05
Home equity mortgages	.54	1.54
Credit cards	7.51	6.86
Other consumer	2.82	—
Total consumer	.19	.17
Total loans	.98	.80
Nonperforming loans: ⁽¹⁾⁽²⁾		
Commercial	255 %	111 %
Consumer	15	11
Total nonperforming loans	133	72

⁽¹⁾ Ratios exclude loans held for sale as these loans are carried at the lower of amortized cost or fair value.

⁽²⁾ Represents our commercial and consumer allowance for credit losses, as appropriate, divided by the corresponding outstanding balance of total nonperforming loans held for investment. Nonperforming loans include accruing loans contractually past due 90 days or more.

See Note 8, "Allowance for Credit Losses," in the accompanying consolidated financial statements for a rollforward of credit losses by loan categories for the years ended December 31, 2022, 2021 and 2020.

The allowance for credit losses on loans as a percentage of total loans held for investment at December 31, 2022 increased as compared with December 31, 2021 as the increase in our allowance for credit losses for the reasons discussed above outpaced an increase in total loans held for investment.

The allowance for credit losses on loans as a percentage of nonperforming loans held for investment at December 31, 2022 increased as compared with December 31, 2021 due to the increase in our allowance for credit losses for the reasons discussed above and a decrease in nonperforming loans as discussed further below in both our consumer and commercial loan portfolios.

Delinquency The following table summarizes dollars of two-months-and-over contractual delinquency and two-months-and-over contractual delinquency as a percentage of total loans, excluding loans held for sale ("delinquency ratio").

	December 31, 2022		December 31, 2021	
	Delinquent Loans	Delinquency Ratio	Delinquent Loans	Delinquency Ratio
	(dollars are in millions)			
Commercial	\$ 126	.30 %	\$ 112	.28 %
Consumer:				
Residential mortgages ⁽¹⁾⁽²⁾	141	.84	103	.67
Home equity mortgages ⁽¹⁾⁽²⁾	3	.81	1	.31
Credit cards	3	1.41	3	1.47
Other consumer	3	2.11	—	—
Total consumer	150	.85	107	.67
Total	\$ 276	.46	\$ 219	.39

⁽¹⁾ At December 31, 2022 and 2021, consumer mortgage loan delinquency includes \$60 million and \$24 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less costs to sell.

⁽²⁾ The following table reflects dollars of contractual delinquency and delinquency ratios for interest-only loans and adjustable rate mortgage ("ARM") loans:

	December 31, 2022		December 31, 2021	
	Delinquent Loans	Delinquency Ratio	Delinquent Loans	Delinquency Ratio
	(dollars are in millions)			
Interest-only loans	\$ 9	.22 %	\$ 3	.07 %
ARM loans	85	.67	67	.56

Our two-months-and-over contractual delinquency ratio increased 7 basis points compared with December 31, 2021 due to higher dollars of delinquency in both our consumer and commercial loan portfolios, partially offset by higher outstanding loan balances.

Our commercial loan two-months-and-over contractual delinquency ratio increased 2 basis points compared with December 31, 2021 due to higher dollars of delinquency driven primarily by a few large private banking loans which became 60 days past due. The increase in the ratio was partially offset by collections and higher outstanding loan balances.

Our consumer loan two-months-and-over contractual delinquency ratio increased 18 basis points compared with December 31, 2021 due to higher dollars of delinquency reflecting the weakening of economic conditions and the impact of transferring certain loans from held for sale to held for investment during 2022, which collectively included \$48 million of delinquent consumer loans. The increase in the ratio was partially offset by the sale of certain non-performing mortgage loans during the first quarter of 2022 and higher outstanding loan balances.

Net Charge-offs of Loans The following table summarizes net charge-off (recovery) dollars as well as net charge-off (recovery) of loans for the period as a percentage of average loans, excluding loans held for sale ("net charge-off ratio"):

	Year Ended December 31,								
	2022			2021			2020		
	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio	Net Charge-off Dollars	Average Loans	Net Charge-off Ratio
(dollars are in millions)									
Commercial:									
Real estate, including construction.....	\$ 2	\$ 8,325	.02 %	\$ —	\$ 9,503	— %	\$ 12	\$ 11,263	.11 %
Business and corporate banking.....	5	16,019	.03	25	13,123	.19	78	16,354	.48
Global banking.....	9	11,919	.08	13	11,908	.11	19	17,929	.11
Other commercial.....	—	7,079	—	—	5,656	—	(1)	4,680	(.02)
Total commercial.....	<u>16</u>	<u>43,342</u>	<u>.04</u>	<u>38</u>	<u>40,190</u>	<u>.09</u>	<u>108</u>	<u>50,226</u>	<u>.22</u>
Consumer:									
Residential mortgages.....	(3)	16,183	(.02)	4	17,074	.02	(10)	18,217	(.05)
Home equity mortgages.....	(3)	332	(.90)	(1)	504	(.20)	(3)	788	(.38)
Credit cards.....	(4)	190	(2.11)	81	463	17.48	83	1,197	6.94
Other consumer.....	—	58	—	9	191	4.72	10	281	3.56
Total consumer.....	<u>(10)</u>	<u>16,763</u>	<u>(.06)</u>	<u>93</u>	<u>18,232</u>	<u>.51</u>	<u>80</u>	<u>20,483</u>	<u>.39</u>
Total.....	<u>\$ 6</u>	<u>\$ 60,105</u>	<u>.01</u>	<u>\$ 131</u>	<u>\$ 58,422</u>	<u>.22</u>	<u>\$ 188</u>	<u>\$ 70,709</u>	<u>.27</u>

Our net charge-off ratio decreased 21 basis points during 2022 due primarily to a lower level of net charge-offs in our consumer loan portfolio driven by the non-recurrence of \$60 million of charge-offs recorded during 2021 on certain loans that were transferred to held for sale as well as lower charge-offs in credit cards reflecting the impact of lower balances due to loan sales. Also contributing to the decrease in the ratio was a lower level of net charge-offs in our commercial loan portfolio driven by lower charge-offs associated with loan sales.

See "Credit Quality" in our 2021 Form 10-K for a discussion of our net charge-off ratio for 2021 compared with 2020.

Nonperforming Loans The following table summarizes nonperforming loans, including nonaccrual loans and accruing loans contractually 90 days or more past due, as well as nonperforming loans as a percentage of total loans, excluding loans held for sale ("nonperforming ratio"):

	December 31, 2022		December 31, 2021	
	Nonperforming Loans ⁽¹⁾	Nonperforming Ratio	Nonperforming Loans ⁽¹⁾	Nonperforming Ratio
	(dollars are in millions)			
Commercial	\$ 216	.52 %	\$ 380	.95 %
Consumer:				
Residential mortgages ⁽²⁾⁽³⁾⁽⁴⁾	213	1.26	229	1.48
Home equity mortgages ⁽²⁾⁽³⁾	7	1.89	9	2.77
Credit cards	2	.94	2	.98
Other consumer	1	.70	—	—
Total consumer	<u>223</u>	<u>1.27</u>	<u>240</u>	<u>1.49</u>
Total	<u>\$ 439</u>	<u>.74</u>	<u>\$ 620</u>	<u>1.11</u>
Other real estate owned ⁽⁵⁾	\$ 2		\$ 2	

⁽¹⁾ See Note 7, "Loans," in the accompanying consolidated financial statements for a breakout of nonaccrual loans and accruing loans contractually 90 days or more past due. At December 31, 2022 and 2021, total nonperforming loans include \$4 million and \$3 million, respectively, of accruing loans contractually 90 days or more past due.

⁽²⁾ At December 31, 2022 and 2021, nonperforming consumer mortgage loans include \$109 million and \$86 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽³⁾ Nonperforming consumer mortgage loans held for investment include all loans which are 90 or more days contractually delinquent as well as loans discharged under Chapter 7 bankruptcy and not re-affirmed and second lien loans where the first lien loan that we own or service is 90 or more days contractually delinquent.

⁽⁴⁾ Nonperforming consumer mortgage loans for all periods does not include guaranteed loans purchased from the Government National Mortgage Association. Repayment of these loans is predominantly insured by the Federal Housing Administration and as such, these loans have different risk characteristics from the rest of our customer loan portfolio.

⁽⁵⁾ Includes \$1 million or less of commercial other real estate owned at both December 31, 2022 and 2021.

Our nonperforming loans ratio decreased 37 basis points compared with December 31, 2021 due to lower nonperforming loans in both our commercial and consumer loan portfolios as well as higher outstanding loan balances.

Our commercial nonperforming loans ratio decreased 43 basis points compared with December 31, 2021 due to lower nonperforming loans driven primarily by paydowns, including the paydown of two commercial real estate loans, as well as the upgrade of a global banking loan and loan sales, which were partially offset by downgrades. Also contributing to the decrease in the ratio were higher outstanding loan balances.

Our consumer nonperforming loans ratio decreased 22 basis points compared with December 31, 2021 due to lower nonperforming loans driven by the sale of certain non-performing mortgage loans and customers who were previously on forbearance relief returning to accrual status during the first quarter of 2022, which were partially offset by the weakening of economic conditions and the impact of transferring certain loans from held for sale to held for investment during 2022, which collectively included \$65 million of consumer nonperforming loans. Also contributing to the decrease in the ratio were higher outstanding loan balances.

Accrued but unpaid interest on loans placed on nonaccrual status generally is reversed and reduces current income at the time loans are so categorized. Interest income on these loans may be recognized to the extent of cash payments received. Our policies and practices for problem loan management and placing loans on nonaccrual status are summarized in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements.

Criticized Commercial Loans The following table summarizes criticized commercial loans:

At December 31,	2022	2021
	(in millions)	
Special mention	\$ 1,090	\$ 1,881
Substandard	2,913	2,386
Doubtful	105	230
Total	<u>\$ 4,108</u>	<u>\$ 4,497</u>

Criticized loans decreased compared with December 31, 2021 due to paydowns and loan sales, partially offset by downgrades reflecting weakness in the financial condition of certain clients.

Concentration of Credit Risk A concentration of credit risk is defined as a significant credit exposure with an individual or group engaged in similar activities or affected similarly by economic conditions. We enter into a variety of transactions in the normal course of business that involve both on and off-balance sheet credit risk. Principal among these activities is lending to various commercial, institutional, governmental and individual customers. We manage the varying degrees of credit risk associated with on and off-balance sheet transactions through specific credit policies and procedures which provide for a strict approval, monitoring and reporting process. It is our policy to require collateral when it is deemed appropriate. Varying degrees and types of collateral are secured depending upon management's credit evaluation.

Commercial Credit Exposure Our commercial credit exposure is diversified across a broad range of industries. Commercial loans outstanding, excluding loans held for sale, and unused commercial commitments by industry are presented in the table below:

	December 31, 2022		December 31, 2021	
	Commercial Utilized	Unused Commercial Commitments	Commercial Utilized	Unused Commercial Commitments
	(in millions)			
Diversified financials	\$ 8,415	\$ 11,779	\$ 9,177	\$ 13,128
Real estate	6,198	1,909	5,937	2,289
Commercial and professional services	3,002	5,677	2,093	5,234
Consumer services	2,783	3,251	3,454	3,367
Retailing	2,285	5,779	2,209	5,127
Capital goods	2,167	6,076	1,833	6,140
Consumer durables and apparel	1,937	2,975	1,515	2,889
Software and services	1,726	4,356	1,009	3,354
Chemicals	1,367	4,109	1,491	3,575
Technology hardware and equipment	1,265	6,530	1,032	7,179
Health care equipment and services	1,182	2,624	785	2,359
Energy	988	4,464	1,155	5,852
Utilities	842	991	956	1,286
Banks	702	590	35	421
Food, beverage and tobacco	668	2,351	787	2,968
Metals and mining	629	462	432	676
Food and staples retailing	628	1,457	522	2,003
Pharmaceuticals, biotechnology and life science	398	5,313	476	3,471
Paper and forest products	322	638	235	491
Media and entertainment	315	693	133	924
Total commercial credit exposure in top 20 industries ⁽¹⁾	<u>37,819</u>	<u>72,024</u>	<u>35,266</u>	<u>72,733</u>
All other industries	441	10,862	1,737	11,963
Total commercial credit exposure ⁽²⁾	<u>\$ 38,260</u>	<u>\$ 82,886</u>	<u>\$ 37,003</u>	<u>\$ 84,696</u>

⁽¹⁾ Based on utilization at December 31, 2022.

⁽²⁾ Excludes commercial credit exposures with affiliates.

Geographic Concentrations The following table reflects regional exposure at December 31, 2022 and 2021 for our real estate secured loan portfolios, excluding loans held for sale:

	Commercial Real Estate, including Construction Loans	Residential Mortgages and Home Equity Mortgages
December 31, 2022		
New York State	23.6 %	31.6 %
California	17.3	43.9
North Central United States	11.2	1.0
North Eastern United States, excluding New York State	4.4	7.8
Southern United States	36.3	10.1
Western United States, excluding California	7.2	5.6
Total	<u>100.0 %</u>	<u>100.0 %</u>
December 31, 2021		
New York State	27.5 %	32.3 %
California	18.1	43.6
North Central United States	5.8	1.0
North Eastern United States, excluding New York State	5.0	7.9
Southern United States	34.7	9.8
Western United States, excluding California	8.9	5.4
Total	<u>100.0 %</u>	<u>100.0 %</u>

Residential Mortgage Loans Our consumer loan portfolio includes the following types of loans:

- Interest-only loans – A loan which allows a customer to pay the interest-only portion of the monthly payment for a period of time which results in lower payments during the initial loan period.
- ARM loans – A loan which allows us to adjust pricing on the loan in line with market movements.

The following table summarizes the balances of interest-only and ARM loans in our loan portfolios, excluding mortgages held for sale, at December 31, 2022 and 2021. Each category is not mutually exclusive and loans may appear in more than one category below.

At December 31,	2022	2021
	(in millions)	
Interest-only residential mortgage and home equity mortgage loans	\$ 4,063	\$ 3,739
ARM loans ⁽¹⁾	12,663	11,852

⁽¹⁾ During 2023 and 2024, \$381 million and \$468 million, respectively, of the ARM loans will experience their first interest rate reset.

The following table summarizes the concentrations of first and second liens within the outstanding residential mortgage and home equity mortgage portfolios, excluding mortgages held for sale, at December 31, 2022 and 2021:

At December 31,	2022	2021
	(in millions)	
Closed end:		
First lien	\$ 16,838	\$ 15,469
Second lien	16	18
Revolving ⁽¹⁾	354	307
Total	<u>\$ 17,208</u>	<u>\$ 15,794</u>

⁽¹⁾ A majority of revolving are second lien mortgages.

Credit Risks Associated with Derivative Contracts Credit risk associated with derivatives is measured as the net replacement cost of derivative contracts in a receivable position in the event the counterparties of such contracts fail to perform under the terms of those contracts. In managing derivative credit risk, both the current exposure, which is the replacement cost of contracts on the measurement date, as well as an estimate of the potential change in value of contracts over their remaining lives are considered. Counterparties to our derivative activities include financial institutions, central clearing parties, foreign and domestic government agencies, corporations, funds (mutual funds, hedge funds, etc.), insurance companies and private clients as well as other HSBC entities. These counterparties are subject to regular credit review by the credit risk management department. To minimize credit risk, we may enter into legally enforceable master netting agreements which reduce risk by permitting the closeout and netting of transactions with the same counterparty upon occurrence of certain events. In addition, we reduce credit risk by obtaining collateral from counterparties. The determination of the need for and the levels of collateral will differ based on an assessment of the credit risk of the counterparty and/or regulatory requirements.

The total risk in a derivative contract is a function of a number of variables, such as:

- volatility of interest rates, currencies, equity or corporate reference entity used as the basis for determining contract payments;
- current market events or trends;
- country risk;
- maturity and liquidity of contracts;
- creditworthiness of the counterparties in the transaction;
- the existence of a master netting agreement among the counterparties; and
- existence and value of collateral received from counterparties to secure exposures.

The table below presents total credit risk exposure calculated using the general risk-based capital rules of the Basel III Standardized Approach which includes the net positive mark-to-market of the derivative contracts plus any adjusted potential future exposure as measured in reference to the notional amount. The regulatory capital rules recognize that bilateral netting agreements reduce credit risk and, therefore, allow for reductions of risk-weighted assets when netting requirements have been met and collateral exists. As a result, risk-weighted amounts for regulatory capital purposes are a portion of the original gross exposures. Furthermore, many contracts contain provisions that allow us to close out the transaction if the counterparty fails to post required collateral. In addition, many contracts give us the right to break the transactions earlier than the final maturity date. As a result, these contracts have potential future exposures that are often much smaller than the future exposures derived from the regulatory capital rules.

At December 31,	2022	2021
	(in millions)	
Risk associated with derivative contracts:		
Total credit risk exposure	\$ 12,437	\$ 11,896
Less: collateral held against exposure	<u>3,488</u>	<u>3,894</u>
Net credit risk exposure	<u>\$ 8,949</u>	<u>\$ 8,002</u>

The table below summarizes the risk profile of the counterparties to derivative contracts with credit risk exposure, net of cash and other highly liquid collateral. The ratings presented in the table below are equivalent ratings based on our internal credit rating system.

Rating Equivalent at December 31,	Percent of Current Credit Risk Exposure, Net of Collateral	
	2022	2021
AAA to AA-	65 %	55 %
A+ to A-	22	26
BBB+ to BBB-	12	16
BB+ to B-	1	3
CCC+ and below	—	—
Total	<u>100 %</u>	<u>100 %</u>

Liquidity and Capital Resources

Effective liquidity management is defined as ensuring we can meet customer loan requests, customer deposit maturities/withdrawals and other cash commitments efficiently under both normal operating conditions and under unpredictable circumstances of industry or market stress. To achieve this objective, we have guidelines that require sufficient liquidity to cover potential funding requirements in both the short- and long-term and to avoid over-dependence on volatile, less reliable funding markets. Guidelines are set for the consolidated balance sheet of HSBC USA to ensure that it is a source of strength for our regulated, deposit-taking banking subsidiary, as well as to address the more limited sources of liquidity available to it as a holding company. Similar guidelines are set for HSBC Bank USA to ensure that it can meet its liquidity needs in various stress scenarios. Cash flow analysis, including stress testing scenarios, forms the basis for liquidity management and contingency funding plans. See "Risk Management" in this MD&A for further discussion of our approach towards liquidity and funding risk management, including information regarding the key measures employed to define, monitor and control our liquidity and funding risk.

Interest Bearing Deposits with Banks totaled \$17,744 million and \$47,400 million at December 31, 2022 and 2021, respectively, of which \$17,633 million and \$47,259 million, respectively, were held with the Federal Reserve Bank. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity. Surplus interest bearing deposits with the Federal Reserve Bank may be deployed into securities purchased under agreements to resell or other investments depending on market conditions and the opportunity to maximize returns.

Federal Funds Sold and Securities Purchased under Agreements to Resell totaled \$23,085 million and \$10,514 million at December 31, 2022 and 2021, respectively. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity.

Trading Assets includes securities totaling \$16,285 million and \$18,731 million at December 31, 2022 and 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

Securities includes securities available-for-sale and securities held-to-maturity totaling \$34,662 million and \$40,501 million at December 31, 2022 and 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

Short-Term Borrowings totaled \$5,945 million and \$6,338 million at December 31, 2022 and 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on short-term borrowing trends.

Deposits totaled \$123,223 million and \$143,032 million at December 31, 2022 and 2021, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on deposit trends.

Estimate of Uninsured Deposits At December 31, 2022 and 2021, the estimated amount of uninsured deposits totaled \$86,909 million and \$91,640 million, respectively, generally representing the portion of domestic deposit accounts that exceed the FDIC insurance limit of \$250,000 and amounts in any other uninsured deposit account. The amount of uninsured deposits is calculated based on the same methodologies and assumptions used for our bank regulatory reporting requirements.

The scheduled maturities of the portion of domestic time deposits in excess of the FDIC insurance limit and time deposits that are otherwise uninsured at December 31, 2022 are summarized in the following table:

	Portion of Domestic Time Deposits in Excess of the FDIC Insurance Limit	Time Deposits that are Otherwise Uninsured ⁽¹⁾	Total
	(in millions)		
0-90 days	\$ 6,005	\$ 303	\$ 6,308
91-180 days	2,093	120	2,213
181-365 days	2,738	—	2,738
	10,836	423	11,259
Thereafter	1,501	—	1,501
	<u>\$ 12,337</u>	<u>\$ 423</u>	<u>\$ 12,760</u>

⁽¹⁾ Represents foreign time deposits.

Long-Term Debt increased to \$17,591 million at December 31, 2022 from \$17,236 million at December 31, 2021. The following table summarizes issuances and retirements of long-term debt during 2022 and 2021:

Year Ended December 31,	2022	2021
	(in millions)	
Long-term debt issued	\$ 5,933	\$ 7,711
Long-term debt repaid	(3,229)	(10,044)
Net long-term debt issued (repaid)	<u>\$ 2,704</u>	<u>\$ (2,333)</u>

See "Balance Sheet Review" in this MD&A for further analysis and discussion on long-term debt trends, including additional information on debt issued and repaid during 2022.

Under our shelf registration statement on file with the SEC, we may issue certain securities including debt securities and preferred stock. We satisfy the eligibility requirements for designation as a "well-known seasoned issuer," which allows us to file a registration statement that does not have a limit on issuance capacity. The ability to issue under the registration statement is limited by the authority granted by the Board of Directors. During 2022, due to an anticipated decrease in utilization of the shelf registration statement, the Board of Directors approved a reduction in the amount we are authorized to issue from \$20,000 million at December 31, 2021 to \$15,000 million, of which \$5,403 million was available at December 31, 2022. HSBC Bank USA has a \$40,000 million Global Bank Note Program that provides for the issuance of subordinated and senior notes, of which \$11,976 million was available at December 31, 2022.

As a member of the FHLB and the Federal Reserve Bank of New York, we have secured borrowing facilities which are collateralized by loans and investment securities. At December 31, 2022, long-term debt included \$1,000 million of borrowings from the FHLB facility. Based upon the amounts pledged as collateral under these facilities, we have additional borrowing capacity of up to \$13,640 million.

Preferred Equity During the fourth quarter of 2022, HSBC USA redeemed 1,000 shares of its 6.0 percent Non-Cumulative Series I Preferred Stock at their stated value of \$1,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC North America. In connection with this redemption, HSBC Bank USA redeemed 100 shares of its Non-Cumulative Series A Preferred Stock at their stated value of \$10,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC USA. See Note 19, "Preferred Stock," in the accompanying consolidated financial statements for information regarding all outstanding HSBC USA preferred share issues.

Common Equity During the second half of 2022, HSBC USA received common stock returns of capital of \$2.0 billion from its subsidiary, HSBC Bank USA, and paid distributions on its common stock of \$2.0 billion from surplus capital to its parent, HSBC North America.

Capital Ratios In managing capital, we develop targets for common equity Tier 1 capital to risk-weighted assets, Tier 1 capital to risk-weighted assets, total capital to risk-weighted assets and Tier 1 capital to adjusted quarterly average assets (i.e., the "Tier 1 leverage ratio"). Capital targets are reviewed at least semi-annually to ensure they reflect our business mix and risk profile, as well as real-time conditions and circumstances. The following table summarizes HSBC USA's Basel III capital ratios calculated as of December 31, 2022 and 2021:

	2022	2021
Common equity Tier 1 capital to risk-weighted assets ⁽¹⁾	13.5 %	15.1 %
Tier 1 capital to risk-weighted assets ⁽¹⁾	13.8	16.3
Total capital to risk-weighted assets ⁽¹⁾	16.1	18.5
Tier 1 leverage ratio ⁽²⁾	8.5	8.5

⁽¹⁾ The declines in HSBC USA's capital ratios compared with December 31, 2021 were due primarily to the impacts of common stock returns of capital and a preferred stock redemption as discussed further above.

⁽²⁾ Adjusted quarterly average assets, the Tier 1 leverage ratio denominator, reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital.

In response to the COVID-19 pandemic, the federal banking agencies issued a final rule that provided the option to transition in the regulatory capital impacts of the current expected credit loss accounting standard over a five-year period. In 2020, HSBC North America and HSBC Bank USA elected the five-year transition option and, as a result, our capital ratios were being reported in accordance with the transition rules in the final rule. However, in 2022, there was no remaining impact to regulatory capital under the transition rules and, therefore, there are no amounts being phased into regulatory capital in subsequent periods.

We manage capital in accordance with HSBC Group policy. The HSBC North America Internal Capital Adequacy Assessment Process ("ICAAP") works in conjunction with the HSBC Group's ICAAP. The HSBC North America ICAAP applies to HSBC

Bank USA and evaluates regulatory capital adequacy and capital adequacy under various stress scenarios. Our approach is to meet our capital needs for these stress scenarios locally through activities which reduce risk. To the extent that local alternatives are insufficient, as a wholly-owned subsidiary of HSBC, we would seek support from our ultimate parent. Regulatory capital requirements are based on the amount of capital required to be held, plus applicable capital buffers, as defined by regulations, and the amount of risk-weighted assets and leverage exposure, also calculated based on regulatory definitions.

We are subject to regulatory capital rules issued by U.S. banking regulators including Basel III (the "Basel III rule"). The Basel III rule establishes minimum capital ratios and overall capital adequacy standards for banks and bank holding companies ("BHCs"). HSBC North America, HSBC USA and HSBC Bank USA each calculate their risk-based capital requirements for credit risk under the Standardized Approach in the Basel III rule. In 2019, the FRB and the other federal banking agencies jointly finalized rules to implement the Economic Growth, Regulatory Relief and Consumer Protection Act that tailor the application of the enhanced prudential standards for large BHC and foreign banking organizations (the "Tailoring Rules"). The Tailoring Rules assign each BHC and IHC with \$50 billion or more in total U.S. assets into one of five classifications (Categories I through IV, and 'other firms') based on its size and four risk-based indicators. As of January 1, 2022, HSBC North America met the criteria to be re-classified as a Category IV firm and, as a result of this classification change, HSBC North America and HSBC Bank USA are no longer subject to the supplementary leverage ratio or the countercyclical capital buffer. Prior to January 1, 2022, HSBC North America and HSBC Bank USA were subject to Category III standards. For additional discussion of the Basel III rule requirements, including required minimum capital ratios, as well as further discussion of the Tailoring Rules, Category IV standards and other related regulatory developments and their expected impact see Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in this Form 10-K. We continue to review the composition of our capital structure.

Capital Planning and Stress Testing The FRB requires certain U.S. top-tier BHCs and IHCs, including HSBC North America, to comply with the FRB's capital plan rule and CCAR program, as well as the supervisory stress tests conducted by the FRB. The stress tests are forward looking exercises to assess the impact of hypothetical macroeconomic baseline and severely adverse scenarios provided by the FRB on the financial condition and capital adequacy of a CCAR firm over a nine quarter planning horizon. As a result of its re-classification as a Category IV firm, HSBC North America is no longer subject to company-run stress testing and related disclosure requirements. As a Category IV firm, HSBC North America is, however, subject to supervisory stress testing on a biennial basis, although it may opt-in to such testing in an "off year" in order to recalibrate its stress capital buffer ("SCB") based on its most recent supervisory stress test. The FRB continues to supervise Category IV firms on an ongoing basis, including evaluation of the capital adequacy and capital planning processes during off-cycle years. For further discussion of capital planning and stress testing, including detail regarding the FRB's supervisory assessment as part of the CCAR process, see Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in this Form 10-K.

HSBC North America submitted its 2022 CCAR capital plan in April 2022. In June 2022, the FRB publicly disclosed its supervisory stress test results for all CCAR firms, including HSBC North America and the results are incorporated into the SCB for HSBC North America. Stress testing results are based solely on hypothetical severely adverse stress scenarios and should not be viewed or interpreted as forecasts of expected outcomes or capital adequacy or of the actual financial condition of HSBC North America. Capital planning and stress testing for HSBC North America may impact our future capital and liquidity.

While BHC regulatory capital compliance is generally performed at the HSBC North America level, and also separately for HSBC Bank USA, as a BHC we are required to meet minimum capital requirements imposed by the FRB. We present our capital ratios, together with HSBC Bank USA's in Note 26, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements.

HSBC USA Inc. HSBC USA is a wholly-owned subsidiary of HSBC North America, which is an indirect wholly-owned subsidiary of HSBC, and the parent company of HSBC Bank USA and other subsidiaries through which we offer a wide range of commercial and consumer banking products and related financial services. HSBC USA's main source of funds is cash received from financing activities, primarily through debt issuance to third parties and affiliates. It also receives cash from affiliates by issuing preferred stock, from subsidiaries in the form of dividends and from its parent by receiving capital contributions when necessary.

In addition to returns of capital received from HSBC Bank USA of \$2.0 billion and \$1.0 billion in 2022 and 2021, respectively, HSBC USA received cash dividends from its subsidiaries of \$158 million and \$102 million in 2022 and 2021, respectively. During 2022 and 2021, HSBC USA did not receive any cash capital contributions from its parent, HSBC North America.

HSBC USA has a number of obligations to meet with its available cash. It must be able to service its debt and meet the capital needs of its subsidiaries. It also must pay dividends on its preferred stock and may pay dividends on its common stock. HSBC USA paid dividends on its preferred stock totaling \$77 million in both 2022 and 2021. While HSBC USA paid distributions on its common stock to HSBC North America of \$2.0 billion and \$1.0 billion in 2022 and 2021, respectively, it did not pay any

dividends on its common stock during either 2022 and 2021. We may pay dividends in the future, but will maintain our capital at levels consistent with our regulatory requirements, risk appetite and internal capital adequacy process.

At various times, we will make capital contributions to our subsidiaries to comply with regulatory guidance, support receivable growth, maintain acceptable investment grade ratings at the subsidiary level, or provide funding for long-term facilities and technology improvements. During 2022 and 2021, HSBC USA did not make any capital contributions to its subsidiary, HSBC Bank USA.

As of December 31, 2022, HSBC Bank USA has the ability to pay dividends under bank regulatory guidelines, as cumulative net income for 2020 through 2022 exceeded dividends attributable to this period. Any reduction of permanent capital of HSBC Bank USA would require OCC approval. See Note 26, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements for further details. In determining the extent of dividends to pay, HSBC Bank USA must also consider the effect of dividend payments on applicable risk-based capital and leverage ratio requirements, as well as policy statements of federal regulatory agencies that indicate banking organizations should generally pay dividends out of current operating earnings.

Subsidiaries At December 31, 2022, we had one major subsidiary, HSBC Bank USA. We manage substantially all of our operations through HSBC Bank USA, which contributes to the funding of our businesses primarily through receiving deposits from customers, the collection of receivable balances, issuing short-term, medium-term and long-term debt and selling residential mortgage loans. The vast majority of our domestic medium-term notes and long-term debt is marketed through subsidiaries of HSBC. Intermediate and long-term debt may also be marketed through unaffiliated investment banks.

2023 Funding Strategy Our current estimate for funding needs and sources for 2023 are summarized in the following table:

	(in billions)
Increase (decrease) in funding needs:	
Net change in loans	\$ 2
Net change in short-term investments and securities	(2)
Net change in trading and other assets	(1)
Total funding needs	<u>\$ (1)</u>
Increase (decrease) in funding sources:	
Net change in deposits	\$ 1
Net change in trading and other short-term liabilities	(4)
Net change in long-term debt	2
Total funding sources	<u>\$ (1)</u>

The above table reflects a long-term funding strategy. Daily balances fluctuate as we accommodate customer needs, while ensuring that we have liquidity in place to support the balance sheet maturity funding profile. Should market conditions deteriorate, we have contingency plans to generate additional liquidity through the sales of assets or financing transactions. We remain confident in our ability to access the market for long-term debt funding needs in the current market environment. We continue to seek well-priced and stable customer deposits. We also continue to sell new agency-eligible conforming residential mortgage loans to third parties.

HSBC Bank USA is subject to significant restrictions imposed by federal law on extensions of credit to, and certain other 'covered transactions' with HSBC USA and other affiliates. For further discussion, see Part I, "Regulation and Competition - Affiliate Transaction Restrictions," in this Form 10-K.

See "Risk Management" in this MD&A for further discussion relating to our liquidity contingency plans and our approach to liquidity and funding risk management.

Material Cash Requirements Our material cash requirements comprise primarily contractual obligations to make future payments related to time deposits, short-term borrowings, long-term debt and operating lease obligations. The following table summarizes our material cash requirements outstanding as of December 31, 2022 by period due:

	Due Within One Year	Due After One Year	Total
	(in millions)		
Time deposits.....	\$ 12,938	\$ 2,767	\$ 15,705
Short-term borrowings.....	5,945	—	5,945
Long-term debt.....	2,188	15,403	17,591
Operating lease obligations.....	64	190	254
Total.....	<u>\$ 21,135</u>	<u>\$ 18,360</u>	<u>\$ 39,495</u>

These short- and long-term cash obligations could be funded primarily through cash collection on loans and receipt of deposits, supplemented by the issuance of new short-term and long-term unsecured debt or secured financing repurchase agreements. Particular emphasis is placed on our ability to fund those short-term cash obligations that are due within one year. See "2023 Funding Strategy" above for additional information. In addition to the table above, we also have contractual cash obligations related to certain binding agreements we have entered into for loan servicing, securities processing, asset management services, lockbox and other services which are not material to our liquidity needs.

Capital Expenditures We made capital expenditures of \$36 million and \$18 million during 2022 and 2021, respectively. In addition to these amounts, during 2022 and 2021, we capitalized \$116 million and \$62 million, respectively, relating to improving and modernizing our business systems.

Off-Balance Sheet Arrangements As part of our normal operations, we enter into credit derivatives and various off-balance sheet arrangements with affiliates and third parties. These arrangements arise principally in connection with our lending and client intermediation activities and involve primarily commitments to extend credit and, in certain cases, guarantees.

Commitments to extend credit include arrangements whereby we are contractually obligated to extend credit in the form of loans, participations in loans or similar transactions. At December 31, 2022 and 2021, we had commitments to extend credit totaling \$88.8 billion and \$94.1 billion, respectively, comprised primarily of commercial commitments and, to a lesser extent, consumer commitments. Commercial commitments comprise primarily those related to secured and unsecured loans and lines of credit. Consumer commitments comprise unused MasterCard/Visa credit card lines, where we have the right to change terms or conditions upon notification to the customer, and commitments to extend credit secured by residential properties, where we have the right to change terms or conditions, for cause, upon notification to the customer. For a summary of guarantees, including standby letters of credit and certain credit derivative transactions, as well as the contractual amounts outstanding at December 31, 2022 and 2021, see Note 28, "Guarantee Arrangements, Pledged Asset and Repurchase Agreements," in the accompanying consolidated financial statements.

The contractual amounts of these financial instruments represent our maximum possible credit exposure in the event that a counterparty draws down the full commitment amount or we are required to fulfill our maximum obligation under a guarantee. Many of these commitments and guarantees expire unused or without default. As a result, we believe that the contractual amount is not representative of the actual future credit exposure or funding requirements.

Our off-balance sheet arrangements also include transactions with unconsolidated variable interest entities ("VIEs"). See Note 27, "Variable Interest Entities," in the accompanying consolidated financial statements for a summary of these unconsolidated VIEs.

Fair Value

Fair Value Hierarchy Fair value measurement accounting principles establish a fair value hierarchy structure that prioritizes the inputs to determine the fair value of an asset or liability (the "Fair Value Framework"). The Fair Value Framework distinguishes between inputs that are based on observed market data and unobservable inputs that reflect market participants' assumptions. It emphasizes the use of valuation methodologies that maximize observable market inputs. For financial instruments carried at fair value, the best evidence of fair value is a quoted price in an actively traded market (Level 1). Where the market for a financial instrument is not active, valuation techniques are used. The majority of our valuation techniques use market inputs that are either observable or indirectly derived from and corroborated by observable market data for substantially the full term of the financial instrument (Level 2). Because Level 1 and Level 2 instruments are determined by observable inputs, less judgment is applied in determining their fair values. In the absence of observable market inputs, the financial instrument is valued based on valuation techniques that feature one or more significant unobservable inputs (Level 3). The

determination of the level of fair value hierarchy within which the fair value measurement of an asset or a liability is classified often requires judgment and may change over time as market conditions evolve. We consider the following factors in developing the fair value hierarchy:

- whether the asset or liability is transacted in an active market with a quoted market price;
- the level of bid-ask spreads;
- a lack of pricing transparency due to, among other things, complexity of the product and market liquidity;
- whether only a few transactions are observed over a significant period of time;
- whether the pricing quotations differ substantially among independent pricing services;
- whether inputs to the valuation techniques can be derived from or corroborated with market data; and
- whether significant adjustments are made to the observed pricing information or model output to determine the fair value.

Level 1 inputs are unadjusted quoted prices in active markets that the reporting entity has the ability to access for identical assets or liabilities. A financial instrument is classified as a Level 1 measurement if it is listed on an exchange or is an instrument actively traded in the over-the-counter ("OTC") market where transactions occur with sufficient frequency and volume. We regard financial instruments such as debt securities, equity securities and derivative contracts listed on the primary exchanges of a country to be actively traded. Non-exchange-traded instruments classified as Level 1 assets include securities issued by the U.S. Treasury, to-be-announced securities, non-callable securities issued by U.S. Government sponsored enterprises and certain foreign government-backed debt.

Level 2 inputs are those that are observable either directly or indirectly but do not qualify as Level 1 inputs. We classify mortgage pass-through securities, agency and certain non-agency mortgage collateralized obligations, non-exchange-traded derivative contracts, asset-backed securities, obligations of U.S. states and political subdivisions, corporate debt securities, certain foreign government-backed debt, preferred securities, securities purchased and sold under resale and repurchase agreements, precious metals, certain loans held for sale, certain student loans, residential mortgage loans whose carrying amount was reduced based on the fair value of the underlying collateral, real estate owned and, at December 31, 2022, a client share repurchase transaction as Level 2 measurements. Where possible, at least two quotations from independent sources are obtained based on transactions involving comparable assets and liabilities to validate the fair value of these instruments. We have established a process to understand the methodologies and inputs used by the third party pricing services to ensure that pricing information meets the fair value objective and, where appropriate, this pricing data is back-tested to market trade executions. Where significant differences arise among the independent pricing quotes and the internally determined fair value, we investigate and reconcile the differences. If the investigation results in a significant adjustment to the fair value, the instrument will be classified as Level 3 within the fair value hierarchy. In general, we have observed that there is a correlation between the credit standing and the market liquidity of a non-derivative instrument.

Level 2 derivative instruments are generally valued based on discounted future cash flows or an option pricing model adjusted for counterparty credit risk and market liquidity. The fair value of certain derivative products is determined using valuation techniques based on inputs derived from observable indices traded in the OTC market. Appropriate control processes and procedures have been applied to ensure that the derived inputs are applied to value only those instruments that share similar risks to the relevant benchmark indices and therefore demonstrate a similar response to market factors.

Level 3 inputs are unobservable estimates that management expects market participants would use to determine the fair value of the asset or liability. That is, Level 3 inputs incorporate market participants' assumptions about risk and the risk premium required by market participants in order to bear that risk. We develop Level 3 inputs based on the best information available in the circumstances. At December 31, 2022 and 2021, our Level 3 measurements included the following: certain structured deposits and structured notes for which the embedded derivatives have significant unobservable inputs (e.g., volatility or default correlations), certain asset-backed securities, individually assessed commercial loans, mortgage servicing rights, derivatives with certain inputs which are unobservable, certain credit default swaps, certain loans held for sale and swap agreements entered into in conjunction with the sales of Visa Class B Shares for which the fair value is dependent upon the final resolution of the related litigation. See Note 29, "Fair Value Measurements," in the accompanying consolidated financial statements for additional information on Level 3 inputs.

Level 3 Measurements The following table provides information about Level 3 assets/liabilities in relation to total assets/liabilities measured at fair value at December 31, 2022 and 2021:

At December 31,	2022	2021
	(dollars are in millions)	
Level 3 assets ⁽¹⁾⁽²⁾	\$ 322	\$ 2,356
Total assets measured at fair value ⁽¹⁾⁽³⁾	68,441	76,713
Level 3 liabilities ⁽¹⁾	3,365	2,598
Total liabilities measured at fair value ⁽¹⁾	30,414	28,125
Level 3 assets as a percent of total assets measured at fair value	0.5 %	3.1 %
Level 3 liabilities as a percent of total liabilities measured at fair value	11.1 %	9.2 %

⁽¹⁾ Presented without netting which allows the offsetting of amounts relating to certain contracts if certain conditions are met.

⁽²⁾ Includes \$270 million of recurring Level 3 assets and \$52 million of non-recurring Level 3 assets at December 31, 2022. Includes \$355 million of recurring Level 3 assets and \$2,001 million of non-recurring Level 3 assets at December 31, 2021.

⁽³⁾ Includes \$68,276 million of assets measured on a recurring basis and \$165 million of assets measured on a non-recurring basis at December 31, 2022. Includes \$74,511 million of assets measured on a recurring basis and \$2,202 million of assets measured on a non-recurring basis at December 31, 2021.

Significant Changes in Fair Value for Level 3 Assets and Liabilities During 2022, we sold certain loans which were transferred to held for sale during 2021 and were Level 3 assets measured at fair value on a non-recurring basis. See Note 9, "Loans Held for Sale," in the accompanying consolidated financial statements for additional information.

See Note 29, "Fair Value Measurements," in the accompanying consolidated financial statements for information on additions to and transfers into (out of) Level 3 measurements during 2022 and 2021 as well as for further details including the classification hierarchy associated with assets and liabilities measured at fair value.

Effect of Changes in Significant Unobservable Inputs The fair value of certain financial instruments is measured using valuation techniques that incorporate pricing assumptions not supported by, derived from or corroborated by observable market data. The resultant fair value measurements are dependent on unobservable input parameters which can be selected from a range of estimates and may be interdependent. Changes in one or more of the significant unobservable input parameters may change the fair value measurements of these financial instruments. For the purpose of preparing the financial statements, the final valuation inputs selected are based on management's best judgment that reflect the assumptions market participants would use in pricing similar assets or liabilities.

The unobservable input parameters selected are subject to the internal valuation control processes and procedures. When we perform a test of all the significant input parameters to the extreme values within the range at the same time, it could result in an increase of the overall fair value measurement of approximately \$24 million or a decrease of the overall fair value measurement of approximately \$57 million at December 31, 2022. The effect of changes in significant unobservable input parameters are primarily driven by the uncertainty in determining the fair value of certain credit-linked structured notes and swap agreements entered into in conjunction with the sales of Visa Class B Shares.

Risk Management

Overview The primary role of risk management is to protect our customers, business, colleagues and the communities that we serve, while ensuring we are able to support our strategy and provide sustainable growth.

Our risk management framework We aim to use a comprehensive risk management approach across the organization and across all risk types underpinned by our culture and values. This is outlined in our risk management framework, including the key principles and practices that we employ in managing material risks, both financial and non-financial. This framework fosters continuous monitoring, promotes risk awareness, and encourages sound operational and strategic decision-making and escalation processes. It also supports a consistent approach to identifying, assessing, managing, and reporting the risks we accept and incur in our activities, with clear accountabilities. We continue to actively review and develop our risk management framework and enhance our approach to managing risk through our activities with regard to people and capabilities, governance, reporting and management information, credit risk management models, and data.

Our risk culture We recognize the importance of a strong culture which refers to shared attitudes, values and standards that shape behaviors related to risk awareness, risk taking and risk management. All our people are responsible for the management of risk, with the ultimate responsibility for the effective oversight of risk management residing with our Board of Directors.

We seek to build our business for the long term by balancing social, environment and economic considerations in the decisions we make. Our strategic priorities are underpinned by our endeavor to operate in a sustainable way. This helps us to carry out our social responsibility and manage the risk profile of our business. We are committed to managing and mitigating climate-related risks, both physical and transition risks, and continue to incorporate consideration of these into how we manage and oversee risks internally and with our customers.

The following principles guide our overarching appetite for risk and determine how our businesses and risks are managed:

- We aim to maintain a strong capital position, defined by regulatory and internal capital ratios.
- We carry out effective liquidity and funding management.
- We seek to generate returns in line with our risk appetite and strong risk management capability.
- We aim to deliver sustainable and diversified earnings and consistent returns.
- We have zero tolerance for any of our people knowingly engaging in any business, activity or association where foreseeable reputational risk or damage has not been considered and/or mitigated.
- We have no appetite for deliberately or knowingly causing detriment to consumers or incurring a breach of the letter or spirit of regulatory requirements.
- We have no appetite for inappropriate market conduct by a member of our staff or by any of our lines of business.
- We are committed to managing the climate risks that have an impact on our financial position and delivering on HSBC's net zero ambition.

Risk governance Our Board of Directors has the ultimate responsibility for the effective oversight of risk management and approves our risk appetite. It is advised on risk matters by the Risk Committee of the Board of Directors, notably risk appetite and its alignment with our strategy, risk governance and internal controls, as well as high-level risk related matters. We use a defined executive risk governance structure to help ensure there is appropriate oversight and accountability embedded throughout our business for the effective management of risk.

The Chief Risk Officer ("CRO"), supported by the Risk Management Meeting of the HSBC USA Executive Committee ("RMM"), holds executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of the risk management framework. The management of financial crime risk resides with the U.S. Head of Financial Crime and Bank Secrecy Act/Anti-Money Laundering Compliance Officer. Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making.

Our responsibilities All our people are responsible for identifying and managing risk within the scope of their roles. Roles are defined using the Three Lines of Defense ("LoD") model, which takes into account our business and functional structures. This model delineates management accountabilities and responsibilities for risk management and the control environment. The model underpins our approach to risk management by clarifying responsibilities, encouraging collaboration, and enabling efficient coordination of risk and control activities. The Three LoD are summarized below:

- The First LoD owns the risks and is responsible for identifying, recording, reporting, and managing them in line with risk appetite, and ensuring that the right controls and assessments are in place to mitigate them.
- The Second LoD challenges the First LoD on effective risk management and provides advice and guidance in relation to the risk.
- The Third LoD is our Internal Audit function, which provides independent assurance as to whether our risk management approach and processes are designed and operating effectively.

The principle of individual accountability is exercised across the organization and is fundamental to effective risk management. Decisions are made by specific individuals in line with their mandates and/or delegated authority to ensure clear accountability. This includes those decisions made where approval should be requested from the accountable individual. Individual accountability is reinforced through the Three LoD model. The Board of Directors and its committees are collective decision-making bodies, as is the RMM. All employees are required to identify, assess and manage risk within the scope of their assigned responsibilities and, as such, they are critical to the effectiveness of the Three LoD model.

Risk function Our Risk function, headed by the CRO, is responsible for our risk management framework. This responsibility includes establishing policies, monitoring risk profiles and forward-looking risk identification and management. Our Risk function is made up of sub-functions covering all risks to our business. The Risk function forms part of the Second LoD. It is independent from our lines of business, including sales and trading functions, to provide challenge, appropriate oversight and balance in risk/reward decisions. The CRO reports to the Chief Executive Officer ("CEO") and to the HSBC Group Chief Risk and Compliance Officer. The CRO also reports on risk related matters to the Risk Committee of the Board of Directors. Executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of the risk management framework resides with the CRO, supported by the RMM.

Specific oversight of various risk management processes occurs through the following meetings:

- the Asset and Liability Management Committee ("ALCO");
- the Reputational Risk and Client Selection Committees ("RRCSs"); and
- Line of business ("LoB") risk management and oversight meetings.

Each of these committees, as well as the RMM, have separate charters which detail their respective roles and responsibilities.

ALCO provides oversight of all capital, liquidity, interest rate and market risk and is chaired by the Chief Financial Officer. ALCO sets the limits of acceptable risk, monitors the adequacy of the tools used to measure risk and assesses the adequacy of reporting. In managing these risks, we seek to protect both our income stream and the value of our assets. ALCO also conducts contingency planning with regard to liquidity.

The RRCS structure ensures appropriate consideration of customers and transactions that may adversely affect our public perception. RRCSs exist in each business and comprise senior members from the business, risk, legal, financial crime and compliance departments and other invited parties. The RRCSs provide decision-making and guidance in respect of reputational risks and customer selection matters, and are responsible for ensuring that issues are appropriately tracked and resolved.

The LoB risk management and oversight meetings provide recommendations and advice, as requested, to their respective LoB senior management teams in the exercise of their powers, authorities and discretions in relation to the enterprise-wide management of all risks within or impacting their respective businesses.

Enterprise-wide risk management tools We use a range of tools to identify, monitor and manage risk. The key enterprise-wide risk management tools are summarized below:

- Risk identification - Risk identification is a tool that allows us to provide a holistic view of risks facing the organization stemming from our unique business activities and associated exposures, including those that are difficult to quantify or only materialize under stressful conditions. The process is integrated with and built upon existing risk management tools such as top and emerging risk reporting as well as risk and control assessments. The risk identification process takes place on a quarterly basis and involves senior representatives from the First and Second LoD. Senior management governance is provided by the RMM with results presented to the Risk Committee of the Board of Directors on an annual basis. Material risks identified are actively monitored and used to inform key aspects of our capital planning and stress testing program.
- Risk appetite - The CRO oversees the development of our risk appetite which defines, shapes and monitors our risk profile. The HSBC North America Risk Appetite Statement ("RAS") is a written articulation of the aggregate level and types of risk that we are willing to accept in order to achieve our strategic business objectives. HSBC North America's conservative risk profile is articulated in the qualitative section of the RAS, which serves as guidance to embed risk appetite and supports strategic and operational decision making at HUSI. The quantitative section of the RAS contains a set of key metrics covering both financial and non-financial risks. Non-financial risk is defined as the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems or from external events.

Performance against the RAS metrics alongside key risk indicators is monitored by senior management and reported to the RMM and Risk Committee of the Board of Directors on a periodic basis, enabling senior management to monitor the risk profile and guide business activity to balance risk and return. All breaches of risk appetite thresholds and actions to remediate the breaches are documented and reviewed. This process helps to embed a strong risk culture across our businesses. The risk appetite profile is one of the key tools in the wider enterprise risk management framework, which drives the core of our active risk management. The RAS is aligned to strategic and financial planning and therefore provides a top down view of risk and return objectives.

- Risk map - We utilize a risk map to provide a point-in-time view of our residual risk profile across a range of both financial and non-financial risk categories, including our principal banking risks. It assesses the potential of these risks to have a material impact on our financial results, reputation or sustainability of our business. Risks that have an 'amber' or 'red' rating require a rating justification to outline the key issues and monitoring and mitigating action plans to be in place to manage the risk down to acceptable levels.
- Top and emerging risks - We use a top and emerging risks process to provide a forward-looking view of risks with the potential to threaten the execution of our strategy or operations. The top and emerging risks framework enables us to take action which either stop these risks from materializing or limit their impact. We proactively assess the internal and external risk environment as well as review the themes identified across our businesses and functions to update our top and emerging risks as necessary. A 'top risk' is defined as a risk we are currently managing which, if not managed and mitigated, has the potential to have a material impact on our financial results, reputation or business model. It may arise across any combinations of risk types or businesses. The impact of a 'top risk' may be well understood by senior

management and some mitigating actions may already be in place. An 'emerging risk' is defined as a risk that could have a material impact on the risk profile of the organization, but is not under active management and is not immediate. Existing mitigating plans for an 'emerging risk' are likely to be minimal, reflecting the uncertain nature of these risks at this stage.

- Stress testing - Stress testing is an important tool we use to assess potential vulnerabilities in our businesses, business model or portfolios. We operate a comprehensive stress testing program that supports our risk management and capital planning processes. It includes execution of stress tests mandated by our regulators, is supported by dedicated teams and infrastructure, and is overseen by senior management. It demonstrates our capital strength and enhances our resilience to external shocks. It allows us to understand the sensitivities of the core assumptions in our strategic and capital plans and improve decision making through balancing risk and return. In addition to taking part in regulators' stress tests, we conduct our own internal stress tests. Internal stress test scenarios are closely aligned to our assessment of top and emerging risks and help inform risk appetite thresholds. These may prompt management actions, including a reduction in limits or direct exposures, or closer monitoring of exposures sensitive to stress.
- Models - In the course of our regular risk management activities, we use models to help quantify the risk we are taking. The output from some of these models is included in this section of our filing. By their nature, models are based on various assumptions and relationships. We believe that the assumptions used in these models are reasonable within the parameters for which the models have been built and calibrated to operate, but events may unfold differently than what is assumed in the models. In actual stressed market conditions, these assumptions and relationships may no longer hold, causing actual experience to differ from the results predicted in the model.

The severe projections of macroeconomic variables during the COVID-19 pandemic and subsequent recovery represent events outside the parameters for which the models have been built. As a result, adjustments to model outputs to reflect consideration of management judgment are used with stringent governance in place to ensure appropriate results. Where models do not require adjustments, enhanced model monitoring confirms models are performing as intended.

Key developments in 2022 We actively managed the risks related to the Russia-Ukraine war and broader macroeconomic and geopolitical uncertainties during 2022. In addition, we enhanced our risk management in the following areas:

- We continued to improve our risk governance decision making, particularly with regard to the governance of treasury risk, to ensure senior executives have appropriate oversight and visibility of macroeconomic trends around inflation and interest rates.
- We continued to develop our approach to emerging risk identification and management, including the use of forward-looking indicators to support our analysis.
- We enhanced our enterprise risk reporting processes to place a greater focus on our emerging risks, including by capturing the materiality, oversight and individual monitoring of these risks.
- We continued to develop our climate risk management capabilities and embed climate considerations throughout our business.

Our material risks The principal risks associated with our operations include the following:

- *Credit risk* is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract;
- *Treasury risk* is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, including the risk of an adverse impact on earnings due to changes in market interest rates, together with pension risk;
- *Market risk* is the risk of an adverse financial impact on trading activities arising from changes in market parameters such as interest rates, foreign exchange rates, asset prices, volatilities, correlations and credit spreads;
- *Climate risk* relates to the financial and non-financial impacts that may arise as a result of climate change and the move to a greener economy;
- *Resilience risk* is the risk that we are unable to provide critical services to our customers, affiliates and counterparties as a result of sustained and significant operational disruption;
- *Regulatory compliance risk* is the risk associated with breaching our duty to clients and other counterparties, inappropriate market conduct and breaching related financial services regulatory standards;
- *Financial crime risk* is the risk of knowingly or unknowingly helping parties to commit or to further potentially illegal activity, including money laundering, fraud, bribery and corruption, tax evasion, sanctions breaches, and terrorist and proliferation financing;
- *Strategic risk* is the risk that the business will fail to identify, execute and react appropriately to opportunities and/or threats arising from changes in the market, some of which may emerge over a number of years such as changing

economic and political circumstances, customer requirements, demographic trends, regulatory developments or competitor action; and

- *Model risk* is the risk of inappropriate or incorrect business decisions arising from the use of models that have been inadequately designed, implemented or used, or from models that do not perform in line with expectations and predictions.

Credit Risk Management Credit risk is managed through a robust risk identification and control framework which outlines clear and consistent policies, principles and guidance for risk managers. Credit risk is monitored using various internal risk management measures and within limits approved by individuals within a framework of delegated authorities.

The principle objectives of credit risk management are to:

- maintain a strong culture of responsible lending, and robust risk policies and control frameworks;
- both partner with and challenge our businesses in defining, implementing and continually re-evaluating our risk appetite under actual and scenario conditions; and
- ensure there is independent scrutiny of credit risks, their cost and their mitigation.

Credit risk arises from various on- and off-balance sheet instruments and arrangements, such as:

- loan portfolios;
- investment portfolios;
- unfunded commitments such as letters of credit and lines of credit and unutilized credit card lines that customers can draw upon; and
- derivative financial instruments, such as interest rate swaps, which may represent an exposure to the counterparty to the contract.

While credit risk exists widely in our operations, diversification among various commercial and consumer portfolios helps to lessen risk exposure. Day-to-day management of credit risk is performed by the Chief Credit Officer and the WPB Chief Risk Officer, who report directly to the CRO and maintain independent risk functions. The credit risk associated with wholesale commercial portfolios is managed by the Chief Credit Officer, while credit risk associated with retail consumer loan portfolios is managed by the WPB Chief Risk Officer. Further discussion of credit risk can be found under the "Credit Quality" caption in this MD&A.

