CITIGROUP GLOBAL MARKETS HOLDINGS INC.

HALF-YEARLY FINANCIAL REPORT

FOR THE SIX MONTHS ENDED JUNE 30, 2020

August 26, 2020

Responsibility Statement

The below named authorized officers of Citigroup Global Markets Holdings Inc., a New York corporation (the "Company"), confirm that to the best of their knowledge: (i) the accompanying financial statements (a) were prepared in accordance with Generally Accepted Accounting Principles in the United States of America and (b) give a true and fair view of the assets, liabilities, financial position and income or loss of the Company and the undertakings included in the consolidation taken as a whole; and (ii) the accompanying Management Report includes (a) a fair review of the development and performance of the business and position of the Company and the undertakings included in the consolidation taken as a whole and (b) a description of the principal risks and uncertainties that they face.

CITIGROUP GLOBAL MARKETS HOLDINGS INC.

By: /s/ Shawn K. Feeney
Shawn K. Feeney
Chairman and
Chief Executive Officer

By: /s/ Daniel S. Palomaki
Daniel S. Palomaki
Chief Financial Officer

CITIGROUP GLOBAL MARKETS HOLDINGS INC.

MANAGEMENT REPORT

CITIGROUP GLOBAL MARKETS HOLDINGS INC.

Citigroup Global Markets Holdings Inc. (**CGMHI**), operating through its subsidiaries, engages in full-service investment banking and securities brokerage business. As used in this description, **CGMHI**, **Citigroup Global Markets**, and the **Company** refer to CGMHI and its consolidated subsidiaries. Citigroup Global Markets operates in the *Institutional Clients Group* business segment.

CGMHI's parent, Citigroup Inc. (**Citigroup**, or **Citi**), is a global diversified financial services holding company whose businesses provide consumers, corporations, governments and institutions with a broad, yet focused, range of financial products and services, including consumer banking and credit, corporate and investment banking, securities brokerage, trade and securities services and wealth management. Citi has approximately 200 million customer accounts and does business in more than 160 countries and jurisdictions.

Citigroup currently operates, for management reporting purposes, via two primary business segments: *Global Consumer Banking* and *Institutional Clients Group*, with the remaining operations in *Corporate/Other*.

The principal offices of CGMHI are located at 388 Greenwich Street, New York, NY, 10013, telephone number (212) 559-1000. CGMHI was incorporated in New York on 23 February 1977 and is the successor to Salomon Smith Barney Holdings Inc. On 7 April 2003, CGMHI filed a Restated Certificate of Incorporation, changing its name from Salomon Smith Barney Holdings Inc. to Citigroup Global Markets Holdings Inc.

Institutional Clients Group

Institutional Clients Group (*ICG*) includes *Banking* and *Markets and securities services*. *ICG* provides corporate, institutional, public sector and high-net-worth clients around the world with a full range of wholesale banking products and services, including fixed income and equity sales and trading, foreign exchange, prime brokerage, derivative services, equity and fixed income research, corporate lending, investment banking and advisory services, private banking, cash management, trade finance and securities services. ICG transacts with clients in both cash instruments and derivatives, including fixed income, foreign currency, equity and commodity products.

ICG revenue is generated primarily from fees and spreads associated with these activities. *ICG* earns fee income for assisting clients with transactional services and clearing and providing brokerage and investment banking services and other such activities. Such fees are recognized at the point in time when Citigroup's performance under the terms of a contractual arrangement is completed, which is typically at the trade/execution date or closing of a transaction. Revenue generated from these activities is recorded in *Commissions and fees* and *Investment banking*. Revenue is also generated from assets under custody and administration, which is recognized as/when the associated promised service is satisfied, which normally occurs at the point in time the service is requested by the customer and provided by Citi. Revenue generated from these activities is primarily recorded in *Fiduciary fees*.

In addition, as a market maker, *ICG* facilitates transactions, including holding product inventory to meet client demand, and earns the differential between the price at which it buys and sells the products. These price differentials and the unrealized gains and losses on the inventory are recorded in *Principal transactions*.

The amount and types of *Markets* revenues are impacted by a variety of interrelated factors, including market liquidity; changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices and credit spreads, as well as their implied volatilities; investor confidence and other macroeconomic conditions. Assuming all other market conditions do not change, increases in client activity levels or bid/offer spreads generally result in increases in revenues. However, changes in market conditions can significantly impact client activity levels, bid/offer spreads and the fair value of product inventory. For example, a decrease in market liquidity may increase bid/offer spreads, decrease client activity levels and widen credit spreads on product inventory positions.