Our credit risk management procedures are designed for all stages of economic and financial cycles, including challenging periods of market volatility and economic uncertainty. The Credit Risk function continues to refine early warning indicators and reporting, including stress testing scenarios on the basis of recent experience. Stress testing results are taken into consideration within our business planning process. Action has been taken, where necessary, to improve our resilience to risks associated with the current market conditions by selectively discontinuing business lines or products, closely managing underwriting criteria and investing in improved fraud prevention technologies. At December 31, 2022, the future economic environment remains uncertain amidst slowing economic growth, persistently high inflation, rising interest rates, global supply chain stress, continued geopolitical issues, and increasing recession concerns. We continue to monitor the performance of our material commercial loans as conditions evolve and take necessary credit actions where warranted. Our credit risk exposure to Russia was immaterial at December 31, 2022.

The responsibilities of the Credit Risk function include:

- *Formulating credit risk policies* – Our policies are designed to ensure that all of our various retail and wholesale business units operate within clear standards of acceptable credit risk. Our policies ensure that the HSBC standards are consistently implemented across all businesses and that all regulatory requirements are also considered. Credit policies are reviewed and approved annually at the RMM and the Risk Committee of the Board of Directors.
- *Approving new credit exposures and independently assessing large exposures annually* – Credit approval authorities are delegated by the Board of Directors to the CEO and subsequently sub-delegated to the CRO with the authority to sub-delegate to the Chief Credit Officer and WPB Chief Risk Officer. The Chief Credit Officer and WPB Chief Risk Officer in turn delegate limited credit authority to the various lending units. However, most wholesale credits are reviewed and approved centrally through a dedicated Credit Approval Unit that reports directly to the Chief Credit Officer. In addition, the Chief Credit Officer coordinates the review of material credits with HSBC Group Credit Risk which, subject to certain agreed-upon limits, will concur on material new and renewal transactions. Large retail credits are escalated to the WPB Chief Risk Officer for review and concurrence.
- *Overseeing retail credit and collateral risk* – The WPB Chief Risk Officer manages the credit and collateral risk associated with retail portfolios, supported by expertise from a dedicated advanced risk analytics unit. Collateral risk in retail arises when the underlying value of the property securing a retail loan loses value due to macroeconomic, housing market or industry conditions. This risk is actively managed through on-going monitoring of House Price

Indices in the Metropolitan Statistical Areas in which the mortgage portfolio is concentrated. In areas where property values are declining, maximum LTV requirements will be adjusted downward to compensate for this risk.

- *Maintaining and developing the governance and operation of the wholesale risk rating system* – A two-dimensional credit risk rating system is utilized in order to categorize exposures meaningfully and enable focused management of the risks involved. This rating system comprises a 23 category customer risk rating, which considers the probability of default of an obligor, and a separate facility risk rating, representing an assessment of the obligor's expected performance in servicing its obligations in accordance with the terms. Rating methodologies are based upon a wide range of analytics and market data-based tools, which are core inputs to the assessment of counterparty risk. Although automated risk rating processes are increasingly used, for larger facilities the ultimate responsibility for setting risk ratings rests in each case with the final approving executive. Risk ratings are reviewed frequently and amendments, where necessary, are implemented promptly.
- *Measuring portfolio credit risk* – We continue to advance the measurement of the risk in our credit portfolios using techniques such as stress testing in certain internal reporting. Efforts continue to refine both the inputs and assumptions used to increase the usefulness in the evaluation of large and small commercial and retail customer portfolio products and business unit return on risk.
- *Monitoring portfolio performance* – Credit data warehouses have been implemented to centralize the reporting of credit risk, support the analysis of risk and to calculate credit loss reserves. This data warehouse also supports HSBC's wider effort to meet the requirements of Basel III and to generate credit reports for management and the Risk Committee of the Board of Directors.
- *Establishing counterparty and portfolio limits* – We monitor and limit our wholesale exposure to individual counterparties and to the combined exposure of related counterparties. In addition, selected industry portfolios, such as real estate, are subject to caps that are recommended by the Chief Credit Officer and reviewed where appropriate by management committees and the Risk Committee of the Board of Directors. Retail establishes portfolio limits by product as well as limits on new products and higher-risk segments such as investment property, high LTV mortgages and credit cards. These limits are approved by the WPB Chief Risk Officer and monitored by a retail credit risk management committee. Counterparty credit exposure related to derivative activities is also managed under approved limits. Since the exposure related to derivatives is variable and uncertain, internal risk management methodologies are used to calculate the 95 percent worst-case potential future exposure for each customer. These methodologies take into consideration, among other factors, cross-product close-out netting, collateral received from customers under collateral support annexes, termination clauses, and off-setting positions within the portfolio.
- *Managing problem loans* – Special attention is paid to problem loans. When appropriate, our wholesale Special Credits Unit and retail Collection and Recovery teams provide customers with intensive management and support in order to help them avoid default wherever possible and maximize recoveries.
- *Establishing allowances for credit losses* – The Chief Credit Officer and the WPB Chief Risk Officer share responsibility with the Chief Financial Officer for establishing appropriate levels of allowances for credit losses inherent in our various loan and other portfolios carried at amortized cost. This responsibility includes overseeing the processes for: model performance monitoring and redevelopment of new models, establishing forward-looking economic scenarios, projecting results from the impairment calculation engine, and determining management judgment utilized for estimating lifetime ECL. Management review committees, comprising representatives from Credit Risk and Finance, have been established in order to review and challenge the results of the lifetime ECL calculations before approving them each period.

Credit Review is an independent and critical Second LoD function. Its mission is to identify and evaluate areas of credit risk within our business. Credit Review will focus on the review and evaluation of wholesale and retail lending activities and will identify risks and provide an ongoing assessment as to the effectiveness of the risk management framework and the related portfolios. Credit Review will independently assess the business units and risk management functions to ensure the portfolios are managed and operating in a manner that is consistent with HSBC Group strategy, risk appetite, appropriate local and HSBC Group credit policies and procedures and applicable regulatory requirements. For example, this includes the unilateral authority to independently assess and revise customer risk ratings, facility risk ratings and loss given default estimates. To ensure its independent stature, the Credit Review Delegation of Authority is endorsed by the Risk Committee of the Board of Directors which grants the Head of Credit Review unhindered access to the Risk Committee and executive sessions at the discretion of the Head of Credit Review. Accordingly, our Risk Committee of the Board of Directors has oversight of the Credit Review annual and ongoing plan, quarterly plan updates and results of reviews.

Treasury Risk Management Treasury risk arises from changes to the respective resources and risk profiles driven by customer behavior, management decisions or the external environment. Treasury risks, including capital, liquidity and funding, and interest rate risk, are owned and actively managed on an ongoing basis by the Treasurer, supported by ALCO.

Capital risk is the risk that we fail to meet our regulatory capital requirements. Capital risk arises from a deterioration in the capital base due to losses and increased risk profile from management activity or the external environment. We aim to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our strategy, meeting regulatory capital requirements at all times. See "Liquidity and Capital Resources" in this MD&A for a full discussion of our approach to capital risk management, including our capital ratios and regulatory capital requirements.

Liquidity and funding risk is the risk that we do not have sufficient financial resources to meet our obligations as they fall due or that we cannot raise funding or can only do so at excessive cost. Liquidity and funding risk arises from mismatches in the timing of cash flows or when illiquid asset positions cannot be funded at the expected terms and when required. We continuously monitor the impact of market events on our liquidity positions and will continue to adapt our liquidity and funding framework to reflect market events and the evolving regulatory landscape and view as to best practices. Historically, we have seen the greatest strain in the wholesale market as opposed to the retail market (the latter being the market from which we source stable demand and time deposit accounts which are less sensitive to market events or changes in interest rates).

Liquidity is managed to provide the ability to generate cash to meet lending, deposit withdrawal and other commitments at a reasonable cost in a reasonable amount of time while maintaining routine operations and market confidence. Market funding is coordinated with other HSBC Group entities, as the markets increasingly view debt issuances from the separate companies within the context of our common parent company. Liquidity and funding risk management is performed at the HSBC North America, HSBC USA and HSBC Bank USA levels. Each entity is required to have sufficient liquidity for a crisis situation.

Liquidity risk policies and procedures have been implemented to ensure that the minimum liquidity ratios and a strong overall liquidity position are maintained. ALCO projects cash flow requirements and determines the level of liquid assets and available funding sources to have at our disposal, with consideration given to anticipated deposit and balance sheet growth, contingent liabilities, and the ability to access wholesale funding markets. In addition to base case projections, multiple stress scenarios are generated to simulate crisis conditions, including:

- run-off of non-stable deposits;
- inability to renew maturing interbank funding;
- draw-downs of committed loan facilities;
- decreases in the market value of liquid securities;
- additional collateral requirements for derivative transactions under existing collateral support agreements;
- rating downgrades of HSBC USA or HSBC Bank USA; and
- increased discount on security values for repos or disposals.

In addition, ALCO monitors the overall mix of deposit and funding concentrations to avoid undue reliance on individual funding sources and large deposit relationships.

As part of our approach towards liquidity and funding risk management, we employ the measures discussed below to define, monitor and control our liquidity and funding risk in accordance with HSBC policy.

As of January 1, 2022, HSBC North America met the criteria to be re-classified as a Category IV firm and, as a result of this classification change, HSBC North America and HSBC Bank USA are subject to a further reduced U.S. liquidity coverage ratio ("LCR") and net stable funding ratio ("NSFR") requirement of 70 percent so long as HSBC North America's weighted short-term wholesale funding equals or exceeds \$50 billion. HSBC North America and HSBC Bank USA elected to report subject to the reduced U.S. LCR and NSFR requirement of 70 percent beginning April 1, 2022, whereas they were previously subject to the requirement of 85 percent applicable under the Category III standards.

HSBC North America and HSBC Bank USA are subject to the U.S. LCR rule, which is designed to be a short-term liquidity measure to ensure banks have sufficient High Quality Liquid Assets ("HQLA") to cover net stressed cash outflows over the next 30 days, and are required to report their LCR to U.S. regulators on a daily basis. Under the Tailoring Rules, a 70 percent LCR requirement applies to Category IV firms with weighted short-term wholesale funding that equals or exceeds \$50 billion and their depository institution subsidiaries. As a result, a LCR of 100 percent or higher reflects an unencumbered HQLA balance that is equal to or exceeds 70 percent of a Category IV firm's liquidity needs for a 30 calendar day liquidity stress scenario. HQLA consists of cash or assets that can be converted into cash at little or no loss of value in private markets. During 2022, HSBC Bank USA's LCR remained above the 100 percent minimum requirement. Beginning in the third quarter of 2022, we removed the United Kingdom ("U.K.") Prudential Regulatory Authority ("PRA") based LCR from our reporting as we no longer employ that ratio as part of our approach towards liquidity risk management.

HSBC North America and HSBC Bank USA are also subject to the U.S. NSFR rule, which is a longer term liquidity measure with a 12-month time horizon to ensure a sustainable maturity structure of assets and liabilities. Under the Tailoring Rules, a 70 percent NSFR requirement applies to Category IV firms with weighted short-term wholesale funding that equals or exceeds \$50 billion and their depository institution subsidiaries. As a result, a NSFR of 100 percent or more reflects an available stable

funding balance from liabilities and capital over the next 12 months that is equal to or exceeds 70 percent of a Category IV firm's required amount of funding for assets and off-balance sheet exposures. At both December 31, 2022 and 2021, HSBC Bank USA's NSFR exceeded 100 percent. In addition, the U.K. PRA based NSFR took effect on January 1, 2022. At both December 31, 2022 and 2021, HSBC USA's NSFR under the U.K. PRA NSFR rule exceeded 100 percent. The ratio at December 31, 2021 was estimated based on our interpretation and understanding of the Basel Committee NSFR guidance at that time. Under the U.K. PRA NSFR rule, a NSFR of 100 percent or more reflects an available stable funding balance from liabilities and capital over the next 12 months that is equal to or exceeds the required amount of funding for assets and off-balance sheet exposures.

As a Category IV firm, HSBC North America remains subject to liquidity stress testing and related liquidity buffer and liquidity risk management requirements. HSBC North America and HSBC Bank USA have liquidity profiles to support compliance with these rules and may need to make changes to their liquidity profiles to support compliance with any future rules.

ALCO also maintains a liquidity management and contingency funding plan ("Contingency Funding Plan"), which identifies certain potential early warning indicators of liquidity problems, and actions that can be taken both initially and in the event of a liquidity crisis, to minimize the long-term impact on our businesses and customer relationships. The Contingency Funding Plan is reviewed annually and approved by the Risk Committee of the Board of Directors. We recognize a liquidity crisis can either be specific to us, relating to our ability to meet our obligations in a timely manner, or market-wide, caused by a macro risk event in the broader financial system. A range of indicators are monitored to attain an early warning of any liquidity issues. These include widening of key spreads or indices used to track market volatility, material reductions or extreme volatility in customer deposit balances, increased utilization of credit lines, widening of our own credit spreads and higher borrowing costs. At the onset of a crisis, liquidity needs would be satisfied primarily with unsecured wholesale market funding. If the crisis escalates, contingency funding needs will be satisfied primarily through sales of securities from the investment portfolio and secured borrowing using the mortgage portfolio as collateral. Securities may be sold or used as collateral in a repurchase agreement depending on the scenario. Portions of the mortgage portfolio may be used as collateral at the FHLB to increase borrowings. We maintain a Liquid Asset Buffer consisting of cash, short-term liquid assets and unencumbered government and other highly rated investment securities as a source of funding. Further, collateral is maintained at the Federal Reserve Bank discount window and the FHLB, providing additional secured borrowing capacity in a liquidity crisis.

In addition to the oversight provided by ALCO, Treasury Risk Management ("TRM") is a Second LoD oversight function for treasury risk-related activities, including capital, liquidity and funding, and interest rate risk, which is led by the Head of Traded and Treasury Risk Management and Risk Analytics who is the accountable risk steward for treasury risks and independently reports into the CRO. TRM's primary mandate is to strengthen our treasury risk management framework through challenge and review of existing processes and recommending areas that need improvement to the RMM. TRM serves as an advisory function to senior management to ensure front line units with direct responsibility for managing treasury risk are operating within their operating guidelines and defined risk appetite parameters. The TRM oversight mandate is carried out through critical evaluation and challenge of existing risk management processes including stress testing and ratio calculations.

Our liquidity and funding risk management approach includes deposits, supplemented by wholesale borrowing to fund our balance sheet, and using security sales or secured borrowings for liquidity stress situations in our liquidity contingency plans. In addition, regulations require banks to retain a portfolio of HQLA. As such, we are maintaining a large portfolio of high quality sovereign and sovereign guaranteed securities.

Our ability to regularly attract wholesale funds at a competitive cost is enhanced by strong ratings from the major credit ratings agencies. The following table reflects the short and long-term credit ratings of HSBC USA and HSBC Bank USA at December 31, 2022:

	Moody's	S&P	Fitch
HSBC USA:			
Short-term borrowings.....	P-1	A-2	F1+
Long-term/senior debt.....	A1	A-	A+
HSBC Bank USA:			
Short-term borrowings.....	P-1	A-1	F1+
Long-term/senior debt.....	Aa3	A+	AA-

Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices and legal matters, all of which could lead to adverse ratings actions.

Although we closely monitor and strive to manage factors influencing our credit ratings, there is no assurance that our credit ratings will not change in the future. At December 31, 2022, none of the ratings on the debt of HSBC USA or HSBC Bank USA from any of the rating agencies were under review for potential downgrade.

Numerous factors, internal and external, may impact access to and costs associated with issuing debt in the global capital markets. These factors include our debt ratings, overall economic conditions, overall capital markets volatility and the effectiveness of the management of credit risks inherent in our customer base.

Cash resources, short-term investments and a trading asset portfolio are available to provide highly liquid funding for us. Additional liquidity is provided by available-for-sale and held-to-maturity debt securities. Approximately \$1,635 million of the debt securities in these portfolios at December 31, 2022 are expected to mature in 2023. The remaining \$33,027 million of debt securities not expected to mature in 2023 are available to provide liquidity by serving as collateral for secured borrowings, or if needed, by being sold. Further liquidity is available through our ability to sell or securitize loans in secondary markets. In 2022, in addition to the normal sales of agency-eligible mortgage loan originations, we sold loans of approximately \$3,087 million to third parties as part of our Restructuring Plan.

It is the policy of HSBC Bank USA to maintain both primary and secondary collateral in order to ensure precautionary borrowing availability from the Federal Reserve Bank. Primary collateral is collateral that is physically maintained at the Federal Reserve Bank, and serves as a safety net against any unexpected funding shortfalls that may occur. Secondary collateral is collateral that is acceptable to the Federal Reserve Bank, but is not maintained there. If unutilized borrowing capacity were to be low, secondary collateral would be identified and maintained as necessary. Further liquidity is available from the FHLB.

See "Liquidity and Capital Resources" in this MD&A for further discussion of our liquidity position, including additional information regarding our outstanding borrowings, the remaining availability of our debt issuance programs and our funding strategy.

Interest rate risk is the potential reduction of net interest income due to mismatched pricing between assets and liabilities as well as losses in value due to interest rate movements. We are subject to interest rate risk associated with the repricing characteristics of our balance sheet assets and liabilities. Specifically, as interest rates change, amounts of interest earning assets and liabilities fluctuate, and interest earning assets reprice at intervals that do not correspond to the maturities or repricing patterns of interest bearing liabilities. This mismatch between assets and liabilities in repricing sensitivity results in changes to projected net interest income as interest rates move. To help manage the risks associated with changes in interest rates, and to manage net interest income within interest rate risk ranges management considers acceptable, we use derivative instruments such as interest rate swaps, options, futures and forwards as hedges to modify the repricing characteristics of specific assets, liabilities, forecasted transactions or firm commitments. Analysis of this risk is complicated by having to make assumptions on embedded optionality within certain product areas such as the incidence of mortgage prepayments, and from behavioral assumptions regarding the economic duration of liabilities which are contractually repayable on demand such as current accounts. These assumptions around behavioral features are captured in our interest rate behavioralization framework, which is described further below. Day-to-day management of interest rate risk is centralized principally in Markets Treasury, which includes the non-trading interest rate risk positions transferred to it from the global businesses as discussed further below.

We have significant, but historically well controlled, interest rate risk in large part due to our portfolio of residential mortgages and mortgage-backed securities, which consumers can prepay without penalty, and our large base of demand and savings deposits. These deposits can be withdrawn by consumers at will, but historically they have been a stable source of relatively low cost funds.

In addition, we have a number of contracts referencing LIBOR. The process of adopting new reference rates may expose us to an increased level of financial risks, such as potential earnings volatility. See "Executive Overview" in this MD&A for a full discussion of our LIBOR transition.

In the course of managing interest rate risk, a combination of risk assessment techniques are utilized to identify and assess the potential impact of interest rate movements and take appropriate action. This combination of techniques, with some focusing on the impact of interest rate movements on the valuation of the balance sheet (e.g., economic value of equity, present value of a basis point, repricing gap analysis, value at risk) and others focusing on the impact of interest rate movements on earnings (e.g., net interest income simulation modeling), allows for comprehensive analyses from different perspectives.

A key element of managing interest rate risk is the management of the convexity of the balance sheet, largely resulting from the mortgage related products on the balance sheet. Convexity risk arises as mortgage loan consumers change their payment behavior significantly in response to large movements in market rates, but do not change behavior appreciably for smaller changes in market rates. Certain interest rate management tools, such as economic value of equity and net interest income simulation modeling, better capture the embedded convexity in the balance sheet, while measures such as present value of a basis point are designed to capture the risk of smaller changes in rates.

The assessment techniques discussed below act as a guide for managing interest rate risk associated with balance sheet composition and off-balance sheet hedging strategy (the risk position). Calculated values within limit ranges reflect an acceptable risk position, although possible future unfavorable trends may prompt adjustments to on or off-balance sheet

exposure. Calculated values outside of limit ranges will result in consideration of adjustment of the risk position, or consideration of temporary dispensation from making adjustments.

Economic value of equity ("EVE") EVE represents the present value of the banking book cash flows that could be provided to our equity holder under a managed run-off scenario. An EVE sensitivity represents the change in EVE due to a defined movement in interest rates. We manage to an immediate parallel upward shock of 200 basis points and an immediate parallel downward shock of 200 basis points to the market implied interest rates. At both December 31, 2022 and 2021, our EVE remained within risk limits for the up 200 and down 200 basis point interest rate shock scenarios.

Repricing gap analysis The following table shows the repricing structure of our assets and liabilities at December 31, 2022. For assets and liabilities whose cash flows are subject to change due to movements in interest rates, such as the sensitivity of mortgage loans to prepayments, data is reported based on the earlier of expected repricing or maturity and reflects anticipated prepayments based on the current rate environment. The resulting "gaps" are reviewed to assess the potential sensitivity to earnings with respect to the direction, magnitude and timing of changes in market interest rates. Data shown is as of year-end, and one-day figures can be distorted by temporary swings in assets or liabilities.

December 31, 2022	Within One Year	After One But Within Five Years	After Five But Within Ten Years	After Ten Years	Total
	(in millions)				
Commercial loans	\$ 41,251	\$ 677	\$ 235	\$ 3	\$ 42,166
Residential mortgages and home equity mortgages	3,298	6,591	5,371	1,953	17,213
Credit cards and other consumer loans	341	5	3	6	355
Total loans ⁽¹⁾	44,890	7,273	5,609	1,962	59,734
Securities available-for-sale and securities held-to-maturity	4,816	12,764	9,119	7,963	34,662
Other assets	68,442	1,782	35	—	70,259
Total assets	118,148	21,819	14,763	9,925	164,655
Domestic deposits:					
Savings and demand	63,632	26,585	10,457	173	100,847
Time deposits	15,061	220	1	—	15,282
Long-term debt	8,150	6,250	1,500	1,691	17,591
Other liabilities/equity	20,616	8,810	1,435	74	30,935
Total liabilities and equity	107,459	41,865	13,393	1,938	164,655
Total balance sheet gap	10,689	(20,046)	1,370	7,987	—
Effect of derivative contracts	(7,260)	11,306	(407)	(3,639)	—
Total gap position	\$ 3,429	\$ (8,740)	\$ 963	\$ 4,348	\$ —

⁽¹⁾ Includes loans held for sale.

Various techniques are utilized to quantify and monitor risks associated with the repricing characteristics of our assets, liabilities and derivative contracts.

Net interest income simulation modeling techniques We utilize simulation modeling to monitor a number of interest rate scenarios for their impact on projected net interest income. These techniques simulate the impact on projected net interest income under various scenarios, such as rate shock scenarios which assume immediate market rate movements by 100 basis points, as well as scenarios in which rates gradually rise or fall by 100 basis points over a twelve month period. In the gradual scenarios, 25 percent of the interest rate movement occurs at the beginning of each quarter. The following table reflects the impact on our projected net interest income of the scenarios utilized by these modeling techniques:

	December 31, 2022		December 31, 2021	
	Amount	%	Amount	%
(dollars are in millions)				
Estimated increase (decrease) in projected net interest income (reflects projected rate movements on January 1, 2023 and 2022, respectively):				
Resulting from a gradual 100 basis point increase in the yield curve	\$ 34	1 %	\$ 225	9 %
Resulting from a gradual 100 basis point decrease in the yield curve	(43)	(2)	(130)	(5)
Other significant scenarios monitored (reflects projected rate movements on January 1, 2023 and 2022, respectively):				
Resulting from an immediate 100 basis point increase in the yield curve	66	2	308	13
Resulting from an immediate 100 basis point decrease in the yield curve	(60)	(2)	(334)	(14)

Projected net interest income sensitivity figures represent the effect of movements in net interest income based on the projected yield curve scenarios and our current interest rate risk profile. This effect, however, does not incorporate actions which would probably be taken by Markets Treasury or in the businesses to mitigate the effect of interest rate risk. In reality, Markets Treasury seeks proactively to change the interest rate risk profile to minimize losses and optimize net revenues. The net interest income simulation modeling calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenarios. The sensitivity calculations in the 'down-shock' scenarios reflect no floors to the shocked market rates. However, customer product-specific rate floors are recognized where appropriate. In addition, the net interest income simulation modeling calculations take account of the effect on net interest income of anticipated differences in changes between interbank interest rates and interest rates over which the entity has discretion in terms of the timing and extent of rate changes. The projections do not take into consideration possible complicating factors such as the effect of changes in interest rates on the credit quality, size and composition of the balance sheet. Therefore, although this provides a reasonable estimate of interest rate sensitivity, actual results will differ from these estimates, possibly by significant amounts.

Interest rate risk behavioralization Unlike liquidity risk which is assessed on the basis of a very severe stress scenario, interest rate risk is assessed and managed according to business-as-usual conditions. In many cases the contractual profile of our assets and liabilities does not reflect the behavior observed. Behavioralization is therefore used to assess the interest rate risk of our assets and liabilities, and this assessed risk is transferred to Markets Treasury in accordance with the rules governing the transfer of interest rate risk from the global businesses to Markets Treasury.

Behavioralization is applied in three key areas:

- the assessed re-pricing frequency of managed rate balances;
- the assessed duration of non-interest bearing balances, typically capital and current accounts; and
- the base case expected prepayment behavior or pipeline take-up rate for fixed rate balances with embedded optionality.

Interest rate behavioralization policies have to be formulated in line with the HSBC Group's behavioralization policies and approved at least annually by ALCO and global Asset, Liability and Capital Management, in conjunction with local, regional and HSBC Group risk monitoring teams.

The extent to which balances can be behavioralized is driven by:

- the amount of the current balance that can be assessed as stable under business-as-usual conditions; and
- for managed rate balances the historic market interest rate re-pricing behavior observed; or
- for non-interest bearing balances the duration for which the balance is expected to remain under business-as-usual conditions. This assessment is often driven by the re-investment tenors available to Markets Treasury to neutralize the risk through the use of fixed rate government bonds or interest rate derivatives, and for derivatives the availability of cash flow hedging capacity.

Non-trading value at risk ("VaR") Non-trading VaR predominantly relates to Markets Treasury and represents the potential negative changes in the investment portfolio market value (which includes available-for-sale and held-to-maturity assets) and associated hedges. Our investment portfolio holdings comprise mainly U.S. Treasury, U.S. Government agency mortgage-backed and U.S. Government sponsored mortgage-backed securities. Our non-trading VaR exposure is driven by interest rates

and agency spread volatility. Refer to "Market Risk Management" below for further discussion regarding VaR and the management of market risk in our non-trading portfolios.

Non-trading VaR was lower at December 31, 2022 as compared with December 31, 2021 due primarily to decreased volatility in the two-year VaR historical time series.

The following table summarizes our non-trading VaR for 2022 and 2021:

	Credit Spread	Interest Rate	Portfolio Diversification ⁽¹⁾	Total ⁽²⁾
	(in millions)			
At December 31, 2022	\$ 51	\$ 65	\$ (34)	\$ 82
Full Year 2022				
Average	51	63	(35)	79
Maximum	75	116		127
Minimum	36	40		58
At December 31, 2021	\$ 62	\$ 84	\$ (34)	\$ 112
Full Year 2021				
Average	63	98	(52)	109
Maximum	83	134		152
Minimum	51	61		72

⁽¹⁾ Refer to the Trading VaR table in "Market Risk Management" below for additional information.

Non-trading VaR also includes the interest rate risk of non-trading financial assets and liabilities held by the global businesses and transfer priced into Markets Treasury which has the mandate to centrally manage and hedge it. Interest rate swaps used by Markets Treasury to hedge the interest rate risk of the investment portfolio and transfer price risk from the banking book are typically classified as either a fair value hedge or a cash flow hedge and included within our non-trading VaR. In case there is residual market risk that cannot be efficiently and conveniently hedged by Markets Treasury they are managed by ALCO in segregated ALCO books.

Pension risk is a component of treasury risk and represents the risk of increased costs from offering post-employment benefit plans to our employees. Certain employees are eligible to participate in the HSBC North America qualified defined benefit pension plan which has been frozen. Plan assets were higher than projected plan liabilities resulting in an over-funded status of approximately \$229 million at December 31, 2022. Because these obligations relate to the HSBC North America pension plan, only a portion of any future deficit could be considered our responsibility. We and other HSBC North America affiliates with employees participating in this plan will be required to make up any shortfall over a number of years as specified under the Pension Protection Act. This can be accomplished through direct contributions, appreciation in plan assets and/or increases in market-driven discount rates resulting in lower liability valuations. See Note 22, "Pension and Other Postretirement Benefits," in the accompanying consolidated financial statements for further information concerning the HSBC North America defined benefit plan.

Market Risk Management Exposure to market risk is separated into two portfolios:

- Trading portfolios comprise positions arising from market-making and warehousing of client-derived positions.
- Non-trading portfolios comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities and financial investments classified as available-for-sale and held-to-maturity.

We apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures to optimize return on risk while maintaining a market profile consistent with our established risk appetite.

The nature of the hedging and risk mitigation strategies performed corresponds to the market risk management instruments available. These strategies range from the use of traditional market instruments, such as interest rate swaps, to more sophisticated hedging strategies to address a combination of risk factors arising at the portfolio level.

Market risk governance Market risk is managed and controlled through limits approved by the Risk Committee of the Board of Directors and the RMM, as well as the various businesses, and also ratified by the HSBC Group Risk Management Meeting. These limits are allocated across business lines and to the HSBC Group legal entities, including HSBC USA and HSBC Bank USA.

We have an independent market risk management and control function in North America which is responsible for setting the risk appetite, measuring market risk exposures in accordance with the policies defined by HSBC Group Risk, and monitoring and reporting these exposures against the prescribed limits on a daily basis.

Model risk is governed through model oversight committees at the regional and global levels. The Committees have direct oversight and approval responsibility for all traded risk models utilized for risk measurement and management and stress testing. They prioritize the development of models, methodologies and practices used for traded risk management and ensure that they remain within our risk appetite and business plans. We are committed to the ongoing development and enhancement of our in-house risk models subject to regulatory approval. Refer to "Model Risk Management" below for further discussion regarding the management and monitoring of model risk across North America.

Our control of market risk in the trading and non-trading portfolios is based on a policy of restricting operations to trading within a list of permissible instruments ultimately approved by HSBC Group Risk as well as enforcing new product approval procedures through a dedicated committee.

Market risk measures We use a range of tools to monitor and limit market risk exposures, including:

Sensitivity analysis Sensitivity analysis measures the impact of individual market factor movements on specific instruments or portfolios, for example the impact of a one basis point change in the yield curve. We use sensitivity analysis to monitor the market risk positions within each risk type. Sensitivity limits are set for portfolios, products and risk types, with the depth of the market being one of the principal factors in determining the level of limits set.

Value at risk ("VaR") VaR is a technique for estimating potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is integrated into market risk management and calculated for all trading positions regardless of how we capitalize them. In addition, we calculate VaR for non-trading portfolios to have a complete picture of risk. Where we do not calculate VaR explicitly, we use alternative tools as summarized in the 'Stress Testing' section below.

Our VaR models are predominantly based on historical simulation which incorporates the following features:

- historical market rates and prices are calculated with reference to foreign exchange rates, commodity prices, interest rates and the associated volatilities;
- potential market movements utilized for VaR are calculated with reference to data from the past two years;
- scenario profit and losses are calculated utilizing the market scenarios for all relevant risk factors; and
- VaR measures are calculated to a 99 percent confidence level and use a one-day holding period.

The models also incorporate the effect of option features on the underlying exposures. The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

Although a valuable guide to risk, VaR should always be viewed in the context of its limitations. For example:

- the use of historical data as a proxy for estimating future events may not encompass all potential events, particularly those which are extreme in nature;
- the use of a holding period assumes that all positions can be liquidated or the risks offset during that period, which may not fully reflect the market risk arising at times of severe illiquidity, when the holding period may be insufficient to liquidate or hedge all positions fully;
- the use of a 99 percent confidence level does not take into account losses that might occur beyond this level of confidence; and
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not necessarily reflect intra-day exposures.

The risks not in VaR ("RNIV") framework aims to capture and capitalize material market risks that are not adequately covered in the VaR model. Risk factors are reviewed on a regular basis and either incorporated directly in the VaR models, where possible, or quantified through the RNIV. RNIV stresses interest rate basis risk exposure and interest rate volatility skewness. RNIV risk-weighted assets make up approximately 10 percent of HUSI market risk risk-weighted assets, though contribution to total HUSI risk-weighted assets remains immaterial.

Stressed VaR Stressed VaR is primarily used for regulatory capital purposes and is integrated into the risk management process to facilitate efficient capital management. Stressed VaR complements other risk measures by providing severe potential losses associated with stressed market conditions. Stressed VaR modeling follows the same approach as VaR, except Stressed VaR calculates potential loss at a 99 percent confidence level for a one-day holding period based on a one year historical period that is calibrated to the most volatile period for the trading portfolio.

Stress testing Stress testing is an important procedure that is integrated into our market risk management framework to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such scenarios, losses can be much greater than those predicted by VaR modeling.

A set of scenarios is used consistently across the HSBC Group. Scenarios are tailored to capture the relevant potential events or market movements at each level. The risk appetite around potential stress losses is set and monitored against corresponding limits.

The process is governed by the Stress Testing Review Group forum which, in conjunction with regional risk management, determines the scenarios to be applied. Main scenario types are as follows:

- single risk factor stress scenarios that are unlikely to be captured within the VaR models, such as the break of a currency peg;
- technical scenarios that incorporate the largest move in each risk factor independent from any underlying market correlation;
- hypothetical scenarios are mainly built on potential macroeconomic events, for example, a worsening global energy crisis and the potential effects of a sovereign debt default, including its wider contagion effects, curves steepening or flattening scenarios; and
- historical scenarios which incorporate past observations of market movements during periods of stress which are not captured within VaR.

Market risk reverse stress tests are undertaken on the premise that there is a fixed loss. The stress testing process identifies which scenarios lead to this loss. The rationale behind the reverse stress test is to understand scenarios which are beyond normal business conditions and could have contagion and systemic implications.

Stressed VaR and stress testing, together with reverse stress testing, provide management with insights regarding the 'tail risk' beyond VaR, for which our appetite is limited.

Market risk in 2022 The global market environment was characterized by a slowdown in global economic growth, exasperated by China's strict COVID-19 policy and continued increases in inflation, which only began to show signs of moderation toward the end of the year following large and repeated interest rate hikes by the FRB and other central banks. During the year, there was an increase in market volatility driven by tightening of monetary policy in order to fight inflation. The Russia-Ukraine war and other geopolitical tensions also contributed to volatility in the markets for the year.

Trading VaR Trading VaR is generated principally from trading activities within the MSS segment of GBM. These include positions in foreign exchange, precious metals (i.e., gold, silver, platinum) and credit default swaps.

Trading VaR at December 31, 2022 was relatively flat as compared with December 31, 2021 as MSS continued to focus on customer facilitation and credit portfolio management.

The following graph summarizes daily VaR for our trading portfolios at a 99 percent confidence level (in millions):



The following table summarizes our trading VaR for 2022 and 2021:

	Credit Spread	Foreign Exchange and Commodity	Interest Rate	Portfolio Diversification ⁽¹⁾	Total ⁽²⁾
(in millions)					
At December 31, 2022	\$ —	\$ 4	\$ 6	\$ (2)	\$ 8
Full Year 2022					
Average	1	3	4	(3)	5
Maximum	7	9	7		9
Minimum	—	1	2		2
At December 31, 2021	\$ 5	\$ 3	\$ 5	\$ (4)	\$ 9
Full Year 2021					
Average	2	3	7	(4)	8
Maximum	9	6	10		12
Minimum	—	1	4		6

⁽¹⁾ Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types, for example, foreign exchange, interest rate and credit spread, together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occur on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.

⁽²⁾ The total VaR is non-additive across risk types due to diversification effects. For presentation purposes, portfolio diversification of the VaR for trading portfolios includes VaR-based risk-not-in-VaR.

Refer to "Treasury Risk Management" above for disclosure of our non-trading VaR.

Back-testing We routinely validate the accuracy of our VaR models by back-testing them against hypothetical profit and loss that excludes non-modeled items such as fees, commissions and revenues of intra-day transactions from the actual reported profit and loss. We would expect, under stable market conditions, to experience two or three losses in excess of VaR at the 99 percent confidence level over a one-year period. However, in periods of unstable market conditions, we could see an increase in the number of back-testing exceptions.

During 2022, we experienced seven loss back-testing exceptions. Six exceptions in the second quarter and one exception in the third quarter were due primarily to significant increases in market volatility driven by substantial volatility in interest rates and metals arising from inflationary pressures, changes in the FRB's stance on interest rate hikes and geopolitical conditions.

Given the heightened number of hypothetical loss back-testing exceptions in the second quarter of 2022, we have undertaken a review of our VaR model assumptions and updated risk parameters within the model. During the period, market risk exposures and actual reported losses remained within the entity's risk limits.

Stressed VaR The following table reflects stressed VaR at December 31, 2022 and 2021:

At December 31,	2022	2021
(in millions)		
Stressed VaR (1-day equivalent)	\$ 17	\$ 9

Stressed VaR at December 31, 2022 was higher as compared with December 31, 2021 driven by an increase of inventory in precious metals products.

Climate Risk Management Climate risk can materialize through physical risk, transition risk and climate-related greenwashing risk. Physical risk arises from the increased frequency and severity of weather events, such as hurricanes and floods, or chronic shifts in weather patterns. Transition risk arises from the process of moving to a low-carbon economy, including changes in government or public policy, technology and end-demand. Climate-related greenwashing risk is a thematic risk that arises from the act of knowingly or unknowingly misleading stakeholders regarding our strategy relating to climate, the climate impact/benefits of a product or service, or the climate commitments or performance of our customers.

A Climate Risk Working Group was established in 2022 to identify and escalate climate risk issues to the CRO, the RMM and to the Risk Committee of the Board of Directors. Climate risk management matters are governed principally through the RMM and the Risk Committee of the Board of Directors. The RMM has a standing agenda item for climate risk topics.

We have integrated climate risk into our existing risk taxonomy, and are incorporating it within the risk management framework through policies and controls for the existing risks where appropriate. Our climate risk approach is aligned to our risk management framework and Three LoD model, which sets out how we identify, assess, and manage our risks. This approach ensures the Board of Directors and senior management have visibility and oversight of our key climate risks.

Our dedicated climate risk program continues to support the development of our climate risk management capabilities. The key achievements in 2022 included:

- updating our climate risk management approach to cover all risk types in our risk taxonomy;
- expanding the scope of climate-related training for employees to cover additional topics, such as greenwashing risk, and increased the availability of training to the broader workforce; and
- developing new metrics to monitor climate risk exposure.

Climate risk should be considered part of the broader sustainability risks that also cover risks related to social and governance issues. The HSBC Group has specific sustainability risk policies covering: thermal coal phase-out, agricultural commodities, chemicals, defense, energy, forestry, mining and metals, UNESCO World Heritage Sites and Ramsar-designated wetlands. The HSBC Group also applies the Equator Principles when financing projects. In December 2022, the HSBC Group updated its Energy Policy, covering oil and gas, power and utilities, hydrogen, renewables, nuclear and biomass. The policy is a key mechanism to reduce the financed emissions of the HSBC Group's energy portfolio and help clients transition to low-carbon alternatives. The HSBC Group will continue to engage with clients, where relevant, and support them in an effort to adopt more sustainable practices. Our network of sustainability risk managers support the implementation of these policies. These sustainability risk managers are supported by reputational and sustainability risk professionals across the HSBC Group.

Resilience Risk Management Resilience risk arises from failures or inadequacies in processes, people, systems or external events. Operational resilience is our ability to anticipate, prevent, adapt, respond to, recover and learn from internal or external disruption, protecting customers, the markets we operate in and their economic stability. Resilience is measured by assessing whether we are able to continue to provide our most important services, within an agreed tolerance, during a severe but plausible event. We accept that we will not be able to prevent all disruption, but we prioritize investment to continuously improve our response and recovery capability for our most important business services.

The Operational and Resilience Risk sub-function provides robust non-financial risk steward oversight of our businesses, functions, and critical business services, supported by effective and timely independent challenge. It provides guidance and stewardship about how we can prevent, adapt, and learn from resilience-related threats when something goes wrong. The Operational and Resilience Risk target operating model provides a consistent view across resilience risks, strengthening our risk management oversight while operating effectively as part of a simplified non-financial risk structure. We view resilience risk across several risk types related to: failure to manage third parties, technology and cybersecurity, transaction processing, failure to protect people and places from physical malevolent acts, business interruption and incident risk, data risk, change execution risk, building unavailability, and workplace safety.

The operational and resilience risk structure simplifies interactions with our key stakeholders by providing specialist skill and a single channel of contact, and actively challenges the business and delivers clear, consistent and credible responses, ensuring controls are being operated and risks are being managed. We continue to prioritize our efforts on material risks and areas undergoing strategic growth. We deploy risk management oversight to the most material change programs across the organization and we ensure we have specialist risk teams in-place to provide expert oversight and guidance for highly technical areas of risk management. Operational and resilience risk matters are governed principally through the RMM and the Risk Committee of the Board of Directors.

Technology and cybersecurity risk The security of our information and technology infrastructure is crucial for maintaining our applications and processes while protecting our customers and the HSBC brand. In common with other financial institutions and multinational organizations, we face a growing threat of cyberattacks that continue to increase in sophistication. A failure of our defenses against such attacks could result in financial loss or the loss of customer data or other sensitive information which could undermine both our reputation and our ability to attract and retain our customers. As discussed above, cybersecurity risk is overseen by the Operational and Resilience Risk sub-function, with regular reporting of cyber risks to the RMM and the Board of Directors by both the First and Second LoD. We experienced cyberattacks in 2022, none of which resulted in material financial loss. We continue to mature our cyber intelligence capabilities as the cyber threat landscape evolves. These intelligence monitoring capabilities increase our agility and ability to respond with increased detection and response capabilities reducing potential exposure to cyber threats. Regulators have listed cybersecurity as one of their top concerns in 2022. Regulation continues to increase from multiple jurisdictions and perspectives, and is at times deployed without coordination with other regulators. HSBC is engaged with peer institutions and, in conjunction with them and the Cyber Risk Institute ("CRI"), developed a CRI Profile (previously known as a Financial Services Profile) which is recognized within the United States and globally. As part of this forum, we continue to meet with various U.S. regulators (e.g., the OCC, FRB, FDIC, Commodity Futures Trading Commission, New York State Department of Financial Services, etc.) and other financial

institutions to progress acceptance and utilization of the CRI Profile to address regulatory harmonization as it relates to cyber and information security. Cybersecurity will continue to be a strong focus of ongoing initiatives to strengthen the control environment and our readiness to respond in the event of an attack.

Regulatory Compliance Risk Management Regulatory compliance risk arises from the failure to observe relevant laws, codes, rules and regulations and can manifest itself in poor market or customer outcomes and lead to fines, penalties and reputational damage to our business. Regulatory compliance risk is measured by reference to identified metrics, key risk indicators, testing of controls by the three lines of defense, employee feedback, customer complaints and through regulatory feedback. Regulatory compliance risks are assessed through detailed assessments and reported to the RMM and the Risk Committee of the Board of Directors through the reporting of RAS metrics and the Regulatory Compliance Enterprise Risk Assessment report. Regulatory compliance risk is managed by establishing and communicating appropriate policies and procedures, training employees in regulatory requirements, establishing controls, and monitoring and testing controls to help ensure that the regulatory requirements are being adhered to. Proactive assessment and enhancement of controls is undertaken where required.

The Second LoD risk stewards provide independent, objective oversight and challenge and promote a compliance-oriented culture, supporting the businesses in delivering fair outcomes for customers, maintaining the integrity of financial markets and achieving our strategic objectives. Any actual or potential regulatory breaches require prompt identification and escalation to the Regulatory Compliance function or other applicable risk stewards. Any major breaches, gaps, issues and emerging risks are escalated to the RMM and the Risk Committee of the Board of Directors, as appropriate.

The Compliance function oversees the management of regulatory compliance risk for laws, codes, rules, regulations and standards that align under its scope of oversight as the Second LoD risk steward. As a Board of Directors committee, the Risk Committee oversees our compliance risk management program (both Regulatory Compliance and Financial Crime Risk) as well as fiduciary matters as discussed further below.

Fiduciary risk is a component of regulatory compliance risk and represents the risk of breaching fiduciary duties where we act in a fiduciary capacity as trustee, investment manager or as mandated by law or regulation. It is the risk associated with failing to offer services honestly and properly to clients in that capacity. Fiduciary risks reside in our WPB businesses (such as Investment Management, Personal Trust, Security Operation Services) and other business lines outside of WPB (such as Corporate Trust). The Risk Committee of the Board of Directors has oversight responsibility of the management of fiduciary risk. The Risk Committee has delegated day-to-day management and oversight responsibilities to management, whose primary oversight body for management of fiduciary activity is the Fiduciary Risk Management Meeting, chaired by the U.S. Head of Enterprise Compliance. The U.S. Head of Enterprise Compliance reports to the U.S. Chief Compliance Officer.

Financial Crime Risk Management Financial crime risk management is the framework in place to identify and deter potential illegal activity from occurring by, at, or through the HSBC Group. It is embedded in our day-to-day operations and culture.

The Financial Crime function ("FC") is led by the U.S. Head of Financial Crime, who reports to the U.S. Chief Compliance Officer. FC provides oversight to enable us to build on our achievements in managing financial crime risk effectively and to continue to strengthen financial crime detection, and anti-money laundering, sanctions, fraud, tax evasion and anti-bribery and corruption compliance. We use a Financial Crime Risk Management Information Dashboard, the RAS, risk map, and top and emerging risk process to monitor risk and performance indicators of financial crime, including trends and potential gaps in the management of financial crime risk that require attention. On an annual basis, we perform an enterprise-wide risk assessment of financial crime. Any major breaches, gaps, issues and emerging risks are escalated to the RMM and the Risk Committee of the Board of Directors, as appropriate.

Compliance continues to proactively identify, analyze and investigate financial crime risk and ensure proper mitigation of these risks. It embeds policies and procedures, introduces new technology solutions, and supports a culture of compliance needed to effectively manage financial crime risk.

Strategic Risk Management Strategic risk may be mitigated by consideration of the potential opportunities and challenges through the strategic planning process. This risk is also a function of the compatibility of our strategic goals, the business strategies developed to achieve those goals, the resources deployed against those goals and the quality of implementation.

We have established a strong internal control structure to minimize the impact of strategic risk to our earnings and capital. All changes in strategy as well as the process in which new strategies are implemented are subject to detailed reviews and approvals at business line, functional, regional, board and HSBC levels. This process is monitored by the Strategy and Planning function to ensure compliance with our policies and standards.

Reputational risk is a component of strategic risk and represents the risk arising from failure to meet stakeholder expectations as a result of any event, behavior, action or inaction, either by us, our employees, the HSBC Group or those with whom it is associated, that may cause stakeholders to form a negative view of us. Reputational risk relates to stakeholders' perceptions, whether based on fact or otherwise. Stakeholder expectations are constantly changing and thus, reputational risk is dynamic and will differ between geographies, groups and individuals. This might also result in financial or non-financial impacts, loss of

confidence or other consequences. The safeguarding of our reputation is of paramount importance to our continued prosperity and is the responsibility of every member of our staff. Reputational risk can arise from social, ethical or environmental issues, or as a consequence of operational and other risk events. Our good reputation depends upon the way in which we conduct our business, but can also be affected by the way in which customers to whom we provide financial services conduct themselves.

We tolerate a limited degree of reputational risk arising from business activities or association where foreseeable reputational risk has been escalated to the appropriate level of management, carefully considered and/or mitigated and is determined to fall to acceptable risk thresholds as defined by the HSBC Group risk appetite statement. Since reputational risk can arise from all aspects of operations and activities, all businesses and functions are required to articulate and track reputational risk.

Reputational risk is considered and assessed by the HSBC Group Executive Committee, the HSBC Group, and senior management. The Risk Committee of the Board of Directors reviews, with senior management, and as appropriate, approves guidelines and policies related to the process for assessing and managing risk topics, including reputational risk. These policies, which are an integral part of the internal control systems, are communicated through manuals and statements of policy, internal communication and training. The policies form the basis for operational procedures, as well as consideration of reputational risk in areas including money laundering deterrence, economic sanctions, environmental impact, anti-corruption measures, employee relations, inappropriate market conduct and breach of regulatory duty and requirements. In addition, we continue to review our internal control structure to minimize the risk of operational and financial failure and to ensure that a full appraisal of reputational risk is made before strategic decisions are taken.

The RMM provides governance and oversight of reputational risk. Additionally, each business reviews transactions and customers that may adversely affect our public perception via their RRCSC. The RRCSCs are chaired by a senior executive and comprise senior members from the business, risk, legal, financial crime and compliance departments and other invited parties. The RRCSCs are responsible for reviewing the individual merits and involved parties in higher-risk transactions, and approving or declining customer relationships and transactions based on the potential risks to us. In addition to the RRCSCs, the responsibility of the practical implementation of such policies and the compliance with the letter and spirit of them rests with our CEO and senior management of our businesses.

Model Risk Management In order to manage the risk of inappropriate or incorrect business decisions (e.g., customer conduct, financial crime, pricing, profit & loss and balance sheet and capital reporting, etc.) arising from the use of models that have been inadequately designed, implemented or used, or from models that do not perform in line with expectations and predictions, a comprehensive model risk management framework has been established that provides oversight and challenge to all models across HSBC North America. The framework includes a Model Risk Policy that aligns with model risk management regulations. A model inventory is maintained and updated. In addition, model risk appetite measures are used to manage and monitor model risk. Model risk is managed on an ongoing basis as part of a Model Risk Committee, which is chaired by the CRO with representation from businesses and functions. The Model Risk Management function is responsible for providing effective challenge to models and critical processes implemented for use within HSBC North America. Model risk controls that form the basis for model risk control assessments have been implemented for all of our businesses and functions and are being used to manage and mitigate model risk.

GLOSSARY OF TERMS

Basis point – A unit that is commonly used to calculate changes in interest rates. The relationship between percentage changes and basis points can be summarized as a 1 percent change equals a 100 basis point change or .01 percent change equals 1 basis point.

CDS – Credit Default Swap.

Contractual Delinquency – A method of determining aging of past due accounts based on the past due status of payments under the loan. Delinquency status may be affected by customer account management policies and practices such as the re-age of accounts or modification arrangements.

Delinquency Ratio – Two-months-and-over contractual delinquency expressed as a percentage of total loans at a given date.

Efficiency Ratio – Total operating expenses expressed as a percentage of the sum of net interest income and other revenues.

FRB – The Federal Reserve Board; our principal regulator.

Futures Contract – An exchange-traded contract to buy or sell a stated amount of a financial instrument or index at a specified future date and price.

Global Bank Note Program – A \$40 billion note program, under which HSBC Bank USA issues senior and subordinated debt.

Goodwill – The excess of purchase price over the fair value of identifiable net assets acquired, reduced by liabilities assumed in a business combination.

Group Reporting Basis – A measure of reporting results using financial information prepared on the basis of HSBC Group's accounting and reporting policies which apply International Financial Reporting Standards as issued by the International Accounting Standards Board.

HQLA – High Quality Liquid Assets; cash or assets that can be converted into cash quickly through sales (or by being pledged as collateral) with no significant loss of value.

Interest Rate Swap – Contract between two parties to exchange interest payments on a stated principal amount (notional principal) for a specified period. Typically, one party makes fixed rate payments, while the other party makes payments using a variable rate.

LIBOR – London Interbank Offered Rate.

Liquidity – A measure of how quickly we can convert assets to cash or raise additional cash by issuing debt.

Loan-to-Value ("LTV") Ratio – For first liens, the current loan balance expressed as a percentage of the current property value. For second liens, the current loan balance plus the senior lien amount at origination expressed as a percentage of the current property value.

Markets Treasury – Is responsible for managing our liquidity and funding. Markets Treasury also manages our structural interest rate position within a limit structure.

Net Charge-off Ratio – Net charge-offs of loans expressed as a percentage of average loans outstanding for a given period.

Net Interest Income – Interest income earned on interest-bearing assets less interest expense on deposits and borrowed funds.

Net Interest Margin – Net interest income expressed as a percentage of average interest earning assets for a given period.

Nonaccrual Loans – Loans on which we no longer accrue interest because ultimate collection is unlikely.

Nonperforming Ratio – Nonaccrual loans and accruing loans contractually 90 days or more past due expressed as a percentage of total loans at a given date.

OCC – The Office of the Comptroller of the Currency; the principal regulator for HSBC Bank USA.

Options – A contract giving the owner the right, but not the obligation, to buy or sell a specified item at a fixed price for a specified period.

Rate of Return on Common Equity – Net income (loss), reduced by preferred dividends, divided by average common equity for a given period.

Rate of Return on Tangible Common Equity - Net income (loss), reduced by preferred dividends, divided by average common equity less goodwill and intangible assets (purchased credit card relationships) for a given period.

Rate of Return on Total Assets – Net income (loss) divided by average total assets for a given period.

Rate of Return on Total Equity – Net income (loss) divided by average total equity for a given period.

Residential Mortgage Loan – Closed-end loans and revolving lines of credit secured by first or second liens on residential real estate. Depending on the type of residential mortgage, interest can either be fixed or adjustable.

SEC – The Securities and Exchange Commission.

SOFR – Secured Overnight Financing Rate.

TDR Loans – Troubled debt restructurings, which are loans for which the original contractual terms have been modified to provide for terms that are less than we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition.

Three Lines of Defense Model – This model delineates management accountabilities and responsibilities for risk management and the control environment. The model underpins our approach to risk management by clarifying responsibilities, encouraging collaboration, and enabling efficient coordination of risk and control activities.

Total Equity to Total Assets – Total equity expressed as a percentage of total assets as of a given date.

U.S. GAAP – Generally accepted accounting principles in the United States.

CONSOLIDATED AVERAGE BALANCES AND INTEREST RATES

The following table summarizes the year-to-date average daily balances of the principal components of assets, liabilities and equity together with their respective interest amounts and rates earned or paid. Net interest margin is calculated by dividing net interest income by the average interest earning assets from which interest income is earned. Loan interest for the years ended December 31, 2022, 2021 and 2020 included fees of \$38 million, \$88 million and \$79 million, respectively.

Year Ended December 31,	2022			2021			2020		
	Average Balance	Interest	Rate	Average Balance	Interest	Rate	Average Balance	Interest	Rate
	(dollars are in millions)								
Assets:									
Interest bearing deposits with banks	\$ 41,892	\$ 515	1.23 %	\$ 50,787	\$ 68	.13 %	\$ 21,807	\$ 74	.34 %
Federal funds sold and securities purchased under resale agreements	4,967	188	3.78	7,958	13	.16	16,046	69	.43
Trading securities	14,556	219	1.50	18,518	225	1.22	21,237	288	1.36
Securities	36,873	800	2.17	42,736	641	1.50	51,882	897	1.73
Loans:									
Commercial	43,732	1,590	3.64	40,677	1,048	2.58	50,463	1,484	2.94
Consumer:									
Residential mortgages	16,877	497	2.94	18,582	543	2.92	18,326	592	3.23
Home equity mortgages	389	15	3.86	658	18	2.74	788	24	3.05
Credit cards	227	19	8.37	803	77	9.59	1,197	77	6.43
Other consumer	164	9	5.49	277	19	6.86	281	25	8.90
Total consumer	17,657	540	3.06	20,320	657	3.23	20,592	718	3.49
Total loans	61,389	2,130	3.47	60,997	1,705	2.80	71,055	2,202	3.10
Other	2,423	53	2.19	2,535	23	.91	5,175	42	.81
Total interest earning assets	\$ 162,100	\$ 3,905	2.41 %	\$ 183,531	\$ 2,675	1.46 %	\$ 187,202	\$ 3,572	1.91 %
Allowance for credit losses	(500)			(699)			(932)		
Cash and due from banks	950			1,198			1,172		
Other assets	11,375			12,424			13,956		
Total assets	\$ 173,925			\$ 196,454			\$ 201,398		
Liabilities and Equity:									
Domestic deposits:									
Savings deposits	\$ 55,036	\$ 381	.69 %	\$ 65,316	\$ 104	.16 %	\$ 62,218	\$ 266	.43 %
Time deposits	10,961	308	2.81	12,729	93	.73	26,485	377	1.42
Other interest bearing deposits	20,671	381	1.84	20,571	58	.28	19,850	103	.52
Foreign deposits	6,163	64	1.04	6,102	2	.03	5,503	9	.16
Deposits held for sale	971	2	.21	4,606	10	.21	—	—	—
Total interest bearing deposits	93,802	1,136	1.21	109,324	267	.24	114,056	755	.66
Short-term borrowings:									
Securities sold under repurchase agreements	1,600	76	4.75	1,739	2	.12	4,768	33	.70
Commercial paper	4,313	84	1.95	3,274	13	.40	2,930	32	1.09
Other short-term borrowings	325	5	1.54	264	3	1.14	435	4	.92
Total short-term borrowings	6,238	165	2.65	5,277	18	.34	8,133	69	.85
Long-term debt	16,270	505	3.10	18,897	296	1.57	23,407	558	2.38
Total interest bearing debt	116,310	1,806	1.55	133,498	581	.44	145,596	1,382	.95
Tax liabilities and other	1,159	30	2.59	885	11	1.24	678	16	2.36
Total interest bearing liabilities	\$ 117,469	\$ 1,836	1.56 %	\$ 134,383	\$ 592	.44 %	\$ 146,274	\$ 1,398	.96 %
Net interest income/Interest rate spread		\$ 2,069	.85 %		\$ 2,083	1.02 %		\$ 2,174	.95 %
Noninterest bearing deposits	35,128			38,147			28,881		
Other liabilities	5,977			5,763			7,904		
Total equity	15,351			18,161			18,339		
Total liabilities and equity	\$ 173,925			\$ 196,454			\$ 201,398		
Net interest margin on average earning assets			1.28 %			1.13 %			1.16 %

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Information required by this Item is included within Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in the Risk Management section under the captions "Treasury Risk Management - Interest Rate Risk" and "Market Risk Management."

Item 8. Financial Statements and Supplementary Data

Our 2022 Financial Statements meet the requirements of Regulation S-X. The 2022 Financial Statements and supplementary financial information specified by Item 302 of Regulation S-K are set forth below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholder of HSBC USA Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of HSBC USA Inc. and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of income (loss), of comprehensive income (loss), of changes in equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for credit losses on certain financial instruments in 2020.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Allowance for Credit Losses for Commercial Loans and the Liability for Off-Balance Sheet Credit Exposures

As described in Notes 2 and 8 to the consolidated financial statements, the Company's Allowance for Credit Losses for Commercial Loans and the Liability for Off-Balance Sheet Credit Exposures is recognized based on lifetime expected credit losses and amounted to \$551 million and \$117 million, respectively, as of December 31, 2022. The recognition and measurement of lifetime expected credit losses for commercial loans and off-balance sheet exposures is highly complex and involves the use of significant judgment and estimation by management, including the assignment of credit ratings, the application of forward economic guidance and the determination of a management judgment allowance. In assigning the credit ratings to a particular obligor, among the risk factors considered by management are the obligor's debt capacity and financial position, the level of earnings, the amount and sources of repayment, the level of contingencies, management strength and the industry or geography in which the obligor operates. In addition, multiple forward-looking economic scenarios are formulated and assigned a weighting in the application of forward economic guidance to reflect assumptions about future economic conditions, supplemented by the use of management judgment, which may result in using alternative or additional economic scenarios and/or management adjustments. Lastly, the management judgment allowance reflects management's judgment of risk factors that may not be fully reflected in the lifetime expected credit loss generated by management's models.

The principal considerations for our determination that performing procedures relating to the Allowance for Credit Losses for Commercial Loans and the Liability for Off-Balance Sheet Credit Exposures is a critical audit matter are (i) the significant judgment by management in estimating lifetime expected credit losses, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence relating to the credit ratings for obligors, application of forward economic guidance and management judgment allowance, and (ii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Company's process for estimating the Allowance for Credit Losses for Commercial Loans and the Liability for Off-Balance Sheet Credit Exposures, including controls over the credit ratings, application of forward economic guidance and management judgment allowance. These procedures also included, among others, testing management's process for estimating lifetime expected credit losses on commercial loans and off-balance sheet exposures, which included (i) evaluating the appropriateness of management's methodology; (ii) testing certain data utilized in the estimate; and (iii) evaluating the reasonableness of the credit ratings for obligors, application of forward economic guidance and management judgment allowance, which also involved the use of professionals with specialized skill and knowledge to assist in performing these procedures to test management's process.

/s/ PricewaterhouseCoopers LLP
New York, New York
February 21, 2023

We have served as the Company's auditor since 2015.

CONSOLIDATED STATEMENT OF INCOME (LOSS)

Year Ended December 31,	2022	2021	2020
	(in millions)		
Interest income:			
Loans	\$ 2,130	\$ 1,705	\$ 2,202
Securities	800	641	897
Trading securities	219	225	288
Short-term investments	703	81	143
Other	53	23	42
Total interest income	3,905	2,675	3,572
Interest expense:			
Deposits	1,136	267	755
Short-term borrowings	165	18	69
Long-term debt	505	296	558
Other	30	11	16
Total interest expense	1,836	592	1,398
Net interest income	2,069	2,083	2,174
Provision for credit losses	154	(570)	810
Net interest income after provision for credit losses	1,915	2,653	1,364
Other revenues:			
Credit card fees, net	45	37	38
Trust and investment management fees	136	108	132
Other fees and commissions	619	652	567
Trading revenue	517	24	273
Other securities gains, net	26	73	137
Servicing and other fees from HSBC affiliates	343	321	347
Gain (loss) on instruments designated at fair value and related derivatives	(50)	35	34
Gain on sale of branch disposal group, net	113	—	—
Other income (loss)	(154)	(13)	7
Total other revenues	1,595	1,237	1,535
Operating expenses:			
Salaries and employee benefits	591	665	767
Support services from HSBC affiliates	1,762	1,620	1,551
Occupancy expense, net	66	248	281
Goodwill impairment	—	—	784
Other expenses	366	445	498
Total operating expenses	2,785	2,978	3,881
Income (loss) before income tax	725	912	(982)
Income tax expense (benefit)	177	224	(42)
Net income (loss)	\$ 548	\$ 688	\$ (940)

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

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS)

Year Ended December 31,	2022	2021	2020
	(in millions)		
<i>Net income (loss)</i>	\$ 548	\$ 688	\$ (940)
Net change in unrealized gains (losses), net of tax:			
Investment securities	(2,205)	(815)	864
Fair value option liabilities attributable to our own credit spread	59	12	24
Derivatives designated as cash flow hedges	(258)	(59)	72
Pension and post-retirement benefit plans	8	4	(4)
<i>Total other comprehensive income (loss)</i>	<u>(2,396)</u>	<u>(858)</u>	<u>956</u>
<i>Comprehensive income (loss)</i>	<u>\$ (1,848)</u>	<u>\$ (170)</u>	<u>\$ 16</u>

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

CONSOLIDATED BALANCE SHEET

At December 31,	2022	2021
	(in millions, except share data)	
<i>Assets⁽¹⁾</i>		
Cash and due from banks	\$ 1,004	\$ 954
Interest bearing deposits with banks	17,744	47,400
Federal funds sold and securities purchased under agreements to resell	23,085	10,514
Trading assets (includes \$1.3 billion and \$1.7 billion pledged to creditors at December 31, 2022 and 2021, respectively)	21,730	24,043
Securities available-for-sale (includes amortized cost of \$30.3 billion and \$35.4 billion at December 31, 2022 and 2021, respectively, an allowance for credit losses of nil and \$1 million at December 31, 2022 and 2021, respectively, and \$0.1 billion and \$2.4 billion pledged to creditors at December 31, 2022 and 2021, respectively)	27,345	35,298
Securities held-to-maturity, net of allowance for credit losses of nil and \$1 million at December 31, 2022 and 2021, respectively (fair value of \$6.9 billion and \$5.4 billion at December 31, 2022 and 2021, respectively)	7,317	5,203
Loans (includes \$20 million and nil designated under fair value option at December 31, 2022 and 2021, respectively)	59,380	55,864
Less – allowance for credit losses	584	447
Loans, net	58,796	55,417
Loans held for sale (includes \$237 million and \$48 million designated under fair value option at December 31, 2022 and 2021, respectively, and \$2,441 million related to branch disposal group held for sale at December 31, 2021)	354	4,217
Properties and equipment, net	68	40
Goodwill	458	458
Other branch related assets held for sale	—	249
Other assets, net of allowance for credit losses of nil and \$1 million at December 31, 2022 and 2021, respectively (includes \$325 million and nil designated under fair value option at December 31, 2022 and 2021, respectively)	6,754	5,439
Total assets	\$ 164,655	\$ 189,232
<i>Liabilities⁽¹⁾</i>		
Debt:		
Domestic deposits:		
Noninterest bearing	\$ 29,660	\$ 40,333
Interest bearing (includes \$1.6 billion and \$2.7 billion designated under fair value option at December 31, 2022 and 2021, respectively)	86,469	89,122
Foreign deposits - interest bearing	7,094	4,827
Deposits held for sale	—	8,750
Total deposits	123,223	143,032
Short-term borrowings	5,945	6,338
Long-term debt (includes \$8.4 billion and \$8.9 billion designated under fair value option at December 31, 2022 and 2021, respectively)	17,591	17,236
Total debt	146,759	166,606
Trading liabilities	2,803	3,023
Other branch related liabilities held for sale	—	152
Interest, taxes and other liabilities (includes \$325 million and nil designated under fair value option at December 31, 2022 and 2021, respectively)	2,980	2,411
Total liabilities	152,542	172,192
<i>Equity</i>		
Preferred stock (no par value; 40,999,000 shares authorized; 265 and 1,265 shares issued and outstanding at December 31, 2022 and 2021, respectively)	265	1,265
Common equity:		
Common stock (\$5 par value; 150,000,000 shares authorized; 714 shares issued and outstanding at both December 31, 2022 and 2021)	—	—
Additional paid-in capital	12,740	14,742
Retained earnings	1,683	1,212
Accumulated other comprehensive loss	(2,575)	(179)
Total common equity	11,848	15,775
Total equity	12,113	17,040
Total liabilities and equity	\$ 164,655	\$ 189,232

⁽¹⁾ The following table summarizes assets and liabilities related to our consolidated variable interest entities ("VIEs") at December 31, 2022 and 2021. Assets and liabilities exclude intercompany balances that eliminate in consolidation. See Note 27, "Variable Interest Entities," for additional information.

At December 31,	2022	2021
	(in millions)	
Assets		
Loans	\$ 162	\$ 46
Other assets	44	55
Total assets	<u>\$ 206</u>	<u>\$ 101</u>
Liabilities		
Interest, taxes and other liabilities	\$ 22	\$ 9
Total liabilities	<u>\$ 22</u>	<u>\$ 9</u>

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

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Year Ended December 31,	2022	2021	2020
	(in millions, except share data)		
Preferred stock			
Balance at beginning of period	\$ 1,265	\$ 1,265	\$ 1,265
Preferred stock redemption	(1,000)	—	—
Balance at end of period	<u>265</u>	<u>1,265</u>	<u>1,265</u>
Common stock			
Balance at beginning and end of period	—	—	—
Additional paid-in capital			
Balance at beginning of period	14,742	15,746	15,736
Return of capital to parent	(2,000)	(1,000)	—
Employee benefit plans	(2)	(4)	10
Balance at end of period	<u>12,740</u>	<u>14,742</u>	<u>15,746</u>
Retained earnings			
Balance at beginning of period	1,212	601	1,534
Cumulative effect adjustment to initially apply new accounting guidance for measuring credit losses on financial assets measured at amortized cost, net of tax	—	—	84
Cumulative effect adjustment to initially apply fair value option accounting election, as permitted under new accounting guidance, to certain student loans held for investment, net of tax	—	—	2
Reclassification from accumulated other comprehensive income (loss) of cumulative effect adjustment to initially apply new accounting guidance for measuring credit losses on securities available-for-sale, net of tax	—	—	(2)
Balance at beginning of period, adjusted	<u>1,212</u>	<u>601</u>	<u>1,618</u>
Net income (loss)	548	688	(940)
Cash dividends declared on preferred stock	(77)	(77)	(77)
Balance at end of period	<u>1,683</u>	<u>1,212</u>	<u>601</u>
Accumulated other comprehensive income (loss)			
Balance at beginning of period	(179)	679	(279)
Reclassification to retained earnings of cumulative effect adjustment to initially apply new accounting guidance for measuring credit losses on securities available-for-sale, net of tax	—	—	2
Balance at beginning of period, adjusted	<u>(179)</u>	<u>679</u>	<u>(277)</u>
Other comprehensive income (loss), net of tax	(2,396)	(858)	956
Balance at end of period	<u>(2,575)</u>	<u>(179)</u>	<u>679</u>
Total common equity	<u>11,848</u>	<u>15,775</u>	<u>17,026</u>
Total equity	<u>\$ 12,113</u>	<u>\$ 17,040</u>	<u>\$ 18,291</u>
Shares of preferred stock			
Number of shares at beginning of period	1,265	1,265	1,265
Number of shares of preferred stock redeemed	(1,000)	—	—
Number of shares at end of period	<u>265</u>	<u>1,265</u>	<u>1,265</u>
Shares of common stock			
Number of shares at beginning and end of period	714	714	714

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

CONSOLIDATED STATEMENT OF CASH FLOWS

Year Ended December 31,	2022	2021	2020
	(in millions)		
<i>Cash flows from operating activities</i>			
Net income (loss)	\$ 548	\$ 688	\$ (940)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	112	262	304
Goodwill impairment	—	—	784
Gain on sale of branch disposal group, net	(113)	—	—
Provision for credit losses	154	(570)	810
Deferred income tax provision	284	340	25
Net realized gains on securities available-for-sale	(26)	(73)	(137)
Net change in other assets and liabilities	(1,044)	172	(839)
Net change in loans held for sale:			
Originations and purchases of loans held for sale	(1,932)	(2,544)	(3,044)
Sales and collections of loans held for sale	1,791	2,699	3,001
Net change in trading assets and liabilities	2,093	867	3,330
Lower of amortized cost or fair value adjustments on loans held for sale	19	14	22
Loss (gain) on instruments designated at fair value and related derivatives	50	(35)	(34)
Net cash provided by operating activities	<u>1,936</u>	<u>1,820</u>	<u>3,282</u>
<i>Cash flows from investing activities</i>			
Net change in federal funds sold and securities purchased under agreements to resell	(12,571)	25,232	(17,908)
Securities available-for-sale:			
Purchases of securities available-for-sale	(4,997)	(18,501)	(25,165)
Proceeds from sales of securities available-for-sale	1,812	10,324	11,857
Proceeds from paydowns and maturities of securities available-for-sale	5,992	12,030	10,190
Securities held-to-maturity:			
Purchases of securities held-to-maturity	(3,585)	—	(515)
Proceeds from sales of securities held-to-maturity	—	—	340
Proceeds from paydowns and maturities of securities held-to-maturity	1,460	3,747	4,415
Change in loans:			
Originations, net of collections	(3,205)	(618)	5,312
Loans sold to third parties	1,476	2,758	916
Net cash provided by (used for) sales (acquisitions) of properties and equipment	(42)	(3)	1
Net outflow related to the sale of branch disposal group	(4,619)	—	—
Other, net	(17)	103	(248)
Net cash provided by (used in) investing activities	<u>(18,296)</u>	<u>35,072</u>	<u>(10,805)</u>
<i>Cash flows from financing activities</i>			
Net change in deposits	(12,534)	(2,107)	20,110
Debt:			
Net change in short-term borrowings	(393)	1,386	1,293
Issuance of long-term debt	5,931	7,711	8,487
Repayment of long-term debt	(3,229)	(10,044)	(10,427)
Preferred stock redemption	(1,000)	—	—
Return of capital to parent	(2,000)	(1,000)	—
Other increases (decreases) in capital surplus	(2)	(4)	10
Preferred dividends paid	(77)	(77)	(77)
Net cash provided by (used in) financing activities	<u>(13,304)</u>	<u>(4,135)</u>	<u>19,396</u>
Net change in cash and due from banks and interest bearing deposits with banks	<u>(29,664)</u>	<u>32,757</u>	<u>11,873</u>
Cash and due from banks and interest bearing deposits with banks at beginning of period ⁽¹⁾	<u>48,412</u>	<u>15,655</u>	<u>3,782</u>
<i>Cash and due from banks and interest bearing deposits with banks at end of period⁽¹⁾</i>	<u>\$ 18,748</u>	<u>\$ 48,412</u>	<u>\$ 15,655</u>

CONSOLIDATED STATEMENT OF CASH FLOWS (Continued)

Year Ended December 31,	2022	2021	2020
	(in millions)		
<i>Supplemental disclosure of cash flow information</i>			
Interest paid during the period	\$ 1,660	\$ 606	\$ 1,518
Net income taxes paid (refunded) during the period	(122)	(52)	50
<i>Supplemental disclosure of non-cash investing activities</i>			
Transfer of loans to (from) held for sale, net	(29)	6,982	1,030
Fair value of properties added to real estate owned upon foreclosure	1	—	2
<i>Supplemental disclosure of non-cash financing activities</i>			
Recharacterization of long-term debt to time deposits	—	—	5,000

⁽¹⁾ Included \$58 million of cash which was reported in other branch related assets held for sale on the consolidated balance sheet at December 31, 2021.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note	Page	Note	Page
1	Organization	17	Fair Value Option
2	Summary of Significant Accounting Policies and New Accounting Pronouncements	18	Income Taxes
3	Strategic Initiatives	19	Preferred Stock
4	Branch Assets and Liabilities Held for Sale	20	Accumulated Other Comprehensive Income (Loss)
5	Trading Assets and Liabilities	21	Share-Based Plans
6	Securities	22	Pension and Other Postretirement Benefits
7	Loans	23	Fee Income from Contracts with Customers
8	Allowance for Credit Losses	24	Related Party Transactions
9	Loans Held for Sale	25	Business Segments
10	Properties and Equipment, Net	26	Retained Earnings and Regulatory Capital Requirements
11	Goodwill	27	Variable Interest Entities
12	Leases	28	Guarantee Arrangements, Pledged Assets and Repurchase Agreements
13	Deposits	29	Fair Value Measurements
14	Short-Term Borrowings	30	Litigation and Regulatory Matters
15	Long-Term Debt	31	Financial Statements of HSBC USA Inc. (Parent)
16	Derivative Financial Instruments		

1. Organization

HSBC USA Inc. ("HSBC USA"), incorporated under the laws of Maryland, is a New York State based bank holding company and a wholly-owned subsidiary of HSBC North America Holdings Inc. ("HSBC North America"), which is an indirect wholly-owned subsidiary of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group"). HSBC USA (together with its subsidiaries, "HUSI") may also be referred to in these notes to the consolidated financial statements as "we," "us" or "our."

Through our subsidiaries, we offer a wide range of commercial and consumer banking products and related financial services. HSBC Bank USA, National Association (together with its subsidiaries, "HSBC Bank USA"), our principal U.S. banking subsidiary, is a national banking association with branch offices and representative offices across the United States. HSBC Bank USA is also an international dealer in derivative instruments denominated in U.S. dollars and other currencies, focusing on structuring transactions to meet clients' needs.

2. Summary of Significant Accounting Policies and New Accounting Pronouncements

Significant Accounting Policies

Basis of Presentation The consolidated financial statements include the accounts of HSBC USA and all subsidiaries in which we hold, directly or indirectly, more than 50 percent of the voting rights, or where we exercise control, including all variable interest entities ("VIEs") in which we are the primary beneficiary. Investments in companies where we have significant influence over operating and financing decisions, which primarily are those where the percentage of ownership is at least 20 percent but not more than 50 percent, are accounted for under the equity method and reported as equity method investments in other assets. All significant intercompany accounts and transactions have been eliminated.

We assess whether an entity is a VIE and, if so, whether we are its primary beneficiary at the time of initial involvement with the entity and on an ongoing basis. A VIE is an entity in which the equity investment at risk is not sufficient to finance the entity's activities without additional subordinated financial support, or as a group, the holders of equity investment at risk lack either a) the power through voting rights or similar rights to direct the activities of the entity that most significantly impacts the entity's economic performance; or b) the obligation to absorb the entity's expected losses, the right to receive the expected

residual returns, or both. A VIE must be consolidated by its primary beneficiary, which is the entity with the power to direct the activities of a VIE that most significantly impact its economic performance and the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates. Areas which we consider to be critical accounting estimates and require a high degree of judgment and complexity include allowance for credit losses, valuation of financial instruments and deferred tax asset valuation allowances.

Cash and Cash Equivalents For the purpose of reporting cash flows, cash and cash equivalents include both cash and due from banks and interest bearing deposits with banks, which are inclusive of restricted cash, if any.

Resale and Repurchase Agreements We enter into purchases and borrowings of securities under agreements to resell (resale agreements) and sales of securities under agreements to repurchase (repurchase agreements) substantially identical securities. Resale and repurchase agreements are accounted for as secured lending and secured borrowing transactions, respectively.

The amounts advanced under resale agreements and the amounts borrowed under repurchase agreements are carried on the consolidated balance sheet at the amount advanced or borrowed. Interest earned on resale agreements is reported as interest income. Interest paid on repurchase agreements is reported as interest expense. We offset resale and repurchase agreements executed with the same counterparty under legally enforceable netting agreements that meet the applicable netting criteria as permitted by generally accepted accounting principles.

Repurchase agreements may require us to deposit cash or other collateral with the lender. In connection with resale agreements, it is our policy to obtain possession of collateral, which may include the securities purchased, with market value in excess of the principal amount loaned. The market value of the collateral subject to the resale and repurchase agreements is regularly monitored, and additional collateral is obtained or provided when appropriate, to ensure appropriate collateral coverage of these secured financing transactions.

Trading Assets and Liabilities Financial instruments utilized in trading activities are stated at fair value. Fair value is generally based on quoted market prices. If quoted market prices are not available, fair values are estimated based on dealer quotes, pricing models, using observable inputs where available or quoted prices for instruments with similar characteristics. Where applicable, fair value is determined by reference to quotes provided by multiple independent pricing services. Fair value determined by internal pricing models is regularly substantiated by the price level executed in the market and the internal pricing models used are periodically validated by an internal Model Risk Management function. Realized and unrealized gains and losses are recognized in trading revenue.

Securities Securities acquired principally for the purpose of selling them in the near term are classified as trading assets and reported at fair value. Fair value adjustments to trading securities and gains and losses on the sale of such securities are reported in trading revenue.

Debt securities that we have the ability and intent to hold to maturity are reported at cost adjusted for amortization of premiums and accretion of discounts, which are recognized as adjustments to yield over the contractual lives of the related securities. Premiums for non-contingently callable debt securities are amortized to the earliest call date, rather than the contractual maturity date.

All other debt securities are classified as available-for-sale ("AFS") and carried at fair value, with unrealized gains and losses, net of related income taxes, recorded as adjustments to common equity as a component of accumulated other comprehensive loss.

Accrued interest receivables for securities available-for-sale and securities held-to-maturity are reported net of any related allowance for credit losses in other assets on the consolidated balance sheet. Realized gains and losses on sales of securities available-for-sale are computed on a specific identified cost basis and are reported in other securities gains, net.

An allowance for credit losses is recognized for debt securities, with changes in the allowance recorded in earnings. See under the heading "Allowance for credit losses" below for further discussion of our policies for establishing an allowance for credit losses on debt securities.

Equity securities that are not classified as trading are reported in other assets and measured at fair value with changes in fair value recognized in other income (loss). Equity securities that are not considered to have readily determinable fair values are carried at amortized cost, less impairment, adjusted for observable price changes.

Investments in Federal Home Loan Bank stock and Federal Reserve Bank stock are recorded at cost less impairment.

Loans Loans are carried at amortized cost, with the exception of certain student loans for which the fair value option was elected and are further discussed in Note 17, "Fair Value Option." Amortized cost represents the principal amount outstanding,

net of unearned income, charge-offs, unamortized purchase premium or discount, and unamortized nonrefundable fees and related direct loan origination costs. The carrying amount of loans represents their amortized cost reduced by the allowance for credit losses. See under the heading "Allowance for Credit Losses" below for further discussion of our policies for establishing an allowance for credit losses on loans.

Premiums and discounts are recognized as adjustments to yield over the estimated or contractual lives of the related loans. Interest income is recorded based on the effective interest method. Accrued interest receivables for loans are reported net of any related allowance for credit losses in other assets on the consolidated balance sheet. For credit card receivables, accrued interest is recognized in the loan balance as it is billed, with the related allowance recorded in the allowance for credit losses on loans.

Nonrefundable fees and related direct costs associated with the origination of loans are deferred and netted against outstanding loan balances. The amortization of net deferred fees, which include points on real estate secured loans and costs, is recognized in interest income, generally by the effective interest method, based on the estimated or contractual lives of the related loans. Amortization periods are periodically adjusted for estimated loan prepayments. Annual fees on credit cards, net of direct lending costs, are deferred and amortized on a straight-line basis over one year.

Nonrefundable fees related to lending activities other than direct loan origination are recognized in other revenues over the period in which the related service is provided. This includes fees associated with loan commitments, revolving credit facilities, standby letters of credit, loan syndication and other transaction based fees. Loan syndication fees received for managing a syndication and other transaction based fees are recognized at the point in time the transaction occurs. Fees associated with loan commitments, revolving credit facilities and standby letters of credit are recognized on a straight-line basis over the period the service is performed. In the event a loan commitment or standby letter of credit is exercised, the remaining unamortized fee is recognized as an adjustment to yield over the loan term. For additional information, as well as a full discussion of how revenue associated with all of our various fee-based activities is recognized, see Note 23, "Fee Income from Contracts with Customers."

Troubled debt restructurings ("TDR Loans") represent loans for which the original contractual terms have been modified to provide for terms that are less than we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition. Interest on TDR Loans is recognized when collection is reasonably assured. For commercial nonaccrual TDR Loans, the resumption of interest accrual generally occurs when the borrower has complied with the modified payment terms and conditions for twelve months while maintaining compliance with other terms and conditions of that specific restructuring. For consumer nonaccrual TDR Loans, interest accruals are resumed when the loan becomes current or becomes less than 90 days delinquent and six months of consecutive payments have been made. Modifications resulting in TDR Loans may include changes to one or more terms of the loan, including but not limited to, a change in interest rate, an extension of the amortization period, a reduction in payment amount and partial forgiveness or deferment of principal, accrued interest or other loan covenants. For reserving purposes, we also identify loans that we reasonably expect to become TDR Loans. See under the heading "Allowance for Credit Losses" below for further discussion.

Allowance for Credit Losses An allowance for credit losses is recognized based on lifetime expected credit losses ("ECL") for loans, securities held-to-maturity and certain other financial assets measured at amortized cost, and an allowance for credit losses is also recognized for securities available-for-sale. In addition, a liability for off-balance sheet credit exposures is recognized based on lifetime ECL. Expected recoveries of amounts previously written off, limited to the cumulative amount of prior write-offs, are also considered when estimating the allowance for credit losses for in scope financial assets (including collateral-dependent assets). Prior to January 1, 2020, an allowance for credit losses was recognized based on probable incurred losses for loans only while debt securities were assessed for other-than-temporary impairment. In addition, prior to January 1, 2020, the liability for off-balance sheet credit exposures was recognized based on probable incurred losses and expected recoveries of amounts previously written off were not recognized.

We maintain an allowance for credit losses that is, in the judgment of management, adequate to absorb estimated lifetime ECL for loans and other financial assets measured at amortized cost. The adequacy of the allowance for credit losses is assessed in accordance with generally accepted accounting principles and is based, in part, upon an evaluation of various factors including:

- an analysis of individual exposures where applicable;
- current and historical loss experience;
- changes in the overall size and composition of the portfolio;
- specific adverse situations; and
- general and forecasted economic conditions.

Allowance for credit loss estimates are reviewed periodically and adjustments are recognized in the provision for credit losses during the period they become known. Because our estimates of the allowance for credit losses involve management judgment and are influenced by factors outside of our control, there is uncertainty inherent in these estimates.

Measurement of ECL Estimates The recognition and measurement of lifetime ECL is highly complex and involves the use of significant judgment and estimation. Multiple forward-looking economic forecasts are formulated and incorporated into the lifetime ECL calculations when estimating the allowance for credit losses for in scope financial assets and the liability for off-balance sheet credit exposures as discussed below under *Calculation of Lifetime ECL*. We utilize a standard framework to form economic scenarios to reflect assumptions about future economic conditions supplemented by the use of management judgment, which may result in using alternative or additional economic scenarios and/or management adjustments.

Methodology We utilize a minimum of four forward-looking economic scenarios, representative of management's view of forecasted economic conditions, sufficient to calculate unbiased expected loss in most economic environments. Three of the scenarios are termed the "Consensus Economic Scenarios" and they represent a 'most likely outcome' (the "Central scenario") and two less likely 'outer' scenarios, referred to as the "Upside scenario" and the "Downside scenario." The fourth scenario, referred to as the "Alternative Downside scenario," is designed to consider severe downside risks with more extreme economic outcomes. Each scenario is assigned a weighting deemed appropriate for the estimation of lifetime ECL, with the majority of the weighting typically placed on the Central scenario. At management's discretion, changes may be made to the weighting assigned to the four scenarios or additional scenarios may be included in order to consider current economic conditions. See Note 8, "Allowance for Credit Losses," for further discussion. Key Central scenario assumptions as further discussed below are set using the average of forecasts of external economists, helping to ensure the scenarios are unbiased and maximize the use of independent information, except when in management's judgment these scenarios may not adequately reflect the impact of recent events and it is believed not to be representative of the current economic environment. We have determined that two years is a reasonable and supportable forecast period for the scenarios. At the end of the two year reasonable and supportable forecast period, assumption variables revert to their 20-year average of historical values on a linear basis over a three-year reversion period.

For the Central scenario, we set key assumptions such as Gross Domestic Product ("GDP") growth, inflation, unemployment, house price growth, U.S. Treasury yields, equity price growth, short-term interest rates and oil price using either the average of external forecasts (commonly referred to as consensus forecasts) or market implied rates. An external provider's model, conditioned to follow the consensus forecasts for the above key assumption variables, projects the remaining variable paths required as inputs to credit models. This external provider is subject to our risk governance framework, including oversight by an internal Model Risk Management function.

The Upside and Downside scenarios are designed to be cyclical and are constructed following a standard process supported by a scenario narrative reflecting our top and emerging economic risks and by consulting external and internal subject matter experts. We determine the maximum divergence of GDP growth from the Central scenario using the 10th and the 90th percentile of the entire distribution of consensus forecast outcomes. Using externally available forecast distributions ensures independence in scenario construction. The Alternative Downside scenario is constructed to represent management's view of severe downside risks. It is supported by a scenario narrative that explores more extreme economic outcomes than those captured by the Consensus Economic Scenarios. Key economic variables in the Upside, Downside and Alternative Downside scenarios are set with reference to external distributional forecasts and we project additional variable paths using the external provider's model.

We update our three Consensus Economic Scenarios and our Alternative Downside Scenario every quarter. See Note 8, "Allowance for Credit Losses," for further discussion summarizing the key macroeconomic variable forecasts used in our economic scenarios as well as a discussion of updates to the economic scenarios and other changes during 2022.

We exclude from our lifetime ECL calculation financial assets for which we expect that non-payment of the amortized cost basis will be zero ("Zero Expected Credit Loss Exception"). As a result, no allowance for credit losses is recorded for these financial assets. We have identified the following types of financial assets which we believe qualify for this exclusion:

- U.S. Treasury securities;
- U.S. Government agency issued or guaranteed securities;
- U.S. Government sponsored enterprises securities;
- G10 sovereign foreign debt securities;
- Interest bearing deposits held with the Federal Reserve Bank; and
- Loans guaranteed by a U.S. Government agency or U.S. Government sponsored enterprise.

We also exclude from our lifetime ECL calculation financial assets which are secured by collateral maintenance provisions (e.g., the borrower is contractually required to adjust the amount of financial collateral securing the financial asset) if such collateral meets liquidity requirements. In most circumstances subject to such requirements, collateral exceeds our amortized cost basis and no allowance for credit losses is recorded for these financial assets, consisting of the substantial majority of our

securities purchased under agreements to resell as well as substantially all of our margin loans provided to our private banking customers.

In addition, loans to other HSBC affiliated entities are exempt from ECL measurement.

Calculation of Lifetime ECL

Commercial loans Commercial loans are monitored on a continuous basis with a formal assessment completed, at a minimum, annually. As part of this process, a credit rating is assigned and a loss given default ("LGD") is estimated and serve as the basis for establishing an allowance for these loans' expected balance at default ("EAD") based on a probability of default ("PD") estimate associated with each credit rating under our Wholesale Credit Risk Policy. In assigning the credit ratings to a particular loan, among the risk factors considered are the obligor's debt capacity and financial position, the level of earnings, the amount and sources for repayment, the level of contingencies, management strength and the industry or geography in which the obligor operates. We utilize a consistent methodology for the application of forward economic guidance ("FEG") into the calculation of lifetime ECL by incorporating FEG into the estimation of the term structure of PD and LGD. For PDs, we consider the correlation of FEG to default rates for a particular industry. For LGDs, we consider the correlation of FEG to collateral values and realization rates for a particular industry and if applicable, country, which is adjusted for recoveries. Our PD estimates are validated on an annual basis using back-testing of actual default rates and benchmarking of the internal ratings with external rating agency data like Standard and Poor's ("S&P") ratings and default rates. PDs and LGDs are estimated for the entire term structure of the loan. Credit Review, a function independent of the business, provides an on-going assessment of lending activities that includes independently assessing credit ratings and LGD estimates for sampled credits across various portfolios.

Loans with similar risk characteristics are pooled for determining lifetime ECL. When it is deemed probable based upon known facts and circumstances that full interest and principal on an individual loan will not be collected in accordance with its contractual terms, in general the loan is no longer considered part of the collective pool of homogeneous loans against which lifetime ECL are established. Instead, an allowance for credit losses is established on an individual basis ("individually assessed") based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, or the fair value of the collateral if the loan is collateral dependent. Individually assessed loans are evaluated quarterly. Generally, loans that are placed on non-accrual are removed from a collective pool and individually assessed.

In addition, the allowance for credit losses reflects management judgment of risk factors that may not be fully reflected in the lifetime ECL generated by our models. In making this determination, we consider the characteristics of our portfolio and any other significant factors that are relevant. Factors that are relevant to determining the expected collectability of our loan portfolio include, but are not limited to, the volume and severity of past due loans, the volume and severity of adversely classified or rated loans, the underlying collateral on loans that are not collateral dependent, lending policies and procedures including changes in lending strategies, underwriting standards or collection and recovery practices as well as the obligor's operations, environmental factors of an obligor and the areas in which our credit exposure is concentrated, the non-homogeneous nature of the portfolio, changes and expected changes in the general market condition of either a geographical area or an industry, and changes in international, national, regional, and local economic and business conditions.

For loans which have been identified as TDR Loans, including loans which we reasonably expect to become TDR Loans, judgment is used as to whether or not we expect full repayment of principal and interest. If full repayment is expected, the loan will remain in a collective pool of homogeneous loans for determining lifetime ECL. When full repayment of principal and interest is not expected or when we anticipate offering payment concessions, the loan will be removed from the pool and individually assessed. If a commercial TDR Loan subsequently performs in accordance with the new terms and the loan is upgraded, the loan may no longer be reported as a TDR Loan at the earliest one year after the restructure had been anticipated.

Consumer loans For pools of homogeneous consumer loans and certain small business loans, we estimate lifetime ECL using a framework based on PD, LGD and EAD that estimates the likelihood that a loan will progress through the various stages of delinquency and ultimately charge-off based upon a forward-looking view of macroeconomic expectations that impact a lifetime ECL and historical experience. The impact of FEG on PD is modeled at the loan or segment level depending on the portfolio. Historic relationships between observed default rates and macroeconomic variables are integrated into lifetime ECL estimates by leveraging economic response models. The impact of FEG on PD is modeled over a period equal to the remaining maturity of the underlying loans. The impact on LGD is modeled for mortgage portfolios by forecasting future loan-to-value ("LTV") profiles for the remaining maturity of the loans by leveraging national forecasts of the House Price Index ("HPI") and applying the corresponding LGD expectation. The models consider delinquency status, loss experience and severity, and take into account where borrowers have historically filed for bankruptcy or have been subject to account management actions, such as the re-age or modification of accounts. Expected loss severity is based on the underlying collateral, if any, for the loan in the event of default based on historical and recent trends which are updated periodically based on a rolling average of several months' data using the most recently available information and is typically in the range of 20-40 percent for residential mortgages.

The lifetime ECL recognized for consumer loans considers the effect on lifetime ECL over a range of potential outcomes, calculated on a probability-weighted basis, based on the economic scenarios described above, including management judgment where required. Management judgment reflects consideration of risk factors that may not be fully reflected in the lifetime ECL generated by our models. In making this determination, we consider the characteristics of our portfolio and any other significant factors that are relevant. Factors that are relevant to determining the expected collectability of our consumer loan portfolio include, but are not limited to, changes in risk selection or underwriting standards, changes in collection, account management, charge-off and recovery practices, changes in loan concentrations affecting either the frequency or severity of losses, and changes in economic conditions.

For loans which have been identified as TDR Loans, including loans which we reasonably expect to become TDR Loans, an allowance for credit losses is maintained based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, or the fair value of the collateral if the loan is collateral dependent. Once a loan is classified as a TDR Loan, it continues to be reported as such until it is paid off or charged-off.

Off-balance sheet credit exposures A separate liability for off-balance sheet credit exposures is also maintained, which is recorded in interest, taxes and other liabilities on the consolidated balance sheet and includes estimated lifetime ECL arising from off-balance sheet exposures such as letters of credit and unused commitments to extend credit. The process for measuring lifetime ECL on these exposures is consistent with that for commercial or consumer loans discussed above as applicable, but is subject to an additional parameter reflecting the likelihood that funding will occur. No lifetime ECL is recognized for off-balance sheet credit exposures that are unconditionally cancellable by us such as unused credit card lines.

Securities held-to-maturity Due to the composition of our portfolio of securities held-to-maturity, substantially all of our portfolio qualifies for the Zero Expected Credit Loss Exception and has been excluded from our lifetime ECL calculation. Our methodology for calculating lifetime ECL for our securities held-to-maturity which do not qualify for the Zero Expected Credit Loss Exception is consistent with our methodology for calculating lifetime ECL for loans discussed above, including the use of probability-weighted scenarios, forward economic guidance and key model inputs. We calculate lifetime ECL for securities held-for-maturity based on the present value of expected future cash flows, discounted using the contractual interest rate which approximates the effective interest rate.

Securities available-for-sale On a quarterly basis, we perform an assessment to determine whether there have been any events or economic circumstances to indicate that a debt security available-for-sale in an unrealized loss position has suffered impairment due to credit factors. A debt security available-for-sale is considered impaired if its fair value is less than its amortized cost basis at the reporting date. If impaired, we assess whether the impairment is due to credit factors.

If we intend to sell the debt security or if it is more-likely-than-not that we will be required to sell the debt security before the recovery of its amortized cost basis, the impairment is recognized and the unrealized loss is recorded as a direct write-down of the security's amortized cost basis with an offsetting charge to earnings. If we do not intend to sell the debt security or believe we will not be required to sell the debt security before the recovery of its amortized cost basis, the impairment is assessed to determine if a credit loss component exists. We use a discounted cash flow method to determine the credit loss component. In the event a credit loss exists, an allowance for credit losses is recorded in earnings for the credit loss component of the impairment while the remaining portion of the impairment attributable to factors other than credit loss is recognized, net of tax, in other comprehensive income (loss). The amount of impairment recognized due to credit factors is limited to the excess of the amortized cost basis over the fair value of the security available-for-sale.

Charge-Off and Nonaccrual Policies and Practices Our charge-off and nonaccrual policies differ by product and are summarized below:

Product	Charge-off Policies and Practices	Nonaccrual Policies and Practices
Commercial Loans <i>Real estate, including construction</i> <i>Business and corporate banking</i> <i>Global banking</i> <i>Other commercial</i>	Commercial loan balances are charged off at the time all or a portion of the balance is deemed uncollectible. For loans secured with collateral, loan balances are generally written down to the estimated fair value of the collateral less costs to sell.	Loans are generally categorized as nonaccruing when contractually delinquent for more than three months or in the opinion of management, reasonable doubt exists with respect to the ultimate collectibility of interest or principal based on certain factors including the period of time past due and adequacy of collateral. When classified as nonaccruing, any accrued interest recorded on the loan is generally deemed uncollectible and reversed against income. Interest income is subsequently recognized only to the extent of cash received until the loan is placed on accrual status. In instances where there is doubt as to collectibility of principal, interest payments received are applied to principal. Loans are not reclassified as accruing until interest and principal payments are current and future payments are reasonably assured.
Residential Mortgage Loans	Carrying amounts in excess of fair value less costs to sell are generally charged off at the time foreclosure is initiated or when settlement is reached with the borrower, but not to exceed the end of the month in which the account becomes six months contractually delinquent. If foreclosure is not pursued and there is no reasonable expectation for recovery, the account is generally charged off no later than the end of the month in which the account becomes six months contractually delinquent. ⁽¹⁾	Loans are generally designated as nonaccruing when contractually delinquent for more than three months. When classified as nonaccruing, any accrued interest on the loan is generally deemed uncollectible and reversed against income. Interest accruals are resumed when the loan either becomes current or becomes less than three months delinquent and six months of consecutive payments have been made.
Credit Cards	Loan balances are generally charged off by the end of the month in which the account becomes six months contractually delinquent. ⁽²⁾	Interest generally accrues until charge-off.
Other Consumer Loans	Loan balances are generally charged off by the end of the month in which the account becomes four months contractually delinquent.	Interest generally accrues until charge-off.

⁽¹⁾ Values are determined based upon broker price opinions or appraisals which are updated at least every 180 days less estimated costs to sell. During the quarterly period between updates, real estate price trends are reviewed on a geographic basis and additional downward adjustments are recorded as necessary. Fair values of foreclosed properties at the time of acquisition are initially determined based upon broker price opinions. Subsequent to acquisition, a more detailed property valuation is performed, reflecting information obtained from a walk-through of the property in the form of a listing agent broker price opinion as well as an independent broker price opinion or appraisal. A valuation is determined from this information within 90 days and any additional write-downs required are recorded through charge-off at that time. In determining the appropriate amounts to charge-off when a property is acquired in exchange for a loan, we do not consider losses on sales of foreclosed properties resulting from deterioration in value during the period the collateral is held because these losses result from future loss events which cannot be considered in determining the fair value of the collateral at the acquisition date.

⁽²⁾ Charge-offs involving a bankruptcy for credit card receivables occurs by the end of the month, 60 days after notification or 180 days contractually delinquent, whichever comes first.

Due to the composition of our debt securities portfolio, a substantial majority of which comprises U.S. Government securities, we typically do not charge them off or place them on nonaccrual status.

Delinquency status for loans is determined using the contractual method which is based on the status of payments under the loan. An account is generally considered to be contractually delinquent when payments have not been made in accordance with

the loan terms. Delinquency status may be affected by customer account management policies and practices such as the restructure, re-age or modification of accounts.

Payments received on commercial nonaccrual loans are generally applied to reduce the principal balance of such loans. For consumer nonaccrual loans, payments are generally applied first to reduce the current interest on the earliest payment due with any remainder applied to reduce the principal balance associated with that payment date.

Loans Held for Sale Loans are classified as held for sale when they are not expected to be held for the foreseeable future because of management's lack of intent to hold. With the exception of certain loans for which the fair value option has been elected and are further discussed in Note 17, "Fair Value Option," loans classified as held for sale are recorded at the lower of amortized cost or estimated fair value, which is not in excess of their carrying value at the time of designation. Consumer loans are valued on an aggregate portfolio basis while commercial loans are generally valued on an individual loan basis. Periodic adjustments to fair value are recognized in other income (loss) in the consolidated statement of income (loss). For loans other than those classified as nonaccrual, interest income is determined by applying each loan's contractual rate to the loan's outstanding customer balance, exclusive of unearned income, deferred fees, deferred costs, premium and discount.

Transfers of Financial Assets Transfers of financial assets in which we have surrendered control over the transferred assets are accounted for as sales. In assessing whether control has been surrendered, we consider whether the transferee would be a consolidated affiliate, the existence and extent of any continuing involvement in the transferred financial assets and the impact of all arrangements or agreements made contemporaneously with, or in contemplation of, the transfer, even if they were not entered into at the time of transfer.

If the sale criteria are met, the transferred financial assets are removed from our balance sheet and a gain or loss on sale is recognized. If the sale criteria are not met, the transfer is recorded as a secured borrowing in which the assets remain on our balance sheet and the proceeds from the transaction are recognized as a liability. For the majority of financial asset transfers, it is clear whether or not we have surrendered control. For other transfers, such as in connection with complex transactions or where we have continuing involvement such as servicing responsibilities, we generally obtain a legal opinion as part of evaluating whether the transfer results in a sale.

Properties and Equipment, Net Properties and equipment are recorded at cost, net of accumulated depreciation. Depreciation is recorded on a straight-line basis over the estimated useful lives of the related assets, which generally range from 3 to 40 years. Leasehold improvements are depreciated over the shorter of the useful life of the improvement or the term of the lease. The costs of maintenance and repairs are expensed as incurred. Impairment testing is performed whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable.

Leases Lease right-of-use ("ROU") assets and lease liabilities for operating leases are recognized at commencement date based on the present value of lease payments over the lease term, discounted using our incremental borrowing rate at the effective commencement date of each lease. Operating lease ROU assets are recorded in other assets while operating lease liabilities are recorded in interest, taxes and other liabilities. We are not currently a lessee under any finance leases.

Options to renew or terminate the lease are recognized as part of our ROU assets and liabilities when it is reasonably certain the options will be exercised. We have lease agreements that contain both lease and non-lease components, such as maintenance costs, which are accounted for separately. Operating lease expense for fixed lease payments is recognized on a straight-line basis over the lease term. Variable lease payments for real estate taxes, insurance, maintenance and utilities, which are generally based on our pro rata share of the total property, are not included in the measurement of the ROU assets or lease liabilities and are expensed as incurred. In addition, we do not recognize ROU assets or lease liabilities with a term of 12 months or less, which are also expensed as incurred.

Goodwill and Other Long-Lived Assets Goodwill, representing the excess of purchase price over the fair value of identifiable net assets acquired, results from business combinations. Goodwill is not amortized, but is reviewed for impairment at a minimum on an annual basis at the reporting unit level using discounted cash flow and market approaches. The market approach focuses on valuation multiples for reasonably similar publicly traded companies and also considers recent market transactions, while the discounted cash flows method utilizes cash flow estimates based on recent internal forecasts and discount rates that we believe adequately reflect the risk and uncertainty in our internal forecasts and are appropriate based on the implicit market rates in current comparable transactions. Impairment is reviewed as of an interim date if circumstances indicate that it is more likely than not that the carrying amount of a reporting unit is above fair value. The carrying amount of a reporting unit is determined on the basis of capital invested in the unit including attributable goodwill. We determine the invested capital of a reporting unit by applying to the reporting unit's risk-weighted assets a capital charge consistent with the targets assigned and monitored through our capital management monitoring framework, and additionally, allocating to each reporting unit the remaining carrying amount of HUSI's net assets. Accordingly, the entire carrying amount of HUSI's net assets is allocated to our reporting units. Reporting units were identified based upon an analysis of each of our individual operating segments. A reporting unit is defined as an operating segment or any distinct, separately identifiable component one level below an operating segment for which complete, discrete financial information is available that management regularly reviews. We

consider significant and long-term changes in industry and economic conditions to be examples of primary indicators of potential impairment.

We have established October 1 of each year as the date for conducting our annual goodwill impairment assessment. Goodwill impairment is measured and an impairment charge is recorded at the amount by which a reporting unit's carrying amount, including allocated goodwill, exceeds its fair value. Any impairment charge recognized is limited to the carrying amount of goodwill assigned to a reporting unit. Subsequent reversals of goodwill impairments are not permitted. As of December 31, 2022 and 2021, all of our goodwill is allocated to our Commercial Banking reporting unit.

In addition, we generally conduct impairment tests of capitalized software and other long-lived assets at the reporting unit level when events or circumstances indicate their carrying amount may not be recoverable. If impairment testing is required, long-lived assets are grouped at the lowest level for which there are identifiable cash flows. If the estimated undiscounted cash flows of the long-lived asset group exceed its carrying amount, an impairment is not recognized. However, if the estimated undiscounted cash flows are less than the carrying amount of the long-lived asset group, a second step is performed to determine fair value and an impairment loss is required if the carrying amount of the long-lived asset group exceeds fair value. Impairment losses are not reversible. Fair value calculations when required are consistent with the methodology used to determine fair value for goodwill impairment.

Repossessed Collateral Non-financial collateral acquired in satisfaction of a loan is initially recognized at the collateral's fair value less estimated costs to sell and is reported in other assets. Any subsequent declines in fair value less estimated costs to sell are recorded through a valuation allowance. Recoveries in fair value less estimated costs to sell are recognized as a reduction of the valuation allowance but not in excess of cumulative losses previously recognized subsequent to the date of repossession. Adjustments to the valuation allowance, costs of holding repossessed collateral, and any gain or loss on disposition are credited or charged to operating expense.

Collateral We pledge assets as collateral as required for various transactions involving security repurchase agreements, public deposits, derivative financial instruments, short-term borrowings and long-term borrowings. Non-cash assets that have been pledged as collateral, including those that can be sold or repledged by the secured party, continue to be reported on our consolidated balance sheet.

We also accept collateral, primarily as part of various transactions involving security resale agreements. Non-cash collateral accepted by us, including collateral that we can sell or re-pledge, is excluded from our consolidated balance sheet. If we resell the collateral, we recognize the proceeds and a liability to return the collateral.

The market value of collateral we have accepted or pledged is regularly monitored and additional collateral is obtained or provided as necessary to ensure appropriate collateral coverage in these transactions.

Derivative Financial Instruments Derivative financial instruments are recognized on the consolidated balance sheet at fair value. On the date a derivative contract is entered into, we designate it as either:

- a qualifying hedge of the fair value of a recognized asset or liability or of an unrecognized firm commitment (fair value hedge);
- a qualifying hedge of the variability of cash flows to be received or paid related to a recognized asset, liability or forecasted transaction (cash flow hedge); or
- a trading instrument or a non-qualifying (economic) hedge.

Changes in the fair value of a derivative designated as a fair value hedge, along with the changes in the fair value of the hedged asset or liability that is attributable to the hedged risk (including losses or gains on firm commitments), are recorded in current period earnings. Changes in the fair value of a derivative that has been designated as a cash flow hedge are recorded in accumulated other comprehensive loss, net of income taxes, and reclassified into earnings in the period during which the hedged item affects earnings. Changes in the fair value of derivatives held for trading purposes or which do not qualify for hedge accounting are reported in current period earnings.

At the inception of each designated qualifying hedge, we formally document all relationships between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions, the nature of the hedged risk, and how hedge effectiveness will be assessed. This process includes linking all derivatives that are designated as fair value or cash flow hedges to specific assets and liabilities on the balance sheet or to specific firm commitments or forecasted transactions. We also formally assess both at inception and on a quarterly basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items and whether they are expected to continue to be highly effective in future periods. This assessment is conducted using statistical regression analysis.

Earnings volatility may result from the on-going mark to market of certain economically viable derivative contracts that do not satisfy the hedging requirements in accordance with U.S. GAAP as well as from the hedge ineffectiveness associated with the qualifying hedges.

Embedded Derivatives We may acquire or originate a financial instrument that contains a derivative instrument embedded within it. Upon origination or acquisition of any such instrument, we assess whether the economic characteristics of the embedded derivative are clearly and closely related to the economic characteristics of the principal component of the financial instrument (i.e., the host contract) and whether a separate instrument with the same terms as the embedded instrument would meet the definition of a derivative instrument.

When we determine that: (1) the embedded derivative possesses economic characteristics that are not clearly and closely related to the economic characteristics of the host contract; and (2) a separate instrument with the same terms would qualify as a derivative instrument, the embedded derivative is either separated from the host contract (bifurcated), carried at fair value, and designated as a trading instrument or the entire financial instrument is carried at fair value with all changes in fair value recorded to current period earnings. If bifurcation is elected, the consideration for the hybrid financial instrument that is allocated to the bifurcated derivative reduces the consideration that is allocated to the host contract with the difference being recognized over the life of the financial instrument.

Hedge Discontinuation We discontinue hedge accounting prospectively when:

- the derivative is no longer effective or expected to be effective in offsetting changes in the fair value or cash flows of a hedged item (including firm commitments or forecasted transactions) related to the designated risk;
- the derivative expires or is sold, terminated, or exercised;
- it is unlikely that a forecasted transaction will occur;
- the hedged firm commitment no longer meets the definition of a firm commitment; or
- the designation of the derivative as a hedging instrument is no longer appropriate.

When hedge accounting is discontinued because it is determined that the derivative no longer qualifies as an effective fair value or cash flow hedge, the hedging relationship will cease. The hedging instrument will continue to be carried on the balance sheet at fair value, with changes in fair value recognized in current period earnings.

In the case of a discontinued fair value hedge of a recognized asset or liability, as long as the hedged item continues to exist on the balance sheet, the hedged item will no longer be adjusted for changes in fair value attributable to the hedged risk. The basis adjustment that had previously been recorded to the hedged item during the period from the hedge designation date to the hedge discontinuation date is recognized as an adjustment to the yield of the hedged item over the remaining life of the hedged item.

In the case of a discontinued cash flow hedge of a recognized asset or liability, as long as the hedged item continues to exist on the balance sheet, further changes in fair value of the hedging derivative will no longer be recorded in other comprehensive income (loss). The balance applicable to the discontinued hedging relationship will be recognized in earnings over the remaining life of the hedged item as an adjustment to yield. If the discontinued hedged item was a forecasted transaction where it is probable the forecasted transaction will not occur at the end of the original specified time period or within an additional two-month period thereafter, any amounts recorded in accumulated other comprehensive loss are immediately reclassified to current period earnings.

In the case of a cash flow hedge, if the previously hedged item is sold or extinguished, the basis adjustment to the underlying asset or liability or any remaining unamortized accumulated other comprehensive loss balance will be reclassified to current period earnings.

In all other situations in which hedge accounting is discontinued, the derivative will be carried at fair value on the consolidated balance sheet, with changes in its fair value recognized in current period earnings unless redesignated in a qualifying cash flow hedge.

Interest Rate Lock Commitments We enter into commitments to originate residential mortgage loans whereby the interest rate on the loan is set prior to funding (rate lock commitments). The interest rate lock commitments on residential mortgage loans that are classified as held for sale are considered to be derivatives and are recorded at fair value in other assets or other liabilities in the consolidated balance sheet. Changes in fair value are recorded as a component of other income (loss) in the consolidated statement of income (loss).

Share-Based Compensation We use the fair value based method of accounting for awards of HSBC stock granted to employees under various restricted share and employee stock purchase plans. Stock compensation costs are recognized prospectively for all new awards granted under these plans. Compensation expense relating to restricted share awards is based upon the fair value on the date of grant and is charged to earnings over the requisite service period (e.g., vesting period), less

estimated forfeitures. When modeling awards with vesting that is dependent on performance conditions, these performance conditions are incorporated into the model using Monte Carlo simulation. The expected life of these awards depends on the behavior of the award holders, which is incorporated into the model consistent with historical observable data.

All excess tax benefits and tax deficiencies for share-based payment awards are recorded within income tax expense (benefit) in the consolidated statement of income (loss).

Pension and Other Postretirement Benefits We recognize the funded status of the postretirement benefit plans on the consolidated balance sheet. Net postretirement benefit cost charged to current earnings related to these plans is based on various actuarial assumptions regarding expected future experience.

Certain employees are participants in various defined contribution, defined benefit and other supplemental retirement plans sponsored by HSBC North America. Our portion of the expense related to these plans is allocated to us and charged to current earnings.

Substantially all of our employees participate in a 401(k) plan. Employer contributions to the plan, which are charged to current earnings, are based on employee contributions.

Income Taxes HSBC USA is included in HSBC North America's consolidated Federal income tax return and in various combined State income tax returns. As such, we have entered into a tax allocation agreement with HSBC North America and its subsidiary entities (the "HNAH Group") which governs the current amount of taxes to be paid or received by the various entities included in the consolidated return filings. Generally, such agreements allocate taxes to members of the HNAH Group based on the calculation of tax on a separate return basis, adjusted for the utilization or limitation of credits of the consolidated group. To the extent all the tax attributes available cannot be currently utilized by the consolidated group, the proportionate share of the utilized attribute is allocated based on each affiliate's percentage of the available attribute computed in a manner that is consistent with the taxing jurisdiction's laws and regulations regarding the ordering of utilization. In addition, we file some separate company State tax returns.

We recognize deferred tax assets and liabilities for the future tax consequences related to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and for Federal and State net operating losses. Deferred tax assets and liabilities are measured using the enacted tax rates and laws that will be in effect when the deferred tax items are expected to be realized. If applicable, valuation allowances are recorded to reduce deferred tax assets for amounts we conclude are more likely than not to be unrealized. Since we are included in HSBC North America's consolidated Federal tax return and various combined State tax returns, the related evaluation of the recoverability of the deferred tax assets is performed at the HSBC North America consolidated level. We consider the HNAH Group's consolidated deferred tax assets and various sources of taxable income in reaching conclusions on recoverability of deferred tax assets. The HNAH Group evaluates deferred tax assets for recoverability using a consistent approach which considers the relative impact of negative and positive evidence, including historical financial performance, projections of future taxable income, expectations of future corporate alternative minimum tax and any resulting credit carryforwards, future reversals of existing taxable temporary differences, tax planning strategies and any available carryback capacity. In evaluating the need for a valuation allowance, the HNAH Group estimates future taxable income based on management approved business plans. This process involves significant management judgment about assumptions that are subject to change from period to period.

Where a valuation allowance is determined to be necessary at the HSBC North America consolidated level, such allowance is allocated to principal subsidiaries within the HNAH Group in a manner that is systematic, rational and consistent with the broad principles of accounting for income taxes. The methodology generally allocates the valuation allowance to the principal subsidiaries based primarily on the entity's relative contribution to the HNAH Group's consolidated deferred tax asset against which the valuation allowance is being recorded.

Further evaluation is performed at the HSBC USA legal entity level to evaluate the need for a valuation allowance where we file separate company State income tax returns. Foreign taxes paid are applied as credits to reduce Federal income taxes payable, to the extent that such credits can be utilized.

We recognize accrued interest related to uncertain tax positions in interest expense in the consolidated statement of income (loss) and recognize penalties, if any, related to uncertain tax positions as a component of other expenses in the consolidated statement of income (loss).

Transactions with Related Parties In the normal course of business, we enter into transactions with HSBC and its subsidiaries. These transactions occur at prevailing market rates and terms and include funding arrangements, derivatives, servicing arrangements, information technology, centralized support services, banking and other miscellaneous services.

New Accounting Pronouncements

The following new accounting pronouncements were adopted during 2022:

Accounting Standards Update	Summary of Guidance	Financial Statement Impact
Reference Rate Reform <i>Issued December 2022</i>	<ul style="list-style-type: none"> Extends the date after which entities will no longer be permitted to apply the optional expedients to the U.S. GAAP guidance on contract modifications and hedge accounting to contracts or transactions that are modified or otherwise affected due to reference rate reform from December 31, 2022 to December 31, 2024. 	<ul style="list-style-type: none"> Effective when issued. The adoption of this guidance did not have a material impact on our financial position or results of operations.

The following are new accounting pronouncements issued by the Financial Accounting Standards Board which will be adopted in future periods:

Accounting Standards Update	Summary of Guidance	Financial Statement Impact
Troubled Debt Restructurings and Vintage Disclosures <i>Issued March 2022</i>	<ul style="list-style-type: none"> Eliminates the accounting guidance for TDR Loans by creditors, while enhancing disclosure requirements for certain loan payment modifications by creditors made to borrowers experiencing financial difficulty. Requires new disclosure of current-period gross charge-offs by year of origination for loans. 	<ul style="list-style-type: none"> Effective for all annual and interim periods beginning January 1, 2023. The new guidance will be applied prospectively for new loan modifications and will not materially affect the accounting for our existing TDR Loans at transition. The adoption of this guidance will not have a material impact on our financial position or results of operations.

There have been no additional accounting pronouncements issued that are expected to have a material impact on our consolidated financial statements.

3. Strategic Initiatives

In February 2020, we announced a multi-year strategic plan to restructure our operations ("Restructuring Plan") in alignment with HSBC's global strategy, to refocus our wholesale operations to better serve our international corporate clients and restructure our retail operations to better meet the needs of globally mobile and affluent clients. Our Restructuring Plan also included streamlining our functional and operations support model by removing duplication, reducing the size of our balance sheet to better align with the scope and scale of the U.S. opportunity and investing in systems infrastructure and new technologies. As discussed further in Note 4, "Branch Assets and Liabilities Held for Sale," during 2021, we also made the decision to exit our mass market retail banking business, including the sale or closure of certain branches, and transferred certain assets and liabilities to held for sale.

We completed our Restructuring Plan over the three-year period of 2020-2022. In 2022, we completed the simplification of our support service functions, our planned investments in systems infrastructure and new technologies, and the sale of the branch disposal group associated with the exit of our mass market retail banking business. In 2021, we completed the consolidation of our wholesale and retail middle and back office functions, each under a single operations structure, as well as the exit of certain derivative contracts and the transfer of interest rate derivative contracts associated with Fixed Income activities to HSBC Bank plc. In 2020, we completed the initial consolidation of our retail branch network and the creation of our Wealth and Personal Banking business. We recorded a total of \$759 million of pre-tax charges in connection with our Restructuring Plan, of which \$190 million, \$289 million and \$280 million were recorded during 2022, 2021 and 2020, respectively.

The following table summarizes the changes in the liability associated with our Restructuring Plan during 2022, 2021 and 2020:

	Severance and Other Employee Costs ⁽¹⁾	Lease Termination and Associated Costs ⁽²⁾	Other ⁽³⁾	Total
(in millions)				
Year Ended December 31, 2022				
Restructuring liability at beginning of period	\$ 10	\$ 46	\$ —	\$ 56
Restructuring costs accrued during the period	23	2	28	53
Restructuring costs paid during the period	(17)	(16)	(28)	(61)
Restructuring liability at end of period	<u>\$ 16</u>	<u>\$ 32</u>	<u>\$ —</u>	<u>\$ 48</u>
Year Ended December 31, 2021				
Restructuring liability at beginning of period	\$ 10	\$ 23	\$ —	\$ 33
Restructuring costs accrued during the period	12	38	15	65
Restructuring costs paid during the period	(12)	(15)	(15)	(42)
Restructuring liability at end of period	<u>\$ 10</u>	<u>\$ 46</u>	<u>\$ —</u>	<u>\$ 56</u>
Year Ended December 31, 2020				
Restructuring liability at beginning of period	\$ —	\$ —	\$ —	\$ —
Restructuring costs accrued during the period	28	29	—	57
Restructuring costs paid during the period	(18)	(6)	—	(24)
Restructuring liability at end of period	<u>\$ 10</u>	<u>\$ 23</u>	<u>\$ —</u>	<u>\$ 33</u>

⁽¹⁾ Severance and other employee costs are included in salaries and employee benefits in the consolidated statement of income (loss). The majority of these costs were reported in the Wealth and Personal Banking business segment. Not included in these costs are allocated severance costs from HSBC Technology & Services (USA) Inc. ("HTSU") discussed further below.

⁽²⁾ Primarily includes real estate taxes, service charges and decommissioning costs. Lease termination and associated costs are included in occupancy expense, net in the consolidated statement of income (loss) and were reported in the Wealth and Personal Banking and the Corporate Center business segments.

⁽³⁾ Primarily includes professional fees and other staff costs, which are included in other expenses in the consolidated statement of income (loss). The majority of these costs were reported in the Wealth and Personal Banking business segment.

In addition to the restructuring costs reflected in the rollforward table above, during 2022, we recorded impairment charges of \$10 million to write-down the lease ROU assets and leasehold improvement assets associated with certain office space that we determined we would exit. During the fourth quarter of 2022, we also recorded an impairment charge of \$3 million to write-off certain capitalized software.

During the second quarter of 2021, as part of our decision to exit our mass market retail banking business, we determined that we would exit approximately 30 branches. As a result, we recorded impairment charges during 2021 to write-off the assets

associated with these branches, including \$29 million of lease ROU assets, \$18 million of leasehold improvement assets and \$3 million of equipment assets. During 2021, we also recorded impairment charges of \$40 million to write-down the lease ROU assets and leasehold improvement assets primarily associated with certain office space that we determined we would exit and \$13 million to write-down one of our owned office space properties to fair value upon transferring it to held for sale.

During 2020, we determined that we would exit approximately 60 branches. As a result, we recorded impairment charges to write-down the lease ROU assets, net of estimated sublease income, by \$67 million and to write-down the leasehold improvement assets associated with these branches by \$16 million based on their estimated remaining useful lives. During 2020, we also recorded impairment charges of \$9 million to write-down the lease ROU assets associated with certain office space that we determined we would exit. Lease impairment charges are reflected in occupancy expense, net in the consolidated statement of income (loss) and were reported in the Wealth and Personal Banking and the Corporate Center business segments.

In addition, during 2021 and 2020, we recorded \$35 million and \$67 million, respectively, of trading losses associated with the exit of certain derivative contracts as part of our Restructuring Plan. These losses are included in trading revenue in the consolidated statement of income (loss) and were reported in the Markets and Securities Services and the Corporate Center business segments.

Our Restructuring Plan also resulted in costs being allocated to us from HTSU, primarily support service project costs and severance costs, which are reflected in support services from HSBC affiliates in the consolidated statement of income (loss). During 2022, we recorded \$124 million of allocated costs from HTSU related to restructuring activities compared with \$86 million and \$64 million of allocated costs during 2021 and 2020, respectively. These costs were reported in the Corporate Center business segment.

HSBC Group Restructuring Separate from the charges related to our Restructuring Plan as detailed above, during 2022, we also recorded \$131 million of allocated costs from other HSBC affiliates related to the HSBC Group's restructuring activities, primarily support service project costs and severance costs, compared with \$53 million and \$16 million of allocated costs during 2021 and 2020, respectively. These costs are reflected in support services from HSBC affiliates in the consolidated statement of income (loss) and were reported in the Corporate Center business segment.

4. Branch Assets and Liabilities Held for Sale

In May 2021, as part of our Restructuring Plan we announced that we would take further actions to strategically reposition our Wealth and Personal Banking business to focus on the banking and wealth management needs of globally-connected affluent and high net worth clients through our Premier, Jade and Private Banking propositions and exit our mass market retail banking business, including our Personal and Advance propositions as well as retail business banking, and rebrand certain of our retail branches into international wealth centers to serve our Premier and Jade customers. In conjunction with the execution of this strategy, we had entered into definitive sale agreements with third parties to sell 90 of our retail branches along with substantially all residential mortgage, unsecured and retail business banking loans and deposits in our branch network not associated with our Premier, Jade and Private Banking customers. As a result of entering into these sale agreements, assets and liabilities related to the agreements were transferred to held for sale during the second quarter of 2021. Income before tax of this disposal group was not material.

In February 2022, we completed the sale of the branch disposal group. As a result, during 2022, we recognized a gain on sale of \$113 million, net of transaction costs. Included in the sale was approximately \$2,148 million of loans, \$45 million of properties and equipment, \$16 million of cash, \$6,919 million of deposits, \$145 million of lease liabilities and \$6 million of other liabilities. Certain assets under management associated with our mass market retail banking operations which are managed by an affiliate were also transferred to one of the buyers. In addition, we have rebranded 22 of our retail branches into international wealth centers and the remaining branches not sold or rebranded have been closed.

Mass market retail banking loans not included in the transaction described above were also transferred to held for sale during the second quarter of 2021 as we did not intend to hold these loans for the foreseeable future. These loans have since been sold or transferred back to held for investment. See Note 9, "Loans Held for Sale," for additional details.

Releases of the allowance for credit losses on the loans transferred to held for sale discussed above resulted in a reduction to the provision for credit losses of approximately \$101 million (\$100 million of which related to consumer loans) during the second quarter of 2021. See Note 8, "Allowance for Credit Losses," for additional details.

5. Trading Assets and Liabilities

Trading assets and liabilities consisted of the following:

At December 31,	2022	2021
	(in millions)	
Trading assets:		
U.S. Treasury	\$ 1,670	\$ 2,337
U.S. Government sponsored enterprises	369	432
Foreign bonds	6,391	167
Equity securities	7,855	15,795
Precious metals	3,831	3,907
Derivatives, net	1,614	1,405
Total trading assets	<u>\$ 21,730</u>	<u>\$ 24,043</u>
Trading liabilities:		
Securities sold, not yet purchased	\$ 837	\$ 1,103
Payables for precious metals	—	46
Derivatives, net	1,966	1,874
Total trading liabilities	<u>\$ 2,803</u>	<u>\$ 3,023</u>

At December 31, 2022 and 2021, the fair value of derivatives included in trading assets is net of \$2,653 million and \$1,419 million, respectively, relating to amounts recognized for the obligation to return cash collateral received under master netting agreements with derivative counterparties.

At December 31, 2022 and 2021, the fair value of derivatives included in trading liabilities is net of \$1,180 million and \$1,296 million, respectively, relating to amounts recognized for the right to reclaim cash collateral paid under master netting agreements with derivative counterparties.

See Note 16, "Derivative Financial Instruments," for further information on our trading derivatives and related collateral.

Dividend income on equity securities held for trading, which is recorded in interest income in the consolidated statement of income (loss), totaled \$165 million, \$157 million and \$78 million in 2022, 2021 and 2020, respectively. Trading security positions are held as economic hedges of derivative products issued to our clients.

6. Securities

Our securities available-for-sale and securities held-to-maturity portfolios consisted of the following:

December 31, 2022	Amortized Cost	Allowance for Credit Losses	Unrealized Gains	Unrealized Losses	Fair Value
(in millions)					
Securities available-for-sale:					
U.S. Treasury	\$ 7,662	\$ —	\$ 32	\$ (242)	\$ 7,452
U.S. Government sponsored enterprises:					
Mortgage-backed securities	6,537	—	—	(1,024)	5,513
Collateralized mortgage obligations	1,549	—	—	(323)	1,226
Direct agency obligations	1,807	—	1	(71)	1,737
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	7,477	—	—	(772)	6,705
Collateralized mortgage obligations	3,163	—	—	(567)	2,596
Direct agency obligations	165	—	1	(4)	162
Asset-backed securities collateralized by:					
Home equity	16	—	—	(1)	15
Other	105	—	—	(12)	93
Foreign debt securities ⁽¹⁾	1,854	—	1	(9)	1,846
Total available-for-sale securities	<u>\$ 30,335</u>	<u>\$ —</u>	<u>\$ 35</u>	<u>\$ (3,025)</u>	<u>\$ 27,345</u>
Securities held-to-maturity:					
U.S. Treasury	\$ 873	\$ —	\$ —	\$ (15)	\$ 858
U.S. Government sponsored enterprises:					
Mortgage-backed securities	1,146	—	—	(80)	1,066
Collateralized mortgage obligations	358	—	3	(19)	342
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	2,895	—	—	(177)	2,718
Collateralized mortgage obligations	2,039	—	—	(167)	1,872
Obligations of U.S. states and political subdivisions	5	—	—	—	5
Asset-backed securities collateralized by residential mortgages	1	—	—	—	1
Total held-to-maturity securities	<u>\$ 7,317</u>	<u>\$ —</u>	<u>\$ 3</u>	<u>\$ (458)</u>	<u>\$ 6,862</u>

December 31, 2021	Amortized Cost	Allowance for Credit Losses	Unrealized Gains	Unrealized Losses	Fair Value
	(in millions)				
Securities available-for-sale:					
U.S. Treasury	\$ 9,490	\$ —	\$ 144	\$ (72)	\$ 9,562
U.S. Government sponsored enterprises:					
Mortgage-backed securities	7,365	—	114	(115)	7,364
Collateralized mortgage obligations	1,787	—	8	(48)	1,747
Direct agency obligations	1,775	—	16	(4)	1,787
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	8,489	—	7	(66)	8,430
Collateralized mortgage obligations	3,730	—	7	(49)	3,688
Direct agency obligations	282	—	6	—	288
Asset-backed securities collateralized by:					
Home equity	20	(1)	—	—	19
Other	107	—	—	(6)	101
Foreign debt securities ⁽¹⁾	2,311	—	3	(2)	2,312
Total available-for-sale securities	<u>\$ 35,356</u>	<u>\$ (1)</u>	<u>\$ 305</u>	<u>\$ (362)</u>	<u>\$ 35,298</u>
Securities held-to-maturity:					
U.S. Government sponsored enterprises:					
Mortgage-backed securities	\$ 684	\$ —	\$ 21	\$ —	\$ 705
Collateralized mortgage obligations	492	—	26	—	518
U.S. Government agency issued or guaranteed:					
Mortgage-backed securities	1,104	—	24	—	1,128
Collateralized mortgage obligations	2,915	—	85	(1)	2,999
Obligations of U.S. states and political subdivisions	8	—	—	—	8
Asset-backed securities collateralized by residential mortgages	1	(1)	1	—	1
Total held-to-maturity securities	<u>\$ 5,204</u>	<u>\$ (1)</u>	<u>\$ 157</u>	<u>\$ (1)</u>	<u>\$ 5,359</u>

⁽¹⁾ Foreign debt securities represent public sector entity, bank or corporate debt.

Securities Available-for-Sale The following provides additional information about our portfolio of securities available-for-sale:

Allowance for credit losses On a quarterly basis, we perform an assessment to determine whether there have been any events or economic circumstances to indicate that a debt security available-for-sale in an unrealized loss position has suffered impairment due to credit factors. A debt security available-for-sale is considered impaired if its fair value is less than its amortized cost basis at the reporting date. If impaired, we assess whether the impairment is due to credit factors.

If we intend to sell the debt security or if it is more-likely-than-not that we will be required to sell the debt security before the recovery of its amortized cost basis, the impairment is recognized and the unrealized loss is recorded as a direct write-down of the security's amortized cost basis with an offsetting charge to earnings. If we do not intend to sell the debt security or believe we will not be required to sell the debt security before the recovery of its amortized cost basis, the impairment is assessed to determine if a credit loss component exists. We use a discounted cash flow method to determine the credit loss component. In the event a credit loss exists, an allowance for credit losses is recorded in earnings for the credit loss component of the impairment while the remaining portion of the impairment attributable to factors other than credit loss is recognized, net of tax, in other comprehensive income (loss). The amount of impairment recognized due to credit factors is limited to the excess of the amortized cost basis over the fair value of the security available-for-sale.

In determining whether a credit loss component exists, we consider a series of factors which include:

- The extent to which the fair value is less than the amortized cost basis;

- The credit protection features embedded within the instrument, which includes but is not limited to credit subordination positions, payment structure, overcollateralization, protective triggers and financial guarantees provided by third parties;
- Changes in the near term prospects of the issuer or the underlying collateral of a security such as changes in default rates, loss severities given default and significant changes in prepayment assumptions;
- The level of excess cash flows generated from the underlying collateral supporting the principal and interest payments of the debt securities; and
- Any adverse change to the credit conditions of the issuer, the monoline insurer or the security such as credit downgrades by external rating agencies or changes to internal ratings.

At December 31, 2022 and 2021, the allowance for credit losses on securities available-for-sale was nil and \$1 million, respectively.

Securities in an unrealized loss position for which no allowance for credit losses has been recognized The following table summarizes gross unrealized losses and related fair values for securities available-for-sale by major security type at December 31, 2022 and 2021 classified as to the length of time the losses have existed:

	One Year or Less			Greater Than One Year		
	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment
(dollars are in millions)						
At December 31, 2022						
U.S. Treasury	22	\$ (105)	\$ 2,800	19	\$ (137)	\$ 2,013
U.S. Government sponsored enterprises	233	(316)	3,270	79	(1,102)	4,959
U.S. Government agency issued or guaranteed	107	(534)	4,547	55	(809)	4,856
Asset-backed securities	3	(1)	14	3	(12)	92
Foreign debt securities	4	(1)	337	3	(8)	286
Securities available-for-sale	<u>369</u>	<u>\$ (957)</u>	<u>\$ 10,968</u>	<u>159</u>	<u>\$ (2,068)</u>	<u>\$ 12,206</u>
At December 31, 2021						
U.S. Treasury	11	\$ (28)	\$ 1,784	9	\$ (44)	\$ 856
U.S. Government sponsored enterprises	63	(155)	6,224	14	(12)	354
U.S. Government agency issued or guaranteed	59	(91)	8,972	15	(24)	769
Asset-backed securities	—	—	—	3	(6)	101
Foreign debt securities	8	(2)	1,188	—	—	—
Securities available-for-sale	<u>141</u>	<u>\$ (276)</u>	<u>\$ 18,168</u>	<u>41</u>	<u>\$ (86)</u>	<u>\$ 2,080</u>

Gross unrealized losses increased as compared with December 31, 2021 due primarily to increasing market rates on U.S. Government sponsored mortgage-backed, U.S. Government agency mortgage-backed and U.S. Treasury securities.

Although the fair value of a particular security may be below its amortized cost, it does not necessarily result in a credit loss and hence an allowance for credit losses. The decline in fair value may be caused by, among other things, higher market rates or the illiquidity of the market. We have reviewed the securities in an unrealized loss position for which no allowance for credit losses has been recognized in accordance with our accounting policies, discussed further above. At December 31, 2022, we do not consider any of these securities to be impaired due to credit factors as we expect to recover their amortized cost basis and we neither intend nor expect to be required to sell these securities prior to recovery, even if that equates to holding them until their individual maturities. However, impairments due to credit factors may occur in future periods if the credit quality of the securities deteriorates.

Securities Held-to-Maturity The following provides additional information about our portfolio of securities held-to-maturity:

Allowance for credit losses Due to the composition of our portfolio of securities held-to-maturity, substantially all of our portfolio qualifies for the Zero Expected Credit Loss Exception and has been excluded from our lifetime ECL calculation. See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," for further discussion. At December 31, 2022 and 2021, the allowance for credit losses on securities held-to-maturity was nil and \$1 million, respectively.

At December 31, 2022 and 2021, none of our securities held-to-maturity were past due or in nonaccrual status.

Credit risk profile Securities are assigned a credit rating based on the estimated probability of default. The credit ratings are used as a credit quality indicator to monitor our securities held-to-maturity portfolio. We utilize S&P as the primary source of

our credit ratings. If S&P ratings are not available, ratings by Moody's and Fitch are used in that order. Investment grade includes securities with credit ratings of at least BBB- or above. At December 31, 2022 and 2021, all of our securities held-to-maturity were investment grade.

Other securities gains, net The following table summarizes realized gains and losses on investment securities transactions attributable to available-for-sale securities:

	2022	2021	2020
	(in millions)		
Gross realized gains	\$ 32	\$ 159	\$ 174
Gross realized losses	(6)	(86)	(37)
Net realized gains	<u>\$ 26</u>	<u>\$ 73</u>	<u>\$ 137</u>

Contractual Maturities and Yields The following table summarizes the amortized cost and fair values of securities available-for-sale and securities held-to-maturity at December 31, 2022 by contractual maturity. Expected maturities differ from contractual maturities because borrowers have the right to prepay obligations without prepayment penalties in certain cases. The table below also reflects the distribution of maturities of debt securities held at December 31, 2022, together with the approximate yield of the portfolio. The yields shown are calculated by dividing annualized interest income, including the accretion of discounts and the amortization of premiums, by the amortized cost of securities outstanding at December 31, 2022.

	Within One Year		After One But Within Five Years		After Five But Within Ten Years		After Ten Years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
(dollars are in millions)								
Available-for-sale:								
U.S. Treasury	\$ —	— %	\$ 3,436	1.54 %	\$ 1,300	1.52 %	\$ 2,926	2.72 %
U.S. Government sponsored enterprises	193	1.16	1,697	1.73	1,467	2.24	6,536	1.73
U.S. Government agency issued or guaranteed	—	—	21	.92	1	8.03	10,783	2.56
Asset-backed securities	—	—	—	—	105	4.15	16	4.31
Foreign debt securities	1,436	.23	418	1.46	—	—	—	—
Total amortized cost	<u>\$ 1,629</u>	.34 %	<u>\$ 5,572</u>	1.59 %	<u>\$ 2,873</u>	1.99 %	<u>\$ 20,261</u>	2.32 %
Total fair value	<u>\$ 1,628</u>		<u>\$ 5,419</u>		<u>\$ 2,717</u>		<u>\$ 17,581</u>	
Held-to-maturity:								
U.S. Treasury	\$ —	— %	\$ —	— %	\$ 873	3.77 %	\$ —	— %
U.S. Government sponsored enterprises	6	2.79	91	2.36	853	3.16	554	3.33
U.S. Government agency issued or guaranteed	—	—	1	3.49	8	7.05	4,925	3.23
Obligations of U.S. states and political subdivisions	1	3.25	4	3.44	—	—	—	—
Asset-backed securities	—	—	—	—	—	—	1	7.67
Total amortized cost	<u>\$ 7</u>	2.85 %	<u>\$ 96</u>	2.42 %	<u>\$ 1,734</u>	3.49 %	<u>\$ 5,480</u>	3.24 %
Total fair value	<u>\$ 7</u>		<u>\$ 91</u>		<u>\$ 1,660</u>		<u>\$ 5,104</u>	

Equity Securities Equity securities that are not classified as trading and are included in other assets consisted of the following:

At December 31,	2022	2021
	(in millions)	
Equity securities carried at fair value	\$ 267	\$ 282
Equity securities without readily determinable fair values	15	16

On a quarterly basis, we perform an assessment to determine whether any equity securities without readily determinable fair values are impaired. In the event an equity security is deemed impaired, the security is written down to fair value with impairment recorded in earnings. During 2022, 2021 and 2020, we determined that certain equity securities without readily determinable fair values were impaired and, as a result, we recorded impairment losses of \$3 million, \$3 million and \$2 million, respectively, as a component of other income (loss) in the consolidated statement of income (loss).

Also included in other assets were investments in Federal Home Loan Bank ("FHLB") stock and Federal Reserve Bank stock of \$95 million and \$498 million, respectively, at December 31, 2022 and \$110 million and \$558 million, respectively, at December 31, 2021.

7. Loans

Loans consisted of the following:

At December 31,	2022	2021
	(in millions)	
Commercial loans:		
Real estate, including construction	\$ 7,963	\$ 8,234
Business and corporate banking	16,075	13,958
Global banking ⁽¹⁾	10,578	11,109
Other commercial:		
Affiliates ⁽²⁾	3,557	2,793
Other	3,644	3,702
Total other commercial	<u>7,201</u>	<u>6,495</u>
Total commercial	<u>41,817</u>	<u>39,796</u>
Consumer loans:		
Residential mortgages	16,838	15,469
Home equity mortgages	370	325
Credit cards	213	204
Other consumer ⁽³⁾	142	70
Total consumer ⁽⁴⁾	<u>17,563</u>	<u>16,068</u>
Total loans	<u>\$ 59,380</u>	<u>\$ 55,864</u>

⁽¹⁾ Represents large multinational firms including globally focused U.S. corporate and financial institutions, U.S. dollar lending to multinational banking clients managed by HSBC on a global basis and complex large business clients supported by Global Banking and Markets relationship managers.

⁽²⁾ See Note 24, "Related Party Transactions," for additional information regarding loans to HSBC affiliates.

⁽³⁾ Includes certain student loans that we have elected to designate under the fair value option and are therefore carried at fair value, which totaled \$20 million at December 31, 2022. These student loans were transferred from held for sale to held for investment during the fourth quarter of 2022. See Note 17, "Fair Value Option," for further details.

⁽⁴⁾ Consumer loans at December 31, 2022 include certain loans that were transferred from held for sale to held for investment during 2022. See Note 9, "Loans Held for Sale," for additional information.

We have loans outstanding to certain executive officers and directors. The loans were made on substantially the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with other persons and do not involve more than normal risk of collectibility. The aggregate amount of such loans did not exceed 5 percent of total equity at either December 31, 2022 or 2021.

Net deferred origination costs totaled \$14 million and \$40 million at December 31, 2022 and 2021, respectively. At December 31, 2022 and 2021, we had a net unamortized premium (discount) on our loans of \$(10) million and \$5 million, respectively.

Aging Analysis of Past Due Loans The following table summarizes the past due status of our loans at December 31, 2022 and 2021. The aging of past due amounts is determined based on the contractual delinquency status of payments under the loan. An account is generally considered to be contractually delinquent when payments have not been made in accordance with the loan terms. Delinquency status is affected by customer account management policies and practices such as re-age, which results in the re-setting of the contractual delinquency status to current.

	Past Due		Total Past Due 30 Days or More	Current ⁽¹⁾	Total Loans
	30 - 89 Days	90+ Days			
(in millions)					
At December 31, 2022					
Commercial loans:					
Real estate, including construction	\$ 27	\$ 1	\$ 28	\$ 7,935	\$ 7,963
Business and corporate banking	13	23	36	16,039	16,075
Global banking	—	8	8	10,570	10,578
Other commercial	464	—	464	6,737	7,201
Total commercial	<u>504</u>	<u>32</u>	<u>536</u>	<u>41,281</u>	<u>41,817</u>
Consumer loans:					
Residential mortgages	180	105	285	16,553	16,838
Home equity mortgages	2	3	5	365	370
Credit cards	2	2	4	209	213
Other consumer	2	1	3	139	142
Total consumer ⁽²⁾	<u>186</u>	<u>111</u>	<u>297</u>	<u>17,266</u>	<u>17,563</u>
Total loans	<u>\$ 690</u>	<u>\$ 143</u>	<u>\$ 833</u>	<u>\$ 58,547</u>	<u>\$ 59,380</u>
At December 31, 2021					
Commercial loans:					
Real estate, including construction	\$ 38	\$ —	\$ 38	\$ 8,196	\$ 8,234
Business and corporate banking	112	17	129	13,829	13,958
Global banking	—	27	27	11,082	11,109
Other commercial	47	—	47	6,448	6,495
Total commercial	<u>197</u>	<u>44</u>	<u>241</u>	<u>39,555</u>	<u>39,796</u>
Consumer loans:					
Residential mortgages	138	63	201	15,268	15,469
Home equity mortgages	2	1	3	322	325
Credit cards	5	2	7	197	204
Other consumer	1	—	1	69	70
Total consumer	<u>146</u>	<u>66</u>	<u>212</u>	<u>15,856</u>	<u>16,068</u>
Total loans	<u>\$ 343</u>	<u>\$ 110</u>	<u>\$ 453</u>	<u>\$ 55,411</u>	<u>\$ 55,864</u>

⁽¹⁾ Loans less than 30 days past due are presented as current.

⁽²⁾ Consumer past due loans at December 31, 2022 include certain loans that were transferred from held for sale to held for investment during 2022, which collectively included \$55 million of consumer loans which were past due 30 days or more at the time of transfer. See Note 9, "Loans Held for Sale," for additional information.

Contractual Maturities Contractual maturities of loans outstanding at December 31, 2022 were as follows:

	2023	2024 - 2027	2028 - 2037	Thereafter	Total
	(in millions)				
Commercial loans:					
Real estate, including construction	\$ 3,297	\$ 4,414	\$ 237	\$ 15	\$ 7,963
Business and corporate banking	6,655	8,911	479	30	16,075
Global banking	4,421	5,819	318	20	10,578
Other commercial	2,981	3,992	214	14	7,201
Consumer loans:					
Residential mortgages	192	106	468	16,072	16,838
Home equity mortgages ⁽¹⁾	138	186	37	9	370
Credit cards ⁽²⁾	—	213	—	—	213
Other consumer	68	72	1	1	142
Total	\$ 17,752	\$ 23,713	\$ 1,754	\$ 16,161	\$ 59,380

⁽¹⁾ Home equity mortgage maturities reflect estimates based on historical payment patterns.

⁽²⁾ As credit card receivables do not have stated maturities, the table reflects an average estimate based on historical payment patterns.

As a substantial portion of consumer loans, based on our experience, will be renewed or repaid prior to contractual maturity, the above maturity schedule should not be regarded as a forecast of future cash collections. The following table summarizes loans outstanding at December 31, 2022 due after one year by repricing characteristic:

December 31, 2022	Receivables at Predetermined Interest Rates	Receivables at Floating or Adjustable Rates	Total Loans Due After One Year
	(in millions)		
Commercial loans:			
Real estate, including construction	\$ 211	\$ 4,455	\$ 4,666
Business and corporate banking	427	8,993	9,420
Global banking	283	5,874	6,157
Other commercial	191	4,029	4,220
Consumer loans:			
Residential mortgages	4,331	12,315	16,646
Home equity mortgages	15	217	232
Credit cards	—	213	213
Other consumer	—	74	74
Total	\$ 5,458	\$ 36,170	\$ 41,628

Nonperforming Loans Nonperforming loans, including nonaccrual loans and accruing loans contractually 90 days or more past due, consisted of the following:

	Nonaccrual Loans	Accruing Loans Contractually Past Due 90 Days or More	Nonaccrual Loans With No Allowance For Credit Losses
	(in millions)		
At December 31, 2022			
Commercial:			
Real estate, including construction	\$ 45	\$ —	\$ 43
Business and corporate banking	116	1	62
Global banking	54	—	40
Total commercial	<u>215</u>	<u>1</u>	<u>145</u>
Consumer:			
Residential mortgages ⁽¹⁾⁽²⁾⁽³⁾	213	—	79
Home equity mortgages ⁽¹⁾⁽²⁾	7	—	5
Credit cards	—	2	—
Other consumer	—	1	—
Total consumer ⁽⁴⁾	<u>220</u>	<u>3</u>	<u>84</u>
Total nonperforming loans	<u>\$ 435</u>	<u>\$ 4</u>	<u>\$ 229</u>
At December 31, 2021			
Commercial:			
Real estate, including construction	\$ 140	\$ —	\$ 20
Business and corporate banking	134	1	69
Global banking	105	—	63
Total commercial	<u>379</u>	<u>1</u>	<u>152</u>
Consumer:			
Residential mortgages ⁽¹⁾⁽²⁾⁽³⁾	229	—	55
Home equity mortgages ⁽¹⁾⁽²⁾	9	—	4
Credit cards	—	2	—
Total consumer	<u>238</u>	<u>2</u>	<u>59</u>
Total nonperforming loans	<u>\$ 617</u>	<u>\$ 3</u>	<u>\$ 211</u>

(1) At December 31, 2022 and 2021, nonaccrual consumer mortgage loans include \$109 million and \$86 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

(2) Nonaccrual consumer mortgage loans include all loans which are 90 or more days contractually delinquent as well as loans discharged under Chapter 7 bankruptcy and not re-affirmed and second lien loans where the first lien loan that we own or service is 90 or more days contractually delinquent.

(3) Nonaccrual consumer mortgage loans for all periods does not include guaranteed loans purchased from the Government National Mortgage Association. Repayment of these loans is predominantly insured by the Federal Housing Administration and as such, these loans have different risk characteristics from the rest of our consumer loan portfolio.

(4) Consumer nonperforming loans at December 31, 2022 include certain loans that were transferred from held for sale to held for investment during 2022, which collectively included \$65 million of consumer nonperforming loans at the time of transfer. See Note 9, "Loans Held for Sale," for additional information.

Interest income that was recorded on nonaccrual loans and included in interest income totaled \$10 million, \$34 million and \$12 million during the years ended December 31, 2022, 2021, and 2020 respectively.

Collateral-Dependent Loans Loans for which the repayment is expected to be provided substantially through the operation or sale of the collateral and the borrower is experiencing financial difficulty are considered to be collateral-dependent loans. Collateral can have a significant financial effect in mitigating our exposure to credit risk.

Collateral-dependent residential mortgage loans are carried at the lower of amortized cost or fair value of the collateral less costs to sell, with any excess in the carrying amount of the loan generally charged off at the time foreclosure is initiated or when settlement is reached with the borrower, but not to exceed the end of the month in which the account becomes six months contractually delinquent. Collateral values are based on broker price opinions or appraisals which are updated at least every 180 days less estimated costs to sell. During the quarterly period between updates, real estate price trends are reviewed on a

geographic basis and incorporated as necessary. At December 31, 2022 and 2021, we had collateral-dependent residential mortgage loans totaling \$249 million and \$214 million, respectively.

For collateral-dependent commercial loans, the allowance for expected credit losses is individually assessed based on the fair value of the collateral. Various types of collateral are used, including real estate, inventory, equipment, accounts receivable, securities and cash, among others. For commercial real estate loans, collateral values are generally based on appraisals which are updated based on management judgment under the specific circumstances on a case-by-case basis. In situations where an appraisal is not used, borrower-specific factors such as operating results, cash flows and debt service ratios are reviewed along with relevant market data of comparable properties in order to create a 10-year cash flow model to be discounted at appropriate rates to present value. The collateral value for securities is based on their quoted market prices or broker quotes. The collateral value for other financial assets is generally based on appraisals or is estimated using a discounted cash flow analysis. Commercial loan balances are charged off at the time all or a portion of the balance is deemed uncollectible. At December 31, 2022 and 2021, we had collateral-dependent commercial loans totaling \$130 million and \$347 million, respectively.

Troubled debt restructurings TDR Loans represent loans for which the original contractual terms have been modified to provide for terms that are less than what we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition.

Modifications for consumer or commercial loans may include changes to one or more terms of the loan, including, but not limited to, a change in interest rate, extension of the amortization period, reduction in payment amount and partial forgiveness or deferment of principal, accrued interest or other loan covenants. A substantial amount of our modifications involve interest rate reductions on consumer loans, which lower the amount of interest income we are contractually entitled to receive in future periods. Through lowering the interest rate and other loan term changes, we believe we are able to increase the amount of cash flow that will ultimately be collected from the loan, given the borrower's financial condition. Once a consumer loan is classified as a TDR Loan, it continues to be reported as such until it is paid off or charged-off. For commercial loans, if subsequent performance is in accordance with the new terms and the loan is upgraded, the loan may no longer be reported as a TDR Loan at the earliest one year after the restructuring. During 2022, 2021 and 2020, there were no commercial loans that met these criteria and were removed from TDR Loan classification.

The following table summarizes our TDR Loans at December 31, 2022 and 2021:

At December 31,	2022	2021
	(in millions)	
Commercial loans:		
Business and corporate banking.....	\$ 382	\$ 38
Global banking.....	6	25
Total commercial ⁽¹⁾	<u>388</u>	<u>63</u>
Consumer loans:		
Residential mortgages ⁽²⁾	136	125
Home equity mortgages ⁽²⁾	12	9
Credit cards.....	2	3
Total consumer ⁽³⁾	<u>150</u>	<u>137</u>
Total TDR Loans ⁽⁴⁾	<u>\$ 538</u>	<u>\$ 200</u>

⁽¹⁾ Additional commitments to lend to commercial borrowers whose loans have been modified in TDR Loans totaled \$38 million and \$13 million at December 31, 2022 and 2021, respectively.

⁽²⁾ At December 31, 2022 and 2021, the carrying value of consumer mortgage TDR Loans includes \$99 million and \$104 million, respectively, of loans that are recorded at the lower of amortized cost or fair value of the collateral less cost to sell.

⁽³⁾ Consumer TDR Loans at December 31, 2022 include certain loans that were transferred from held for sale to held for investment during 2022, which collectively included \$26 million of consumer TDR Loans at the time of transfer. See Note 9, "Loans Held for Sale," for additional information.

⁽⁴⁾ At December 31, 2022 and 2021, the carrying value of TDR Loans includes \$122 million and \$115 million, respectively, of loans which are classified as nonaccrual.

The following table presents information about loans which were modified during 2022, 2021 and 2020 and as a result of this action became classified as TDR Loans:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Commercial loans:			
Business and corporate banking	\$ 439	\$ 11	\$ 95
Global banking	3	15	44
Total commercial	442	26	139
Consumer loans:			
Residential mortgages	20	36	78
Home equity mortgages	2	1	3
Credit cards	4	2	4
Total consumer	26	39	85
Total	\$ 468	\$ 65	\$ 224

The weighted-average contractual rate reduction for consumer loans which became classified as TDR Loans during 2022, 2021 and 2020 was 0.25 percent, 2.08 percent and 1.75 percent, respectively. The weighted-average contractual rate reduction for commercial loans was not significant in either the number of loans or rate.

The following table presents consumer loans which were classified as TDR Loans during the previous 12 months which subsequently became 60 days or greater contractually delinquent during the years ended December 31, 2022, 2021 and 2020:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Consumer loans:			
Residential mortgages	\$ —	\$ 5	\$ 5
Total consumer	\$ —	\$ 5	\$ 5

During the years ended December 31, 2022, 2021 and 2020, there were no commercial TDR Loans which were classified as TDR Loans during the previous 12 months which subsequently became 90 days or greater contractually delinquent.

Commercial Loan Credit Quality Indicators The following credit quality indicators are utilized to monitor our commercial loan portfolio:

Criticized loans Criticized loan classifications presented in the table below are determined by the assignment of various criticized facility risk ratings based on the risk rating standards of our regulator. The following facility risk ratings are deemed to be criticized:

Special Mention - generally includes loans that are protected by collateral and/or the credit worthiness of the customer, but are potentially weak based upon economic or market circumstances which, if not checked or corrected, could weaken our credit position at some future date.

Substandard - includes loans that are inadequately protected by the underlying collateral and/or general credit worthiness of the customer. These loans present a distinct possibility that we will sustain some loss if the deficiencies are not corrected.

Doubtful - includes loans that have all the weaknesses exhibited by substandard loans, with the added characteristic that the weaknesses make collection or liquidation in full of the recorded loan highly improbable. However, although the possibility of loss is extremely high, certain factors exist which may strengthen the credit at some future date, and therefore the decision to charge-off the loan is deferred. Loans graded as doubtful are required to be placed in nonaccrual status.

The following table summarizes our criticized commercial loans, including a disaggregation of the loans by year of origination as of December 31, 2022 and 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2022
(in millions)									
Real estate, including construction:									
Special mention	\$ 204	\$ —	\$ 22	\$ 212	\$ 27	\$ 19	\$ 63	\$ 3	\$ 550
Substandard	1	—	48	64	677	891	19	—	1,700
Doubtful	—	—	—	—	—	—	—	—	—
Total real estate, including construction	205	—	70	276	704	910	82	3	2,250
Business and corporate banking:									
Special mention	1	—	16	1	34	116	182	—	350
Substandard	3	43	26	1	10	138	548	1	770
Doubtful	—	—	9	—	15	—	24	4	52
Total business and corporate banking	4	43	51	2	59	254	754	5	1,172
Global banking:									
Special mention	—	—	—	—	—	8	182	—	190
Substandard	232	—	—	16	—	2	186	—	436
Doubtful	—	—	—	—	—	—	15	—	15
Total global banking	232	—	—	16	—	10	383	—	641
Other commercial:									
Substandard	—	—	—	—	—	—	7	—	7
Doubtful	31	—	—	—	—	—	7	—	38
Total other commercial	31	—	—	—	—	—	14	—	45
Total commercial:									
Special mention	205	—	38	213	61	143	427	3	1,090
Substandard	236	43	74	81	687	1,031	760	1	2,913
Doubtful	31	—	9	—	15	—	46	4	105
Total commercial	\$ 472	\$ 43	\$ 121	\$ 294	\$ 763	\$ 1,174	\$ 1,233	\$ 8	\$ 4,108

	2021	2020	2019	2018	2017	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2021
(in millions)									
Real estate, including construction:									
Special mention	\$ —	\$ —	\$ 350	\$ 487	\$ 90	\$ 259	\$ —	\$ —	\$ 1,186
Substandard	—	1	272	263	308	461	20	11	1,336
Doubtful	—	—	80	2	—	53	—	—	135
Total real estate, including construction	—	1	702	752	398	773	20	11	2,657
Business and corporate banking:									
Special mention	—	1	91	60	26	274	173	—	625
Substandard	—	18	36	9	3	226	424	8	724
Doubtful	—	—	—	20	—	28	16	—	64
Total business and corporate banking	—	19	127	89	29	528	613	8	1,413
Global banking:									
Special mention	8	—	—	—	—	8	47	—	63
Substandard	—	—	—	—	—	54	232	—	286
Doubtful	—	—	—	—	—	—	31	—	31
Total global banking	8	—	—	—	—	62	310	—	380
Other commercial:									
Special mention	—	—	—	—	—	7	—	—	7
Substandard	—	—	—	—	—	—	40	—	40
Total other commercial	—	—	—	—	—	7	40	—	47
Total commercial:									
Special mention	8	1	441	547	116	548	220	—	1,881
Substandard	—	19	308	272	311	741	716	19	2,386
Doubtful	—	—	80	22	—	81	47	—	230
Total commercial	\$ 8	\$ 20	\$ 829	\$ 841	\$ 427	\$ 1,370	\$ 983	\$ 19	\$ 4,497

Nonperforming The following table summarizes the nonperforming status of our commercial loan portfolio, including a disaggregation of the loans by year of origination as of December 31, 2022 and 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2022
	(in millions)								
Real estate, including construction:									
Performing loans	\$ 1,315	\$ 854	\$ 520	\$ 1,671	\$ 1,803	\$ 1,710	\$ 42	\$ 3	\$ 7,918
Nonaccrual loans	—	—	—	43	—	2	—	—	45
Total real estate, including construction	<u>1,315</u>	<u>854</u>	<u>520</u>	<u>1,714</u>	<u>1,803</u>	<u>1,712</u>	<u>42</u>	<u>3</u>	<u>7,963</u>
Business and corporate banking:									
Performing loans	1,107	828	443	815	292	4,995	7,275	203	15,958
Nonaccrual loans	9	—	32	—	16	24	31	4	116
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total business and corporate banking	<u>1,116</u>	<u>828</u>	<u>475</u>	<u>815</u>	<u>308</u>	<u>5,019</u>	<u>7,307</u>	<u>207</u>	<u>16,075</u>
Global banking:									
Performing loans	2,026	449	212	177	114	4,122	3,424	—	10,524
Nonaccrual loans	8	—	—	—	—	30	16	—	54
Total global banking	<u>2,034</u>	<u>449</u>	<u>212</u>	<u>177</u>	<u>114</u>	<u>4,152</u>	<u>3,440</u>	<u>—</u>	<u>10,578</u>
Other commercial:									
Performing loans	283	354	607	403	86	1,114	4,354	—	7,201
Total other commercial	<u>283</u>	<u>354</u>	<u>607</u>	<u>403</u>	<u>86</u>	<u>1,114</u>	<u>4,354</u>	<u>—</u>	<u>7,201</u>
Total commercial:									
Performing loans	4,731	2,485	1,782	3,066	2,295	11,941	15,095	206	41,601
Nonaccrual loans	17	—	32	43	16	56	47	4	215
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total commercial	<u>\$ 4,748</u>	<u>\$ 2,485</u>	<u>\$ 1,814</u>	<u>\$ 3,109</u>	<u>\$ 2,311</u>	<u>\$ 11,997</u>	<u>\$ 15,143</u>	<u>\$ 210</u>	<u>\$ 41,817</u>

	2021	2020	2019	2018	2017	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2021
(in millions)									
Real estate, including construction:									
Performing loans	\$ 969	\$ 651	\$ 2,436	\$ 2,076	\$ 593	\$ 1,307	\$ 46	\$ 16	\$ 8,094
Nonaccrual loans	—	2	80	40	—	18	—	—	140
Total real estate, including construction	969	653	2,516	2,116	593	1,325	46	16	8,234
Business and corporate banking:									
Performing loans	1,630	709	594	190	187	4,756	5,540	217	13,823
Nonaccrual loans	—	4	14	30	51	1	34	—	134
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total business and corporate banking	1,630	713	608	220	238	4,757	5,575	217	13,958
Global banking:									
Performing loans	547	540	203	80	243	4,580	4,811	—	11,004
Nonaccrual loans	—	—	—	—	—	40	65	—	105
Total global banking	547	540	203	80	243	4,620	4,876	—	11,109
Other commercial:									
Performing loans	589	552	451	174	110	1,045	3,574	—	6,495
Total other commercial	589	552	451	174	110	1,045	3,574	—	6,495
Total commercial:									
Performing loans	3,735	2,452	3,684	2,520	1,133	11,688	13,971	233	39,416
Nonaccrual loans	—	6	94	70	51	59	99	—	379
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	—	1
Total commercial	<u>\$ 3,735</u>	<u>\$ 2,458</u>	<u>\$ 3,778</u>	<u>\$ 2,590</u>	<u>\$ 1,184</u>	<u>\$ 11,747</u>	<u>\$ 14,071</u>	<u>\$ 233</u>	<u>\$ 39,796</u>

Credit risk profile Commercial loans are assigned a credit rating based on the estimated probability of default. Investment grade includes loans with credit ratings of at least BBB- or above or the equivalent based on our internal credit rating system. The following table summarizes the credit risk profile of our commercial loan portfolio, including a disaggregation of the loans by year of origination as of December 31, 2022 and 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term Loans	Total at Dec. 31, 2022
(in millions)									
Real estate, including construction:									
Investment grade	\$ 80	\$ 45	\$ 305	\$ 178	\$ 783	\$ 278	\$ —	\$ —	\$ 1,669
Non-investment grade	1,235	809	215	1,536	1,020	1,434	42	3	6,294
Total real estate, including construction	1,315	854	520	1,714	1,803	1,712	42	3	7,963
Business and corporate banking:									
Investment grade	491	484	122	444	71	2,758	3,657	21	8,048
Non-investment grade	625	344	353	371	237	2,261	3,650	186	8,027
Total business and corporate banking	1,116	828	475	815	308	5,019	7,307	207	16,075
Global banking:									
Investment grade	1,814	449	212	146	84	2,911	3,006	—	8,622
Non-investment grade	220	—	—	31	30	1,241	434	—	1,956
Total global banking	2,034	449	212	177	114	4,152	3,440	—	10,578
Other commercial:									
Investment grade	267	77	518	81	74	935	4,110	—	6,062
Non-investment grade	16	277	89	322	12	179	244	—	1,139
Total other commercial	283	354	607	403	86	1,114	4,354	—	7,201
Total commercial:									
Investment grade	2,652	1,055	1,157	849	1,012	6,882	10,773	21	24,401
Non-investment grade	2,096	1,430	657	2,260	1,299	5,115	4,370	189	17,416
Total commercial	\$ 4,748	\$ 2,485	\$ 1,814	\$ 3,109	\$ 2,311	\$ 11,997	\$ 15,143	\$ 210	\$ 41,817
(in millions)									
Real estate, including construction:									
Investment grade	\$ 1	\$ 361	\$ 491	\$ 772	\$ 57	\$ 248	\$ 12	\$ —	\$ 1,942
Non-investment grade	968	292	2,025	1,344	536	1,077	34	16	6,292
Total real estate, including construction	969	653	2,516	2,116	593	1,325	46	16	8,234
Business and corporate banking:									
Investment grade	881	254	240	52	43	2,122	2,498	55	6,145
Non-investment grade	749	459	368	168	195	2,635	3,077	162	7,813
Total business and corporate banking	1,630	713	608	220	238	4,757	5,575	217	13,958
Global banking:									
Investment grade	530	539	189	64	235	3,910	4,240	—	9,707
Non-investment grade	17	1	14	16	8	710	636	—	1,402
Total global banking	547	540	203	80	243	4,620	4,876	—	11,109
Other commercial:									
Investment grade	120	442	153	174	69	943	3,527	—	5,428
Non-investment grade	469	110	298	—	41	102	47	—	1,067
Total other commercial	589	552	451	174	110	1,045	3,574	—	6,495
Total commercial:									
Investment grade	1,532	1,596	1,073	1,062	404	7,223	10,277	55	23,222
Non-investment grade	2,203	862	2,705	1,528	780	4,524	3,794	178	16,574
Total commercial	\$ 3,735	\$ 2,458	\$ 3,778	\$ 2,590	\$ 1,184	\$ 11,747	\$ 14,071	\$ 233	\$ 39,796

Consumer Loan Credit Quality Indicators The following credit quality indicators are utilized to monitor our consumer loan portfolio:

Delinquency The following table summarizes dollars of two-months-and-over contractual delinquency for our consumer loan portfolio, including a disaggregation of the loans by year of origination as of December 31, 2022 and 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Total at Dec. 31, 2022
(in millions)								
Residential mortgages ⁽¹⁾⁽²⁾	\$ 6	\$ 4	\$ 8	\$ 16	\$ 10	\$ 97	\$ —	\$ 141
Home equity mortgages ⁽¹⁾⁽²⁾	—	—	—	—	—	3	—	3
Credit cards	—	—	—	—	—	—	3	3
Other consumer	—	—	—	—	—	2	1	3
Total consumer	\$ 6	\$ 4	\$ 8	\$ 16	\$ 10	\$ 102	\$ 4	\$ 150
(in millions)								
	2021	2020	2019	2018	2017	Prior	Revolving Loans	Total at Dec. 31, 2021
Residential mortgages ⁽¹⁾⁽²⁾	\$ 5	\$ 2	\$ 11	\$ 13	\$ 8	\$ 64	\$ —	\$ 103
Home equity mortgages ⁽¹⁾⁽²⁾	—	—	—	—	—	1	—	1
Credit cards	—	—	—	—	—	—	3	3
Total consumer	\$ 5	\$ 2	\$ 11	\$ 13	\$ 8	\$ 65	\$ 3	\$ 107

(1) At December 31, 2022 and 2021, consumer mortgage loan delinquency includes \$60 million and \$24 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

(2) At December 31, 2022 and 2021, consumer mortgage loans include \$21 million and \$87 million, respectively, of loans that were in the process of foreclosure.

Nonperforming The following table summarizes the nonperforming status of our consumer loan portfolio, including a disaggregation of the loans by year of origination as of December 31, 2022 and 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Total at Dec. 31, 2022
(in millions)								
Residential mortgages:								
Performing loans	\$ 2,885	\$ 4,272	\$ 2,936	\$ 1,300	\$ 729	\$ 4,503	\$ —	\$ 16,625
Nonaccrual loans	2	8	13	23	22	145	—	213
Total residential mortgages	2,887	4,280	2,949	1,323	751	4,648	—	16,838
Home equity mortgages:								
Performing loans	74	12	24	32	13	208	—	363
Nonaccrual loans	—	—	—	—	—	7	—	7
Total home equity mortgages	74	12	24	32	13	215	—	370
Credit cards:								
Performing loans	—	—	—	—	—	—	211	211
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	2	2
Total credit cards	—	—	—	—	—	—	213	213
Other consumer:								
Performing loans	14	10	9	6	—	91	11	141
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	1	1
Total other consumer	14	10	9	6	—	91	12	142
Total consumer:								
Performing loans	2,973	4,294	2,969	1,338	742	4,802	222	17,340
Nonaccrual loans	2	8	13	23	22	152	—	220
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	3	3
Total consumer	\$ 2,975	\$ 4,302	\$ 2,982	\$ 1,361	\$ 764	\$ 4,954	\$ 225	\$ 17,563

	2021	2020	2019	2018	2017	Prior	Revolving Loans	Total at Dec. 31, 2021
(in millions)								
Residential mortgages:								
Performing loans	\$ 4,496	\$ 3,296	\$ 1,481	\$ 851	\$ 955	\$ 4,161	\$ —	\$ 15,240
Nonaccrual loans	2	9	15	21	14	168	—	229
Total residential mortgages	4,498	3,305	1,496	872	969	4,329	—	15,469
Home equity mortgages:								
Performing loans	15	30	30	18	17	206	—	316
Nonaccrual loans	—	—	—	—	—	9	—	9
Total home equity mortgages	15	30	30	18	17	215	—	325
Credit cards:								
Performing loans	—	—	—	—	—	—	202	202
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	2	2
Total credit cards	—	—	—	—	—	—	204	204
Other consumer:								
Performing loans	8	8	5	1	1	45	2	70
Total other consumer	8	8	5	1	1	45	2	70
Total consumer:								
Performing loans	4,519	3,334	1,516	870	973	4,412	204	15,828
Nonaccrual loans	2	9	15	21	14	177	—	238
Accruing loans contractually past due 90 days or more	—	—	—	—	—	—	2	2
Total consumer	\$ 4,521	\$ 3,343	\$ 1,531	\$ 891	\$ 987	\$ 4,589	\$ 206	\$ 16,068

Troubled debt restructurings The following table summarizes TDR Loans in our consumer loan portfolio, including a disaggregation of the loans by year of origination as of December 31, 2022 and 2021:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Total at Dec. 31, 2022
(in millions)								
Residential mortgages	\$ —	\$ —	\$ 3	\$ 9	\$ 4	\$ 120	\$ —	\$ 136
Home equity mortgages	—	—	—	—	—	12	—	12
Credit cards	—	—	—	—	—	—	2	2
Total consumer	\$ —	\$ —	\$ 3	\$ 9	\$ 4	\$ 132	\$ 2	\$ 150
(in millions)								
Residential mortgages	\$ —	\$ 1	\$ 3	\$ 3	\$ —	\$ 118	\$ —	\$ 125
Home equity mortgages	—	—	—	—	—	9	—	9
Credit cards	—	—	—	—	—	—	3	3
Total consumer	\$ —	\$ 1	\$ 3	\$ 3	\$ —	\$ 127	\$ 3	\$ 137

Concentration of Credit Risk At December 31, 2022 and 2021, our loan portfolios included interest-only residential mortgage and home equity mortgage loans totaling \$4,063 million and \$3,739 million, respectively. An interest-only residential mortgage loan allows a customer to pay the interest-only portion of the monthly payment for a period of time which results in lower payments during the initial loan period. However, subsequent events affecting a customer's financial position could affect the ability of customers to repay the loan in the future when the principal payments are required which increases the credit risk of this loan type.

8. Allowance for Credit Losses

Description of Economic Scenarios at December 31, 2022 and Other Changes During the Year Ended December 31, 2022

During 2022, uncertainties about the future economic environment remained elevated, especially around inflation and interest rates as well as slowing economic growth and repercussions from the Russia-Ukraine war. We updated our Consensus Economic Scenarios and our Alternative Downside Scenario to reflect management's current view of forecasted economic conditions and utilized the four updated scenarios for estimating lifetime ECL at December 31, 2022. Each of the four scenarios were assigned weightings with the majority of the weighting placed on the Central scenario, the second most weighting placed on the Downside scenario and lower equal weights placed on the Alternative Downside and Upside scenarios. This weighting was deemed appropriate for the estimation of lifetime ECL under current conditions. The following discussion summarizes the Central, Upside, Downside and Alternative Downside scenarios at December 31, 2022. The economic assumptions described in this section have been formed specifically for the purpose of calculating ECL.

In the Central scenario, U.S. Gross Domestic Product ("GDP") growth slows in 2023, under the assumption that prevailing economic risks, including those from high inflation and interest rates, impact consumer spending. With modest economic growth, the unemployment rate upticks, but remains near historic lows, while slowing demand for housing, combined with higher interest rates, cause residential and commercial real estate prices to retreat. In the financial markets, growth in financial asset prices remains modest, the Federal Reserve Board ("FRB") continues to tackle inflation by raising its policy rate, and the 10-year U.S. Treasury yield remains elevated.

In the Upside scenario, the economy is assumed to grow at a faster pace than in the Central scenario as inflation wanes. As a result, the unemployment rate falls lower than in the Central scenario and both residential and commercial real estate prices depreciate more modestly than in the Central scenario. In this scenario, the equity price index climbs with strong momentum and overall optimism fueled by easing inflation allows the FRB to normalize its policy rate slightly faster than currently anticipated, which, combined with lower inflation expectations, drive the 10-year U.S. Treasury yield lower.

In the Downside scenario, inflation becomes entrenched and the economy enters into a recession, with the unemployment rate reversing its downward trend and remaining at a higher level, while residential and commercial real estate prices undergo sharp correction due to weakness in the labor market and rising inflation. In this scenario, the FRB initially tightens aggressively to tackle inflation and the equity price index goes through a substantial correction through the end of 2023 driven by an overall erosion of consumer and business sentiments, which eventually results in lower interest rates than in the Central scenario.

In the Alternative Downside scenario, the Russia-Ukraine war worsens significantly and persistent inflationary pressures accompanied by higher interest rates lead the U.S. economy into a deep recession in early 2023, followed by a very anemic recovery starting in mid-2024. An extended period of economic contraction keeps the unemployment rate at an elevated level, which pressures residential housing prices to depreciate substantially, while at the same time, contracting corporate activities and rising unemployment pushes the commercial real estate market into a downturn. In this scenario, financial markets experience a major sell-off and volatility in the financial markets remains extremely high over the next year, widening corporate credit spreads substantially, and flight to safe haven assets pushes the 10-year U.S. Treasury yield lower.

The following table presents the forecasted key macroeconomic variables in our Central scenarios used for estimating lifetime ECL at December 31, 2022 and December 31, 2021:

	For the Quarter Ended	
	June 30, 2023	December 31, 2023
Unemployment rate (quarterly average):		
Forecast at December 31, 2022	4.2 %	4.5 %
Forecast at December 31, 2021	3.8	3.7
GDP growth rate (year-over-year):		
Forecast at December 31, 2022	0.4	0.3
Forecast at December 31, 2021	2.3	2.5

In addition to the updates to the economic scenarios, we increased the management judgment allowance on our commercial loan portfolio for risk factors primarily associated with large loan exposures that are not fully captured in the models, which was partially offset by decreases for risk factors associated with higher risk industry exposures and supply chain disruptions. We also increased the management judgment allowance on our consumer loan portfolio for risk factors associated with economic uncertainty, including inflation, that are not fully captured in the models.

While we believe that the assumptions used in our credit loss models are reasonable within the parameters for which the models have been built and calibrated to operate, the severe projections of macro-economic variables during the coronavirus ("COVID-19") pandemic and subsequent recovery represent events outside the parameters for which the models have been

built. As a result, adjustments to model outputs to reflect consideration of management judgment are used with stringent governance in place to ensure an appropriate lifetime ECL estimate.

The impacts of higher inflation, rising interest rates and slowing economic growth as well as the continuing impact of the Russia-Ukraine war on economic conditions will continue to evolve and impact our business and our allowance for credit losses in future periods, the extent of which remains uncertain. We will continue to monitor these situations closely and will continue to adapt our approach as necessary to reflect management's current view of forecasted economic conditions.

Allowance for Credit Losses / Liability for Off-Balance Sheet Credit Exposures The following table summarizes our allowance for credit losses and the liability for off-balance sheet credit exposures:

At December 31,	2022	2021
	(in millions)	
Allowance for credit losses:		
Loans	\$ 584	\$ 447
Securities held-to-maturity ⁽¹⁾	—	1
Other financial assets measured at amortized cost ⁽²⁾	—	1
Securities available-for-sale ⁽¹⁾	—	1
Total allowance for credit losses	<u>\$ 584</u>	<u>\$ 450</u>
Liability for off-balance sheet credit exposures	\$ 117	\$ 103

⁽¹⁾ See Note 6, "Securities," for additional information regarding the allowance for credit losses associated with our security portfolios.

⁽²⁾ Primarily includes accrued interest receivables and customer acceptances.

The following table summarizes the changes in the allowance for credit losses on loans by product or line of business during the years ended December 31, 2022, 2021 and 2020:

	Commercial Loans				Consumer Loans				Total Loans
	Real Estate, including Construction	Business and Corporate Banking	Global Banking	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
	(in millions)								
Year Ended December 31, 2022									
Allowance for credit losses – beginning of period	\$ 73	\$ 243	\$ 100	\$ 4	\$ 8	\$ 5	\$ 14	\$ —	\$ 447
Provision charged (credited) to income	129	(8)	29	(3)	—	(6)	(2)	4	143
Charge-offs	(3)	(9)	(9)	—	(2)	(1)	(1)	(1)	(26)
Recoveries	1	4	—	—	5	4	5	1	20
Net (charge-offs) recoveries	(2)	(5)	(9)	—	3	3	4	—	(6)
Allowance for credit losses – end of period	<u>\$ 200</u>	<u>\$ 230</u>	<u>\$ 120</u>	<u>\$ 1</u>	<u>\$ 11</u>	<u>\$ 2</u>	<u>\$ 16</u>	<u>\$ 4</u>	<u>\$ 584</u>
Year Ended December 31, 2021									
Allowance for credit losses – beginning of period	\$ 145	\$ 375	\$ 287	\$ 7	\$ (9)	\$ 22	\$ 161	\$ 27	\$ 1,015
Provision charged (credited) to income ⁽¹⁾	(72)	(107)	(174)	(3)	21	(18)	(66)	(18)	(437)
Charge-offs ⁽¹⁾	—	(29)	(13)	—	(19)	(5)	(89)	(10)	(165)
Recoveries	—	4	—	—	15	6	8	1	34
Net (charge-offs) recoveries	—	(25)	(13)	—	(4)	1	(81)	(9)	(131)
Allowance for credit losses – end of period	<u>\$ 73</u>	<u>\$ 243</u>	<u>\$ 100</u>	<u>\$ 4</u>	<u>\$ 8</u>	<u>\$ 5</u>	<u>\$ 14</u>	<u>\$ —</u>	<u>\$ 447</u>

	Commercial Loans				Consumer Loans				Total Loans
	Real Estate, including Construction	Business and Corporate Banking	Global Banking	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
(in millions)									
Year Ended December 31, 2020									
Allowance for credit losses – beginning of period	\$ 153	\$ 239	\$ 106	\$ 9	\$ 12	\$ 6	\$ 105	\$ 7	\$ 637
Cumulative effect adjustment to initially apply new accounting guidance for measuring credit losses ⁽²⁾	(112)	(60)	51	(5)	(86)	7	32	3	(170)
Allowance for credit losses – beginning of period, adjusted	41	179	157	4	(74)	13	137	10	467
Provision charged (credited) to income	116	274	149	2	55	6	107	27	736
Charge-offs	(12)	(90)	(20)	—	(2)	(3)	(90)	(11)	(228)
Recoveries	—	12	1	1	12	6	7	1	40
Net (charge-offs) recoveries	(12)	(78)	(19)	1	10	3	(83)	(10)	\$ (188)
Allowance for credit losses – end of period	\$ 145	\$ 375	\$ 287	\$ 7	\$ (9)	\$ 22	\$ 161	\$ 27	\$ 1,015

⁽¹⁾ For loans that are transferred to held for sale, the existing allowance for credit losses at the time of transfer is recognized as a charge-off to the extent fair value is less than amortized cost and attributable to credit. Any remaining allowance for credit losses is released to the provision for credit losses.

During the second quarter of 2021, we made the decision to exit our mass market retail banking business which resulted in the transfer of certain loans to held for sale. As a result of transferring these loans to held for sale, we recognized \$56 million of the existing allowance for credit losses on consumer loans as charge-offs, primarily related to non-performing credit cards, and released \$100 million of the existing allowance for credit losses on consumer loans as reductions to the provision for credit losses, primarily related to credit cards. The existing commercial allowance for credit losses on the retail business banking loan portfolio transferred to held for sale was not material. See Note 4, "Branch Assets and Liabilities Held for Sale." During the fourth quarter of 2021, a portfolio of Premier credit cards was transferred back to held for investment which resulted in increases to the allowance for credit losses and provision for credit losses of \$14 million.

During the third quarter of 2021, we transferred certain commercial real estate loans to held for sale and, as a result, we released \$24 million of the existing allowance for credit losses as a reduction to the provision for credit losses.

During the fourth quarter of 2021, we also transferred certain non-performing mortgage loans and government-backed mortgage loans to held for sale. As a result, we recognized \$4 million of the existing allowance for credit losses as charge-offs and released \$22 million of the existing allowance for expected recoveries on these loans as an increase to the provision for credit losses.

⁽²⁾ As a result of adopting new accounting guidance in 2020, beginning January 1, 2020, the allowance for credit losses on loans is recognized based on lifetime ECL. Prior to January 1, 2020, the allowance for credit losses was recognized based on probably incurred losses. See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," for further discussion.

The following table summarizes the changes in the liability for off-balance sheet credit exposures during the years ended December 31, 2022, 2021 and 2020:

Year Ended December 31,	2022	2021	2020
(in millions)			
Balance at beginning of period	\$ 103	\$ 237	\$ 104
Cumulative effect adjustment to initially apply new accounting guidance for measuring credit losses ⁽¹⁾	—	—	54
Balance at beginning of period, adjusted	103	237	158
Provision charged (credited) to income	14	(134)	79
Balance at end of period	\$ 117	\$ 103	\$ 237

⁽¹⁾ As a result of adopting new accounting guidance in 2020, beginning January 1, 2020, the liability for off-balance sheet credit exposures is recognized based on lifetime ECL. Prior to January 1, 2020, the liability for off-balance sheet credit exposures was recognized based on probably incurred losses. See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," for further discussion.

Accrued Interest Receivables The following table summarizes accrued interest receivables associated with financial assets carried at amortized cost and securities available-for-sale along with the related allowance for credit losses, which are reported net in other assets on the consolidated balance sheet. These accrued interest receivables are excluded from the amortized cost basis disclosures presented elsewhere in these financial statements, including Note 6, "Securities," and Note 7, "Loans."

At December 31,	2022	2021
	(in millions)	
Accrued interest receivables:		
Loans	\$ 227	\$ 109
Securities held-to-maturity	20	13
Other financial assets measured at amortized cost	11	1
Securities available-for-sale	82	82
Total accrued interest receivables	<u>340</u>	<u>205</u>
Allowance for credit losses	—	1
Accrued interest receivables, net	<u>\$ 340</u>	<u>\$ 204</u>

During 2022, 2021 and 2020, we charged-off accrued interest receivables by reversing interest income for loans of \$3 million, \$5 million and \$7 million, respectively.

9. Loans Held for Sale

Loans held for sale consisted of the following:

At December 31,	2022	2021
	(in millions)	
Commercial loans:		
Business and corporate banking	\$ —	\$ 123
Global banking	349	338
Total commercial	<u>349</u>	<u>461</u>
Consumer loans:		
Residential mortgages	5	3,082
Home equity mortgages	—	275
Credit cards	—	195
Other consumer	—	204
Total consumer	<u>5</u>	<u>3,756</u>
Total loans held for sale	<u>\$ 354</u>	<u>\$ 4,217</u>

Commercial Loans During the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain retail business banking loans with a carrying value at the time of sale of \$37 million. See Note 4, "Branch Assets and Liabilities Held for Sale," for additional information.

Also included in commercial loans held for sale are certain other loans that we no longer intend to hold for investment and were transferred to held for sale which totaled \$112 million and \$359 million at December 31, 2022 and 2021, respectively. During 2022, 2021 and 2020, we recorded \$8 million, \$7 million and \$23 million, respectively, of lower of amortized cost or fair value adjustments associated with the write-down of these commercial loans held for sale as a component of other income (loss) in the consolidated statement of income (loss).

Commercial loans held for sale also includes certain loans that we have elected to designate under the fair value option which consists of loans that we originate in connection with our participation in a number of syndicated credit facilities with the intent of selling them to unaffiliated third parties as well as loans that we purchase from the secondary market and hold as hedges against our exposure to certain total return swaps. The fair value of these loans totaled \$237 million and \$23 million at December 31, 2022 and 2021, respectively. See Note 17, "Fair Value Option," for additional information.

In addition, during 2022, we sold certain global banking loans and unfunded commitments to third parties in order to reduce risk-weighted assets as part of our Restructuring Plan. These global banking loans had a carrying value at the time of sale of

\$44 million and we recognized losses on sale of \$21 million. The losses are reflected as a component of other income (loss) in the consolidated statement of income (loss).

Consumer Loans As discussed above, during the first quarter of 2022, we completed the sale of the branch disposal group that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. The sale included certain consumer loans with a carrying value at the time of sale which collectively totaled \$2,102 million, including \$1,665 million of residential mortgages, \$185 million of home equity mortgages, \$168 million of credit cards and \$84 million of other consumer loans. See Note 4, "Branch Assets and Liabilities Held for Sale," for additional information.

In addition to the branch disposal group discussed above, during the first quarter of 2022, we sold a portfolio of consumer loans to a third party consisting primarily of certain non-performing mortgage loans and government-backed mortgage loans that we previously transferred to held for sale in 2021 as part of our Restructuring Plan. These mortgage loans had a carrying value at the time of sale which collectively totaled \$904 million, including \$865 million of residential mortgages and \$39 million of home equity mortgages, and we recognized a loss on sale of \$35 million, largely reflecting changes in the final terms of the sale. The loss on sale is reflected as a component of other income (loss) in the consolidated statement of income (loss).

Subsequent to completion of the sales discussed above, during the second quarter of 2022, the remaining mass market residential mortgage and home equity mortgage loans not sold, with a carrying value which collectively totaled \$538 million, were transferred back to held for investment as we now intend to hold these loans as a run-off portfolio for the foreseeable future. In addition, during the fourth quarter of 2022, the remaining mass market credit cards and other consumer loans not sold, with a carrying value which collectively totaled \$86 million, were also transferred back to held for investment as we now intend to hold these loans as a run-off portfolio for the foreseeable future. During 2022 and 2021, we recorded \$11 million and \$7 million, respectively, of lower of amortized cost or fair value adjustments associated with the write-down of these consumer loans held for sale as a component of other income (loss) in the consolidated statement of income (loss).

During the fourth quarter of 2021, we sold a portfolio of mass market retail credit cards to a third party with a carrying value of \$382 million at the time of sale and recognized a gain on sale of approximately \$9 million, net of transaction costs. Under the terms of the sale agreement, we continued to service the portfolio until the third quarter of 2022. Upon completion of the sale, a portfolio of Premier credit cards with a carrying value of \$204 million was transferred back to held for investment as we now intend to hold these loans for the foreseeable future. These credit card portfolios were transferred to held for sale in 2021, but were not included in the branch disposal group.

Also included in residential mortgage loans held for sale are agency-eligible conforming residential mortgage loans which are originated and held for sale to third parties, currently on a servicing retained basis. Gains and losses from the sale of these residential mortgage loans are reflected as a component of other income (loss) in the consolidated statement of income (loss).

Loans held for sale are subject to market risk, liquidity risk and interest rate risk, in that their value will fluctuate as a result of changes in market conditions, as well as the credit environment. Interest rate risk for residential mortgage loans which are originated and held for sale is partially mitigated through an economic hedging program to offset changes in the fair value of these mortgage loans held for sale, from the time of commitment to sale, attributable to changes in market interest rates. Revenue associated with this economic hedging program, which is reflected as a component of other income (loss) in the consolidated statement of income (loss), was a gain of \$7 million during 2022 compared with losses of \$2 million and \$6 million during 2021 and 2020, respectively.

Valuation Allowances Loans held for sale are recorded at the lower of amortized cost or fair value, with adjustments to fair value being recorded as a valuation allowance through other revenues. The valuation allowance on consumer loans held for sale was nil and \$7 million at December 31, 2022 and 2021, respectively. The valuation allowance on commercial loans held for sale was nil and \$5 million at December 31, 2022 and 2021, respectively.

10. Properties and Equipment, Net

Properties and equipment, net is summarized in the following table:

At December 31,	2022	2021
	(in millions)	
Land	\$ 2	\$ 2
Buildings and improvements	281	291
Furniture and equipment	67	67
Total	<u>350</u>	<u>360</u>
Accumulated depreciation and amortization	<u>(282)</u>	<u>(320)</u>
Properties and equipment, net	<u>\$ 68</u>	<u>\$ 40</u>

Depreciation and amortization expense totaled \$13 million, \$22 million and \$34 million in 2022, 2021 and 2020, respectively.

During 2020, we recognized \$18 million of gains on sales of certain owned retail branch properties. These gains are reflected in other income (loss) in the consolidated statement of income (loss) and were reported in the Corporate Center business segment.

11. Goodwill

Goodwill was \$458 million at both December 31, 2022 and 2021. Goodwill for these periods reflects accumulated impairment losses of \$1,819 million, which were recognized in prior periods.

During the fourth quarter of 2022, we completed our annual impairment test of goodwill and determined that the fair value of our Commercial Banking reporting unit significantly exceeded its carrying value, including goodwill.

During 2020, as a result of the deterioration in economic conditions caused by the spread of the COVID-19 pandemic and its impact on our businesses including changes to the interest rate environment as a result of FRB actions to combat the economic effects of the virus, we performed an interim impairment test of goodwill and determined that the fair value of our Commercial Banking reporting unit exceeded its carrying value, including goodwill. However, the cash flow projections for our previously separate Retail Banking and Wealth Management and our Private Banking reporting units were significantly lower than previous estimates which, in conjunction with valuation estimates under a market approach and in consideration of a challenging macroeconomic outlook, resulted in a fair value that was significantly lower than their book values, including goodwill. As a result, we recorded a non-cash impairment charge of \$784 million in 2020, representing the entire amount of goodwill previously allocated to these reporting units.

12. Leases

We have entered into operating leases for premises and equipment. The following table summarizes the components of total operating lease costs, net and provides supplemental cash flow information related to leases:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Operating lease cost	\$ 49	\$ 87	\$ 127
Variable lease cost	33	48	59
Sublease income ⁽¹⁾	<u>(39)</u>	<u>(43)</u>	<u>(54)</u>
Total operating lease costs, net	<u>\$ 43</u>	<u>\$ 92</u>	<u>\$ 132</u>

Supplemental disclosure of cash flow information:

Cash paid for amounts included in the measurement of operating lease liabilities	\$ 79	\$ 129	\$ 135
ROU assets recognized for new operating lease liabilities	2	—	24

⁽¹⁾ We have entered into agreements to sublease certain office space, including agreements to receive rental income from our affiliates. As owner or lessee of the properties, we have entered into agreements with these affiliates to charge them rent based on the office space utilized by their employees during the period. See Note 24, "Related Party Transactions," for further disclosure.

In addition to the operating lease costs reflected in the table above, during 2022, 2021 and 2020 we recorded lease impairment charges of \$10 million, \$63 million and \$76 million, respectively, to write-down the lease ROU assets associated with certain

branches and office space that we determined we would exit as part of our Restructuring Plan. See Note 3, "Strategic Initiatives," for further discussion. These impairment charges are reflected in occupancy expense, net in the consolidated statement of income (loss) and were reported in the Wealth and Personal Banking and the Corporate Center business segments.

The following table presents information about our operating lease ROU assets and liabilities:

At December 31,	2022	2021
	(dollars are in millions)	
Operating lease ROU assets ⁽¹⁾	\$ 139	\$ 181
Operating lease liabilities	217	305
Weighted-average remaining lease term	8.1 years	6.7 years
Weighted-average discount rate	3.0 %	3.0 %

⁽¹⁾ Reported net of level lease adjustments and accumulated impairment losses.

The following table presents a maturity analysis of our operating lease liabilities at December 31, 2022:

Year Ending December 31,	(in millions)
2023	\$ 64
2024	65
2025	35
2026	17
2027	14
Thereafter	59
Total future operating lease payments	254
Less - imputed interest	(37)
Total operating lease liabilities	\$ 217

At December 31, 2022, we had \$229 million of additional operating leases for premises that have not yet commenced and are not reflected in the table above. During the second quarter of 2022, we entered into a new 20-year operating lease agreement to relocate our U.S. headquarters to 66 Hudson Boulevard, New York, New York. The lease contains certain renewal and termination options and is expected to commence in the first quarter of 2024.

13. Deposits

Total deposits were \$123,223 million and \$143,032 million at December 31, 2022 and 2021, respectively, of which \$1,554 million and \$2,749 million, respectively, were carried at fair value. At December 31, 2021, total deposits included \$8,750 million of deposits classified as held for sale.

The following table presents the aggregate amount of time deposit accounts in denominations exceeding \$250,000 at December 31, 2022 and 2021:

At December 31,	2022	2021
	(in millions)	
Domestic deposits	\$ 12,877	\$ 6,140
Foreign deposits	423	265
Total	<u>\$ 13,300</u>	<u>\$ 6,405</u>

The scheduled maturities of all time deposits at December 31, 2022 are summarized in the following table:

	Domestic Deposits	Foreign Deposits	Total
	(in millions)		
2023	\$ 12,515	\$ 423	\$ 12,938
2024	511	—	511
2025	278	—	278
2026	1,497	—	1,497
2027	185	—	185
Thereafter	296	—	296
	<u>\$ 15,282</u>	<u>\$ 423</u>	<u>\$ 15,705</u>

During 2020, we recorded a \$12 million gain on extinguishment of time deposits reflecting early client withdrawals.

Overdraft deposits, which are classified as loans, were approximately \$205 million and \$345 million at December 31, 2022 and 2021, respectively.

Federal Deposit Insurance Corporation ("FDIC") assessment fees, which are recorded as a component of other expenses in the consolidated statement of income (loss), totaled \$54 million, \$63 million and \$71 million in 2022, 2021 and 2020, respectively.

14. Short-Term Borrowings

Short-term borrowings consisted of the following:

	December 31,			
	2022	Rate	2021	Rate
	(dollars are in millions)			
Securities sold under repurchase agreements	\$ —	— %	\$ 2,315	.05 %
Commercial paper	4,818	3.98	3,683	.36
Other	1,127		340	
Total short-term borrowings	<u>\$ 5,945</u>		<u>\$ 6,338</u>	

15. Long-Term Debt

The composition of long-term debt is presented in the following table. Interest rates on floating rate notes are determined periodically by formulas based on certain money market rates or, in certain instances, by minimum interest rates as specified in the agreements governing the issues. Interest rates and maturity dates in effect at December 31, 2022 are shown in the below table.

	Maturity Date Range	Interest Rate Range	Interest Rate Weighted Average	At December 31,	
				2022	2021
(in millions)					
Issued or acquired by HSBC USA:					
Senior debt:					
Fixed-rate notes	2024 - 2030	1.12% - 5.02%	2.93%	\$ 7,261	\$ 6,347
Structured notes	2023 - 2045	4.40 - 6.67	5.06	7,598	6,346
Total senior debt				14,859	12,693
Subordinated fixed-rate notes	2097	7.20	7.20	222	222
Mark-to-market adjustment on fair value option debt				(334)	1,145
Total issued or acquired by HSBC USA				14,747	14,060
Issued or acquired by HSBC Bank USA and its subsidiaries:					
Senior debt:					
Floating-rate notes	2024 - 2040	4.55 - 5.47	4.85	30	25
Structured notes	2024 - 2028	3.04 - 4.82	4.10	453	488
FHLB advances - floating-rate	2036	2.03	2.03	1,000	1,000
Total senior debt				1,483	1,513
Subordinated fixed-rate notes	2034 - 2039	5.63 - 7.00	6.36	1,441	1,441
Mark-to-market adjustment on fair value option debt				(80)	222
Total issued or acquired by HSBC Bank USA and its subsidiaries				2,844	3,176
Total long-term debt				\$ 17,591	\$ 17,236

At December 31, 2022 and 2021, we had structured notes totaling \$7,672 million and \$7,997 million, respectively, and subordinated debt totaling \$706 million and \$945 million, respectively, for which we have elected fair value option accounting and are therefore carried at fair value. See Note 17, "Fair Value Option," for further details.

As a member of the FHLB and the Federal Reserve Bank of New York, we have secured borrowing facilities which are collateralized by loans and investment securities. At both December 31, 2022 and 2021, borrowings from the FHLB facility totaled \$1,000 million which is included in long-term debt. Based upon the amounts pledged as collateral under these facilities, we have additional borrowing capacity of up to \$13,640 million at December 31, 2022.

Maturities of long-term debt at December 31, 2022 were as follows:

	(in millions)
2023	\$ 2,188
2024	4,206
2025	4,701
2026	558
2027	1,228
Thereafter	4,710
Total	<u>\$ 17,591</u>

16. Derivative Financial Instruments

In the normal course of business, the derivative instruments we enter into are for trading, market making and risk management purposes. For financial reporting purposes, derivative instruments are designated in one of the following categories: (a) hedging instruments designated as qualifying hedges under derivative and hedge accounting principles, (b) financial instruments held for trading or (c) non-qualifying economic hedges. The derivative instruments held are predominantly swaps, futures, options and forward contracts. All derivatives are stated at fair value. Where we enter into enforceable master netting agreements with counterparties, the master netting agreements permit us to net those derivative asset and liability positions and to offset cash collateral held and posted with the same counterparty.

The following table presents the fair value of derivative contracts by major product type on a gross basis. Gross fair values exclude the effects of both counterparty netting as well as collateral, and therefore are not representative of our exposure. The table below also presents the amounts of counterparty netting and cash collateral that have been offset in the consolidated balance sheet, as well as cash and securities collateral posted and received under enforceable master netting agreements that do not meet the criteria for netting. Derivative assets and liabilities which are not subject to an enforceable master netting agreement, or are subject to a netting agreement where an appropriate legal opinion to determine such agreements are enforceable has not been either sought or obtained, have not been netted in the following table. Where we have received or posted collateral under netting agreements where an appropriate legal opinion to determine such agreements are enforceable has not been either sought or obtained, the related collateral also has not been netted in the following table.

	December 31, 2022		December 31, 2021	
	Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities
	(in millions)			
Derivatives accounted for as fair value hedges⁽¹⁾				
Interest rate contracts - bilateral OTC ⁽²⁾	\$ 42	\$ 12	\$ —	\$ 5
Derivatives accounted for as cash flow hedges⁽¹⁾				
Foreign exchange contracts - bilateral OTC ⁽²⁾	—	70	29	—
Interest rate contracts - bilateral OTC ⁽²⁾	—	4	—	2
Total derivatives accounted for as hedges	42	86	29	7
Trading derivatives not accounted for as hedges⁽³⁾				
Exchange-traded ⁽²⁾	8	7	8	10
OTC-cleared ⁽²⁾	42	—	37	—
Bilateral OTC ⁽²⁾	1,764	1,364	1,756	1,877
Interest rate contracts	1,814	1,371	1,801	1,887
Foreign exchange contracts - bilateral OTC⁽²⁾	15,744	15,440	11,321	11,125
Exchange-traded ⁽²⁾	—	4	—	—
Bilateral OTC ⁽²⁾	630	266	588	1,240
Equity contracts	630	270	588	1,240
Exchange-traded ⁽²⁾	—	1	4	—
Bilateral OTC ⁽²⁾	1,201	1,254	936	779
Precious metals contracts	1,201	1,255	940	779
Credit contracts - bilateral OTC⁽²⁾	103	45	28	25
Other non-qualifying derivatives not accounted for as hedges⁽¹⁾				
Interest rate contracts - bilateral OTC ⁽²⁾	—	97	47	5
Foreign exchange contracts - bilateral OTC ⁽²⁾	—	—	—	1
Equity contracts - bilateral OTC⁽²⁾	398	657	1,470	121
OTC-cleared ⁽²⁾	—	1	—	19
Bilateral OTC ⁽²⁾	7	60	—	38
Credit contracts	7	61	—	57
Other contracts - bilateral OTC⁽²⁾⁽⁴⁾	5	38	5	38
Total derivatives	19,944	19,320	16,229	15,285
Less: Gross amounts of receivable / payable subject to enforceable master netting agreements⁽⁵⁾⁽⁷⁾	15,625	15,625	11,991	11,991
Less: Gross amounts of cash collateral received / posted subject to enforceable master netting agreements⁽⁶⁾⁽⁷⁾	2,653	1,529	2,797	1,296
Net amounts of derivative assets / liabilities presented in the balance sheet	1,666	2,166	1,441	1,998
Less: Gross amounts of financial instrument collateral received / posted subject to enforceable master netting agreements but not offset in the consolidated balance sheet	234	32	179	194
Net amounts of derivative assets / liabilities	\$ 1,432	\$ 2,134	\$ 1,262	\$ 1,804

(1) Derivative assets / liabilities related to cash flow hedges, fair value hedges and derivative instruments held for purposes other than for trading are recorded in other assets / interest, taxes and other liabilities on the consolidated balance sheet.

(2) Over-the-counter ("OTC") derivatives include derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. The credit risk associated with bilateral OTC derivatives is managed through obtaining collateral and enforceable master netting agreements. OTC-cleared derivatives are executed bilaterally in the OTC market but then novated to a central clearing counterparty, whereby the central clearing counterparty becomes the counterparty to each of the original counterparties. Exchange traded derivatives are executed directly on an organized exchange. Credit risk is minimized for OTC-cleared derivatives and exchange traded derivatives through daily margining requirements. In addition, OTC-cleared interest rate and credit derivatives with certain central clearing counterparties are settled daily.

(3) Trading related derivative assets / liabilities are recorded in trading assets / trading liabilities on the consolidated balance sheet.

(4) Consists of swap agreements entered into in conjunction with the sales of Visa Inc. ("Visa") Class B common shares ("Class B Shares").

(5) Represents the netting of derivative receivable and payable balances for the same counterparty under enforceable netting agreements.

(6) Represents the netting of cash collateral posted and received by counterparty under enforceable netting agreements.

(7) Netting is performed at a counterparty level in cases where enforceable master netting agreements are in place, regardless of the type of derivative instrument. Therefore, we have not allocated netting to the different types of derivative instruments shown in the table above.

See Note 28, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for further information on offsetting related to resale and repurchase agreements.

Derivatives Held for Risk Management Purposes Our risk management policy requires us to identify, analyze and manage risks arising from the activities conducted during the normal course of business. We use derivative instruments as an asset and liability management tool to manage our exposures in interest rate, foreign currency and credit risks in existing assets and liabilities, commitments and forecasted transactions. The accounting for changes in fair value of a derivative instrument will depend on whether the derivative has been designated and qualifies for hedge accounting.

We designate derivative instruments to offset the fair value risk and cash flow risk arising from fixed-rate and floating-rate assets and liabilities as well as forecasted transactions. We assess the hedging relationships, both at the inception of the hedge and on an ongoing basis, using a regression approach to determine whether the designated hedging instrument is highly effective in offsetting changes in the fair value or the cash flows attributable to the hedged risk. Accounting principles for qualifying hedges require us to prepare detailed documentation describing the relationship between the hedging instrument and the hedged item, including, but not limited to, the risk management objective, the hedging strategy and the methods to assess and measure the ineffectiveness of the hedging relationship. We discontinue hedge accounting when we determine that the hedge is no longer highly effective, the hedging instrument is terminated, sold or expired, the designated forecasted transaction is not probable of occurring, or when the designation is removed by us.

Fair Value Hedges In the normal course of business, we hold fixed-rate loans and securities, and issue fixed-rate deposits and senior and subordinated debt obligations. The fair value of fixed-rate assets and liabilities fluctuates in response to changes in interest rates. We utilize interest rate swaps, forward and futures contracts to minimize our exposure to changes in fair value caused by interest rate volatility. The changes in the fair value of the hedged item designated in a qualifying hedge are captured as an adjustment to the carrying amount of the hedged item (basis adjustment). If the hedging relationship is discontinued and the hedged item continues to exist, the basis adjustment is amortized over the remaining life of the hedged item.

The following table presents the carrying amount of hedged items in fair value hedges recognized in the consolidated balance sheet at December 31, 2022 and 2021, along with the cumulative amount of fair value hedging adjustments included in the carrying amount of those hedged items:

	Carrying Amount of Hedged Items ⁽¹⁾	Cumulative Amount of Fair Value Hedging Adjustments Increasing (Decreasing) the Carrying Amount of Hedged Items		
		Active	Discontinued	Total
(in millions)				
At December 31, 2022				
Securities available-for-sale ("AFS")	\$ 15,034	\$ (1,633)	\$ 246	\$ (1,387)
Deposits	1,446	(150)	96	(54)
Long-term debt	6,506	(605)	111	(494)
At December 31, 2021				
Securities AFS	7,919	(72)	1,010	938
Deposits	1,598	(27)	125	98
Long-term debt	5,587	(61)	148	87

⁽¹⁾ The carrying amount of securities AFS represents the amortized cost basis.

The following table presents information on gains and losses on derivative instruments designated and qualifying as hedging instruments and the hedged items in fair value hedges and their location on the consolidated statement of income (loss):

	Location of Gain (Loss) Recognized in Income	Gain (Loss) on Derivatives	Gain (Loss) on Hedged Items
(in millions)			
Year Ended December 31, 2022			
Interest rate contracts / Securities AFS	Net interest income	\$ 2,219	\$ (1,871)
Interest rate contracts / Deposits	Net interest income	(138)	56
Interest rate contracts / Long-term debt	Net interest income	(527)	378
Total		<u>\$ 1,554</u>	<u>\$ (1,437)</u>
Year Ended December 31, 2021			
Interest rate contracts / Securities AFS	Net interest income	\$ 129	\$ (29)
Interest rate contracts / Deposits	Net interest income	(49)	(6)
Interest rate contracts / Long-term debt	Net interest income	(30)	(14)
Total		<u>\$ 50</u>	<u>\$ (49)</u>
Year Ended December 31, 2020			
Interest rate contracts / Securities AFS	Net interest income	\$ (731)	\$ 900
Interest rate contracts / Deposits	Net interest income	148	(261)
Interest rate contracts / Long-term debt	Net interest income	165	(261)
Total		<u>\$ (418)</u>	<u>\$ 378</u>

Cash Flow Hedges We own or issue floating rate financial instruments and enter into forecasted transactions that give rise to variability in future cash flows. As a part of our risk management strategy, we use interest rate swaps, currency swaps and futures contracts to mitigate risk associated with variability in the cash flows. Changes in fair value of a derivative instrument associated with a qualifying cash flow hedge are recognized in other comprehensive income (loss). When the cash flows being hedged materialize and are recorded in income or expense, the associated gain or loss from the hedging derivative previously recorded in accumulated other comprehensive loss ("AOCI") is reclassified into earnings in the same accounting period in which the designated forecasted transaction or hedged item affects earnings. If a cash flow hedge of a forecasted transaction is discontinued because it is no longer highly effective, or if the hedge relationship is terminated, the cumulative gain or loss on the hedging derivative to that date will continue to be reported in AOCI unless it is probable that the hedged forecasted transaction will not occur by the end of the originally specified time period as documented at the inception of the hedge, at which time the cumulative gain or loss is released into earnings.

At December 31, 2022, active cash flow hedge relationships extend or mature through July 2036. During 2022, \$43 million of losses related to discontinued cash flow hedge relationships were amortized to earnings from AOCI compared with gains of \$13 million and losses of \$11 million during 2021 and 2020, respectively. During the next twelve months, we expect to amortize \$109 million of remaining losses to earnings resulting from these discontinued cash flow hedges. The interest accrual related to the hedging instruments is recognized in net interest income.

The following table presents information on gains and losses on derivative instruments designated and qualifying as hedging instruments in cash flow hedges (including amounts recognized in AOCI from discontinued cash flow hedges) and their location on the consolidated statement of income (loss):

	Gain (Loss) Recognized in AOCI on Derivatives			Location of Gain (Loss) Reclassified from AOCI into Income	Gain (Loss) Reclassified From AOCI into Income		
	2022	2021	2020		2022	2021	2020
(in millions)							
Year Ended December 31,							
Foreign exchange contracts	\$ —	\$ (1)	\$ —	Net interest income	\$ —	\$ —	\$ —
Interest rate contracts	<u>(385)</u>	<u>(64)</u>	<u>84</u>	Net interest income	<u>(43)</u>	<u>13</u>	<u>(11)</u>
Total	<u>\$ (385)</u>	<u>\$ (65)</u>	<u>\$ 84</u>		<u>\$ (43)</u>	<u>\$ 13</u>	<u>\$ (11)</u>

Trading Derivatives and Non-Qualifying Hedging Activities In addition to risk management, we also enter into derivative contracts, including buy- and sell-protection credit derivatives, for the purposes of trading and market making, or repackaging risks to form structured trades to meet clients' risk taking objectives. Additionally, we buy or sell securities and use derivatives to mitigate the market risks arising from our trading activities with our clients that exceed our risk appetite. We also use buy-protection credit derivatives to manage our counterparty credit risk exposure. Where we enter into derivatives for trading purposes, realized and unrealized gains and losses are recognized in trading revenue. Counterparty credit risk associated with OTC derivatives, including risk-mitigating buy-protection credit derivatives, are recognized as an adjustment to the fair value of the derivatives and are recorded in trading revenue.

Our non-qualifying hedging and other activities include:

- Derivative contracts related to the fixed-rate long-term debt issuances and hybrid instruments, including all structured notes and deposits, for which we have elected fair value option accounting. These derivative contracts are non-qualifying hedges but are considered economic hedges.
- Credit default swaps which are designated as economic hedges against the credit risks within our loan portfolio. In the event of an impairment loss occurring in a loan that is economically hedged, the impairment loss is recognized as provision for credit losses while the gain on the credit default swap is recorded as other income (loss).
- Swap agreements entered into in conjunction with the sales of Visa Class B Shares to a third party to retain the litigation risk associated with the Class B Shares sold until the related litigation is settled and the Class B Shares can be converted into Class A common shares ("Class A Shares"). See Note 28, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for additional information.
- Forward purchases or sales of to-be-announced ("TBA") securities used to economically hedge changes in the fair value of residential mortgage loans which are originated and held for sale attributable to changes in market interest rates. Changes in the fair value of TBA positions, which are considered derivatives, are recorded in other income (loss). See Note 9, "Loans Held for Sale," for additional information.

Derivative instruments designated as economic hedges that do not qualify for hedge accounting are recorded at fair value through profit and loss. Realized and unrealized gains and losses on economic hedges are recognized in gain (loss) on instruments designated at fair value and related derivatives or other income (loss) while the derivative asset or liability positions are reflected as other assets or other liabilities.

The following table presents information on gains and losses on derivative instruments held for trading purposes and their location on the consolidated statement of income (loss):

	Location of Gain (Loss) Recognized in Income on Derivatives	Gain (Loss) Recognized in Income on Derivatives		
		Year Ended December 31,		
		2022	2021	2020
(in millions)				
Interest rate contracts	Trading revenue	\$ 315	\$ (11)	\$ 396
Foreign exchange contracts	Trading revenue	212	274	(747)
Equity contracts	Trading revenue	2,581	(2,432)	57
Precious metals contracts	Trading revenue	271	145	594
Credit contracts	Trading revenue	130	83	(556)
Total		<u>\$ 3,509</u>	<u>\$ (1,941)</u>	<u>\$ (256)</u>

The following table presents information on gains and losses on derivative instruments held for non-qualifying hedging and other activities and their location on the consolidated statement of income (loss):

		Gain (Loss) Recognized in Income on Derivatives		
		Year Ended December 31,		
Location of Gain (Loss) Recognized in Income on Derivatives		2022	2021	2020
		(in millions)		
Interest rate contracts	Gain (loss) on instruments designated at fair value and related derivatives	\$ (321)	\$ (61)	\$ 229
Interest rate contracts	Other income (loss)	7	(2)	(6)
Foreign exchange contracts	Gain (loss) on instruments designated at fair value and related derivatives	1	—	(1)
Equity contracts	Gain (loss) on instruments designated at fair value and related derivatives	(1,132)	1,139	592
Credit contracts	Gain (loss) on instruments designated at fair value and related derivatives	—	—	37
Credit contracts	Other income (loss)	(12)	(19)	(18)
Other contracts ⁽¹⁾	Other income (loss)	(36)	(2)	(9)
Total		<u>\$ (1,493)</u>	<u>\$ 1,055</u>	<u>\$ 824</u>

⁽¹⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

Credit-Risk Related Contingent Features The majority of our derivative contracts contain provisions that require us to maintain a specific credit rating from each of the major credit rating agencies. Sometimes the derivative instrument transactions are a part of broader structured product transactions. If our credit ratings were to fall below the current ratings, the counterparties to our derivative instruments could demand us to post additional collateral. The amount of additional collateral required to be posted will depend on whether we are downgraded by one or more notches. The aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a net liability position at December 31, 2022 was \$236 million, for which we had posted collateral of \$100 million. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a net liability position at December 31, 2021 was \$361 million, for which we had posted collateral of \$172 million. Substantially all of the collateral posted is in the form of cash or securities available-for-sale. See Note 28, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for further details.

The following table presents the amount of additional collateral that we would be required to post (from the current collateral level) related to derivative instruments with credit-risk related contingent features if our long-term ratings were downgraded by one or two notches. A downgrade by a single rating agency that does not result in a rating lower than a preexisting corresponding rating provided by another rating agency will generally not result in additional collateral.

	One-notch downgrade		Two-notch downgrade	
	(in millions)			
Amount of additional collateral to be posted upon downgrade	\$	—	\$	37

Notional Value of Derivative Contracts The following table summarizes the notional values of derivative contracts:

At December 31,	2022	2021
	(in millions)	
Interest rate:		
Futures and forwards	\$ 30,764	\$ 44,686
Swaps	120,560	177,876
Options written	5,855	10,842
Options purchased	5,740	12,688
Total interest rate	<u>162,919</u>	<u>246,092</u>
Foreign exchange:		
Swaps, futures and forwards	968,847	974,725
Options written	39,969	28,577
Options purchased	40,026	28,678
Spot	26,809	31,319
Total foreign exchange	<u>1,075,651</u>	<u>1,063,299</u>
Commodities, equities and precious metals:		
Swaps, futures and forwards	58,371	60,054
Options written	1,643	5,873
Options purchased	9,689	11,800
Total commodities, equities and precious metals	<u>69,703</u>	<u>77,727</u>
Credit derivatives	18,547	7,023
Other contracts ⁽¹⁾	1,109	1,204
Total	<u>\$ 1,327,929</u>	<u>\$ 1,395,345</u>

⁽¹⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

17. Fair Value Option

We report our results to HSBC in accordance with HSBC Group accounting and reporting policies ("Group Reporting Basis"), which apply International Financial Reporting Standards ("IFRSs") as issued by the International Accounting Standards Board ("IASB"). We typically have elected to apply fair value option ("FVO") accounting to selected financial instruments to align the measurement attributes of those instruments under U.S. GAAP and the Group Reporting Basis and to simplify the accounting model applied to those financial instruments. We elected to apply FVO accounting to certain commercial loans held for sale, certain student loans, certain fixed-rate long-term debt issuances, all of our hybrid instruments, including structured notes and deposits, and, at December 31, 2022, a client share repurchase transaction. Excluding the fair value movement on fair value option liabilities attributable to our own credit spread, which is recorded in other comprehensive income (loss), changes in the fair value of fair value option assets and liabilities as well as the mark-to-market adjustment on the related derivatives and the net realized gains or losses on these derivatives are reported in gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income (loss).

Loans Held For Sale We elected to apply FVO accounting to certain commercial syndicated loans which are originated with the intent to sell and certain commercial loans that we purchased from the secondary market and hold as hedges against our exposure to certain total return swaps and include these loans as loans held for sale in the consolidated balance sheet. We also previously elected to apply FVO accounting to certain student loans (which were subsequently transferred from held for sale to held for investment during 2022). These elections allow us to account for these loans at fair value which is consistent with the manner in which the instruments are managed. Where available, fair value is based on observable market pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan-specific risk mitigating factors such as collateral arrangements in determining the fair value estimate. Interest from these loans is recorded as interest income in the consolidated statement of income (loss). Because a substantial majority of the loans elected for the fair value option are floating-rate commercial loans, changes in their fair value are primarily attributable to changes in loan-specific credit risk factors. The components of gain

(loss) related to loans designated at fair value are summarized in the table below. At December 31, 2022 and 2021, no loans for which the fair value option has been elected were 90 days or more past due or in nonaccrual status.

Long-Term Debt (Own Debt Issuances) We elected to apply FVO accounting for certain fixed-rate long-term debt for which we had applied or otherwise would elect to apply fair value hedge accounting. The election allows us to achieve a similar accounting effect without having to meet the hedge accounting requirements. The own debt issuances elected under FVO are traded in secondary markets and, as such, the fair value is determined based on observed prices for the specific instruments. The observed market price of these instruments reflects the effect of changes to our own credit spreads and interest rates. Interest on the fixed-rate debt accounted for under FVO is recorded as interest expense in the consolidated statement of income (loss). Excluding the fair value movement attributable to our own credit spread, the components of gain (loss) in the consolidated statement of income (loss) related to long-term debt designated at fair value are summarized in the table below.

Hybrid Instruments We elected to apply FVO accounting to all of our hybrid instruments issued, including structured notes and deposits. The valuation of the hybrid instruments is predominantly driven by the derivative features embedded within the instruments and our own credit risk. Cash flows of the hybrid instruments in their entirety, including the embedded derivatives, are discounted at an appropriate rate for the applicable duration of the instrument adjusted for our own credit spreads. The credit spreads applied to structured notes are determined with reference to our own debt issuance rates observed in the primary and secondary markets, internal funding rates, and structured note rates in recent executions while the credit spreads applied to structured deposits are determined using market rates currently offered on comparable deposits with similar characteristics and maturities. Interest on this debt is recorded as interest expense in the consolidated statement of income (loss). Excluding the fair value movement attributable to our own credit spread, the components of gain (loss) in the consolidated statement of income (loss) related to hybrid instruments designated at fair value are summarized in the table below.

Client Share Repurchase Transaction In December 2022, we entered into an agreement with a client to facilitate a share repurchase transaction. Under the agreement, the client made an up-front cash payment in exchange for the delivery of shares, which are due to be completed by the end of the first quarter of 2023. Simultaneously, we entered into a corresponding agreement with HSBC Bank plc to execute the share repurchase. We elected to apply FVO accounting to this transaction, which resulted in \$325 million being recorded in both other assets and interest, taxes and other liabilities on the consolidated balance sheet.

The following table summarizes the fair value and unpaid principal balance for items we account for under FVO:

	Fair Value	Unpaid Principal Balance	Fair Value Over (Under) Unpaid Principal Balance
	(in millions)		
At December 31, 2022			
Student loans held for investment	\$ 20	\$ 22	\$ (2)
Commercial loans held for sale	237	291	(54)
Client share repurchase asset	325	325	—
Fixed rate long-term debt	706	741	(35)
Hybrid instruments:			
Structured deposits	1,554	1,520	34
Structured notes	7,672	8,051	(379)
Client share repurchase liability	325	325	—
At December 31, 2021			
Student loans held for sale	\$ 25	\$ 28	\$ (3)
Commercial loans held for sale	23	23	—
Fixed rate long-term debt	945	741	204
Hybrid instruments:			
Structured deposits	2,749	2,465	284
Structured notes	7,997	6,834	1,163

Components of Gain (Loss) on Instruments Designated at Fair Value and Related Derivatives The following table summarizes the components of gain (loss) on instruments designated at fair value and related derivatives reflected in the consolidated statement of income (loss) for the years ended December 31, 2022, 2021 and 2020:

	Loans and Loans Held for Sale	Long-Term Debt	Hybrid Instruments	Total
(in millions)				
Year Ended December 31, 2022				
Interest rate and other components ⁽¹⁾	\$ —	\$ 197	\$ 1,290	\$ 1,487
Credit risk component ⁽²⁾⁽³⁾	(85)	—	—	(85)
Total mark-to-market on financial instruments designated at fair value	(85)	197	1,290	1,402
Mark-to-market on related derivatives	—	(221)	(1,257)	(1,478)
Net realized gain on related long-term debt derivatives	—	26	—	26
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ (85)</u>	<u>\$ 2</u>	<u>\$ 33</u>	<u>\$ (50)</u>
Year Ended December 31, 2021				
Interest rate and other components ⁽¹⁾	\$ —	\$ 74	\$ (1,119)	\$ (1,045)
Credit risk component ⁽²⁾	2	—	—	2
Total mark-to-market on financial instruments designated at fair value	2	74	(1,119)	(1,043)
Mark-to-market on related derivatives	—	(88)	1,128	1,040
Net realized gain on related long-term debt derivatives	—	38	—	38
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ 2</u>	<u>\$ 24</u>	<u>\$ 9</u>	<u>\$ 35</u>
Year Ended December 31, 2020				
Interest rate and other components ⁽¹⁾	\$ —	\$ (79)	\$ (695)	\$ (774)
Credit risk component ⁽²⁾⁽⁴⁾	(49)	—	—	(49)
Total mark-to-market on financial instruments designated at fair value	(49)	(79)	(695)	(823)
Mark-to-market on related derivatives	37	88	699	824
Net realized gain on related long-term debt derivatives	—	33	—	33
Gain (loss) on instruments designated at fair value and related derivatives	<u>\$ (12)</u>	<u>\$ 42</u>	<u>\$ 4</u>	<u>\$ 34</u>

⁽¹⁾ As it relates to hybrid instruments, interest rate and other components primarily includes interest rate, foreign exchange and equity contract risks.

⁽²⁾ The fair value movement on fair value option liabilities attributable to our own credit spread is recorded in other comprehensive income (loss).

⁽³⁾ During 2022, the loss in the credit risk component for loans and loans held for sale was attributable to the widening of credit spreads associated with certain commercial loans held for sale which were impacted by the weakening of market conditions and deterioration in the financial condition of certain clients.

⁽⁴⁾ During 2020, the loss in the credit risk component for loans and loans held for sale was attributable to the widening of credit spreads associated with certain commercial loans held for sale which were impacted by the COVID-19 pandemic.

18. Income Taxes

Total income taxes was as follows:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Provision (benefit) for income taxes	\$ 177	\$ 224	\$ (42)
Income tax expense (benefit) included in common equity related to:			
Unrealized gains (losses) on investment securities	(719)	(258)	274
Unrealized gains on fair value option liabilities attributable to our own credit spread	19	4	8
Unrealized gains (losses) on derivatives designated as cash flow hedges	(84)	(19)	23
Employer accounting for post-retirement plans	2	1	(1)
Total income taxes	\$ (605)	\$ (48)	\$ 262

The components of the provision (benefit) for income taxes were as follows:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Current:			
Federal	\$ (109)	\$ (111)	\$ (45)
State and local	—	(7)	(9)
Foreign	2	2	(13)
Total current	(107)	(116)	(67)
Deferred	284	340	25
Provision (benefit) for income taxes	\$ 177	\$ 224	\$ (42)

The following table provides an analysis of the difference between effective rates based on the provision (benefit) for income taxes attributable to pretax income (loss) and the statutory U.S. Federal income tax rate:

Year Ended December 31,	2022		2021		2020	
	(dollars are in millions)					
Tax expense (benefit) at the U.S. Federal statutory income tax rate	\$ 152	21.0 %	\$ 192	21.0 %	\$ (206)	(21.0)%
Increase (decrease) in rate resulting from:						
State and local taxes, net of Federal benefit	30	4.1	31	3.4	(2)	(.2)
Adjustment of State tax rate used to value deferred taxes	(16)	(2.2)	(6)	(.7)	(4)	(.4)
Non-deductible FDIC assessment fees	11	1.5	13	1.4	15	1.5
Non-deductible goodwill impairment ⁽¹⁾	—	—	—	—	165	16.8
Other non-deductible / non-taxable items	11	1.5	3	.3	9	.9
Items affecting prior periods ⁽²⁾	11	1.5	—	—	3	.3
Low income housing and other tax credit investments	(22)	(3.0)	(15)	(1.7)	(14)	(1.4)
Other	—	—	6	.9	(8)	(.8)
Provision (benefit) for income taxes	\$ 177	24.4 %	\$ 224	24.6 %	\$ (42)	(4.3)%

⁽¹⁾ For 2020, the amount represents non-deductible goodwill impairment related to our previously separate Retail Banking and Wealth Management and Private Banking businesses.

⁽²⁾ For 2022, the amount primarily relates to changes in estimates as a result of filing the 2021 Federal and State income tax returns. For 2020, the amount primarily relates to prior year State audit settlements, partially offset by changes in estimates as a result of filing the 2019 Federal and State income tax returns.

The components of the net deferred tax asset are presented in the following table:

At December 31,	2022	2021
	(in millions)	
Deferred tax assets:		
Allowance for credit losses	\$ 172	\$ 150
Unrealized losses on cash flow hedges	129	44
Interests in real estate mortgage investment conduits ⁽¹⁾	109	127
Unrealized losses on investment securities	740	21
Capitalized costs ⁽²⁾	310	495
Lease liabilities	55	111
Other	238	239
Total deferred tax assets	<u>1,753</u>	<u>1,187</u>
Deferred tax liabilities:		
Lease ROU assets	34	80
Amortization of intangible assets	23	21
Fair value adjustments	32	43
Other	51	14
Total deferred tax liabilities	<u>140</u>	<u>158</u>
Net deferred tax asset	<u>\$ 1,613</u>	<u>\$ 1,029</u>

⁽¹⁾ Real estate mortgage investment conduits ("REMICs") are investment vehicles that hold commercial and residential mortgages in trust and issue securities representing an undivided interest in these mortgages. HSBC Bank USA holds portfolios of noneconomic residual interests in a number of REMICs. This item represents tax basis in such interests which has accumulated as a result of tax rules requiring the recognition of income related to such noneconomic residuals. A portion of these interests were sold during 2022.

⁽²⁾ Reflects our tax return election to capitalize certain service costs.

A reconciliation of the beginning and ending amount of unrecognized tax benefits related to uncertain tax positions is as follows:

	2022	2021	2020
	(in millions)		
Balance at January 1,	\$ 26	\$ 20	\$ 30
Additions for tax positions of prior years	1	9	—
Reductions for tax positions of prior years	(2)	(3)	(1)
Reductions related to settlements with taxing authorities	—	—	(9)
Balance at December 31,	<u>\$ 25</u>	<u>\$ 26</u>	<u>\$ 20</u>

The total amount of unrecognized tax benefits that, if recognized, would affect the effective income tax rate was \$22 million, \$22 million and \$16 million at December 31, 2022, 2021 and 2020, respectively. Included in the unrecognized tax benefits are certain items the recognition of which would not affect the effective tax rate, such as the tax effect of temporary differences and the amount of State taxes that would be deductible for U.S. Federal tax purposes. It is reasonably possible that there could be a change in the amount of our unrecognized tax benefits within the next 12 months due to settlements or statutory expirations in various State and local tax jurisdictions.

It is our policy to recognize accrued interest related to uncertain tax positions in interest expense in the consolidated statement of income (loss) and to recognize penalties, if any, related to uncertain tax positions as a component of other expenses in the consolidated statement of income (loss). Accruals for the payment of interest associated with uncertain tax positions totaled \$6 million, \$6 million and \$5 million at December 31, 2022, 2021 and 2020, respectively. Our accrual for the payment of interest associated with uncertain tax positions was flat during 2022 and increased by \$1 million during 2021.

Deferred tax assets and liabilities are recognized for the future tax consequences related to the differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, for State net operating losses and for State tax credits. Our net deferred tax assets, including deferred tax liabilities, totaled \$1,613 million and \$1,029 million at December 31, 2022 and 2021, respectively.

See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," for further discussion regarding our accounting policy relating to the evaluation, recognition and measurement of both the HNAH Group's and HSBC USA's deferred tax assets and liabilities. In evaluating the need for a valuation allowance at December 31, 2022, it has been determined that HNAH Group projections of future taxable income from U.S. operations based on management approved business plans provide sufficient and appropriate support for the recognition of our net deferred tax assets.

Federal income tax returns for 2017 and forward remain open to examination by the Internal Revenue Service.

We remain subject to State and local income tax examinations for years 2010 and forward. We are currently under audit by various State and local tax jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted in light of changing facts and circumstances, including progress of tax audits, developments in case law and the closing of statute of limitations. Such adjustments are reflected in the tax provision.

At December 31, 2022, for State tax purposes, we had apportioned and pre-tax effected net operating loss carryforwards of \$13 million which expire as follows: \$1 million in 2028 and \$12 million in 2030 and beyond.

19. Preferred Stock

HSBC USA preferred stock outstanding was \$265 million and \$1,265 million at December 31, 2022 and 2021, respectively, and included 265 shares and 1,265 shares, respectively, of 6.0 percent Non-Cumulative Series I Preferred Stock issued to HSBC North America. Dividends on the Series I Preferred Stock are non-cumulative and will be payable when and if declared by our Board of Directors semi-annually on the first business day of June and December of each year at the stated rate of 6.0 percent. The Series I Preferred Stock may be redeemed at our option, in whole or in part, at a redemption price equal to \$1,000,000 per share, plus an amount equal to any declared and unpaid dividends, but only after receipt of written approval from the FRB.

During the fourth quarter of 2022, HSBC USA redeemed 1,000 shares of its 6.0 percent Non-Cumulative Series I Preferred Stock at their stated value of \$1,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC North America.

20. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) includes certain items that are reported directly within a separate component of equity. The following table presents changes in accumulated other comprehensive income (loss) balances:

Year Ended December 31,	2022	2021	2020
	(in millions)		
Unrealized gains (losses) on investment securities:			
Balance at beginning of period	\$ (65)	\$ 750	\$ (116)
Cumulative effect adjustment to initially apply new accounting guidance for measuring credit losses on securities available-for-sale, net of tax of \$1 million ⁽¹⁾	—	—	2
Balance at beginning of period, adjusted	(65)	750	(114)
Other comprehensive income (loss) for period:			
Net unrealized gains (losses) arising during period, net of tax of \$(716) million, \$(244) million and \$298 million, respectively	(2,192)	(774)	944
Reclassification adjustment for gains realized in net income (loss), net of tax of \$(6) million, \$(18) million and \$(33) million, respectively ⁽²⁾	(20)	(55)	(104)
Reversal of provision for credit losses realized in net income (loss), net of tax of less than \$(1) million, nil and less than \$(1) million, respectively ⁽³⁾	(1)	—	(2)
Amortization of net unrealized losses on securities transferred from available-for-sale to held-to-maturity realized in net income (loss), net of tax of \$3 million, \$4 million and \$8 million, respectively ⁽⁴⁾	8	14	26
Total other comprehensive income (loss) for period	(2,205)	(815)	864
Balance at end of period	(2,270)	(65)	750
Unrealized gains (losses) on fair value option liabilities attributable to our own credit spread:			
Balance at beginning of period	27	15	(9)
Other comprehensive income for period:			
Net unrealized gains arising during period, net of tax of \$19 million, \$4 million and \$8 million, respectively	59	12	24
Total other comprehensive income for period	59	12	24
Balance at end of period	86	27	15
Unrealized gains (losses) on derivatives designated as cash flow hedges:			
Balance at beginning of period	(138)	(79)	(151)
Other comprehensive income (loss) for period:			
Net unrealized gains (losses) arising during period, net of tax of \$(94) million, \$(16) million and \$20 million, respectively	(291)	(49)	64
Reclassification adjustment for (gains) losses realized in net income (loss), net of tax of \$10 million, \$(3) million and \$3 million, respectively ⁽⁵⁾	33	(10)	8
Total other comprehensive income (loss) for period	(258)	(59)	72
Balance at end of period	(396)	(138)	(79)
Pension and postretirement benefit liability:			
Balance at beginning of period	(3)	(7)	(3)
Other comprehensive income (loss) for period:			
Change in unfunded pension and postretirement liability, net of tax of \$2 million, \$1 million and \$(1) million, respectively	8	4	(4)
Total other comprehensive income (loss) for period	8	4	(4)
Balance at end of period	5	(3)	(7)
Total accumulated other comprehensive income (loss) at end of period	\$ (2,575)	\$ (179)	\$ 679

⁽¹⁾ As a result of adopting new accounting guidance in 2020, beginning January 1, 2020, an allowance for credit losses is recognized for debt securities, with changes in the allowance recorded in earnings. Prior to January 1, 2020, debt securities were assessed for other-than-temporary impairment.

⁽²⁾ Amount reclassified to net income (loss) is included in other securities gains, net in our consolidated statement of income (loss).

⁽³⁾ Changes in the allowance for credit losses on securities available-for-sale are included in the provision for credit losses in our consolidated statement of income (loss).

⁽⁴⁾ Amount amortized to net income (loss) is included in interest income in our consolidated statement of income (loss). During 2014, we transferred securities from available-for-sale to held-to-maturity. At the date of transfer, AOCI included net pretax unrealized losses related to the transferred securities which are being amortized over the remaining contractual life of each security as an adjustment of yield in a manner consistent with the amortization of any premium or discount.

⁽⁵⁾ Amount reclassified to net income (loss) is included in net interest income in our consolidated statement of income (loss).

21. Share-Based Plans

Employee Stock Purchase Plans The HSBC International Employee Share Purchase Plan (the "HSBC ShareMatch Plan") allowed eligible employees to purchase HSBC shares with a maximum monthly contribution of \$302 in 2022, \$342 in 2021 and \$327 in 2020. For every three shares purchased under the HSBC ShareMatch Plan (the "Investment Share") the employee is awarded an additional share at no charge (the "Matching Share"). The Investment Share is fully vested at the time of purchase while the Matching Share vests at the end of three years contingent upon continuing employment with the HSBC Group. Compensation expense related to Employee Stock Purchase Plans was less than \$1 million in 2022, 2021 and 2020, respectively.

Restricted Share Plans Under the HSBC Group Share Plan, share-based awards have been granted to key employees typically in the form of restricted share units. These shares have been granted subject to either time-based vesting or performance based-vesting, typically over three to five years. Annual awards to employees are generally subject to three-year time-based vesting. We also issue a small number of off-cycle grants each year, primarily for reasons related to recruitment of new employees. Compensation expense for restricted share awards totaled \$15 million, \$15 million and \$22 million in 2022, 2021 and 2020, respectively. At December 31, 2022, future compensation cost related to grants which have not yet fully vested is approximately \$11 million. This amount is expected to be recognized over a weighted-average period of one year.

22. Pension and Other Postretirement Benefits

Defined Benefit Pension Plan Certain employees are eligible to participate in the HSBC North America qualified defined benefit pension plan (either the "HSBC North America Pension Plan" or the "Plan") which facilitates a unified employee benefit policy and unified employee benefit plan administration for HSBC companies operating in the United States. Future benefit accruals for legacy participants under the final average pay formula and future contributions under the cash balance formula were previously discontinued and, as a result, the Plan is frozen.

The following table reflects the portion of pension (income) expense and its related components of the combined HSBC North America Pension Plan which has been allocated to us and is recorded in our consolidated statement of income (loss). We have not been allocated any portion of the Plan's net pension asset.

Year Ended December 31,	2022	2021	2020
	(in millions)		
Interest cost on projected benefit obligation	\$ 52	\$ 42	\$ 45
Expected return on plan assets	(56)	(58)	(68)
Amortization of net actuarial loss	3	—	4
Administrative costs	3	3	4
Pension (income) expense	<u>\$ 2</u>	<u>\$ (13)</u>	<u>\$ (15)</u>

The assumptions used in determining pension (income) expense of the HSBC North America Pension Plan are as follows:

	2022	2021	2020
Discount rate ⁽¹⁾	2.85% / 3.55% / 4.60% / 4.75%	2.45% / 3.10% / 2.70% / 2.80%	3.15% / 3.20% / 2.70% / 2.55%
Expected long-term rate of return on Plan assets ⁽²⁾⁽³⁾	4.75	3.50	3.50

⁽¹⁾ Since the Plan is measured on a quarterly basis, pension (income) expense for the Plan is calculated each quarter based on the preceding quarter-end rate. Shown are the discount rates used to determine pension (income) expense for each respective quarter (i.e., first quarter / second quarter / third quarter / fourth quarter).

⁽²⁾ In 2022, as a result of significantly increasing yields on fixed income securities and subsequent increases in longer term capital market returns, HSBC North America decided to increase its expected long-term rate of return on Plan assets assumption to 4.00 percent during the third quarter of 2022 and 4.75 percent during the fourth quarter of 2022. The expected long-term rate of return on Plan assets assumption used during the first half of 2022 was 3.50 percent.

⁽³⁾ In 2020, as a result of a significant decrease in yields on fixed income securities driven by the COVID-19 pandemic and subsequent reduction in longer term capital market returns, as well as a shift in investment mix that reduced the Plan's exposure to equity investments, HSBC North America decided to reduce its expected long-term rate of return on Plan assets assumption to 3.50 percent during the second half of 2020. The expected long-term rate of return on Plan assets assumption used during the first half of 2020 was 5.00 percent.

Defined Contribution and Other Supplemental Retirement Plans Substantially all of our employees participate in a 401(k) plan. Employer contributions to the plan are based on employee contributions. Total expense recognized for this plan was \$21 million, \$26 million and \$28 million in 2022, 2021 and 2020, respectively.

Certain employees are participants in various defined contribution and other non-qualified supplemental retirement plans all of which have been frozen. Total expense recognized for these plans was \$2 million in 2022, 2021 and 2020, respectively.

Postretirement Plans Other Than Pensions Certain employees also participate in plans which provide medical and life insurance benefits to retirees and eligible dependents. These plans cover all eligible employees who meet certain age and vested service requirements. We have instituted dollar limits on payments under the plans to control the cost of future medical benefits. Net periodic postretirement benefit cost was immaterial in 2022, 2021 and 2020, respectively.

Our postretirement benefit plans are funded on a pay-as-you-go basis. The funded status of our postretirement benefit plans was a liability of \$31 million and \$40 million at December 31, 2022 and 2021, respectively. We currently estimate that we will pay benefits of approximately \$4 million relating to our postretirement benefit plans in 2023.

The assumptions used in determining the benefit obligation of our postretirement benefit plans at December 31 are as follows:

	2022	2021	2020
Discount rate	4.95 %	2.70 %	2.25 %
Salary increase assumption	3.00	3.00	3.00

For measurement purposes, 6.6 percent (pre-age 65) and, as it relates to the postretirement benefit plans which were not amended to eliminate future health cost increases, 6.8 percent (post-age 65) annual rates of increase in the per capita costs of covered health care benefits were assumed for 2022. These rates are assumed to decrease gradually reaching the ultimate rate of 4.5 percent in 2032, and remain at that level thereafter.

23. Fee Income from Contracts with Customers

The following table summarizes fee income from contracts with customers disaggregated by type of activity, as well as a reconciliation to total other revenues, during the years ended December 31, 2022, 2021 and 2020. Following the table is a description of the various types of fee-based activities and how revenue associated with these activities is recognized.

Year Ended December 31,	2022	2021	2020
	(in millions)		
Credit card fees, net	\$ 45	\$ 37	\$ 38
Trust and investment management fees	136	108	132
Other fees and commissions:			
Account services	275	290	251
Credit facilities	296	320	268
Other fees	48	42	48
Total other fees and commissions	619	652	567
Servicing and other fees from HSBC affiliates	343	321	347
Insurance ⁽¹⁾	4	6	7
Total fee income from contracts with customers	1,147	1,124	1,091
Other non-fee revenue	448	113	444
Total other revenues ⁽²⁾	\$ 1,595	\$ 1,237	\$ 1,535

⁽¹⁾ Included within other income (loss) in the consolidated statement of income (loss).

⁽²⁾ See Note 25, "Business Segments," for a reconciliation of total other revenues on a U.S. GAAP basis to other operating income for each business segment under the Group Reporting Basis.

Credit card fees, net Credit card fees, net includes interchange fees earned from merchants who accept our cards in connection with the purchase of their goods and/or services. These fees are recognized when we satisfy the performance obligation by simultaneously approving a card holder's purchase at the point of sale and remitting payment to the merchant. We recognized interchange fees of \$104 million, \$93 million and \$71 million during the years ended December 31, 2022, 2021 and 2020, respectively. Annual fees on credit cards, net of direct lending costs, are billed upfront and recognized on a straight-line basis over one year. Other credit card fees such as cash advance and over-limit fees are transaction based and are recognized and billed at the point in time the transaction occurs which is when the performance obligation is met. Costs related to our credit card rewards program vary based on multiple factors including card holder activity, card holder reward redemption rates and card holder reward selections. These costs are recorded when the rewards are earned by the customer and are presented as a

reduction to credit card fees. Credit card rewards program costs totaled \$65 million, \$67 million and \$41 million during the years ended December 31, 2022, 2021 and 2020, respectively.

Trust and investment management fees Trust and investment management fees include investment management and administration fees which are typically billed as a percentage of the average value of a customer's assets during an agreed payment period or for some contracts, the value of a customer's assets at the end of an agreed payment period and therefore represent variable consideration. The fee percentage and payment period are agreed with the customer upfront. Generally, payment periods are monthly or quarterly and coincide with our reporting periods, thereby resolving the uncertainty of the variable consideration by the reporting date. For payment periods that do not coincide with our reporting periods, judgment is required to estimate the fee and determine the amount to include in an accrual. An accrual is only recorded to the extent it is highly probable that a significant reversal of revenue will not occur. In most cases, a significant reversal of revenue is not highly probable. Other trust and investment management fees are transaction based and are recognized and billed at the point in time the transaction occurs which is when the performance obligation is met. From time to time, we may also receive performance fees from some funds, though these fees are typically only recognized when the performance fee is determinable and the uncertainty of the variable consideration is resolved.

Account services We provide services for commercial and consumer customer accounts that generate fees from various activities including: account statements, ATM transactions, cash withdrawals, wire transfers, remittances, check cashing, debit cards and internet and phone banking. The fees for these services are established in the customer account agreement and are either billed individually at the time the service is performed or on a monthly basis for a package or bundle of services as the services are performed. The performance obligation for these services is met when the services are performed. Customer account agreements typically include a package of services with multiple performance obligations or a bundle of services making up a single performance obligation. In the case of a package of services, the pattern of transfer to the customer is usually the same for all services, and therefore the package of services is treated as a single performance obligation. In some cases, a package or bundle of services is billed upfront as an annual fee and recognized on a straight-line basis over one year as the services are performed and the performance obligation is met.

Credit facilities Credit facilities fees include fees generated from lending activities that are not included in the direct loan origination fees which are recognized in interest income as an adjustment to yield. This includes fees associated with loan commitments, revolving credit facilities, standby letters of credit, loan syndication and other transaction based fees. These fees are either billed as a fixed price or as a percentage of the approved lending limit or transaction value. The fee percentage is agreed with the customer upfront. Although the percentage-based fees represent variable consideration, the uncertainty of the variable consideration is resolved by the time the revenue is recognized as the lending limit or transaction value is known on the contract or transaction date. Loan syndication fees received for managing a syndication and other transaction based fees are recognized and billed at the point in time the transaction occurs, which is when the performance obligation is met. Fees associated with loan commitments, revolving credit facilities and standby letters of credit are billed upfront and recognized on a straight-line basis over the period the service is performed which is when the performance obligation is met (e.g., the commitment period). In the event a loan commitment or standby letter of credit is exercised, the remaining unamortized fee is recognized as an adjustment to yield over the loan term.

Other fees and commissions Other fees and commissions include fees received associated with various other activities such as custody services, imports/exports, clearing and other miscellaneous services. These fees are typically transaction based and are recognized and billed at the point in time the transaction occurs which is when the performance obligation is met. Fees earned from providing customers with custody services are typically recognized and billed on a monthly basis, which is the period over which the service is performed and the performance obligation is met, as a percentage of the value of the customer's assets held in custody (calculated daily or monthly).

Servicing and other fees from HSBC affiliates We receive fees from other HSBC affiliates for providing them with various banking, wealth management, trading and other miscellaneous services as well as support for certain administrative and global business activities. These fees are reported in servicing and other fees from HSBC affiliates and are typically recognized and billed on a monthly basis over the period the service is performed or for some fees that are transaction based, at the point in time the transaction occurs, which is when the performance obligation is met. See Note 24, "Related Party Transactions," for additional information regarding the various services provided and other transactions with HSBC affiliates.

Insurance We earn commissions from the sale of third-party insurance policies which are typically recognized on a weekly or monthly basis, when the policy goes into effect which is when the performance obligation is met.

Deferred Fee Income

Information related to deferred fee income on loan commitments, revolving credit facilities and standby letters of credit is included in Note 28, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," and Note 29, "Fair Value Measurements." Excluding these items, we had deferred fee income related to certain account service fees that are paid upfront

and recognized over the service period and annual fees on credit cards which collectively was \$3 million and \$4 million at December 31, 2022 and 2021, respectively. We expect to recognize this revenue over a remaining period of one year or less.

Other than trust and investment management fees, we do not use significant judgments in the determination of the amount and timing of fee income from contracts with customers. Additionally, costs to obtain or fulfill contracts with customers were immaterial.

24. Related Party Transactions

In the normal course of business, we conduct transactions with HSBC and its subsidiaries. HSBC policy requires that these transactions occur at prevailing market rates and terms and, where applicable, these transactions are compliant with United States banking regulations. All extensions of credit by (and certain credit exposures of) HSBC Bank USA to other HSBC affiliates (other than FDIC insured banks) are legally required to be secured by eligible collateral. The following tables and discussions below present the more significant related party balances and the income (expense) generated by related party transactions:

At December 31,	2022	2021
	(in millions)	
Assets:		
Cash and due from banks	\$ 313	\$ 300
Interest bearing deposits with banks	21	59
Securities purchased under agreements to resell ⁽¹⁾	756	594
Trading assets	20	119
Loans	3,557	2,793
Other ⁽²⁾	744	401
Total assets	<u>\$ 5,411</u>	<u>\$ 4,266</u>
Liabilities:		
Deposits	\$ 11,357	\$ 9,137
Trading liabilities	110	130
Short-term borrowings	1,009	309
Long-term debt	6,011	5,511
Other ⁽²⁾	326	277
Total liabilities	<u>\$ 18,813</u>	<u>\$ 15,364</u>

⁽¹⁾ Reflects purchases of securities under which other HSBC affiliates have agreed to repurchase.

⁽²⁾ Other assets and other liabilities primarily consist of derivative balances associated with hedging activities and other miscellaneous account receivables and payables. At December 31, 2022, other assets also includes a receivable from HSBC Bank plc associated with a client share repurchase transaction.

Year Ended December 31,	2022	2021	2020
	(in millions)		
Income (Expense):			
Interest income	\$ 116	\$ 26	\$ 55
Interest expense	(298)	(237)	(354)
Net interest expense	(182)	(211)	(299)
Trading revenue (expense)	1,753	(3,182)	(93)
Servicing and other fees from HSBC affiliates:			
HSBC Bank plc	190	176	186
HSBC Markets (USA) Inc. ("HMUS")	76	91	107
Other HSBC affiliates	77	54	54
Total servicing and other fees from HSBC affiliates	343	321	347
Gain (loss) on instruments designated at fair value and related derivatives	(1,256)	1,128	699
Support services from HSBC affiliates:			
HTSU	(1,018)	(1,061)	(1,066)
HMUS	(191)	(118)	(89)
Other HSBC affiliates	(553)	(441)	(396)
Total support services from HSBC affiliates	(1,762)	(1,620)	(1,551)
Rental income from HSBC affiliates, net ⁽¹⁾	39	42	44
Stock based compensation expense ⁽²⁾	(15)	(15)	(22)

⁽¹⁾ We receive rental income from our affiliates, and in some cases pay rental expense to our affiliates, for certain office space. Net rental income from our affiliates is recorded as a component of occupancy expense, net in our consolidated statement of income (loss).

⁽²⁾ Employees may participate in one or more stock compensation plans sponsored by HSBC. These expenses are included in salaries and employee benefits in our consolidated statement of income (loss). Certain employees are also eligible to participate in a defined benefit pension plan and other postretirement plans sponsored by HSBC North America which are discussed in Note 22, "Pension and Other Postretirement Benefits."

Funding Arrangements with HSBC Affiliates:

We use HSBC affiliates to fund a portion of our borrowing and liquidity needs. At December 31, 2022 and 2021, long-term debt with affiliates reflected \$6.0 billion and \$5.5 billion, respectively, of borrowings from HSBC North America. The outstanding balances include:

- \$2.0 billion of fixed-rate senior debt which matures in June 2025;
- \$2.0 billion of fixed-rate senior debt which matures in September 2025;
- \$1.5 billion of fixed-rate senior debt which matures in June 2030; and
- \$0.5 billion of fixed-rate senior debt which was issued during the fourth quarter of 2022 and matures in December 2027.

We have a \$4.0 billion uncommitted line of credit with HSBC North America. The available borrowing capacity under this facility is fungible between HSBC USA, HSBC Securities (USA) Inc. ("HSI") and HSBC North America, but total borrowings cannot collectively exceed \$4.0 billion at any time. We had no outstanding borrowing under this credit facility at either December 31, 2022 or 2021.

We also incur short-term borrowings with certain affiliates. In addition, certain affiliates have placed deposits with us.

Lending and Derivative Related Arrangements Extended to HSBC Affiliates:

At December 31, 2022 and 2021, we had the following loan balances outstanding with HSBC affiliates:

At December 31,	2022	2021
	(in millions)	
HMUS and subsidiaries	\$ 2,243	\$ 1,576
HSBC North America	1,250	1,000
Other short-term affiliate lending	64	217
Total loans	\$ 3,557	\$ 2,793

HMUS and subsidiaries We have extended loans and lines of credit, some of them uncommitted, to HMUS and its subsidiaries in the amount of \$12.8 billion and \$11.9 billion at December 31, 2022 and 2021, respectively, of which \$2.2 billion and \$1.6 billion, respectively, was outstanding. The maturities of the outstanding balances range from overnight to one month. Each borrowing is re-evaluated prior to its maturity date and either extended or allowed to mature.

HSBC North America Under the \$4.0 billion uncommitted fungible line of credit with HSBC North America as discussed above, there was \$1.3 billion and \$1.0 billion outstanding at December 31, 2022 and 2021, respectively. The outstanding balances include \$1.0 billion that matures in the first quarter of 2023 and \$250 million that matures in the second quarter of 2023.

We have extended lines of credit to various other HSBC affiliates totaling \$4.0 billion which did not have any outstanding balances at either December 31, 2022 or 2021.

Other short-term affiliate lending In addition to loans and lines extended to affiliates discussed above, from time to time we may extend loans to affiliates which are generally short term in nature. At December 31, 2022 and 2021, there were \$64 million and \$217 million, respectively, of these loans outstanding.

Derivative contracts As part of a global HSBC strategy to offset interest rate or other market risks associated with certain securities, debt issues and derivative contracts with unaffiliated third parties, we routinely enter into derivative transactions with HSBC Bank plc and other HSBC affiliates. The notional value of derivative contracts related to these transactions was approximately \$789.2 billion and \$753.2 billion at December 31, 2022 and 2021, respectively. The net credit exposure (defined as the net fair value of derivative assets and liabilities, including any collateral received) related to the contracts was approximately \$24 million and \$127 million at December 31, 2022 and 2021, respectively. We account for these transactions on a mark to market basis, with the change in value of contracts with HSBC affiliates substantially offset by the change in value of related contracts entered into with unaffiliated third parties.

Services Provided Between HSBC Affiliates:

Under multiple service level agreements, we provide services to and receive services from various HSBC affiliates. The following summarizes these activities:

- HSBC North America's technology and support services, including risk management, compliance, operations, finance, tax, legal, human resources, corporate affairs and other shared services, are centralized within HTSU. HTSU also provides certain item processing and statement processing activities to us. The fees we pay HTSU for the centralized support services and processing activities are included in support services from HSBC affiliates. We also receive fees from HTSU for providing certain administrative services to them. The fees we receive from HTSU are included in servicing and other fees from HSBC affiliates. In certain cases, for facilities used by HTSU, we may guarantee their performance under the lease agreements.
- We use other subsidiaries of HSBC, including HSBC Global Services Limited an HSBC subsidiary located outside of the United States, to provide various support services to our operations, including among other areas, information technology, software development, customer service, collection, risk management and accounting. The expenses related to these services are included in support services from HSBC affiliates.
- We utilize HSI, a subsidiary of HMUS, for broker dealer, debt underwriting, customer referrals, loan syndication and other treasury and traded markets related services, pursuant to service level agreements. Debt underwriting fees charged by HSI are deferred as a reduction of long-term debt and amortized to interest expense over the life of the related debt. Fees charged by HSI for the other services are included in support services from HSBC affiliates. We also receive fees from HSI for providing certain wealth management services to them. The fees we receive from HSI are included in servicing and other fees from HSBC affiliates.
- We receive fees from other subsidiaries of HSBC, including HSBC Bank plc, for providing them with banking, trading and other miscellaneous services as well as support for certain administrative and global business activities. These fees are reported in servicing and other fees from HSBC affiliates.

Other Transactions with HSBC Affiliates:

At December 31, 2022 and 2021, we had \$265 million and \$1,265 million, respectively, of non-cumulative preferred stock issued and outstanding to HSBC North America. See Note 19, "Preferred Stock," for additional details.

During the second half of 2022, we paid distributions on our common stock of \$2.0 billion from surplus capital to HSBC North America. See Note 26, "Retained Earnings and Regulatory Capital Requirements," for additional details.

25. Business Segments

We have distinct businesses, which are aligned with HSBC's global business strategy: Wealth and Personal Banking ("WPB"), Commercial Banking ("CMB"), and Global Banking and Markets ("GBM"). These businesses and a Corporate Center ("CC") serve as our reportable segments with the exception of GBM. Our GBM business is comprised of three distinct operating segments: Global Banking ("GB"), Markets and Securities Services ("MSS"), and Global Banking and Markets Other ("GBM Other"), which are separately reported. There have been no changes in the basis of our segmentation as compared with the presentation in our Annual Report on Form 10-K for the year ended December 31, 2021 ("2021 Form 10-K").

Net interest income of each segment represents the difference between actual interest earned on assets and interest incurred on liabilities of the segment, adjusted for a funding charge or credit that includes both interest rate and liquidity components. Segments are charged a cost to fund assets (e.g., customer loans) and receive a funding credit for funds provided (e.g., customer deposits) based on equivalent market rates that incorporate both repricing (interest rate risk) and tenor (liquidity) characteristics. The objective of these charges/credits is to transfer interest rate risk to one centralized unit in Markets Treasury. Markets Treasury income statement and balance sheet results are allocated to each of the global businesses based upon tangible equity levels and levels of any surplus liabilities.

Certain other revenue and operating expense amounts are also apportioned among the business segments based upon the benefits derived from this activity or the relationship of this activity to other segment activity. These inter-segment transactions have not been eliminated, and we generally account for them as if they were with third parties.

Our segment results are presented in accordance with HSBC Group accounting and reporting policies, which apply IFRSs as issued by the IASB. As a result, our segment results are prepared and presented using financial information prepared on the Group Reporting Basis as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources, such as employees, are primarily made on this basis. We continue, however, to monitor capital adequacy and report to regulatory agencies on a U.S. GAAP basis.

There have been no changes in the measurement of segment profit as compared with the presentation in our 2021 Form 10-K.

A summary of significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results is presented below:

Net Interest Income

Loan origination - The scope of loan origination costs deferred is more stringent under the Group Reporting Basis and generally results in lower costs being deferred than permitted under U.S. GAAP. In addition, deferred loan origination fees, costs and loan premiums are generally amortized to earnings based on the expected life of the loan under the Group Reporting Basis as part of the effective interest calculation, while under U.S. GAAP, they are generally amortized to earnings based on either a contractual or expected life basis. In the case of credit cards, while under the Group Reporting Basis deferred costs are amortized over the expected life of the credit card relationship, they are amortized over a shorter period of one year under U.S. GAAP.

Leases - Under the Group Reporting Basis, all leases are recognized as financing arrangements with interest expense on the lease liability recognized separately from depreciation of the ROU asset, which generally results in a front-loaded pattern of total lease expense. Under U.S. GAAP, expense on operating leases is generally recognized on a straight-line basis in operating expenses.

Deposit incentives - Under the Group Reporting Basis, costs associated with cash back incentives offered on customer deposits are deferred and amortized to interest expense over the incentive period, while under U.S. GAAP, such costs are recognized immediately in operating expenses.

Other Operating Income (Total Other Revenues)

Loans held for sale - For loans transferred to held for sale subsequent to origination, the Group Reporting Basis requires these loans to be reported separately on the balance sheet when certain criteria are met which are generally more stringent than those under U.S. GAAP, but does not change the recognition and measurement criteria. Accordingly, for the Group Reporting Basis, such loans continue to be accounted for and credit losses continue to be measured in accordance with IFRS 9, "Financial Instruments," with any gain or loss recorded at the time of sale. U.S. GAAP requires loans that meet the held for sale classification requirements be transferred to a held for sale category and subsequently measured at the lower of amortized cost or fair value. The existing allowance for credit losses at the time of transfer is recognized as a charge-off to the extent fair value is less than amortized cost and attributable to credit, with any remaining allowance for credit losses released to the provision for credit losses. Under U.S. GAAP, the component of the lower of amortized cost or fair value adjustment upon transfer to held for sale related to credit risk is recorded in provision for credit losses while the component related to interest rates and liquidity

factors is recorded in other revenues. Changes in the lower of amortized cost or fair value after the initial transfer to held for sale are recorded in other revenues to the extent permissible.

For loans originated with the intent to sell, the Group Reporting Basis requires these loans to be classified as trading assets and recorded at their fair value, with gains and losses recorded in trading revenue. Under U.S. GAAP, such loans are classified as loans held for sale and, with the exception of certain loans accounted for under FVO accounting, are recorded at the lower of amortized cost or fair value, with changes in the lower of amortized cost or fair value adjustment recorded in other revenues to the extent permissible.

Renewable energy tax credit investments - Under the Group Reporting Basis, the amortization of our investment balance is presented in income tax expense (benefit), while under U.S. GAAP, the amortization of our investment balance is presented in other revenues.

Low income housing tax credit investments - Under the Group Reporting Basis, the amortization of our investment balance and associated tax benefits are presented net in other operating income, while under U.S. GAAP, the amortization of our investment balance and associated tax benefits are presented net in income tax expense (benefit).

Expected Credit Losses (Provision for Credit Losses)

Expected credit losses - Under U.S. GAAP, we maintain an allowance for credit losses that reflects our estimate of lifetime ECL. However, under the Group Reporting Basis only financial assets which are considered to have experienced a significant increase in credit risk ("stage 2") or for which there is objective evidence of impairment ("stage 3") require an allowance based on lifetime ECL. Under the Group Reporting Basis, financial assets at initial recognition and which have not experienced a significant increase in credit risk since initial recognition are considered to be in "stage 1" and only require an allowance based on expected credit losses resulting from default events that are possible within the next 12 months ("12-month ECL"). Under the Group Reporting Basis, a majority of our loans are considered to be in stage 1 and only a 12-month ECL is recorded. Primarily as a result of this difference, the allowance for credit losses is higher under U.S. GAAP than under the Group Reporting Basis.

In addition to the differences discussed above, under the Group Reporting Basis, the allowance for credit losses includes estimated ECL arising from expected future draws on unused credit card lines, while under U.S. GAAP, unused credit card lines are considered unconditionally cancellable and expected future draws are not reserved for.

Loans held for sale - As discussed more fully above under "Other Operating Income (Total Other Revenues)," under U.S. GAAP for loans that are transferred to held for sale, the existing allowance for credit losses at the time of transfer is recognized as a charge-off or released to the provision for credit losses. There is no similar requirement under the Group Reporting Basis. In addition, during the fourth quarter of 2022, we sold certain previously charged-off credit card and other consumer loans which resulted in the recognition of a \$9 million recovery under the Group Reporting Basis. This transaction did not qualify as a sale under U.S. GAAP and, as a result, the recovery is being deferred and amortized over the estimated collection period.

Operating Expenses

Other long-lived assets - A long-lived asset group is tested for impairment when events or changes in circumstances indicate that the carrying amount of a long-lived asset group might not be recoverable. Under U.S. GAAP, if the estimated undiscounted cash flows of the long-lived asset group exceed its carrying amount, an impairment is not recognized. However, if the estimated undiscounted cash flows are less than the carrying amount of the long-lived asset group, a second step is performed to determine fair value and an impairment loss is required if the carrying amount of the long-lived asset group exceeds fair value. Under the Group Reporting Basis, there is no separate undiscounted cash flow test and an impairment loss is recognized if the carrying amount of the cash generating unit exceeds the higher of its value in use or fair value less costs to sell. In 2020, we recorded an impairment charge under the Group Reporting Basis related to the write-off of all the capitalized software and a portion of the leasehold improvements associated with our WPB business segment. Under U.S. GAAP, the estimated undiscounted cash flows of the long-lived asset group exceeded its carrying amount and no impairment charge was required. Consequently, the carrying amounts of capitalized software and leasehold improvements are higher under U.S. GAAP than under the Group Reporting Basis and, as a result, corresponding amortization expense is higher under U.S. GAAP. In addition, during 2021, we determined we would exit certain branches as part of our Restructuring Plan and, as a result, we recorded an impairment charge of \$18 million under U.S. GAAP to write-off the leasehold improvements associated with these branches. These leasehold improvements were previously written-off under the Group Reporting Basis. Subsequent to the impairment charge recorded under the Group Reporting Basis in 2020, we have recorded additional impairment charges under the Group Reporting Basis for newly completed leasehold improvements in our Wealth and Personal Banking business segment, while under U.S. GAAP they are capitalized and amortized. During the fourth quarter of 2022, we also recorded \$23 million of lease related impairment charges under the Group Reporting Basis associated with certain office space which we have committed to vacate in the first quarter of 2023, while under U.S. GAAP, impairment will be recognized when we have concluded using the space.

Loan origination - As discussed more fully above under "Net Interest Income," loan origination cost deferrals are more stringent under the Group Reporting Basis and generally result in lower costs being deferred than permitted under U.S. GAAP.

Leases - As discussed more fully above under "Net Interest Income," all leases are recognized as financing arrangements under the Group Reporting Basis with interest expense on the lease liability recognized separately from depreciation of the ROU asset. Under U.S. GAAP, expense on operating leases is generally recognized on a straight-line basis in operating expenses.

Deposit incentives - As discussed more fully above under "Net Interest Income," incentive costs on customer deposits are deferred and amortized to interest expense under the Group Reporting Basis, while under U.S. GAAP, such costs are recognized immediately in operating expenses.

Pension and other postretirement benefit costs - Under U.S. GAAP, pension expense reflects the expected return on plan assets based on the fair value of plan assets, offset by the interest cost on our projected benefit obligation. Additionally, under U.S. GAAP, pension expense includes the amortization of the amount by which actuarial losses or gains exceed the higher of 10 percent of the projected benefit obligation or fair value of plan assets (the corridor). Under the Group Reporting Basis, pension expense is determined using a finance cost component comprising the net interest on the net defined benefit liability, which does not reflect the benefit from the expectation of higher returns on plan assets.

Goodwill impairment - Under the Group Reporting Basis, goodwill was amortized until 2005, however goodwill was amortized under U.S. GAAP until 2002, which resulted in a lower carrying amount of goodwill and, therefore, lower impairment charges under the Group Reporting Basis in 2020.

Litigation expense - Under U.S. GAAP, litigation accruals are recorded when it is probable a liability has been incurred and the amount is reasonably estimable. Under the Group Reporting Basis, a present obligation and a probable outflow of economic benefits must exist for an accrual to be recorded. This may create differences in the timing of accrual recognition between the Group Reporting Basis and U.S. GAAP. Additionally, under the Group Reporting Basis, legal costs to defend litigation are accrued at the time that a liability is recorded for the related litigation, while under U.S. GAAP, these costs are recognized as services are performed.

Assets

Derivatives - Under U.S. GAAP, derivative receivables and payables with the same counterparty may be reported on a net basis in the balance sheet when there is a legally enforceable netting agreement in place. In addition, under U.S. GAAP, fair value amounts recognized for the obligation to return cash collateral received or the right to reclaim cash collateral paid are offset against the fair value of derivative instruments. Under the Group Reporting Basis, these agreements do not necessarily meet the requirements for offset, and therefore such derivative receivables and payables are presented gross on the balance sheet.

Loans - As discussed more fully above under "Other Operating Income (Total Other Revenues)," on a Group Reporting Basis, loans designated as held for sale at the time of origination and accrued interest are classified as trading assets. In addition, the accounting requirements governing when loans previously held for investment are transferred to a held for sale category are more stringent under the Group Reporting Basis than under U.S. GAAP which results in loans generally being reported as held for sale later than under U.S. GAAP.

Precious metal loans - Under U.S. GAAP, precious metals leased or loaned to customers are reclassified from trading precious metals into loans and interest is accrued, while under the Group Reporting Basis, precious metals leased or loaned to customers continue to be part of the precious metal inventory recorded in other assets and are carried at fair value.

Loan allowance - As discussed more fully above under "Expected Credit Losses (Provision for Credit Losses)," under U.S. GAAP, the allowance for credit losses is recognized based on lifetime ECL, while under the Group Reporting Basis, financial assets at initial recognition and which have not experienced a significant increase in credit risk since initial recognition only require an allowance based on 12-month ECL.

Other long-lived assets - As discussed more fully above under "Operating Expenses," we have recorded impairment charges under the Group Reporting Basis and, as a result, the carrying amounts of capitalized software and leasehold improvements are higher under U.S. GAAP than under the Group Reporting Basis. Under the Group Reporting Basis, an impairment loss is recognized if the carrying amount of the cash generating unit exceeds the higher of its value in use or fair value less costs to sell, while under U.S. GAAP, if the estimated undiscounted cash flows of the long-lived asset group exceed its carrying amount, an impairment is not recognized.

Goodwill - The Group Reporting Basis and U.S. GAAP require goodwill to be tested for impairment at least annually, or more frequently if circumstances indicate that goodwill may be impaired. Under the Group Reporting Basis, goodwill was amortized until 2005, however goodwill was amortized under U.S. GAAP until 2002, which resulted in a lower carrying amount of goodwill under the Group Reporting Basis. Methods, assumptions and reporting groups used to calculate impairment under the Group Reporting Basis may differ locally from that utilized by HSBC.

The following table summarizes the results for each segment on a Group Reporting Basis, as well as provides a reconciliation of total results under the Group Reporting Basis to U.S. GAAP consolidated totals:

	Group Reporting Basis Consolidated Amounts							Group Reporting Basis Adjustments ⁽¹⁾	Group Reporting Basis Reclassifications ⁽²⁾	U.S. GAAP Consolidated Totals
	GBM						Total			
	WPB	CMB	GB	MSS	GBM Other	CC				
	(in millions)									
Year Ended December 31, 2022										
Net interest income (expense).....	\$ 782	\$ 941	\$ 467	\$ (108)	\$ 7	\$ (29)	\$ 2,060	\$ 4	\$ 5	\$ 2,069
Other operating income	298	287	339	567	86	33	1,610	(56)	41	1,595
Total operating income	1,080	1,228	806	459	93	4	3,670	(52)	46	3,664
Expected credit losses / provision for credit losses	(35)	22	31	—	2	—	20	134	—	154
	1,115	1,206	775	459	91	4	3,650	(186)	46	3,510
Operating expenses	863	586	483	286	111	396	2,725	14	46	2,785
Profit (loss) before income tax	\$ 252	\$ 620	\$ 292	\$ 173	\$ (20)	\$ (392)	\$ 925	\$ (200)	\$ —	\$ 725
Balances at end of period:										
Total assets	\$ 42,141	\$ 49,020	\$ 10,102	\$ 43,410	\$ 37,170	\$ 2,628	\$ 184,471	\$ (19,816)	\$ —	\$ 164,655
Total loans, net	22,647	24,565	9,498	203	278	—	57,191	(1,059)	2,664	58,796
Goodwill	—	358	—	—	—	—	358	100	—	458
Total deposits	32,542	41,268	40,865	1,131	1,627	—	117,433	(2,665)	8,455	123,223
Year Ended December 31, 2021										
Net interest income (expense).....	\$ 801	\$ 771	\$ 315	\$ 47	\$ (24)	\$ (6)	\$ 1,904	\$ 19	\$ 160	\$ 2,083
Other operating income	303	297	409	318	100	3	1,430	(51)	(142)	1,237
Total operating income (expense)	1,104	1,068	724	365	76	(3)	3,334	(32)	18	3,320
Expected credit losses / provision for credit losses	(21)	(26)	(157)	—	(1)	—	(205)	(365)	—	(570)
	1,125	1,094	881	365	77	(3)	3,539	333	18	3,890
Operating expenses	1,221	581	407	275	98	316	2,898	62	18	2,978
Profit (loss) before income tax	\$ (96)	\$ 513	\$ 474	\$ 90	\$ (21)	\$ (319)	\$ 641	\$ 271	\$ —	\$ 912
Balances at end of period:										
Total assets	\$ 62,904	\$ 43,052	\$ 10,486	\$ 43,007	\$ 44,151	\$ 1,746	\$ 205,346	\$ (16,114)	\$ —	\$ 189,232
Total loans, net	22,285	21,971	9,930	178	881	—	55,245	(1,991)	2,163	55,417
Goodwill	—	358	—	—	—	—	358	100	—	458
Total deposits	40,232	45,082	41,343	1,298	981	—	128,936	(2,889)	16,985	143,032
Year Ended December 31, 2020										
Net interest income (expense).....	\$ 837	\$ 821	\$ 369	\$ 91	\$ (62)	\$ (30)	\$ 2,026	\$ 9	\$ 139	\$ 2,174
Other operating income	368	234	351	454	165	129	1,701	(46)	(120)	1,535
Total operating income	1,205	1,055	720	545	103	99	3,727	(37)	19	3,709
Expected credit losses / provision for credit losses	189	293	139	—	1	—	622	188	—	810
	1,016	762	581	545	102	99	3,105	(225)	19	2,899
Operating expenses	2,203	587	372	351	118	403	4,034	(172)	19	3,881
Profit (loss) before income tax	\$ (1,187)	\$ 175	\$ 209	\$ 194	\$ (16)	\$ (304)	\$ (929)	\$ (53)	\$ —	\$ (982)
Balances at end of period:										
Total assets	\$ 59,200	\$ 36,354	\$ 11,473	\$ 67,293	\$ 53,597	\$ 1,760	\$ 229,677	\$ (33,243)	\$ —	\$ 196,434
Total loans, net	24,048	23,377	11,260	329	475	—	59,489	(2,307)	3,891	61,073
Goodwill	—	358	—	—	—	—	358	100	—	458
Total deposits	50,000	42,369	37,320	3,417	3,931	—	137,037	(4,253)	12,366	145,150

(1) Represents adjustments associated with differences between U.S. GAAP and the Group Reporting Basis. These adjustments, which are more fully described above, consist of the following:

	Net Interest Income	Other Revenues	Provision for Credit Losses	Operating Expenses	Profit (Loss) Before Income Tax	Total Assets
(in millions)						
December 31, 2022						
Deposit incentives	\$ 7	\$ —	\$ —	\$ 2	\$ 5	\$ 3
Derivatives	—	—	—	—	—	(19,842)
Expected credit losses	—	—	153	—	(153)	(258)
Goodwill	—	—	—	—	—	100
Leases	5	—	—	9	(4)	10
Loan origination	(14)	—	—	(12)	(2)	22
Loans held for sale	5	(40)	(19)	9	(25)	35
Other long-lived assets	—	—	—	(8)	8	131
Pension and other postretirement benefit costs	—	—	—	6	(6)	—
Renewable energy tax credit investments	—	(25)	—	—	(25)	—
Other	1	9	—	8	2	(17)
Total adjustments	\$ 4	\$ (56)	\$ 134	\$ 14	\$ (200)	\$ (19,816)
December 31, 2021						
Deposit incentives	\$ 13	\$ —	\$ —	\$ 9	\$ 4	\$ (25)
Derivatives	—	—	—	—	—	(16,172)
Expected credit losses	—	—	(272)	—	272	(148)
Goodwill	—	—	—	—	—	100
Leases	16	—	—	22	(6)	13
Loan origination	(11)	—	—	(20)	9	23
Loans held for sale	—	(31)	(93)	—	62	(31)
Other long-lived assets	—	—	—	61	(61)	152
Pension and other postretirement benefit costs	—	—	—	(10)	10	—
Renewable energy tax credit investments	—	(21)	—	—	(21)	3
Other	1	1	—	—	2	(29)
Total adjustments	\$ 19	\$ (51)	\$ (365)	\$ 62	\$ 271	\$ (16,114)
December 31, 2020						
Deposit incentives	14	—	—	21	(7)	(28)
Derivatives	—	—	—	—	—	(33,163)
Expected credit losses	(4)	—	200	—	(204)	(357)
Goodwill impairment	—	—	—	91	(91)	100
Leases	23	—	—	14	9	33
Loan origination	(24)	(2)	—	(20)	(6)	18
Loans held for sale	—	(25)	(12)	—	(13)	—
Other long-lived assets	—	—	—	(264)	264	201
Pension and other postretirement benefit costs	—	—	—	(15)	15	—
Renewable energy tax credit investments	—	(11)	—	—	(11)	2
Other	—	(8)	—	1	(9)	(49)
Total adjustments	\$ 9	\$ (46)	\$ 188	\$ (172)	\$ (53)	\$ (33,243)

(2) Represents differences in financial statement presentation between U.S. GAAP and the Group Reporting Basis.

26. Retained Earnings and Regulatory Capital Requirements

Bank dividends are one of the sources of funds used for payment of shareholder dividends and other HSBC USA cash needs. Approval from the Office of the Comptroller of the Currency ("OCC") is required if the total of all dividends HSBC Bank USA declares in any year exceeds the cumulative net income for that year, combined with the net income for the two preceding years reduced by dividends attributable to those years. OCC approval also is required for a reduction of permanent capital of HSBC Bank USA. Under a separate restriction, payment of dividends is prohibited in amounts greater than undivided profits then on hand, after deducting actual losses and bad debts. Bad debts are debts due and unpaid for a period of six months unless well secured, as defined, and in the process of collection.

We are subject to regulatory capital rules issued by U.S. banking regulators including Basel III (the "Basel III rule"). A bank or bank holding company's failure to meet minimum capital requirements can result in certain mandatory actions and possibly additional discretionary actions by its regulators. The following table summarizes the capital amounts and ratios of HSBC USA and HSBC Bank USA, calculated in accordance with the Basel III rule at December 31, 2022 and 2021:

	December 31, 2022			December 31, 2021		
	Capital Amount	Well-Capitalized Ratio ⁽¹⁾	Actual Ratio	Capital Amount	Well-Capitalized Ratio ⁽¹⁾	Actual Ratio
(dollars are in millions)						
Common equity Tier 1 ratio:						
HSBC USA	\$ 13,950	4.5 % ⁽²⁾	13.5 %	\$ 15,341	4.5 % ⁽²⁾	15.1 %
HSBC Bank USA	16,492	6.5	16.3	17,665	6.5	17.6
Tier 1 capital ratio:						
HSBC USA	14,215	6.0	13.8	16,606	6.0	16.3
HSBC Bank USA	17,992	8.0	17.8	20,165	8.0	20.1
Total capital ratio:						
HSBC USA	16,579	10.0	16.1	18,821	10.0	18.5
HSBC Bank USA	20,114	10.0	19.9	22,157	10.0	22.1
Tier 1 leverage ratio:						
HSBC USA	14,215	4.0 ⁽²⁾	8.5	16,606	4.0 ⁽²⁾	8.5
HSBC Bank USA	17,992	5.0	10.9	20,165	5.0	10.5
Risk-weighted assets: ⁽³⁾						
HSBC USA	103,101			101,827		
HSBC Bank USA	101,331			100,363		
Adjusted quarterly average assets: ⁽⁴⁾						
HSBC USA	167,866			194,469		
HSBC Bank USA	164,564			192,521		

⁽¹⁾ HSBC USA and HSBC Bank USA are categorized as "well-capitalized," as defined by their principal regulators. To be categorized as well-capitalized under regulatory guidelines, a banking institution must maintain capital equal to or in excess of the ratios reflected in the above table, and must not be subject to a directive, order, or written agreement to meet and maintain specific capital levels.

⁽²⁾ There are no common equity Tier 1 or Tier 1 leverage ratio components in the definition of a well-capitalized bank holding company. The ratios shown are the regulatory minimums.

⁽³⁾ Calculated using the Standardized Approach.

⁽⁴⁾ Represents the Tier 1 leverage ratio denominator which reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital.

In response to the COVID-19 pandemic, the federal banking agencies issued a final rule that provided the option to transition in the regulatory capital impacts of the current expected credit loss accounting standard over a five-year period. In 2020, HSBC North America and HSBC Bank USA elected the five-year transition option and, as a result, our capital ratios were being reported in accordance with the transition rules in the final rule. However, in 2022, there was no remaining impact to regulatory capital under the transition rules and, therefore, there are no amounts being phased into regulatory capital in subsequent periods.

During 2022 and 2021, HSBC USA did not receive any cash capital contributions from its parent, HSBC North America, and did not make any capital contributions to its subsidiary, HSBC Bank USA.

During the second half of 2022, HSBC USA received common stock returns of capital of \$2.0 billion from its subsidiary, HSBC Bank USA, and paid distributions on its common stock of \$2.0 billion from surplus capital to its parent, HSBC North America.

During the fourth quarter of 2022, HSBC USA redeemed 1,000 shares of its 6.0 percent Non-Cumulative Series I Preferred Stock at their stated value of \$1,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC North America. In connection with this redemption, HSBC Bank USA redeemed 100 shares of its Non-Cumulative Series A Preferred Stock at their stated value of \$10,000,000 per share, resulting in a total cash payment of \$1.0 billion to HSBC USA.

27. Variable Interest Entities

In the ordinary course of business, we have organized special purpose entities ("SPEs") primarily to structure financial products to meet our clients' investment needs, to facilitate clients to access and raise financing from capital markets and to securitize financial assets held to meet our own funding needs. For disclosure purposes, we aggregate SPEs based on the purpose, risk characteristics and business activities of the SPEs. An SPE is a VIE if it lacks sufficient equity investment at risk to finance its activities without additional subordinated financial support or, as a group, the holders of the equity investment at risk lack either a) the power through voting or similar rights to direct the activities of the entity that most significantly impacts the entity's economic performance; or b) the obligation to absorb the entity's expected losses, the right to receive the expected residual returns, or both.

Variable Interest Entities We consolidate VIEs in which we hold a controlling financial interest as evidenced by the power to direct the activities of a VIE that most significantly impact its economic performance and the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE and therefore are deemed to be the primary beneficiary. We take into account our entire involvement in a VIE (explicit or implicit) in identifying variable interests that individually or in the aggregate could be significant enough to warrant our designation as the primary beneficiary and hence require us to consolidate the VIE or otherwise require us to make appropriate disclosures. We consider our involvement to be potentially significant where we, among other things, (i) enter into derivative contracts to absorb the risks and benefits from the VIE or from the assets held by the VIE; (ii) provide a financial guarantee that covers assets held or liabilities issued by a VIE; (iii) sponsor the VIE in that we design, organize and structure the transaction; and (iv) retain a financial or servicing interest in the VIE.

We are required to evaluate whether to consolidate a VIE when we first become involved and on an ongoing basis. In almost all cases, a qualitative analysis of our involvement in the entity provides sufficient evidence to determine whether we are the primary beneficiary. In rare cases, a more detailed analysis to quantify the extent of variability to be absorbed by each variable interest holder is required to determine the primary beneficiary.

Consolidated VIEs The following table summarizes assets and liabilities related to our consolidated VIEs at December 31, 2022 and 2021 which are consolidated on our balance sheet. Assets and liabilities exclude intercompany balances that eliminate in consolidation.

	December 31, 2022		December 31, 2021	
	Consolidated Assets	Consolidated Liabilities	Consolidated Assets	Consolidated Liabilities
(in millions)				
Low income housing limited liability partnership:				
Other assets	\$ 36	\$ —	\$ 54	\$ —
Interest, taxes and other liabilities	—	14	—	7
Subtotal	36	14	54	7
Venture debt financing entity:				
Loans	162	—	46	—
Other assets	8	—	1	—
Interest, taxes and other liabilities	—	8	—	2
Subtotal	170	8	47	2
Total	\$ 206	\$ 22	\$ 101	\$ 9

Low income housing limited liability partnership In 2009, all low income housing investments held by us at the time were transferred to a Limited Liability Partnership ("LLP"). The LLP was created in order to ensure the utilization of future tax benefits from these low income housing tax projects. The LLP was deemed to be a VIE because it does not have sufficient

equity investment at risk to finance its activities. Upon entering into this transaction, we concluded that we were the primary beneficiary of the LLP due to the nature of our continuing involvement and, as a result, we consolidate the LLP and report the assets of the LLP in other assets on our consolidated balance sheet. The investments held by the LLP represent equity investments in the underlying low income housing partnerships. The LLP does not consolidate the underlying partnerships because it does not have the power to direct the activities of the partnerships that most significantly impact the economic performance of the partnerships.

We amortize our low income housing investments in proportion to the allocated tax benefits under the proportional amortization method and present the associated tax benefits net of investment amortization in income tax expense (benefit).

Venture debt financing entity HSBC USA has organized and provided equity financing to HSBC Ventures USA Inc. ("HSBC Ventures"), an entity designed to provide debt financing to venture capital-backed companies generally in the form of term or revolving loans, or loan commitments. Given the generally early stage and development of the companies, the loans are typically collateralized by all of the company's assets and intellectual property, or by specific items such as receivables or equipment. The loan terms may, at times, also include warrants for company stock granting HSBC Ventures a share of the financial returns in case of a positive realization event. HSBC USA also provides debt financing to HSBC Ventures in the form of loans on an as-needed basis. HSBC Ventures is a VIE because it does not have sufficient equity investment at risk to finance its activities. As the sole investor, HSBC USA is considered to be the primary beneficiary because it has the obligation to absorb losses and the right to receive benefits that could be potentially significant to HSBC Ventures. As a result, we consolidate HSBC Ventures and report the third party loans and warrants, if any, on our consolidated balance sheet.

Unconsolidated VIEs We also have variable interests in other VIEs that are not consolidated because we are not the primary beneficiary. The following table provides additional information on these unconsolidated VIEs, including the variable interests held by us and our maximum exposure to loss arising from our involvement in these VIEs, at December 31, 2022 and 2021:

	Total Assets Held by Unconsolidated VIEs	Carrying Value of Variable Interests Held Reported as		Maximum Exposure to Loss
		Assets	Liabilities	
(in millions)				
At December 31, 2022				
Limited partnership investments	\$ 6,611	\$ 796	\$ 360	\$ 796
Asset-backed financing SPE	777	616	—	616
Total	<u>\$ 7,388</u>	<u>\$ 1,412</u>	<u>\$ 360</u>	<u>\$ 1,412</u>
At December 31, 2021				
Limited partnership investments	\$ 6,700	\$ 825	\$ 407	\$ 825
Asset-backed financing SPE	1,033	873	—	873
Total	<u>\$ 7,733</u>	<u>\$ 1,698</u>	<u>\$ 407</u>	<u>\$ 1,698</u>

Information on the types of VIEs with which we are involved, the nature of our involvement and the variable interests held in those entities is presented below.

Limited partnership investments We invest as a limited partner in partnerships that operate qualified affordable housing, renewable energy and community development projects. The returns of these investments are generated primarily from the tax benefits, including Federal tax credits and tax deductions from operating losses in the project companies. In addition, some of the investments help us comply with the Community Reinvestment Act. Certain limited partnership structures are considered to be VIEs because either (a) they do not have sufficient equity investment at risk or (b) the limited partners with equity at risk do not have substantive kick-out rights through voting rights or substantive participating rights over the general partner. As a limited partner, we are not the primary beneficiary of the VIEs and do not consolidate them. Our investments in these partnerships are recorded in other assets on the consolidated balance sheet. The maximum exposure to loss shown in the table above represents our recorded investments as well as any outstanding funding commitments extended to the partnerships.

Asset-backed financing SPE In 2021, we sold a portfolio of commercial real estate loans and provided a loan to the third-party buyer sponsored SPE for a portion of the purchase price. The SPE is an asset-backed financing entity that issued residual beneficial interests to third-party investors. The loan we provided to the SPE is senior to the residual beneficial interests and is secured by the commercial real estate loans held by the SPE. Cash flows from the commercial real estate loans will be used first to settle the interest and principal payments of the loan, with any excess cash flows attributable to the residual interest holders. The SPE is a VIE in which we have a variable interest through our ownership of the loan, which is an arm's-length transaction. We do not have the power to direct the activities that most significantly impact the VIE's economic performance. In addition, the VIE is designed such that the residual interest holders absorb any expected loss and/or benefit that could be potentially significant to the VIE and, therefore, we are not the primary beneficiary. The maximum exposure to loss shown in the table

above represents our recorded investment in the loan without consideration of any recovery benefits from the value of the commercial real estate loans.

Third-party sponsored securitization entities We invest in asset-backed securities issued by third-party sponsored securitization entities which may be considered VIEs. The investments are transacted at arm's-length and decisions to invest are based on a credit analysis of the underlying collateral assets or the issuer. We are a passive investor in these issuers and do not have the power to direct the activities of these issuers. As such, we do not consolidate these securitization entities. Additionally, we do not have other involvements in servicing or managing the collateral assets or provide financial or liquidity support to these issuers which potentially give rise to risk of loss exposure. These investments are an integral part of the disclosure in Note 5, "Trading Assets and Liabilities," Note 6, "Securities," and Note 29, "Fair Value Measurements," and, therefore, are not disclosed in this note to avoid redundancy.

In addition to the above, we have established and manage money market funds and non-money market mutual funds to provide customers with investment opportunities. As fund manager, we may be entitled to receive management fees based on the assets under management. We do not consolidate the funds because we do not absorb the majority of the expected future risk associated with the fund's assets, including interest rate, liquidity, credit and other relevant risks that are expected to affect the value of the assets.

28. Guarantee Arrangements, Pledged Assets and Repurchase Agreements

Guarantee Arrangements As part of our normal operations, we enter into credit derivatives and various off-balance sheet guarantee arrangements with affiliates and third parties. These arrangements arise principally in connection with our lending and client intermediation activities and include standby letters of credit and certain credit derivative transactions. The contractual amounts of these arrangements represent our maximum possible credit exposure in the event that we are required to fulfill the maximum obligation under the contractual terms of the guarantee.

The following table presents total carrying value and contractual amounts of our sell protection credit derivatives and major off-balance sheet guarantee arrangements at December 31, 2022 and 2021. Following the table is a description of the various arrangements.

	December 31, 2022		December 31, 2021	
	Carrying Value	Notional / Maximum Exposure to Loss	Carrying Value	Notional / Maximum Exposure to Loss
	(in millions)			
Credit derivatives ⁽¹⁾⁽²⁾	\$ 40	\$ 3,949	\$ 7	\$ 2,174
Financial standby letters of credit, net of participations ⁽³⁾⁽⁴⁾	—	6,000	—	5,339
Performance standby letters of credit, net of participations ⁽³⁾⁽⁴⁾	—	3,264	—	2,961
Total	\$ 40	\$ 13,213	\$ 7	\$ 10,474

⁽¹⁾ Includes \$2,744 million and \$1,591 million of notional issued for the benefit of HSBC affiliates at December 31, 2022 and 2021, respectively.

⁽²⁾ For credit derivatives, the maximum loss is represented by the notional amounts without consideration of mitigating effects from collateral or recourse arrangements.

⁽³⁾ Includes \$2,069 million and \$1,969 million of both financial and performance standby letters of credit issued for the benefit of HSBC affiliates at December 31, 2022 and 2021, respectively.

⁽⁴⁾ For standby letters of credit, maximum loss represents losses to be recognized assuming the letters of credit have been fully drawn and the obligors have defaulted with zero recovery.

Credit-Risk Related Guarantees

Credit derivatives Credit derivatives are financial instruments that transfer the credit risk of a reference obligation from the credit protection buyer to the credit protection seller who is exposed to the credit risk without buying the reference obligation. We sell credit protection on underlying reference obligations (such as loans or securities) by entering into credit derivatives, primarily in the form of credit default swaps, with various institutions. We account for all credit derivatives at fair value. Where we sell credit protection to a counterparty that holds the reference obligation, the arrangement is effectively a financial guarantee on the reference obligation. Under a credit derivative contract, the credit protection seller will reimburse the credit protection buyer upon occurrence of a credit event (such as bankruptcy, insolvency, restructuring or failure to meet payment obligations when due) as defined in the derivative contract, in return for a periodic premium. Upon occurrence of a credit event, we will pay the counterparty the stated notional amount of the derivative contract and receive the underlying reference

obligation. The recovery value of the reference obligation received could be significantly lower than its notional principal amount when a credit event occurs.

Certain derivative contracts are subject to master netting arrangements and related collateral agreements. A party to a derivative contract may demand that the counterparty post additional collateral in the event its net exposure exceeds certain predetermined limits and when the credit rating falls below a certain grade. We set the collateral requirements by counterparty such that the collateral covers various transactions and products, and is not allocated to specific individual contracts.

We manage our exposure to credit derivatives using a variety of risk mitigation strategies where we enter into offsetting hedge positions or transfer the economic risks, in part or in entirety, to investors through the issuance of structured credit products. We actively manage the credit and market risk exposure in the credit derivative portfolios on a net basis and, as such, retain no or a limited net position at any time. The following table summarizes our net credit derivative positions at December 31, 2022 and 2021:

	December 31, 2022		December 31, 2021	
	Carrying / Fair Value	Notional	Carrying / Fair Value	Notional
	(in millions)			
Sell-protection credit derivative positions	\$ 40	\$ 3,949	\$ 7	\$ 2,174
Buy-protection credit derivative positions	(32)	14,598	(62)	4,849
Net position ⁽¹⁾	\$ 8	\$ 10,649	\$ (55)	\$ 2,675

⁽¹⁾ Positions are presented net in the table above to provide a complete analysis of our risk exposure and depict the way we manage our credit derivative portfolio. The offset of the sell-protection credit derivatives against the buy-protection credit derivatives may not be legally binding in the absence of master netting agreements with the same counterparty. Furthermore, the credit loss triggering events for individual sell-protection credit derivatives may not be the same or occur in the same period as those of the buy-protection credit derivatives thereby not providing an exact offset.

Standby letters of credit A standby letter of credit is issued to a third party for the benefit of a client and is a guarantee that the client will perform or satisfy certain obligations under a contract. It irrevocably obligates us to pay a specified amount to the third party beneficiary if the client fails to perform the contractual obligation. We issue two types of standby letters of credit: performance and financial. A performance standby letter of credit is issued where the client is required to perform some non-financial contractual obligation, such as the performance of a specific act, whereas a financial standby letter of credit is issued where the client's contractual obligation is of a financial nature, such as the repayment of a loan or debt instrument.

The issuance of a standby letter of credit is subject to our credit approval process and collateral requirements. We charge fees for issuing letters of credit commensurate with the client's credit evaluation and the nature of any collateral. Included in other liabilities are deferred fees on standby letters of credit amounting to \$52 million and \$51 million at December 31, 2022 and 2021, respectively. Also included in other liabilities is an allowance for credit losses on unfunded standby letters of credit of \$15 million and \$14 million at December 31, 2022 and 2021, respectively.

The following table summarizes the credit ratings related to guarantees including the ratings of counterparties against which we sold credit protection and financial standby letters of credit at December 31, 2022 as an indicative proxy of payment risk:

Notional/Contractual Amounts	Average Life (in years)	Credit Ratings of the Obligors		
		Investment Grade	Non-Investment Grade	Total
(dollars are in millions)				
Sell-protection Credit Derivatives ⁽¹⁾				
Single name credit default swaps	1.6	\$ 1,184	\$ 553	\$ 1,737
Index credit derivatives	6.2	837	1,375	2,212
Subtotal		2,021	1,928	3,949
Standby Letters of Credit ⁽²⁾	0.8	6,860	2,404	9,264
Total		\$ 8,881	\$ 4,332	\$ 13,213

⁽¹⁾ The credit ratings in the table represent external credit ratings for classification as investment grade and non-investment grade.

⁽²⁾ External ratings for most of the obligors are not available. Presented above are the internal credit ratings which are developed using similar methodologies and rating scale equivalent to external credit ratings for purposes of classification as investment grade and non-investment grade.

Our internal credit ratings are determined based on HSBC's risk rating systems and processes which assign a credit grade based on a scale which ranks the risk of default of a client. The credit grades are assigned and used for managing risk and determining level of credit exposure appetite based on the client's operating performance, liquidity, capital structure and debt service ability. In addition, we also incorporate subjective judgments into the risk rating process concerning such things as industry trends,

comparison of performance to industry peers and perceived quality of management. We compare our internal risk ratings to outside external rating agency benchmarks, where possible, at the time of formal review and regularly monitor whether our risk ratings are comparable to the external ratings benchmark data.

A non-investment grade rating of a referenced obligor has a negative impact to the fair value of the credit derivative and increases the likelihood that we will be required to perform under the credit derivative contract. We employ market-based parameters and, where possible, use the observable credit spreads of the referenced obligors as measurement inputs in determining the fair value of the credit derivatives. We believe that such market parameters are more indicative of the current status of payment/performance risk than external ratings by the rating agencies which may not be forward-looking in nature and, as a result, lag behind those market-based indicators.

Non Credit-Risk Related Guarantees and Other Arrangements

Visa covered litigation In 2008, we received Class B Shares as part of Visa's initial public offering ("IPO"). Pursuant to the IPO, we, along with all the other Class B shareholders, agreed to indemnify Visa for the claims and obligations arising from certain specific covered litigation. The Class B Shares are not eligible to be converted into publicly traded Class A Shares until settlement of the covered litigation described in Note 30, "Litigation and Regulatory Matters". Accordingly, the Class B Shares are considered restricted and are only transferable under limited circumstances, which include transfers to other Class B shareholders.

In 2016 and 2017, we sold substantially all of our Visa Class B Shares to a third party. Under the terms of the sale agreements, we entered into swap agreements with the purchaser to retain the litigation risk associated with the Class B Shares sold until the related litigation is settled and the Class B Shares can be converted into Class A Shares. These swaps had a carrying value of \$38 million at both December 31, 2022 and 2021. The swap agreements we entered into with the purchaser require us to (a) make periodic payments, calculated by reference to the market price of Class A Shares and (b) make or receive payments based on subsequent changes in the conversion rate of Class B Shares into Class A Shares. We have entered into a total return swap position to economically hedge the periodic payments made under these swap agreements. The payments under the derivative will continue until the Class B Shares are able to be converted into Class A Shares. The fair value of the swap agreements is estimated using a discounted cash flow methodology and is dependent upon the final resolution of the related litigation. Changes in fair value between periods are recognized in other income (loss). In 2022, we recorded a loss of \$36 million related to extending the expected timing of the final resolution of the related litigation and, to a lesser extent, a change in the Visa Class B Share conversion rate. In 2021, we recorded a loss of \$3 million related to a change in the Visa Class B Share conversion rate. In 2020, we recorded a loss of \$9 million primarily related to extending the maturity of the total return swap position used to economically hedge the periodic payments made under the swap agreements. See Note 16, "Derivative Financial Instruments," for further information.

Clearing houses and exchanges We are a member of various exchanges and clearing houses that trade and clear securities and/or derivatives contracts. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, members of a clearing house may be required to contribute to a guaranty fund to backstop members' obligations to the clearing house. As a member, we may be required to pay a proportionate share of the financial obligations of another member who defaults on its obligations to the exchange or the clearing house. Our guarantee obligations would arise only if the exchange or clearing house had exhausted its resources. Any potential contingent liability under these membership agreements cannot be estimated.

Lease Obligations We are obligated under a number of noncancellable operating leases for premises and equipment. See Note 12, "Leases," for information regarding our leases, including a maturity analysis of our operating lease liabilities.

Mortgage Loan Repurchase Obligations We originate and sell mortgage loans to third parties and provide various representations and warranties related to, among other things, the ownership of the loans, the validity of the liens, the loan selection and origination process, and the compliance to the origination criteria established by the government agencies. In the event of a breach of our representations and warranties, we may be obligated to repurchase the loans with identified defects or to indemnify the buyers. Our contractual obligation arises only when the breach of representations and warranties are discovered and repurchase is demanded.

In estimating our repurchase liability arising from breaches of representations and warranties, we consider historical losses on residual risks not covered by settlement agreements adjusted for any risk factors not captured in the historical losses as well as the level of outstanding repurchase demands received. Outstanding repurchase demands received were immaterial at December 31, 2022 and 2021.

Our estimated repurchase liability for obligations arising from the breach of representations and warranties associated with mortgage loans sold was \$15 million and \$3 million at December 31, 2022 and 2021, respectively. Our repurchase liability represents our best estimate of the loss that has been incurred, including interest, arising from breaches of representations and warranties associated with mortgage loans sold. Because the level of mortgage loan repurchase losses is dependent upon economic factors, investor demand strategies and other external risk factors such as housing market trends that may change, the

level of the liability for mortgage loan repurchase losses requires significant judgment. We continue to evaluate our methods of determining the best estimate of loss based on recent trends. As these estimates are influenced by factors outside our control, there is uncertainty inherent in these estimates making it reasonably possible that they could change. The range of reasonably possible losses in excess of our recorded repurchase liability is between zero and \$30 million at December 31, 2022. This estimated range of reasonably possible losses was determined primarily based upon modifying the assumptions utilized in our best estimate of probable losses to reflect what we believe to be reasonably possible adverse assumptions.

Securitization Activity In addition to the repurchase risk described above, we have also been involved as a sponsor/seller of loans used to facilitate whole loan securitizations underwritten by our affiliate, HSI. In this regard, we began acquiring residential mortgage loans in 2005 which were warehoused on our balance sheet with the intent of selling them to HSI to facilitate HSI's whole loan securitization program which was discontinued in 2007. During 2005-2007, we purchased and sold \$24 billion of such loans to HSI which were subsequently securitized and sold by HSI to third parties. See "Mortgage Securitization Matters" in Note 30, "Litigation and Regulatory Matters," for additional discussion of related exposure.

Pledged Assets

Pledged assets included in the consolidated balance sheet consisted of the following:

At December 31,	2022	2021
	(in millions)	
Interest bearing deposits with banks ⁽¹⁾	\$ 878	\$ 563
Trading assets ⁽²⁾	1,255	1,773
Securities available-for-sale ⁽³⁾	3,179	7,618
Securities held-to-maturity ⁽³⁾	466	599
Loans ⁽⁴⁾	17,530	17,777
Other assets ⁽⁵⁾	1,319	1,211
Total	\$ 24,627	\$ 29,541

⁽¹⁾ Represents gross amount of cash on deposit with banks primarily related to derivative collateral-support agreements, of which a majority has been netted against derivative liabilities on the consolidated balance sheet.

⁽²⁾ Trading assets are primarily pledged against liabilities associated with repurchase agreements.

⁽³⁾ Securities are primarily pledged against derivatives, public fund deposits, trust deposits and various short-term and long term borrowings, as well as providing capacity for potential secured borrowings from the FHLB and the Federal Reserve Bank of New York.

⁽⁴⁾ Loans are primarily residential mortgage loans pledged against current and potential borrowings from the FHLB and the Federal Reserve Bank of New York.

⁽⁵⁾ Represents gross amount of cash on deposit with non-banks primarily related to derivative collateral support agreements, of which a majority has been netted against derivative liabilities on the consolidated balance sheet.

Debt securities pledged as collateral under repurchase agreements that can be sold or repledged by the secured party continue to be reported on the consolidated balance sheet. The fair value of securities available-for-sale that could be sold or repledged was \$55 million and \$2,410 million at December 31, 2022 and 2021, respectively. The fair value of trading assets that could be sold or repledged was \$1,255 million and \$1,749 million at December 31, 2022 and 2021, respectively.

The fair value of collateral we accepted under security resale agreements but was not reported on the consolidated balance sheet was \$27,913 million and \$12,848 million at December 31, 2022 and 2021, respectively. Of this collateral, \$25,838 million and \$12,848 million could be sold or repledged at December 31, 2022 and 2021, respectively, of which \$3,290 million and \$538 million, respectively, had been sold or repledged as collateral under repurchase agreements or to cover short sales.

Repurchase Agreements

We enter into purchases of securities under agreements to resell (resale agreements) and sales of securities under agreements to repurchase (repurchase agreements) identical or substantially the same securities. Resale and repurchase agreements are accounted for as secured lending and secured borrowing transactions, respectively.

Repurchase agreements may require us to deposit cash or other collateral with the lender. In connection with resale agreements, it is our policy to obtain possession of collateral, which may include the securities purchased, with market value in excess of the principal amount loaned. The market value of the collateral subject to the resale and repurchase agreements is regularly monitored, and additional collateral is obtained or provided when appropriate, to ensure appropriate collateral coverage of these secured financing transactions.

The following table provides information about resale and repurchase agreements that are subject to offset at December 31, 2022 and 2021:

	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet ⁽¹⁾	Net Amounts Presented in the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		Net Amount ⁽³⁾
				Financial Instruments ⁽²⁾	Cash Collateral Received / Pledged	
(in millions)						
At December 31, 2022						
Assets:						
Securities purchased under resale agreements ...	\$ 27,795	\$ 4,710	\$ 23,085	\$ 23,082	\$ —	\$ 3
Liabilities:						
Securities sold under repurchase agreements	\$ 4,710	\$ 4,710	\$ —	\$ —	\$ —	\$ —
At December 31, 2021						
Assets:						
Securities purchased under resale agreements ...	\$ 12,871	\$ 2,357	\$ 10,514	\$ 10,464	\$ 50	\$ —
Liabilities:						
Securities sold under repurchase agreements	\$ 4,672	\$ 2,357	\$ 2,315	\$ 2,315	\$ —	\$ —

⁽¹⁾ Represents recognized amount of resale and repurchase agreements with counterparties subject to legally enforceable netting agreements that meet the applicable netting criteria as permitted by generally accepted accounting principles.

⁽²⁾ Represents securities received or pledged to cover financing transaction exposures.

⁽³⁾ Represents the amount of our exposure that is not collateralized / covered by pledged collateral.

The following table provides the class of collateral pledged and remaining contractual maturity of repurchase agreements accounted for as secured borrowings at December 31, 2022 and 2021:

	Overnight and Continuous	Up to 30 Days	31 to 90 Days	91 Days to One Year	Greater Than One Year	Total
At December 31, 2022						
U.S. Treasury, U.S. Government sponsored and U.S. Government agency securities	\$ 2,729	\$ 1,074	\$ 386	\$ 521	\$ —	\$ 4,710
At December 31, 2021						
U.S. Treasury, U.S. Government sponsored and U.S. Government agency securities	\$ —	\$ 3,442	\$ 1,151	\$ 79	\$ —	\$ 4,672

29. Fair Value Measurements

Accounting principles related to fair value measurements provide a framework for measuring fair value that focuses on the exit price that would be received to sell an asset or paid to transfer a liability in the principal market (or in the absence of the principal market, the most advantageous market) accessible in an orderly transaction between willing market participants (the "Fair Value Framework"). Where required by the applicable accounting standards, assets and liabilities are measured at fair value using the "highest and best use" valuation premise. Fair value measurement guidance clarifies that financial instruments do not have alternative use and, as such, the fair value of financial instruments should be determined using an "in-exchange" valuation premise. However, the fair value measurement guidance provides a valuation exception and permits an entity to measure the fair value of a group of financial assets and financial liabilities with offsetting credit risks and/or market risks based on the exit price it would receive or pay to transfer the net risk exposure of a group of assets or liabilities if certain conditions are met. We elected to apply the measurement exception to a group of derivative instruments with offsetting credit risks and market risks, which primarily relate to interest rate, foreign currency, debt and equity price risk, and commodity price risk as of the reporting date.

Fair Value Adjustments The best evidence of fair value is quoted market price in an actively traded market, where available. In the event listed price or market quotes are not available, valuation techniques that incorporate relevant transaction data and market parameters reflecting the attributes of the asset or liability under consideration are applied. Where applicable, fair value adjustments are made to ensure the financial instruments are appropriately recorded at fair value. The fair value adjustments reflect the risks associated with the products, contractual terms of the transactions, and the liquidity of the markets in which the transactions occur. The fair value adjustments are broadly categorized by the following major types:

Credit valuation adjustment - The credit valuation adjustment is an adjustment to a group of financial assets and financial liabilities, predominantly derivative assets and derivative liabilities, to reflect the credit quality of the parties to the transaction in arriving at fair value. A credit valuation adjustment to a financial asset is required to reflect the default risk of the counterparty. A debit valuation adjustment to a financial liability is recorded to reflect the default risk of HUSI. See "Valuation Techniques - Derivatives" below for additional details.

Liquidity risk adjustment - The liquidity risk adjustment (primarily in the form of bid-offer adjustment) reflects the cost that would be incurred to close out the market risks by hedging, disposing or unwinding the position. Valuation models generally produce mid-market values. The bid-offer adjustment is made in such a way that results in a measure that reflects the exit price that most represents the fair value of the financial asset or financial liability under consideration or, where applicable, the fair value of the net market risk exposure of a group of financial assets or financial liabilities. These adjustments relate primarily to Level 2 assets.

Model valuation adjustment - Where fair value measurements are determined using an internal valuation model based on observable and unobservable inputs, certain valuation inputs may be less readily determinable. There may be a range of possible valuation inputs that market participants may assume in determining the fair value measurement. The resultant fair value measurement has inherent measurement risk if one or more parameters are unobservable and must be estimated. An input valuation adjustment is necessary to reflect the likelihood that market participants may use different input parameters, and to mitigate the possibility of measurement error. In addition, the values derived from valuation techniques are affected by the choice of valuation model and model limitation. When different valuation techniques are available, the choice of valuation model can be subjective. Furthermore, the valuation model applied may have measurement limitations. In those cases, an additional valuation adjustment is also applied to mitigate the measurement risk. Model valuation adjustments are not material and relate primarily to Level 2 instruments.

We apply stress scenarios in determining appropriate liquidity risk and model risk adjustments for Level 3 fair values by reviewing the historical data for unobservable inputs (e.g., correlation, volatility). Some stress scenarios involve at least a 95 percent confidence interval (i.e., two standard deviations). We also utilize unobservable parameter adjustments when instruments are valued using internally developed models which reflects the uncertainty in the value estimates provided by the model.

Funding Fair Value Adjustment ("FFVA") - The FFVA reflects the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at unsecured funding spreads. See "Valuation Techniques - Derivatives" below for additional details.

Fair Value Hierarchy The Fair Value Framework establishes a three-tiered fair value hierarchy as follows:

Level 1 *quoted market price* - Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 *valuation technique using observable inputs* - Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are inactive, and measurements

determined using valuation models where all significant inputs are observable, such as interest rates and yield curves that are observable at commonly quoted intervals.

Level 3 valuation technique with significant unobservable inputs - Level 3 inputs are unobservable inputs for the asset or liability and include situations where fair values are measured using valuation techniques based on one or more significant unobservable inputs.

Classification within the fair value hierarchy is based on whether the lowest hierarchical level input that is significant to the fair value measurement is observable. As such, the classification within the fair value hierarchy is dynamic and can be transferred to other hierarchy levels in each reporting period.

Where fair value measurements are determined based on information obtained from independent pricing services or brokers, Finance applies appropriate validation procedures to substantiate fair value. For price validation purposes, quotations from at least two independent pricing sources are obtained for each financial instrument, where possible.

The following factors are considered in determining fair values:

- similarities between the asset or the liability under consideration and the asset or liability for which quotation is received;
- collaboration of pricing by referencing to other independent market data such as market transactions and relevant benchmark indices;
- consistency among different pricing sources;
- the valuation approach and the methodologies used by the independent pricing sources in determining fair value;
- the elapsed time between the date to which the market data relates and the measurement date;
- the source of the fair value information; and
- whether the security is traded in an active or inactive market.

Greater weight is given to quotations of instruments with recent market transactions, pricing quotes from dealers who stand ready to transact, quotations provided by market-makers who structured such instrument and market consensus pricing based on inputs from a large number of survey participants. Any significant discrepancies among the external quotations are reviewed and adjustments to fair values are recorded where appropriate. Where the transaction volume of a specific instrument has been reduced and the fair value measurement becomes less transparent, Finance will apply more detailed procedures to understand and challenge the appropriateness of the unobservable inputs and the valuation techniques used by the independent pricing service. Where applicable, Finance will develop a fair value estimate using its own pricing model inputs to test reasonableness. Where fair value measurements are determined using internal valuation models, Finance will validate the fair value measurement by either developing unobservable inputs based on the industry consensus pricing surveys in which we participate or back testing by observing the actual settlements occurring soon after the measurement date.

Assets and Liabilities Recorded at Fair Value on a Recurring Basis The following table presents information about our assets and liabilities measured at fair value on a recurring basis at December 31, 2022 and 2021, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value. Unless otherwise noted below, assets and liabilities in the following table are recorded at fair value through net income (loss).

December 31, 2022	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting ⁽⁷⁾	Net Balance
	(in millions)					
Assets:						
Trading assets, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	\$ 1,670	\$ 369	\$ —	\$ 2,039	\$ —	\$ 2,039
Debt securities issued by foreign entities	6,337	54	—	6,391	—	6,391
Equity securities	7,855	—	—	7,855	—	7,855
Precious metals trading	—	3,831	—	3,831	—	3,831
Derivatives: ⁽¹⁾						
Interest rate contracts	8	1,846	2	1,856	—	1,856
Foreign exchange contracts	—	15,734	10	15,744	—	15,744
Equity contracts	—	956	72	1,028	—	1,028
Precious metals contracts	—	1,201	—	1,201	—	1,201
Credit contracts	—	108	2	110	—	110
Other contracts ⁽²⁾	—	—	5	5	—	5
Derivatives netting	—	—	—	—	(18,278)	(18,278)
Total derivatives	8	19,845	91	19,944	(18,278)	1,666
Securities available-for-sale: ⁽³⁾						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	8,195	17,196	—	25,391	—	25,391
Asset-backed securities:						
Home equity	—	—	15	15	—	15
Other	—	—	93	93	—	93
Debt securities issued by foreign entities	1,740	106	—	1,846	—	1,846
Loans ⁽⁴⁾	—	20	—	20	—	20
Loans held for sale ⁽⁴⁾	—	188	49	237	—	237
Other assets:						
Mortgage servicing rights	—	—	22	22	—	22
Equity securities	—	127	—	127	—	127
Equity securities measured at net asset value ⁽⁵⁾	—	—	—	140	—	140
Other ⁽⁴⁾⁽⁶⁾	—	325	—	325	—	325
Total assets	\$ 25,805	\$ 42,061	\$ 270	\$ 68,276	\$ (18,278)	\$ 49,998
Liabilities:						
Domestic deposits ⁽⁴⁾	\$ —	\$ 1,181	\$ 373	\$ 1,554	\$ —	\$ 1,554
Trading liabilities, excluding derivatives	837	—	—	837	—	837
Derivatives: ⁽¹⁾						
Interest rate contracts	6	1,471	7	1,484	—	1,484
Foreign exchange contracts	—	15,500	10	15,510	—	15,510
Equity contracts	4	625	298	927	—	927
Precious metals contracts	1	1,254	—	1,255	—	1,255
Credit contracts	—	106	—	106	—	106
Other contracts ⁽²⁾	—	—	38	38	—	38
Derivatives netting	—	—	—	—	(17,154)	(17,154)
Total derivatives	11	18,956	353	19,320	(17,154)	2,166
Long-term debt ⁽⁴⁾	—	5,739	2,639	8,378	—	8,378
Other liabilities ⁽⁴⁾⁽⁶⁾	—	325	—	325	—	325
Total liabilities	\$ 848	\$ 26,201	\$ 3,365	\$ 30,414	\$ (17,154)	\$ 13,260

December 31, 2021	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting ⁽⁷⁾	Net Balance
	(in millions)					
Assets:						
Trading assets, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	\$ 2,337	\$ 432	\$ —	\$ 2,769	\$ —	\$ 2,769
Debt securities issued by foreign entities	134	33	—	167	—	167
Equity securities	15,795	—	—	15,795	—	15,795
Precious metals trading	—	3,907	—	3,907	—	3,907
Derivatives: ⁽¹⁾						
Interest rate contracts	8	1,839	1	1,848	—	1,848
Foreign exchange contracts	—	11,350	—	11,350	—	11,350
Equity contracts	—	1,845	213	2,058	—	2,058
Precious metals contracts	4	936	—	940	—	940
Credit contracts	—	28	—	28	—	28
Other contracts ⁽²⁾	—	—	5	5	—	5
Derivatives netting	—	—	—	—	(14,788)	(14,788)
Total derivatives	12	15,998	219	16,229	(14,788)	1,441
Securities available-for-sale: ⁽³⁾						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	10,817	22,049	—	32,866	—	32,866
Asset-backed securities:						
Home equity	—	—	19	19	—	19
Other	—	—	101	101	—	101
Debt securities issued by foreign entities	2,201	111	—	2,312	—	2,312
Loans held for sale ⁽⁴⁾	—	48	—	48	—	48
Other assets:						
Mortgage servicing rights	—	—	16	16	—	16
Equity securities	—	144	—	144	—	144
Equity securities measured at net asset value ⁽⁵⁾	—	—	—	138	—	138
Total assets	\$ 31,296	\$ 42,722	\$ 355	\$ 74,511	\$ (14,788)	\$ 59,723
Liabilities:						
Domestic deposits ⁽⁴⁾	\$ —	\$ 2,214	\$ 535	\$ 2,749	\$ —	\$ 2,749
Trading liabilities, excluding derivatives	1,103	46	—	1,149	—	1,149
Derivatives: ⁽¹⁾						
Interest rate contracts	10	1,888	1	1,899	—	1,899
Foreign exchange contracts	—	11,124	2	11,126	—	11,126
Equity contracts	—	1,194	167	1,361	—	1,361
Precious metals contracts	—	779	—	779	—	779
Credit contracts	—	80	2	82	—	82
Other contracts ⁽²⁾	—	—	38	38	—	38
Derivatives netting	—	—	—	—	(13,287)	(13,287)
Total derivatives	10	15,065	210	15,285	(13,287)	1,998
Long-term debt ⁽⁴⁾	—	7,089	1,853	8,942	—	8,942
Total liabilities	\$ 1,113	\$ 24,414	\$ 2,598	\$ 28,125	\$ (13,287)	\$ 14,838

⁽¹⁾ Includes trading derivative assets of \$1,614 million and \$1,405 million and trading derivative liabilities of \$1,966 million and \$1,874 million at December 31, 2022 and 2021, respectively, as well as derivatives held for hedging and other non-qualifying economic hedging activities. See Note 16, "Derivative Financial Instruments," for additional information. Excluding changes in fair value of a derivative instrument associated with a qualifying cash flow hedge, which are recognized initially in other comprehensive income (loss), derivative assets and liabilities are recorded at fair value through net income (loss).

⁽²⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares.

⁽³⁾ Securities available-for-sale are recorded at fair value through other comprehensive income (loss). Changes in the allowance for credit losses on securities available-for-sale are recorded through net income (loss).

⁽⁴⁾ See Note 17, "Fair Value Option," for additional information. Excluding the fair value movement on fair value option liabilities attributable to our own credit spread, which is recorded in other comprehensive income (loss), fair value option assets and liabilities are recorded at fair value through net income (loss).

⁽⁵⁾ Investments that are measured at fair value using the net asset value per share practical expedient have not been classified in the fair value hierarchy.

⁽⁶⁾ Consists of an asset and a liability associated with a client share repurchase transaction.

⁽⁷⁾ Represents counterparty and cash collateral netting which allow the offsetting of amounts relating to certain contracts if certain conditions are met.

Information on Level 3 assets and liabilities The following table summarizes additional information about changes in the fair value of Level 3 assets and liabilities during 2022 and 2021. As a risk management practice, we may risk manage the Level 3 assets and liabilities, in whole or in part, using securities and derivative positions that are classified as Level 1 or Level 2 measurements within the fair value hierarchy. Since those Level 1 and Level 2 risk management positions are not included in the table below, the information provided does not reflect the effect of such risk management activities related to the Level 3 assets and liabilities.

	Total Realized / Unrealized Gains (Losses) Included in						Current Period Unrealized Gains (Losses) Still Held Included in				
	Jan. 1, 2022	Earnings	Other Compre- hensive Income (Loss)	Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Dec. 31, 2022	Earnings	Other Compre- hensive Income (Loss)
(in millions)											
Assets:											
Derivatives, net: ⁽¹⁾											
Interest rate contracts.....	\$ —	\$ (2)	\$ —	\$ —	\$ —	\$ —	\$ (3)	\$ —	\$ (5)	\$ (1)	\$ —
Foreign exchange contracts.....	(2)	2	—	—	—	—	—	—	—	—	—
Equity contracts ...	46	(340)	—	—	—	(4)	8	64	(226)	(233)	—
Credit contracts ...	(2)	3	—	—	—	1	—	—	2	3	—
Other contracts ⁽²⁾ ...	(33)	(36)	—	—	—	36	—	—	(33)	—	—
Asset-backed securities available-for- sale ⁽³⁾	120	—	(8)	—	—	(4)	—	—	108	—	(8)
Loans held for sale ⁽⁴⁾	—	(3)	—	—	15	—	37	—	49	(3)	—
Mortgage servicing rights ⁽⁵⁾	16	3	—	—	3	—	—	—	22	1	—
Total assets.....	<u>\$ 145</u>	<u>\$ (373)</u>	<u>\$ (8)</u>	<u>\$ —</u>	<u>\$ 18</u>	<u>\$ 29</u>	<u>\$ 42</u>	<u>\$ 64</u>	<u>\$ (83)</u>	<u>\$ (233)</u>	<u>\$ (8)</u>
Liabilities:											
Domestic deposits ⁽⁴⁾	\$ (535)	\$ 54	\$ 2	\$ —	\$ —	\$ 258	\$ (182)	\$ 30	\$ (373)	\$ 36	\$ 2
Long-term debt ⁽⁴⁾	(1,853)	252	8	—	(1,287)	414	(412)	239	(2,639)	207	8
Total liabilities.....	<u>\$ (2,388)</u>	<u>\$ 306</u>	<u>\$ 10</u>	<u>\$ —</u>	<u>\$ (1,287)</u>	<u>\$ 672</u>	<u>\$ (594)</u>	<u>\$ 269</u>	<u>\$ (3,012)</u>	<u>\$ 243</u>	<u>\$ 10</u>

	Total Realized / Unrealized Gains (Losses) Included in										Current Period Unrealized Gains (Losses) Still Held Included in	
	Jan. 1, 2021	Earnings	Other Comprehensive Income (Loss)	Purchases	Issuances	Settlements	Transfers Into Level 3	Transfers Out of Level 3	Dec. 31, 2021	Earnings	Other Comprehensive Income (Loss)	
(in millions)												
Assets:												
Trading assets, excluding derivatives: ⁽⁶⁾												
Residential mortgage asset-backed securities	\$ 15	\$ 9	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (24)	\$ —	\$ —	\$ —	
Derivatives, net: ⁽¹⁾												
Interest rate contracts	34	(34)	—	—	—	—	—	—	—	(4)	—	
Foreign exchange contracts	9	(11)	—	—	—	—	—	(2)	—	—	—	
Equity contracts	119	(214)	—	—	—	84	(27)	84	46	14	—	
Credit contracts	63	(65)	—	—	—	—	—	—	(2)	(2)	—	
Other contracts ⁽²⁾	(59)	(2)	—	—	—	28	—	—	(33)	—	—	
Asset-backed securities available-for-sale ⁽³⁾	131	—	(3)	—	—	(8)	—	—	120	—	(3)	
Mortgage servicing rights ⁽⁵⁾	7	—	—	—	9	—	—	—	16	—	—	
Total assets	\$ 319	\$ (317)	\$ (3)	\$ —	\$ 9	\$ 104	\$ (27)	\$ 60	\$ 145	\$ 8	\$ (3)	
Liabilities:												
Domestic deposits ⁽⁴⁾	\$ (646)	\$ (16)	\$ 2	\$ —	\$ —	\$ 184	\$ (151)	\$ 92	\$ (535)	\$ (16)	\$ 2	
Long-term debt ⁽⁴⁾	(448)	(35)	—	—	(1,732)	408	(100)	54	(1,853)	(13)	—	
Total liabilities	\$ (1,094)	\$ (51)	\$ 2	\$ —	\$ (1,732)	\$ 592	\$ (251)	\$ 146	\$ (2,388)	\$ (29)	\$ 2	

⁽¹⁾ Level 3 net derivatives included derivative assets of \$91 million and derivative liabilities of \$353 million at December 31, 2022 and derivative assets of \$219 million and derivative liabilities of \$210 million at December 31, 2021. Gains (losses) on derivatives, net are predominantly included in trading revenue and gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income (loss).

⁽²⁾ Consists of swap agreements entered into in conjunction with the sales of Visa Class B Shares. Gains (losses) on these swap agreements are included in other income (loss) in the consolidated statement of income (loss).

⁽³⁾ Realized gains (losses) on securities available-for-sale are included in other securities gains, net in the consolidated statement of income (loss). Changes in the allowance for credit losses on securities available-for-sale are included in the provision for credit losses in the consolidated statement of income (loss). Unrealized gains (losses) on securities available-for-sale are included in other comprehensive income (loss).

⁽⁴⁾ Excluding unrealized gains (losses) on fair value option liabilities attributable to our own credit spread, which are recorded in other comprehensive income (loss), gains (losses) on fair value option assets and liabilities are included in gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income (loss).

⁽⁵⁾ Gains (losses) on mortgage servicing rights are included in other income (loss) in the consolidated statement of income (loss).

⁽⁶⁾ Gains (losses) on trading assets, excluding derivatives are included in trading revenue in the consolidated statement of income (loss).

Significant Unobservable Inputs for Recurring Fair Value Measurements

The following table presents quantitative information about the unobservable inputs used to determine the recurring fair value measurement of assets and liabilities classified as Level 3 fair value measurements at December 31, 2022 and 2021:

December 31, 2022

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average⁽¹⁾
Interest rate derivative contracts.....	\$ (5)	Market comparable adjusted for probability to fund and, where applicable, option pricing model	Probability to fund for rate lock commitments	51% - 99%	84%
			Interest rate yield curve	9%	N/A
Foreign exchange derivative contracts.....	\$ —	Option pricing model	Cross-currency basis	103bps	N/A
Equity derivative contracts ⁽²⁾	\$ (226)	Option pricing model	Equity / Equity Index volatility	8% - 101%	42%
			Equity / Equity and Equity / Index correlation	45% - 99%	85%
			Equity forward price	\$39 - \$5,271	\$1,243
Credit derivative contracts.....	\$ 2	Option pricing model and, where applicable, discounted cash flows	Credit default swap spreads	491bps - 902bps	885bps
Other derivative contracts.....	\$ (33)	Discounted cash flows	Conversion rate	1.6 times	N/A
			Expected duration	1.0 year	N/A
Asset-backed securities available-for-sale.....	\$ 108	Discounted cash flows	Market assumptions related to yields for comparable instruments	2% - 3%	2%
Loans held for sale.....	\$ 49	Market comparables and internal assumptions	Adjusted market price	5% - 80%	42%
Mortgage servicing rights.....	\$ 22	Discounted cash flows	Constant prepayment rates	6% - 14%	6%
			Discount rate	9% - 13%	9%
			Estimated annualized costs to service	\$72 - \$76 per account	\$74 per account
Domestic deposits (structured deposits) ⁽²⁾⁽³⁾	\$ (373)	Option adjusted discounted cash flows	Equity / Equity Index volatility	8% - 24%	19%
			Equity / Equity and Equity / Index correlation	49% - 88%	63%
Long-term debt (structured notes) ⁽²⁾⁽³⁾	\$ (2,639)	Option adjusted discounted cash flows	Equity / Equity Index volatility	8% - 55%	29%
			Equity / Equity and Equity / Index correlation	45% - 99%	86%
			Credit default swap spreads	1,223bps	N/A

December 31, 2021

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Interest rate derivative contracts.....	\$ —	Market comparable adjusted for probability to fund and, where applicable, option pricing model	Probability to fund for rate lock commitments	36% - 99%	83%
			Interest rate yield curve	8%	N/A
Foreign exchange derivative contracts ⁽²⁾	\$ (2)	Option pricing model	Implied volatility of currency pairs	0% - 9%	6%
			Cross-currency basis	(86)bps	N/A
Equity derivative contracts ⁽²⁾	\$ 46	Option pricing model	Equity / Equity Index volatility	8% - 85%	40%
			Equity / Equity and Equity / Index correlation	44% - 98%	81%
			Equity dividend yields and forward price	(4)% - 1%	0%
Credit derivative contracts.....	\$ (2)	Option pricing model and, where applicable, discounted cash flows	Credit default swap spreads	76bps - 325bps	234bps
Other derivative contracts.....	\$ (33)	Discounted cash flows	Conversion rate	1.6 times	N/A
			Expected duration	1.0 year	N/A
Asset-backed securities available-for-sale.....	\$ 120	Discounted cash flows	Market assumptions related to yields for comparable instruments	3% - 4%	3%
Mortgage servicing rights.....	\$ 16	Discounted cash flows	Constant prepayment rates	10% - 16%	12%
			Discount rate	8% - 13%	8%
			Estimated annualized costs to service	\$72 - \$85 per account	\$75 per account
Domestic deposits (structured deposits) ⁽²⁾⁽³⁾	\$ (535)	Option adjusted discounted cash flows	Equity / Equity Index volatility	8% - 21%	15%
			Equity / Equity and Equity / Index correlation	49% - 85%	62%
Long-term debt (structured notes) ⁽²⁾⁽³⁾	\$ (1,853)	Option adjusted discounted cash flows	Implied volatility of currency pairs	0% - 9%	6%
			Equity / Equity Index volatility	8% - 71%	31%
			Equity / Equity and Equity / Index correlation	44% - 98%	82%
			Credit default swap spreads	798bps	N/A

⁽¹⁾ For foreign exchange derivatives, equity derivatives, credit derivatives, structured deposits and structured notes, weighted averages are calculated based on the fair value of the instruments. For all remaining instrument types, weighted averages are calculated based on the notional value of the instruments.

⁽²⁾ We are the client-facing entity and, except for structured notes and deposits with embedded credit derivative features, we enter into identical but opposite derivatives to transfer the resultant risks to our affiliates. With the exception of counterparty credit risks, we are market risk neutral in substantially all of the structured notes and deposits. The corresponding intra-group derivatives are presented as equity derivatives and foreign exchange derivatives in the table.

⁽³⁾ Structured deposits and structured notes contain embedded derivative features whose fair value measurements contain significant Level 3 inputs. See equity derivatives and credit derivatives below for a discussion of the uncertainty of Level 3 inputs related to structured deposits and structured notes.

N/A Not Applicable

Uncertainty of Level 3 Inputs to Fair Value Measurements

Interest rate derivatives - For mortgage rate lock commitments, the fair value measurement is affected by the probability of executing and funding the mortgage. An increase (decrease) in the likelihood of a mortgage being executed would have resulted in a lower (higher) fair value measurement of the interest rate derivative. For certain other interest rate derivatives, the interest rates for longer dated tenors were not observable. An increase (decrease) in the interest rate would have resulted in a higher (lower) fair value measurement of the derivative depending on if we receive or pay the floating rate.

Foreign exchange derivatives - For certain foreign exchange derivatives, the cross-currency basis for longer dated tenors were not observable. An increase (decrease) in the cross-currency basis would have resulted in a higher (lower) fair value measurement of the derivative depending on if we receive or pay the floating rate plus the basis spread.

Equity derivatives - The fair value measurement of a structured equity derivative is primarily affected by the implied volatility of the underlying equity price. The level of volatility is a function of the nature of the underlying risk, the level of strike price and the years to maturity of the option. Depending on the underlying risk and tenure, we determine the implied volatility based on observable input where information is available. However, substantially all of the implied volatilities are derived based on historical information and are not observable. A significant increase (decrease) in the implied volatility would have resulted in a higher (lower) fair value of a long position in the derivative contract. For a derivative referenced to a basket of equities, the fair

value measurement is also affected by the correlation of the referenced equities. Correlation measures the relative change in values among two or more variables (i.e., equity pair), which can be positively or negatively correlated. A majority of the correlations are not observable, but are derived based on historical data. A significant increase (decrease) in the correlation of the referenced variables would have resulted in a higher (lower) fair value of a long position in the derivative contract.

Credit derivatives - The fair value measurement of certain credit derivatives is primarily affected by the credit spreads of credit default swap contracts. A significant increase (decrease) in the credit spreads would have resulted in a lower (higher) fair value measurement of the credit derivative.

Other derivatives - The fair value of the swap agreements we entered into in conjunction with the sales of Visa Class B Shares is dependent upon the final resolution of the related litigation. Significant unobservable inputs used in the fair value measurement include estimated changes in the conversion rate of Visa Class B Shares into Visa Class A Shares and the expected timing of the final resolution. An increase (decrease) in the loss estimate or in the timing of the resolution of the related litigation would have resulted in a higher (lower) fair value measurement of the derivative.

Asset-backed securities available-for-sale - The fair value measurement of certain asset-backed securities is primarily affected by estimated yields which are determined based on current market yields of comparable instruments adjusted for market liquidity. An increase (decrease) in the yields would have resulted in a lower (higher) fair value measurement of the securities.

Loans held for sale - The fair value measurement of certain commercial loans held for sale is affected by estimated market prices which are unobservable. An increase (decrease) in the estimated prices would have resulted in a higher (lower) fair value measurement of the loans.

Mortgage servicing rights - The fair value measurement of mortgage servicing rights is primarily affected by the estimated prepayment rates of the mortgage loans and the discount rates. An increase (decrease) in either of these inputs would have resulted in a lower (higher) fair value measurement of the mortgage servicing rights.

Significant Transfers Into and Out of Level 3 Measurements During 2022, we transferred \$30 million of domestic deposits and \$239 million of long-term debt, which we have elected to carry at fair value, from Level 3 to Level 2 as a result of the embedded derivative no longer being unobservable as the derivative option is closer to maturity and there is more observability in short term volatility. During 2022, we also transferred \$64 million of equity derivatives from Level 3 to Level 2 as the inputs used to value these contracts have become more observable. During 2022, we transferred \$182 million of domestic deposits and \$412 million of long-term debt, which we elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying inputs that resulted in the embedded derivative being unobservable. During 2022, we also transferred \$37 million of commercial loans held for sale from Level 2 to Level 3 as the inputs used to value these loans have become less observable.

During 2021, we transferred \$92 million of domestic deposits and \$54 million of long-term debt, which we have elected to carry at fair value, from Level 3 to Level 2 as a result of the embedded derivative no longer being unobservable as the derivative option is closer to maturity and there is more observability in short term volatility. During 2021, we also transferred \$24 million of residential mortgage asset-backed securities and \$84 million of equity derivatives from Level 3 to Level 2 as the inputs used to value these contracts have become more observable. During 2021, we transferred \$151 million of domestic deposits and \$100 million of long-term debt, which we elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying inputs that resulted in the embedded derivative being unobservable. Additionally, during 2021, we transferred \$27 million of equity derivatives from Level 2 to Level 3 as the inputs used to value these contracts have become less observable.

Assets and Liabilities Recorded at Fair Value on a Non-recurring Basis Certain financial and non-financial assets are measured at fair value on a non-recurring basis and therefore, are not included in the tables above. These assets include (a) loans classified as held for sale reported at the lower of amortized cost or fair value, (b) impaired loans or assets that are written down to fair value based on the valuation of underlying collateral during the period and (c) lease ROU assets or leasehold improvement assets that were written down during the period. These instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustment in certain circumstances (e.g., impairment). The following table presents the fair value hierarchy level within which the fair value of the financial and non-financial assets has been recorded at December 31, 2022 and 2021. The gains (losses) during 2022 and 2021 are also included.

	Non-Recurring Fair Value Measurements at December 31, 2022				Total Gains (Losses) For the Year Ended December 31, 2022
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Consumer loans held for sale ⁽¹⁾	\$ —	\$ 1	\$ —	\$ 1	\$ (10)
Consumer loans ⁽²⁾	—	112	—	112	6
Commercial loans held for sale ⁽³⁾	—	—	—	—	(8)
Commercial loans ⁽⁴⁾	—	—	52	52	12
Leases ⁽⁵⁾	—	—	—	—	(13)
Total assets at fair value on a non-recurring basis	<u>\$ —</u>	<u>\$ 113</u>	<u>\$ 52</u>	<u>\$ 165</u>	<u>\$ (13)</u>
	Non-Recurring Fair Value Measurements at December 31, 2021				Total Gains (Losses) For the Year Ended December 31, 2021
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Consumer loans held for sale ⁽¹⁾	\$ —	\$ 24	\$ 1,742	\$ 1,766	\$ (12)
Consumer loans ⁽²⁾	—	102	—	102	10
Commercial loans held for sale ⁽³⁾	—	75	68	143	(17)
Commercial loans ⁽⁴⁾	—	—	186	186	60
Leases ⁽⁵⁾	—	—	5	5	(103)
Total assets at fair value on a non-recurring basis	<u>\$ —</u>	<u>\$ 201</u>	<u>\$ 2,001</u>	<u>\$ 2,202</u>	<u>\$ (62)</u>

⁽¹⁾ At December 31, 2022 and 2021, the fair value of the loans held for sale was below cost. During 2021, certain consumer loans were transferred to held for sale for which significant inputs in estimating fair value were unobservable.

⁽²⁾ Represents residential mortgage loans held for investment whose carrying amount was adjusted during the period based on the fair value of the underlying collateral.

⁽³⁾ At December 31, 2021, the fair value of the loans held for sale was below cost. During the second quarter of 2021, certain commercial loans were transferred to held for sale for which significant inputs in estimating fair value were unobservable.

⁽⁴⁾ Certain commercial loans are individually assessed for impairment. We measure the credit impairment of a collateral-dependent loan based on the fair value of the collateral asset. The collateral often involves real estate properties that are illiquid due to market conditions. As a result, these loans are classified as a Level 3 fair value measurement within the fair value hierarchy.

⁽⁵⁾ During 2022, we wrote down the lease ROU assets and leasehold improvement assets associated with certain office space that we determined we would exit. During the fourth quarter of 2022, we also wrote-off certain capitalized software. During the second quarter of 2021, we determined that we would exit certain branches and, as a result, the lease ROU assets, leasehold improvement assets and equipment assets associated with these branches were written off. During 2021, we also wrote down the lease ROU assets and leasehold improvement assets primarily associated with certain office space that we determined we would exit. In addition, during the fourth quarter of 2021, we transferred one of our owned office space properties to held for sale and, as a result, its carrying amount was written down to an estimated fair value of \$5 million.

Significant Unobservable Inputs for Non-Recurring Fair Value Measurements

The following tables present quantitative information about non-recurring fair value measurements of assets and liabilities classified with Level 3 of the fair value hierarchy at December 31, 2022 and 2021:

At December 31, 2022

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Commercial loans	52	Valuation of third party appraisal on underlying collateral	Loss severity rates	11% - 47%	31%

At December 31, 2021

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs	Weighted Average ⁽¹⁾
Consumer loans held for sale	\$ 1,742	Market comparables and internal assumptions	Adjusted market price	10% - 100%	98%
Commercial loans held for sale	68	Market comparables and internal assumptions	Adjusted market price	94%	N/A
Commercial loans	186	Valuation of third party appraisal on underlying collateral	Loss severity rates	2% - 76%	23%

⁽¹⁾ Weighted average is calculated based on the carrying value of the loans.

N/A Not Applicable

Valuation Techniques

Following is a description of valuation methodologies used for assets and liabilities recorded at fair value.

Consumer loans designated under FVO – We elected to apply FVO accounting to certain student loans. The fair value of these loans is based on observed market prices of instruments with similar characteristics.

Consumer loans held for sale – Consumer loans held for sale are recorded at the lower of amortized cost or fair value. The fair value of consumer loans held for sale is estimated using observed market prices of instruments with similar characteristics. Adjustments are made to reflect differences in collateral location, loan-to-value ratio, FICO scores, vintage year, default rates, the completeness of the loan documentation and other risk characteristics. Where observable market parameters are not available, fair value is estimated using the discounted cash flow method using assumptions consistent with those which would be used by market participants in valuing such loans, including estimates of prepayment rates, default rates, loss severities and market rates of return. We also may hold discussions on value directly with potential investors. For consumer loans transferred to held for sale during 2021, the fair value measurement processes used significant unobservable inputs to adjust market prices which were specific to the characteristics of the various loan portfolios.

Commercial loans held for sale – Commercial loans held for sale (that are not designated under FVO as discussed below) are recorded at the lower of amortized cost or fair value. The fair value of commercial loans held for sale is estimated using observable market pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. We also may hold discussions on value directly with potential investors or take into account underlying collateral values. For certain commercial loans transferred to held for sale during the second quarter of 2021, the fair value measurement process used significant unobservable inputs to adjust market prices which were specific to the characteristics of the loan portfolio.

Commercial loans held for sale designated under FVO – We elected to apply FVO accounting to certain commercial loans held for sale. Where available, fair value is based on observable market pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan-specific risk mitigating factors such as collateral arrangements in determining the fair value estimate. For certain commercial loans held for sale, the fair value measurement process uses significant unobservable inputs to adjust market prices which are specific to the characteristics of the loans.

Commercial loans individually assessed for impairment – Generally represents collateral-dependent commercial loans with fair value determined based on pricing quotes obtained from an independent third party appraisal.

Precious metals trading – Precious metals trading primarily includes physical inventory which is valued using spot prices.

Securities - Where available, debt and equity securities are valued based on quoted market prices. If a quoted market price for the identical security is not available, the security is valued based on quotes from similar securities, where possible. For certain

securities, internally developed valuation models are used to determine fair values or validate quotes obtained from pricing services. The following summarizes the valuation methodology used for our major security classes:

- U.S. Treasury, U.S. Government agency issued or guaranteed and obligations of U.S. state and political subdivisions – As these securities transact in an active market, fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated.
- U.S. Government sponsored enterprises – For government sponsored mortgage-backed securities which transact in an active market, fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated. For government sponsored mortgage-backed securities which do not transact in an active market, fair value is determined primarily based on pricing information obtained from pricing services and is verified by internal review processes.
- Asset-backed securities – Fair value is primarily determined based on pricing information obtained from independent pricing services adjusted for the characteristics and the performance of the underlying collateral.
- Foreign debt securities (government and corporate) - Government securities transact in an active market and therefore fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated. For non-callable corporate securities, a credit spread scale is created for each issuer. These spreads are then added to the equivalent maturity U.S. Treasury yield to determine current pricing. Credit spreads are obtained from the primary market, secondary trading levels and dealer quotes. For securities with early redemption features, an option adjusted spread model is incorporated to adjust the spreads determined above. Additionally, we survey the broker/dealer community to obtain relevant trade data including benchmark quotes and updated spreads.
- Equity securities – Fair value measurements are determined based on quoted prices for the identical security. Certain equity securities represent investments in private equity funds that help us comply with the Community Reinvestment Act. The fair value of these investments are estimated using the net asset value per share as calculated by the fund managers. Distributions will be received from the funds as the underlying assets are liquidated. While the funds do not allow us to redeem our investments, we are permitted to sell or transfer our investments subject to the approval of the fund manager. Unfunded commitments associated with these investments totaled \$25 million and \$29 million at December 31, 2022 and 2021, respectively.

The following tables provide additional information relating to our available-for-sale asset-backed securities at December 31, 2022:

Rating of Securities: ⁽¹⁾	Collateral Type:	Level 3 (in millions)
AAA - A	Home equity - Alt A	\$ 15
BBB - B	Other	93
		<u>\$ 108</u>

⁽¹⁾ We utilize S&P as the primary source of credit ratings in the tables above. If S&P ratings are not available, ratings by Moody's and Fitch are used in that order.

Derivatives – Derivatives are recorded at fair value. Asset and liability positions in individual derivatives that are covered by legally enforceable master netting agreements, including receivables (payables) for cash collateral posted (received), are offset and presented net in accordance with accounting principles which allow the offsetting of amounts.

Derivatives traded on an exchange are valued using quoted prices. OTC derivatives, which comprise a majority of derivative contract positions, are valued using valuation techniques. The fair value for the majority of our derivative instruments are determined based on internally developed models that utilize independently corroborated market parameters, including interest rate yield curves, option volatilities, and currency rates. For complex or long-dated derivative products where market data is not available, fair value may be affected by the underlying assumptions about, among other things, the timing of cash flows, expected exposure, probability of default and recovery rates. The fair values of certain structured derivative products are sensitive to unobservable inputs such as correlations of the referenced variables and volatilities of embedded options. These estimates are susceptible to significant change in future periods as market conditions change.

We typically use the risk-free rate/overnight indexed swap curves as the base discounting curve for measuring the fair value of all derivatives, both collateralized and uncollateralized, and apply a FFVA to reflect the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at an unsecured market funding rate. The FFVA is calculated by applying future market funding spreads to the expected future funding exposure of any uncollateralized component of the OTC derivative portfolio. The expected future funding exposure is calculated by a simulation

methodology, where available, and is adjusted for events that may terminate the exposure, such as the default of HUSI or the counterparty.

Significant inputs related to derivative classes are broken down as follows:

- Credit Derivatives – Use credit default curves and recovery rates which are generally provided by broker quotes and various pricing services. Certain credit derivatives may also use correlation inputs in their model valuation.
- Interest Rate Derivatives – Swaps use interest rate curves based on currency that are actively quoted by brokers and other pricing services. Options will also use volatility inputs which are also quoted in the broker market.
- Foreign Exchange ("FX") Derivatives – FX transactions, to the extent possible, use spot and forward FX rates which are quoted in the broker market. Where applicable, we also use implied volatility of currency pairs as inputs.
- Equity Derivatives – Use listed equity security pricing and implied volatilities from equity traded options position.
- Precious Metal Derivatives – Use spot and forward metal rates which are quoted in the broker market.

As discussed earlier, we make fair value adjustments to model valuations in order to ensure that those values represent appropriate estimates of fair value. These adjustments, which are applied consistently over time, are generally required to reflect factors such as bid-ask spreads and counterparty credit risk that can affect prices in arms-length transactions with unrelated third parties. Such adjustments are based on management judgment and may not be observable.

We estimate the counterparty credit risk for financial assets and our own credit standing for financial liabilities (the "credit valuation adjustments") in determining the fair value measurement. For derivative instruments, we calculate the credit valuation adjustment by applying the probability of default of the counterparty to the expected exposure, and multiplying the result by the expected loss given default. We also take into consideration the risk mitigating factors including collateral agreements and master netting agreements in determining credit valuation adjustments. We estimate the implied probability of default based on the credit spread of the specific counterparty observed in the credit default swap market. Where credit default spread of the counterparty is not available, we use the credit default spread of a specific proxy (e.g., the credit default swap spread of the counterparty's parent) or a proxy based on credit default swaps referencing to credit names of similar credit standing.

Real estate owned - Fair value is determined based on third party appraisals obtained at the time we take title to the property and, if less than the carrying amount of the loan, the carrying amount of the loan is adjusted to the fair value. The carrying amount of the property is further reduced, if necessary, at least every 90 days to reflect observable local market data, including local area sales data.

Mortgage servicing rights - Mortgage servicing rights are recorded at fair value. The fair value for the mortgage servicing rights is determined based on a single rate path cash flow analysis approach which involves discounting servicing cash flows under static interest rate projections at risk-adjusted rates. The valuation model also incorporates our best estimates of the prepayment speed of the mortgage loans, current cost to service and discount rates which are unobservable.

Client share repurchase transaction designated under FVO - We elected to apply FVO accounting to a client share repurchase transaction at December 31, 2022. The fair value of the asset and liability associated with this transaction is determined based on the value of the remaining shares to be delivered.

Structured notes and deposits designated under FVO – Structured notes and deposits are hybrid instruments containing embedded derivatives and are elected to be measured at fair value in their entirety under FVO accounting principles. The valuation of hybrid instruments is predominantly driven by the derivative features embedded within the instruments and our own credit risk. The valuation of embedded derivatives may include significant unobservable inputs such as correlation of the referenced credit names or volatility of the embedded option. Cash flows of the funded notes and deposits in their entirety, including the embedded derivatives, are discounted at the relevant interest rates for the duration of the instrument adjusted for our own credit spreads. The credit spreads so applied are determined with reference to our own debt issuance rates observed in primary and secondary markets, internal funding rates, and the structured note rates in recent executions.

Long-term debt designated under FVO – We elected to apply FVO accounting to certain of our own debt issuances for which fair value hedge accounting otherwise would have been applied. These own debt issuances elected under FVO are traded in secondary markets and, as such, the fair value is determined based on observed prices for the specific instrument. The observed market price of these instruments reflects the effect of our own credit spreads. The credit spreads applied to these instruments were derived from the spreads at the measurement date.

Additional Disclosures About the Fair Value of Financial Instruments that are Not Carried at Fair Value on the Consolidated Balance Sheet The fair value estimates set forth below are made solely to comply with disclosures required by generally accepted accounting principles in the United States and should be read in conjunction with the financial statements and notes included in this report.

The carrying amount of certain financial instruments recorded at cost on the consolidated balance sheet is considered to approximate fair value because they are short-term in nature, bear interest rates that approximate market rates, and generally have negligible credit risk. These items include cash and due from banks, interest bearing deposits with banks, customer acceptance assets and liabilities, federal funds sold and purchased, securities purchased and sold under resale and repurchase agreements, deposits with no stated maturity (e.g., demand, savings and certain money market deposits), short-term borrowings and dividends payable.

The following table summarizes the carrying value and estimated fair value of our financial instruments, excluding financial instruments that are carried at fair value on a recurring basis, at December 31, 2022 and 2021, and their classification within the fair value hierarchy:

December 31, 2022	Carrying Value	Fair Value	Level 1	Level 2	Level 3
(in millions)					
Financial assets:					
Short-term financial assets, net of allowance for credit losses	\$ 18,802	\$ 18,802	\$ 1,004	\$ 17,744	\$ 54
Federal funds sold and securities purchased under agreements to resell	23,085	23,085	—	23,085	—
Securities held-to-maturity, net of allowance for credit losses	7,317	6,862	—	6,862	—
Commercial loans, net of allowance for credit losses	41,266	42,050	—	—	42,050
Commercial loans held for sale	112	112	—	112	—
Consumer loans, net of allowance for credit losses	17,510	15,984	—	—	15,984
Consumer loans held for sale	5	5	—	5	—
Financial liabilities:					
Short-term financial liabilities	\$ 5,999	\$ 5,999	\$ —	\$ 5,945	\$ 54
Deposits	121,669	121,652	—	121,652	—
Long-term debt	9,213	9,769	—	9,769	—
December 31, 2021	Carrying Value	Fair Value	Level 1	Level 2	Level 3
(in millions)					
Financial assets:					
Short-term financial assets, net of allowance for credit losses	\$ 48,404	\$ 48,404	\$ 954	\$ 47,400	\$ 50
Federal funds sold and securities purchased under agreements to resell	10,514	10,514	—	10,514	—
Securities held-to-maturity, net of allowance for credit losses	5,203	5,359	—	5,359	—
Commercial loans, net of allowance for credit losses	39,376	39,862	—	—	39,862
Commercial loans held for sale	438	443	—	359	84
Consumer loans, net of allowance for credit losses	16,041	15,672	—	—	15,672
Consumer loans held for sale	3,731	3,809	—	77	3,732
Financial liabilities:					
Short-term financial liabilities	\$ 6,389	\$ 6,389	\$ —	\$ 6,338	\$ 51
Deposits	131,533	131,533	—	131,533	—
Deposits held for sale	8,750	8,750	—	8,750	—
Long-term debt	8,294	8,861	—	8,861	—

Lending-related commitments - The fair value of loan commitments, revolving credit facilities and standby letters of credit are not included in the above table. The majority of the lending-related commitments are not carried at fair value on a recurring basis nor are they actively traded. These instruments generate fees, which approximate those currently charged to originate similar commitments, which are recognized over the term of the commitment period. Deferred fees on loan commitments, revolving credit facilities and standby letters of credit totaled \$158 million and \$151 million at December 31, 2022 and 2021, respectively.

30. *Litigation and Regulatory Matters*

In addition to the matters described below, in the ordinary course of business, we are routinely named as defendants in, or as parties to, various legal actions and proceedings relating to activities of our current and/or former operations. These legal actions and proceedings may include claims for substantial or indeterminate compensatory or punitive damages, or for injunctive relief. In the ordinary course of business, we also are subject to governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal), certain of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. In connection with formal and informal inquiries by these regulators, we receive numerous requests, subpoenas and orders seeking documents, testimony and other information in connection with various aspects of our regulated activities.

Due to the inherent unpredictability of legal matters, including litigation, governmental and regulatory matters, particularly where the damages sought are substantial or indeterminate or when the proceedings or investigations are in the early stages, we cannot determine with any degree of certainty the timing or ultimate resolution of such matters or the eventual loss, fines, penalties or business impact, if any, that may result. We establish reserves for litigation, governmental and regulatory matters when those matters present loss contingencies that are both probable and can be reasonably estimated. Once established, reserves are adjusted from time to time, as appropriate, in light of additional information. The actual costs of resolving litigation and regulatory matters, however, may be substantially higher than the amounts reserved for those matters. Some of our exposure may be offset by applicable insurance coverage. We do not consider the possible availability of insurance coverage in determining the amounts of any accruals (although we record the amount of related insurance recoveries that are deemed probable up to the amount of the accrual).

For the legal matters disclosed below, including litigation and governmental and regulatory matters, as to which a loss in excess of accrued liability is reasonably possible in future periods and for which there is sufficient currently available information on the basis of which management believes it can make a reliable estimate, we believe a reasonable estimate could be as much as \$125 million for HUSI. The legal matters underlying this estimate of possible loss will change from time to time and actual results may differ significantly from this current estimate.

In addition, based on the facts currently known for each of the ongoing investigations, it is not practicable at this time for us to determine the terms on which these ongoing investigations will be resolved or the timing of such resolution. As matters progress, it is possible that any fines and/or penalties could be significant.

Given the substantial or indeterminate amounts sought in certain of these matters, and the inherent unpredictability of such matters, an adverse outcome in certain of these matters could have a material adverse effect on our consolidated financial statements in any particular quarterly or annual period.

Credit Card Litigation Since 2005, HSBC Bank USA, HSBC Finance Corporation, HSBC North America and HSBC, as well as other banks and Visa Inc. ("Visa") and MasterCard Incorporated ("MasterCard"), have been named as defendants in a number of consolidated merchant class actions and individual merchant actions, alleging that the imposition of a no-surcharge rule by the associations and/or the establishment of the interchange fee charged for credit card transactions causes the merchant discount fee paid by retailers to be set at supracompetitive levels in violation of the federal antitrust laws. *In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation*, MDL 1720, E.D.N.Y. ("MDL 1720"). In 2011, MasterCard, Visa, the other defendants, including HSBC Bank USA, and certain affiliates of the defendants entered into settlement and judgment sharing agreements (the "Sharing Agreements") that provide for the apportionment of certain defined costs and liabilities that the defendants, including HSBC Bank USA and our affiliates, may incur, jointly and/or severally, in the event of an adverse judgment or global settlement of one or all of these actions. The district court granted final approval of a class settlement in 2013 and entered a Class Settlement Order and final judgment dismissing the class action.

In June 2016, the U.S. Court of Appeals for the Second Circuit ("Second Circuit") issued a decision vacating class certification and approval of the class settlement in MDL 1720, concluding the class was inadequately represented by their counsel in violation of the Federal Rule of Civil Procedure governing class actions as well as the Due Process Clause of the U.S. Constitution. Specifically, the Second Circuit held that there was a conflict between two different but overlapping settlement classes: (1) an opt-out class, which permitted individual class members to forgo their share of the monetary relief and pursue individual claims; and (2) a non-opt-out class of merchants which provided injunctive relief mainly in the form of a rule change by Visa and MasterCard to allow merchants to surcharge card transactions until July 20, 2021.

In June 2018, the defendants, including the HSBC entities, reached an agreement with counsel for the putative opt-out class, seeking monetary relief, to resolve all claims as filed in a third consolidated amended class action complaint in *In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation*, MDL 1720, E.D.N.Y. The court granted final approval of the settlement in December 2019. In January 2020, objectors to the settlement filed an appeal, which remains pending. In September 2021, the court certified a non-opt-out class, seeking injunctive relief, consisting of all persons, businesses, and other

entities that accept Visa and/or MasterCard credit and/or debit cards in the United States at any time during the period between December 18, 2020 and the date of entry of any eventual final judgment in the case.

Various opt-out merchants have filed individual opt-out suits in either state or federal court, most of which have been transferred to the consolidated multidistrict litigation, MDL 1720. To date, certain groups of opt-out merchants have entered into settlement agreements with the defendants in those actions and certain HSBC entities that, pursuant to the Sharing Agreements, are responsible for a *pro rata* portion of any judgment or settlement amount awarded in actions consolidated into MDL 1720.

Interest Rate Swap Investigation

HSBC Bank USA has reached a settlement in principle with the staff of the Division of Enforcement of the U.S. Commodity Futures Trading Commission ("CFTC") to resolve the CFTC's investigation regarding interest rate swap transactions related to bond issuances, among other issues. The settlement is subject to final approval by the CFTC. If approved, the settlement would include a civil penalty, the full amount of which was reserved in the third quarter of 2020. The CFTC's civil enforcement action filed in December 2019 against a now-former HSBC employee charging him with violating the Commodity Exchange Act's anti-fraud provisions in relation to a 2012 interest rate swap transaction remains ongoing.

Investigation Concerning Use of Unapproved Electronic Messaging Platforms

HSBC Bank USA has reached settlement in principle with the staff of the Division of Enforcement of the CFTC to resolve the CFTC's investigation concerning compliance with records preservation requirements relating to the use of unapproved electronic messaging platforms for business communications. The settlement is subject to negotiation of definitive documentation and final approval by the CFTC. If approved, the settlement would include a civil penalty, the full amount of which was reserved in the fourth quarter of 2022.

Foreign Exchange ("FX") Matters

FX Opt Out Litigation In November 2018, a complaint was filed in the U.S. District Court for the Southern District of New York by several institutions that opted out of the consolidated FX action that settled in August 2018 naming, among other institutions, the same HSBC defendants, including HSBC Bank USA, that had been named in that settled consolidated action. (*Allianz Global Investors GmbH, et al. v Bank of America Corporation, et al.* (the "FX Opt Out Litigation")). A motion to dismiss the third amended complaint was denied. The parties reached an agreement in principle to settle in December 2022. HSBC Bank USA is fully reserved for its portion of the settlement.

Another putative class action making similar allegations has been pending against the HSBC defendants, including HSBC Bank USA, as well as other defendants, in the U.S. District Court for the Southern District of New York on behalf of retail customers (*Nypl v. JPMorgan Chase, et al.*; Case No. 1:15-CV-9300). The court denied plaintiffs' motion for class certification in March 2022, and plaintiffs have filed a notice of appeal. The defendants filed a motion for summary judgment in September 2022, and that motion remains pending.

It is possible that additional actions will be initiated against the HSBC defendants, including HSBC Bank USA, in relation to their historical foreign exchange activities.

Investigations

In September 2017, HSBC and HSBC North America entered into a consent order with the FRB in connection with its investigation into HSBC Group's historical FX exchange activities, which requires HSBC and HSBC North America to undertake certain remedial steps.

In June 2020, the Competition Commission of South Africa, having initially referred a complaint for proceedings before the South African Competition Tribunal in February 2017, filed a revised complaint against 28 financial institutions, including HSBC Bank USA, for alleged anti-competitive behavior in the South African foreign exchange market. In August 2020, HSBC Bank USA filed an application to dismiss the revised complaint, which still remains pending.

Precious Metals Fix Matters

In re Commodity Exchange Inc., Gold Futures and Options Trading Litigation (Gold Fix Litigation) Since 2014, numerous putative class actions have been filed in the U.S. District Court for the Southern District of New York and the Northern District of California, which were then transferred and centralized in the U.S. District Court for the Southern District of New York, naming as defendants HSBC USA, HSI, HSBC and HSBC Bank plc, in addition to other members of the London Gold Fix. The complaints allege that from January 2004 through June 2013, defendants conspired to manipulate the price of gold and gold derivatives during the afternoon London Gold Fix in order to reap profits on proprietary trades. In November 2020, the HSBC defendants entered into a settlement agreement with the plaintiffs to resolve the consolidated action. HSBC Bank USA is fully reserved for its portion of the settlement. In May 2022, the court granted final approval of the settlement. This matter will no longer be reported.

In re London Silver Fixing, Ltd. Antitrust Litigation (Silver Fix Litigation) In 2014, putative class actions were filed in the U.S. District Court for the Southern and Eastern Districts of New York naming HSBC, HSBC Bank plc, HSBC Bank USA and the other members of The London Silver Market Fixing Ltd as defendants. The complaints allege that, from January 2007 through December 2013, defendants conspired to manipulate the price of physical silver and silver derivatives for their collective benefit in violation of the U.S. Commodity Exchange Act and U.S. antitrust laws. The actions have been transferred to and centralized in the U.S. District Court for the Southern District of New York. The parties are proceeding under a third amended complaint. The plaintiffs have moved for class certification. In September 2022, the defendants filed a consolidated motion for judgment on the pleadings, which remains pending.

Platinum and Palladium Fix Litigation Since 2014, several putative class actions have been filed in the U.S. District Court for the Southern District of New York naming as defendants members of The London Platinum and Palladium Fixing Company (the "Platinum Group Metals or PGM Fixing"), including HSBC Bank USA, BASF Metals Limited, Goldman Sachs International and Standard Bank, plc. The complaints allege that, from January 2008 through November 2014, defendants conspired to manipulate the benchmark prices for physical Platinum Group Metals ("PGM") and PGM-based financial products. In March 2020 the court granted the defendants' joint motion to dismiss the third amended complaint. Plaintiffs have filed an appeal, which remains pending.

Canada Litigation In December 2015, HSBC, HSBC Bank plc, HSBC USA, HSI, HSBC Bank Canada and HSBC Securities Canada were named, along with other institutions, in several putative class actions filed in the Superior Courts of Justice in the Provinces of Ontario and Quebec, Canada. These suits allege, among other things, that the defendants conspired to manipulate the prices of gold and silver derivatives. These claims include: (1) *DiFilippo and Caron v. The Bank of Nova Scotia, et al.* (Superior Court of Justice, Ontario Province) (Gold Fix); (2) *DiFilippo and Caron v. The Bank of Nova Scotia, et al.* (Superior Court of Justice, Ontario Province) (Silver Fix); (3) *Benoit v. Bank of Nova Scotia, et al.* (Superior Court of Justice, Quebec Province) (Gold Fix); and (4) *Ayas v. La Banque de Nouvelle-Ecosse, et al.* (Superior Court of Justice, Quebec Province) (Silver Fix). These actions are proceeding.

Madoff Litigation

In 2008, Bernard L. Madoff ("Madoff") was arrested and ultimately pleaded guilty to running a Ponzi scheme. A trustee was appointed for the liquidation of his firm, Bernard L. Madoff Investment Securities LLC ("Madoff Securities"), an SEC-registered broker-dealer and investment adviser. Various non-U.S. HSBC entities provided custodial, administration and similar services to a number of funds incorporated outside the United States whose assets were invested with Madoff Securities. Plaintiffs (including funds, funds investors and the Madoff Securities trustee ("Trustee"), as described below) have commenced Madoff-related proceedings against numerous defendants arising out of Madoff Securities' fraud.

In 2009, the Trustee commenced suits against various HSBC entities in the U.S. Bankruptcy Court for the Southern District of New York ("U.S. Bankruptcy Court") and in the English High Court. The Trustee filed a suit in the United States captioned *Picard v. HSBC et al* (Bankr S.D.N.Y. Case No. 09-01364) against HSBC entities, including HSBC Bank USA. The Trustee's claims seek recovery of transfers from Madoff Securities to HSBC entities. The amount of these claims has not been pleaded or determined as against the HSBC entities.

The Trustee's English action, which names as defendants HSBC entities, including HSBC Bank USA, seeks recovery of transfers from Madoff Securities to or through the HSBC entities. The claim has not yet been served and the amount claimed has not been specified.

Certain Fairfield entities (together "Fairfield"), funds whose assets were directly or indirectly invested with Madoff Securities, commenced multiple suits in the United States against fund shareholders, including various HSBC entities that acted as nominees for clients, seeking restitution of redemption payments. Fairfield voluntarily discontinued the claims against HSBC Bank USA in May 2022 in the remaining case in which it was named (*In re Fairfield Sentry Limited, et al*), but certain claims against HSBC Bank USA remain pending on appeal.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of the various Madoff-related proceedings including, but not limited to, the circumstances of the fraud, the multiple jurisdictions in which proceedings have been brought and the number of different plaintiffs and defendants in such proceedings. The timing and resolution of these matters remains uncertain. It is possible that any liabilities that may arise as a result could be significant. Nonetheless, we consider that we have good defenses to these claims and will continue to defend them vigorously.

Benchmark Rate Litigation

USD LIBOR: HSBC, HSBC Bank plc, HSBC USA and/or HSBC Bank USA are among several defendants in lawsuits filed by the following plaintiffs seeking unspecified damages arising from the alleged artificial suppression of U.S. dollar LIBOR rates: (1) the Federal Home Loan Mortgage Corporation; and (2) the FDIC, in its role as receiver for several failed banks. The other defendants in the actions are members of the U.S. dollar LIBOR panel of banks and their affiliates. These actions are part of the U.S. dollar LIBOR Multi-District Litigation proceeding pending in the U.S. District Court for the Southern District of New

York (*In re LIBOR-Based Financial Instruments Antitrust Litigation*). In 2018, the U.S. District Court for the Southern District of New York granted final approval of the settlements with those who purchased USD LIBOR-indexed interest rate swaps and other instruments from certain non-defendant financial institutions and U.S. based lending institutions that made or purchased USD LIBOR indexed loans. The remaining settlements are subject to final court approval.

Intercontinental Exchange ("ICE") LIBOR: In January 2019, a putative class action complaint was filed in the U.S. District Court for the Southern District of New York on behalf of persons who purchased over the counter instruments paying interest indexed to ICE LIBOR from a panel bank against HSBC Bank plc, HSBC Bank USA, HSBC North America, HSBC USA and HSI, as well as other panel banks, alleging a conspiracy to depress USD ICE LIBOR from February 2014 (when ICE began administration of LIBOR) to the date of filing the action. The complaint alleges, among other things, misconduct related to the suppression of the benchmark rate in violation of U.S. antitrust and state law. In March 2020 the court granted the defendants' joint motion to dismiss the complaint in its entirety and in February 2022, the Second Circuit dismissed the plaintiff's appeal. This matter will no longer be reported.

Mortgage Securitization Matters

In addition to the repurchase risk described in Note 28, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," HSBC Bank USA has also been involved as a sponsor/seller of loans used to facilitate whole loan securitizations underwritten by HSI. During 2005-2007, HSBC Bank USA purchased and sold \$24 billion of whole loans to HSI which were subsequently securitized and sold by HSI to third parties. The outstanding principal balance on these loans was approximately \$2.5 billion and \$2.7 billion at December 31, 2022 and 2021, respectively.

Participants in the U.S. mortgage securitization market that purchased and repackaged whole loans have been the subject of lawsuits and governmental and regulatory investigations and inquiries, which have been directed at groups within the U.S. mortgage market, such as servicers, originators, underwriters, trustees or sponsors of securitizations, and at particular participants within these groups. We expect activity in this area to continue. As the industry's residential mortgage foreclosure issues continue, HSBC Bank USA has taken title to a number of foreclosed homes as trustee on behalf of various securitization trusts. As nominal record owner of these properties, HSBC Bank USA has been sued by municipalities and tenants alleging various violations of law, including laws regarding property upkeep and tenants' rights. We believe and continue to maintain that the obligations at issue and any related liability are properly those of the servicer of each trust.

Mortgage Securitization Trust Litigation Since 2014, plaintiff-investors in 280 RMBS trusts (the "Trusts") have sued HSBC Bank USA, as mortgage securitization trustee, in a number of cases: BlackRock et al., Royal Park Investments SA/NV ("RPI"), Phoenix Light SF Limited, the National Credit Union Administration Board, as Liquidating Agent ("NCUA"), Commerzbank AG, Triaxx, IKB Bank AG ("IKB"), RMBS Recovery Holdings I, LLC, et al. ("Fir Tree"), VRS Holdings 2 LLC ("VRS"), Reliance Standard Life Insurance Company ("Reliance") and Park Royal LLC ("Park Royal"), Freedom Trust 2011-2, ARI Investments and Mark Zittman. A number of the cases have been deemed related and are assigned to the same judge in the U.S. District Court for the Southern District of New York. The other cases are pending in New York State court. The lawsuits were brought derivatively on behalf of the Trusts, but some also seek class relief. The complaints allege generally that the Trusts have collectively sustained losses in collateral value and seek to recover unspecified damages as a result of alleged breach of contract; breach of the federal Trust Indenture Act and New York's Streit Act; tort claims such as negligence, negligent misrepresentation, conflict of interest and breach of fiduciary duty. The cases brought by BlackRock, RPI, Triaxx and Commerzbank were settled on a confidential basis and dismissed. In 2022, HSBC Bank USA settled on a confidential basis the cases brought by NCUA, IKB, Fir Tree, Park Royal, VRS and Reliance and those cases are now concluded and will no longer be reported. The net impact of the settlements is not material to our results of operations.

Anti-Terrorism Act Cases

Charlotte Freeman, et al. v. HSBC Holdings plc, et al. In 2014, a complaint was filed in the U.S. District Court for the Eastern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between April 2004 and November 2011. The complaint was filed against HSBC, HSBC Bank USA, HSBC Bank plc and HSBC Bank Middle East Limited, as well as other non-HSBC banks, and alleges that the defendants conspired to violate the federal Anti-Terrorism Act., (18 U.S.C. §2331 et seq.) ("ATA"), by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. Defendants filed a motion to dismiss in March 2015. Plaintiffs filed amended complaints thereafter, which defendants moved to dismiss in September 2016. In September 2019, the district court granted defendants' motion to dismiss. In January 2023, the Second Circuit affirmed the dismissal on appeal and denied plaintiffs' request for further review of that decision in February 2023.

In December 2018, a new action captioned *Charlotte Freeman, et al. v. HSBC Holdings plc, et al.* was filed in the U.S. District Court for the Eastern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between 2004 and 2011 ("*Freeman II*"). *Freeman II* is substantially similar to the original *Freeman* action and has been designated as related to that action but includes additional plaintiffs and claims not asserted in the original *Freeman* action. The defendants filed a motion to dismiss, which the court granted in June 2020. Plaintiffs may appeal the decision.

Timothy O'Sullivan, et al. v. Deutsche Bank AG, et al. In November 2017, a complaint was filed in the U.S. District Court for the Southern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between 2003 and 2011. The complaint was filed against HSBC, HSBC Bank plc, HSBC Bank USA, HSBC North America and HSBC Bank Middle East Limited, as well as other non-HSBC defendants, and alleges that the defendants conspired to violate the ATA by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. Defendants' motion to dismiss was granted in March 2019. The case remains pending as to one defendant that did not move to dismiss or otherwise respond to the complaint.

In December 2018, a new action captioned *Timothy O'Sullivan, et al. v. Deutsche Bank AG, et al.* was filed in the U.S. District Court for the Southern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between 2003 and 2011 ("*O'Sullivan II*"). *O'Sullivan II* is substantially similar to the original *O'Sullivan* action and has been designated as related to that action but includes additional plaintiffs and claims not asserted in the original *O'Sullivan* action. This action has been stayed upon the parties' agreement.

Joel Tavera, et al. v. Deutsche Bank AG, et al. In December 2018, a complaint was filed in the U.S. District Court for the Eastern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between 2003 and 2011. The complaint was filed against HSBC, HSBC Bank plc, HSBC Bank USA, HSBC North America and HSBC Bank Middle East Limited, as well as other non-HSBC bank defendants, and alleges that the defendants conspired to violate the ATA by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. and that they aided and abetted primary violators of the ATA. This action has been stayed based upon the parties' agreement.

James Donaldson v. HSBC Holdings plc, et al. In December 2018, a complaint was filed in the U.S. District Court for the Eastern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between 2005 and 2009. The complaint was filed against HSBC, HSBC Bank plc, HSBC Bank USA, and HSBC Bank Middle East Limited, as well as other non-HSBC bank defendants, and alleges that the defendants conspired to violate the ATA by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. and that they aided and abetted primary violators of the ATA. This action has been filed as related to the original *Freeman* action. This action has been stayed based upon the parties' agreement.

Kathleen Stephens v. HSBC Holdings plc, et al. In December 2018, a complaint was filed in the U.S. District Court for the Eastern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq in 2007. The complaint was filed against HSBC, HSBC Bank plc, HSBC Bank USA, and HSBC Bank Middle East Limited, as well as other non-HSBC bank defendants, and alleges that the defendants conspired to violate the ATA by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. and that they aided and abetted primary violators of the ATA. This action has been filed as related to *Freeman II*. This action has been stayed based upon the parties' agreement.

Ryan Bowman et al. v. HSBC Holdings plc, et al. In April 2019, a new action in the U.S. District Court for the Eastern District of New York was filed against HSBC Holdings plc, HSBC Bank plc, HSBC Bank Middle East Limited, and HSBC Bank USA, among other defendants. Designating the case as related to *Charlotte Freeman, et al. v. HSBC Holdings plc, et al.* the claims are based on allegations that Iranian payments were purportedly provided to terrorist organizations operating in Iraq. Plaintiffs allege violations of the ATA. The defendants filed a motion to dismiss in January 2020. In June 2020, the court granted defendants' motion to dismiss. Plaintiffs may appeal the decision.

Dana Bernhardt et al. v. HSBC Holdings plc, et al. In November 2019, families of two deceased former US military personnel commenced an action against HSBC Holdings plc, HSBC Bank plc, HSBC North America and HSBC Bank USA, among other defendants, in the U.S. District of Columbia. The complaint references a single attack in Afghanistan in 2009 and alleges that HSBC defendants conspired with, among others, Bank Melli, Bank Saderat and Al Rajhi Bank, to violate the ATA. In November 2020, the court granted the HSBC defendants' motion to dismiss. In September 2022, the U.S. Court of Appeals for the D.C. Circuit ("D.C. Circuit") affirmed the lower court's decision. The D.C. Circuit denied plaintiffs' request for further review of that decision in February 2023.

Other Regulatory and Law Enforcement Investigations

In 2014, the Argentine tax authority filed a complaint against several individuals, including some current and former HSBC employees, alleging tax evasion and an unlawful tax association between HSBC Private Bank Suisse SA, HSBC Bank Argentina and HSBC Bank USA and certain HSBC officers, which allegedly enabled HSBC customers to evade Argentine tax obligations.

Based on the facts currently known, in respect of each of the above investigations, it is not practicable at this time for us to determine the terms on which these ongoing investigations will be resolved or the timing of such resolution or for us to estimate

reliably the amounts, or range of possible amounts, of any fines and/or penalties. As matters progress, it is possible that any fines and/or penalties could be significant.

31. Financial Statements of HSBC USA Inc. (Parent)

Condensed parent company financial statements follow:

Balance Sheet At December 31,	2022	2021
	(in millions)	
Assets:		
Securities held-to-maturity (fair value of \$1 million at both December 31, 2022 and 2021, respectively)	\$ 1	\$ 1
Receivables and balances due from subsidiaries	13,605	12,944
Receivables and balances due from other HSBC affiliates	3,519	2,623
Investment in subsidiaries:		
Banking	15,941	20,672
Other	62	75
Other assets	175	153
Total assets	<u>\$ 33,303</u>	<u>\$ 36,468</u>
Liabilities:		
Interest, taxes and other liabilities	\$ 58	\$ 48
Payables due to subsidiaries	23	72
Payables due to other HSBC affiliates	44	65
Short-term borrowings	4,818	3,683
Short-term borrowings due to subsidiaries ⁽¹⁾	1,500	1,500
Long-term debt ⁽²⁾	8,748	8,561
Long-term debt due to other HSBC affiliates ⁽²⁾	5,999	5,499
Total liabilities	<u>21,190</u>	<u>19,428</u>
Total equity	<u>12,113</u>	<u>17,040</u>
Total liabilities and equity	<u>\$ 33,303</u>	<u>\$ 36,468</u>

⁽¹⁾ Reflects borrowings from HSBC Bank USA. The outstanding balance matures in July 2023.

⁽²⁾ Contractual scheduled maturities for the debt over the next five years are as follows: 2023 – \$2.2 billion; 2024 – \$4.2 billion; 2025 – \$4.7 billion; 2026 – \$0.6 billion; 2027 – \$1.1 billion; and thereafter – \$1.9 billion.

Statements of Income (Loss) and Comprehensive Income (Loss)
Year Ended December 31,

	2022	2021	2020
	(in millions)		
Income:			
Dividends from banking subsidiaries	\$ 143	\$ 102	\$ 121
Dividends from other subsidiaries	15	—	—
Interest from subsidiaries	101	28	101
Interest from other HSBC affiliates	89	23	43
Other income (loss) from subsidiaries	(1)	—	—
Other income (loss) from other HSBC Affiliates	(1,046)	1,027	552
Other income (loss)	998	(1,023)	(544)
Total income	<u>299</u>	<u>157</u>	<u>273</u>
Expenses:			
Interest to subsidiaries	46	16	6
Interest to other HSBC Affiliates	140	128	115
Other interest expense	305	40	228
Provision for credit losses	—	—	(1)
Other expenses with subsidiaries	15	19	15
Other expenses	2	1	3
Total expenses	<u>508</u>	<u>204</u>	<u>366</u>
Loss before taxes and equity in undistributed income (loss) of subsidiaries	(209)	(47)	(93)
Income tax benefit	(88)	(33)	(50)
Loss before equity in undistributed income (loss) of subsidiaries	(121)	(14)	(43)
Equity in undistributed income (loss) of subsidiaries	669	702	(897)
Net income (loss)	<u>\$ 548</u>	<u>\$ 688</u>	<u>\$ (940)</u>
Other comprehensive income (loss)	(2,396)	(858)	956
Comprehensive income (loss)	<u>\$ (1,848)</u>	<u>\$ (170)</u>	<u>\$ 16</u>

Statement of Cash Flows Year Ended December 31,	2022	2021	2020
	(in millions)		
Cash flows from operating activities:			
Net income (loss)	\$ 548	\$ 688	\$ (940)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	1	1	2
Net change in other assets and liabilities	(2,073)	(313)	256
Undistributed (income) loss of subsidiaries	(669)	(702)	897
Other, net	2	(4)	(2)
Cash provided by (used in) operating activities	<u>(2,191)</u>	<u>(330)</u>	<u>213</u>
Cash flows from investing activities:			
Sales and maturities of securities	—	1	—
Net change in investments in and balances due from subsidiaries	2,291	2,713	(552)
Net change in balances due from other HSBC affiliates	(888)	(1,345)	1,056
Other, net	14	—	—
Cash provided by investing activities	<u>1,417</u>	<u>1,369</u>	<u>504</u>
Cash flows from financing activities:			
Net change in deposits from other HSBC affiliates	(17)	13	(1)
Net change in short-term borrowings	1,135	(815)	3,522
Issuance of long-term debt	5,824	6,844	3,394
Repayment of long-term debt	(3,089)	(6,000)	(7,565)
Preferred stock redemption	(1,000)	—	—
Return of capital to parent	(2,000)	(1,000)	—
Other increases (decreases) in capital surplus	(2)	(4)	10
Preferred dividends paid	(77)	(77)	(77)
Cash provided by (used in) financing activities	<u>774</u>	<u>(1,039)</u>	<u>(717)</u>
Net change in cash and due from banks and interest bearing deposits with banks	—	—	—
Cash and due from banks and interest bearing deposits with banks at beginning of year	—	—	—
Cash and due from banks and interest bearing deposits with banks at end of year	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Cash paid for:			
Interest	<u>\$ 373</u>	<u>\$ 167</u>	<u>\$ 379</u>

HSBC Bank USA is subject to legal restrictions on certain transactions with its non-bank affiliates in addition to the restrictions on the payment of dividends to us. See Note 26, "Retained Earnings and Regulatory Capital Requirements," for further discussion.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

During the years ended December 31, 2022, 2021 and 2020, there were no disagreements on accounting and financial disclosure matters between us and PricewaterhouseCoopers LLP ("PwC") on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which, if not resolved to the satisfaction of PwC, would have caused PwC to make reference to the matter in its reports on our financial statements.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures We maintain a system of disclosure controls and procedures designed to ensure that information required to be disclosed by HSBC USA in the reports we file or submit under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported on a timely basis. Our Board of Directors, operating through its Audit Committee, which is composed entirely of independent non-executive directors, provides oversight to our financial reporting process.

We conducted an evaluation, with the participation of the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of the end of the period covered by this report. Based upon that evaluation, the CEO and CFO concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report so as to alert them in a timely fashion to material information required to be disclosed in reports we file under the Exchange Act.

Changes in Internal Control over Financial Reporting There has been no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Assessment of Internal Control over Financial Reporting Management is responsible for establishing and maintaining an adequate internal control structure and procedures over financial reporting as defined in Rule 13a-15(f) of the Exchange Act, and has completed an assessment of the effectiveness of HSBC USA's internal control over financial reporting as of December 31, 2022. In making this assessment, management used the criteria related to internal control over financial reporting established by the Committee of Sponsoring Organizations of the Treadway Commission in "Internal Control-Integrated Framework (2013)."

Based on the assessment performed, management concluded that as of December 31, 2022, HSBC USA's internal control over financial reporting was effective.

Item 9B. Other Information

Disclosures pursuant to Section 13(r) of the Securities Exchange Act Section 13(r) of the Securities Exchange Act requires each issuer registered with the SEC to disclose in its annual or quarterly reports whether it or any of its affiliates have knowingly engaged in specified activities or transactions with persons or entities targeted by U.S. sanctions programs relating to Iran, terrorism, or the proliferation of weapons of mass destruction, even if those activities are not prohibited by U.S. law and are conducted outside the U.S. by non-U.S. affiliates in compliance with local laws and regulations.

To comply with this requirement, HSBC has requested relevant information from its affiliates globally. During the period covered by this Form 10-K, HUSI did not engage in activities or transactions requiring disclosure pursuant to Section 13(r) other than those activities related to frozen accounts and transactions permitted under relevant U.S. sanctions programs described under "Frozen Accounts and Transactions" below. The following activities conducted by our affiliates are disclosed in response to Section 13(r):

Legacy contractual obligations related to guarantees Between 1996 and 2007, the HSBC Group provided guarantees to a number of its non-Iranian customers in Europe and the Middle East for various business activities in Iran. In a number of cases, the HSBC Group issued counter indemnities involving Iranian banks as the Iranian beneficiaries of the guarantees required that they be backed directly by Iranian banks. The Iranian banks to which the HSBC Group provided counter indemnities included Bank Tejarat, Bank Melli, and the Bank of Industry and Mine.

There was no measurable gross revenue in 2022 under those guarantees and counter indemnities. The HSBC Group does not allocate direct costs to fees and commissions and, therefore, has not disclosed a separate net profit measure. The HSBC Group is seeking to cancel all relevant guarantees and counter indemnities, and does not currently intend to provide any new guarantees or counter indemnities involving Iran. No guarantees were cancelled in 2022, and approximately 14 remain outstanding.

Other relationships with Iranian banks Activity related to U.S.-sanctioned Iranian banks not covered elsewhere in this disclosure includes the matter described below.

The HSBC Group acts as the trustee and administrator for a pension scheme involving eight employees of a U.S.-sanctioned Iranian bank in Asia. Under the rules of this scheme, the HSBC Group accepts contributions from the Iranian bank each month and allocates the funds into the pension accounts of the Iranian bank's employees. The HSBC Group runs and operates this pension scheme in accordance with applicable laws and regulations. Estimated gross revenue, which includes fees and/or commissions, generated by this pension scheme during 2022, was approximately \$2,475.

For the Iranian bank-related activity discussed above, the HSBC Group does not allocate direct costs to fees and commissions and, therefore, has not disclosed a separate net profit measure.

The HSBC Group has been holding a safe custody box for the Central Bank of Iran. For a number of years, the box has not been accessed by the Central Bank of Iran, and no fees have been charged to the Central Bank of Iran.

The HSBC Group currently intends to continue to wind down the above activities, to the extent legally permissible, and not enter into any new such activity.

Activity related to U.S. Executive Order 13224 During 2022, the HSBC Group engaged in one domestic payment to the beneficial owner of an entity customer in Asia as part of the customer exit process. The HSBC Group entity customer and its beneficial owner were designated under Executive Order 13224 in the third quarter of 2021, and the entity customer account was restricted at that time.

The HSBC Group maintains a number of accounts for an individual customer in the Middle East who was designated under Executive Order 13224 in the fourth quarter of 2022. The customer's accounts are restricted and the relationship is being exited. The customer engaged in two local currency domestic transactions during the fourth quarter of 2022, and the HSBC Group processed these transactions.

During 2022, the HSBC Group processed one small local currency payment on behalf of a customer in Europe to a U.K.-registered charity that is designated under Executive Order 13224, but that is not sanctioned by the U.K., European Union, or the United Nations Security Council.

For these activities, there was no measurable gross revenue or net profit to the HSBC Group during 2022.

Other activity The HSBC Group has a non-Iranian insurance company customer in the Middle East that, during 2022, made local currency domestic payments for the reimbursement of medical treatment to a hospital located outside Iran that is owned by the Government of Iran. The HSBC Group processed these payments from its customer to the hospital.

The HSBC Group has four individual customers in the Middle East that, during 2022, made local currency domestic payments for medical treatment or reimbursement of medical treatment to a hospital located outside Iran that is owned by the Government of Iran. The HSBC Group processed these payments from its customers to the hospital.

The HSBC Group has fifteen customers in the Middle East that, during 2022, received local currency checks from an insurance company located outside Iran that is owned by the Government of Iran. The HSBC Group processed these checks from the insurance company to its customers.

The HSBC Group has an individual customer in the Middle East that, during 2022, made a local currency payment to an Iranian Consulate outside Iran for document fees. The HSBC Group processed this payment.

The HSBC Group has three customers in Europe that, during 2022, received local currency payments from a bank owned by the Government of Iran in relation to management charges and office supplies for property owned by the bank. The HSBC Group processed these payments to its customers.

The HSBC Group had an individual customer in Europe that was employed as a director of a bank owned by the Government of Iran. The customer's account was closed and exited during 2022. The HSBC Group engaged in local currency domestic transactions for its customer and as part of the exit process for the customer.

The HSBC Group has an individual customer in Asia who was employed as a clerk for the local Iranian Consulate. During 2022, the HSBC Group engaged in local currency domestic transactions for its customer, including the receipt of local currency domestic salary payments from the local consulate remitted by a bank owned by the Government of Iran. The customer is no longer employed by the consulate and has confirmed all payroll with the Iranian Consulate has been settled.

The HSBC Group has five individual customers in Asia who made a small number of local currency domestic payments for visa applications and passport renewals to a local Iranian Embassy. The HSBC Group processed these payments from its customers to the Embassy.

For these activities, there was no measurable gross revenue or net profit to the HSBC Group during 2022.

Frozen accounts and transactions The HSBC Group and HSBC Bank USA (a subsidiary of HUSI) maintain several accounts that are frozen as a result of relevant sanctions programs, and safekeeping boxes and other similar custodial relationships, for which no activity, except as licensed or otherwise authorized, took place during 2022. There was no measurable gross revenue or net profit to the HSBC Group during 2022 relating to these frozen accounts.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Omitted.

Item 11. Executive Compensation

Omitted.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Omitted.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Omitted.

Item 14. Principal Accounting Fees and Services

Audit Fees The aggregate amount billed by our principal accountant, PricewaterhouseCoopers LLP ("PwC"), for audit services performed during the fiscal years ended December 31, 2022 and 2021 was \$8,084,000 and \$8,703,500, respectively. Audit services include the auditing of financial statements, quarterly reviews, statutory audits, and the preparation of comfort letters, consents and review of registration statements.

Audit Related Fees The aggregate amount billed by PwC in connection with audit related services performed during the fiscal years ended December 31, 2022 and 2021 was \$1,892,000 and \$1,751,000, respectively. Audit related services include employee benefit plan audits, and audit or attestation services not required by statute or regulation.

Tax Fees The aggregate amount billed by PwC for tax related services performed during the fiscal years ended December 31, 2022 and 2021 was nil and nil, respectively.

All Other Fees The aggregate amount billed by PwC for other services performed during the fiscal years ended December 31, 2022 and 2021 was nil and nil, respectively.

All of the fees described above were approved by HSBC USA's Audit Committee.

The Audit Committee follows a written policy that requires pre-approval of all audit and audit related services to be provided by PwC. Pursuant to the policy, the Audit Committee annually pre-approves the audit fee and terms of the audit services engagement. The Audit Committee also approves specific audit and audit-related services. PwC does not perform any tax, compliance or other services which are not audit or audit-related. Any service not included in the annual pre-approval must be submitted on a case-by-case basis to the Audit Committee for pre-approval. On an interim basis, any proposed engagement that does not fit within the definition of a pre-approved service may be presented to the Chair of the Audit Committee and to the full Audit Committee at its next regular meeting for approval.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements

The consolidated financial statements listed below, together with an opinion of PwC dated February 21, 2023 with respect thereto, are included in this Form 10-K pursuant to Item 8. Financial Statements and Supplementary Data of this Form 10-K.

HSBC USA Inc. and Subsidiaries:

Report of Independent Registered Public Accounting Firm
 Consolidated Statement of Income (Loss)
 Consolidated Statement of Comprehensive Income (Loss)
 Consolidated Balance Sheet
 Consolidated Statement of Changes in Equity
 Consolidated Statement of Cash Flows
 Notes to Financial Statements

(a)(2) Not applicable.

(a)(3) Exhibits

- 3(i) [Articles of Incorporation and amendments and supplements thereto \(incorporated by reference to Exhibit 3\(a\) to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 1999, Exhibit 3 to HSBC USA Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2000, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed April 4, 2005, Exhibit 3.3 to HSBC USA Inc.'s Current Report on Form 8-K filed April 4, 2005, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed October 14, 2005, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed May 22, 2006 and Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed on May 31, 2016\).](#)
- 3(ii) [Bylaws of HSBC USA Inc., as Amended and Restated effective July 20, 2022 \(incorporated by reference to Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed July 21, 2022\).](#)
- 4.1 [Senior Indenture, dated as of March 31, 2009, by and between HSBC USA Inc. and Computershare Trust Company, N.A. \(as successor in interest to Wells Fargo Bank, National Association\), as trustee, as amended and supplemented \(incorporated by reference to Exhibit 4.1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-158385, Exhibit 4.2 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-180289 and Exhibit 4.3 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-202524\).](#)
- 4.2 [Subordinated Indenture, dated as of October 24, 1996, by and between HSBC USA Inc. and Deutsche Bank Trust Companies Americas \(as successor in interest to Bankers Trust Company\), as trustee, as amended and supplemented \(incorporated by reference to Exhibits 4.3, 4.4, 4.5 and 4.6 to Post-Effective Amendment No. 1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-42421 and Exhibit 4.1 to HSBC USA Inc.'s Current Report on Form 8-K filed September 27, 2010\).](#)
- 4.3 [Warrant Indenture, dated as of May 16, 2016, by and between HSBC USA Inc. and Computershare Trust Company, N.A., as trustee \(incorporated by reference to Exhibit 4.31 to Post-Effective Amendment No. 1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-202524\).](#)
- 4.4 [Other instruments defining the rights of holders of long-term debt of HSBC USA Inc. and its consolidated subsidiaries are not being filed herewith since the total amount of securities authorized under each such instrument does not exceed 10 percent of the total assets of HSBC USA Inc. and its subsidiaries on a consolidated basis. HSBC USA Inc. agrees that it will furnish a copy of any such instrument to the Securities and Exchange Commission upon request.](#)
- 4.5 [Description of HSBC USA Inc.'s zero coupon callable accreting notes due January 15, 2043 and zero coupon callable accreting notes due January 29, 2043 \(incorporated by reference to Exhibit 4.5 to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 2019\).](#)
- 23 [Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.](#)
- 24 [Power of Attorney \(included on the signature page of this Form 10-K\).](#)
- 31 [Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)

32 [Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)

101.INS The instance document does not appear in the interactive data file because its XBRL tags are embedded within the Inline XBRL document⁽¹⁾

101.SCH Inline XBRL Taxonomy Extension Schema Document⁽¹⁾

101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document⁽¹⁾

101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document⁽¹⁾

101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document⁽¹⁾

101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document⁽¹⁾

104 Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

⁽¹⁾ Pursuant to Rule 405 of Regulation S-T, includes the following financial information included in our Annual Report on Form 10-K for the year ended December 31, 2022, formatted in Inline eXtensible Business Reporting Language ("Inline XBRL"): (i) the Consolidated Statement of Income (Loss) for the years ended December 31, 2022, 2021 and 2020, (ii) the Consolidated Statement of Comprehensive Income (Loss) for the years ended December 31, 2022, 2021 and 2020, (iii) the Consolidated Balance Sheet at December 31, 2022 and 2021, (iv) the Consolidated Statement of Changes in Equity for the years ended December 31, 2022, 2021 and 2020, (v) the Consolidated Statement of Cash Flows for the years ended December 31, 2022, 2021 and 2020, and (vi) the Notes to Consolidated Financial Statements.

Item 16. Form 10-K Summary

Omitted.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, HSBC USA Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this day the 21st of February 2023.

HSBC USA INC.

By: /s/ MICHAEL ROBERTS

Michael Roberts

President and Chief Executive Officer

Each person whose signature appears below constitutes and appoints L. P. Zielinski as his/her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him/her in his/her name, place and stead, in any and all capacities, to sign and file, with the Securities and Exchange Commission, this Form 10-K and any and all amendments and exhibits thereto, and all documents in connection therewith, granting unto each such attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he/she might or could do in person, hereby ratifying and confirming all that such attorneys-in-fact and agents or their substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of HSBC USA Inc. and in the capacities indicated on this the 21st day of February 2023.

Signature	Title
<u> /s/ M. ROBERTS </u> (M. Roberts)	President, Chief Executive Officer, Chairman and Director (as Principal Executive Officer)
<u> /s/ D. P. BAILEY </u> (D. P. Bailey)	Director
<u> /s/ P. ELMGART </u> (P. Elmgart)	Director
<u> /s/ M. L. FLOWERS </u> (M. L. Flowers)	Director
<u> /s/ W. L. HARTMANN </u> (W. L. Hartmann)	Director
<u> /s/ B. F. KROEGER </u> (B. F. Kroeger)	Director
<u> /s/ C. H. LARSON </u> (C. H. Larson)	Director
<u> /s/ G. W. MADISON </u> (G. W. Madison)	Director
<u> /s/ N. G. MISTRETTA </u> (N. G. Mistretta)	Director
<u> /s/ L. K. POLSKY </u> (L. K. Polsky)	Director
<u> /s/ A. D. SCHROEDER </u> (A. D. Schroeder)	Director
<u> /s/ J. C. SHERBURNE </u> (J. C. Sherburne)	Director
<u> /s/ K. MAHTANI </u> (K. Mahtani)	Senior Executive Vice President and Chief Financial Officer (as Principal Financial Officer)
<u> /s/ W. TABAKA </u> (W. Tabaka)	Executive Vice President and Chief Accounting Officer (as Principal Accounting Officer)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-3 (No. 333-253385) of HSBC USA Inc. of our report dated February 21, 2023 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
New York, New York
February 21, 2023

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

Certification of Chief Executive Officer

I, Michael Roberts, certify that:

1. I have reviewed this report on Form 10-K of HSBC USA Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 21, 2023

/s/ MICHAEL ROBERTS

Michael Roberts

Chairman of the Board, President
and Chief Executive Officer

Certification of Chief Financial Officer

I, Kavita Mahtani, certify that:

1. I have reviewed this report on Form 10-K of HSBC USA Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 21, 2023

/s/ KAVITA MAHTANI

Kavita Mahtani
Senior Executive Vice President and
Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

**Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

The certification set forth below is being submitted in connection with the HSBC USA Inc. (the “Company”) Annual Report on Form 10-K for the period ending December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”) for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Michael Roberts, certify that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of HSBC USA Inc.

Date: February 21, 2023

/s/ MICHAEL ROBERTS

Michael Roberts
Chairman of the Board, President
and Chief Executive Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by HSBC USA Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

The signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to HSBC USA Inc. and will be retained by HSBC USA Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

**Certification pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

The certification set forth below is being submitted in connection with the HSBC USA Inc. (the “Company”) Annual Report on Form 10-K for the period ending December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”) for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Kavita Mahtani, certify that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of HSBC USA Inc.

Date: February 21, 2023

/s/ KAVITA MAHTANI

Kavita Mahtani

Senior Executive Vice President and
Chief Financial Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by HSBC USA Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

The signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to HSBC USA Inc. and will be retained by HSBC USA Inc. and furnished to the Securities and Exchange Commission or its staff upon request.