ICG's management of the *Markets* businesses involves daily monitoring and evaluation of the above factors at the trading desk as well as the country level. *ICG* does not separately track the impact on total *Markets* revenues of the volume of transactions, bid/offer spreads, fair value changes of product inventory positions and economic hedges because, as noted above, these components are interrelated and are not deemed useful or necessary individually to manage the *Markets* businesses at an aggregate level.

In the *Markets* businesses, client revenues are those revenues directly attributable to client transactions at the time of inception, including commissions, interest or fees earned. Client revenues do not include the results of client facilitation activities (e.g., holding product inventory in anticipation of client demand) or the results of certain economic hedging activities.

For more information on *ICG*'s business activities, see "*Institutional Clients Group*" in Citi's 2019 Annual Report on Form 10-K.

ICG's international presence is supported by trading floors in approximately 80 countries and a proprietary network in 97 countries and jurisdictions. At June 30, 2020, *ICG* had $1.7 trillion in assets and $908 billion in deposits, while two of its businesses—securities services and issuer services—managed $20.4 trillion in assets under custody compared to $20.3 trillion at December 31, 2019 and $18.7 trillion at March 31, 2020.

INFORMATION RELATING TO DERIVATIVE INSTRUMENTS AND RISK MANAGEMENT DERIVATIVES ACTIVITIES

In the ordinary course of business, the Company enters into various types of derivative transactions, which include:

- *Futures and forward contracts*, which are commitments to buy or sell at a future date a financial instrument, commodity or currency at a contracted price that may be settled in cash or through delivery of an item readily convertible to cash.
- *Swap contracts*, which are commitments to settle in cash at a future date or dates that may range from a few days to a number of years, based on differentials between specified indices or financial instruments, as applied to a notional principal amount.
- *Option contracts*, which give the purchaser, for a premium, the right, but not the obligation, to buy or sell within a specified time a financial instrument, commodity or currency at a contracted price that may also be settled in cash, based on differentials between specified indices or prices.

Swaps, forwards and some option contracts are over-the-counter (OTC) derivatives that are bilaterally negotiated with counterparties and settled with those counterparties, except for swap contracts that are novated and "cleared" through central counterparties (CCPs). Futures contracts and other option contracts are standardized contracts that are traded on an exchange with a CCP as the counterparty from the inception of the transaction. The Company enters into derivative contracts relating to interest rate, foreign currency, commodity and other market/credit risks for the following reasons:

- *Trading Purposes*: The Company trades derivatives as an active market maker. The Company offers its customers derivatives in connection with their risk management actions to transfer, modify or reduce their interest rate, foreign exchange and other market/credit risks or for their own trading purposes. The Company also manages its derivative risk positions through offsetting trade activities, controls focused on price verification and daily reporting of positions to senior managers.
- *Hedging*: The Company uses derivatives in connection with its own risk management activities to hedge certain risks. Hedging may be accomplished by applying hedge accounting in accordance with ASC 815, *Derivatives and Hedging*. For example, CGMHI issues fixed-rate long-term debt and then enters into a receive-fixed, pay-variable-rate interest rate swap with the same tenor and notional amount to synthetically convert the interest payments to a net variable-rate basis. This strategy is the most common form of an

interest rate hedge, as it minimizes net interest cost in certain yield curve environments. Derivatives are also used to manage market risks inherent in specific groups of on-balance sheet assets and liabilities, including commodities and borrowings.

Derivatives may expose the Company to market, credit or liquidity risks in excess of the amounts recorded on the Consolidated Statement of Financial Condition. Market risk on a derivative product is the exposure created by potential fluctuations in interest rates, market prices, foreign exchange rates and other factors and is a function of the type of product, the volume of transactions, the tenor and terms of the agreement and the underlying volatility. Credit risk is the exposure to loss in the event of nonperformance by the other party to satisfy a derivative liability where the value of any collateral held by CGMHI is not adequate to cover such losses. The recognition in earnings of unrealized gains on derivative transactions is subject to management's assessment of the probability of counterparty default. Liquidity risk is the potential exposure that arises when the size of a derivative position may affect the ability to monetize the position in a reasonable period of time and at a reasonable cost in periods of high volatility and financial stress.

Derivative transactions are customarily documented under industry standard master netting agreements, which provide that following an event of default, the non-defaulting party may promptly terminate all transactions between the parties and determine the net amount due to be paid to, or by, the defaulting party. Events of default include (i) failure to make a payment on a derivative transaction that remains uncured following applicable notice and grace periods, (ii) breach of agreement that remains uncured after applicable notice and grace periods, (iii) breach of a representation, (iv) cross default, either to third-party debt or to other derivative transactions entered into between the parties, or, in some cases, their affiliates, (v) the occurrence of a merger or consolidation that results in a party's becoming a materially weaker credit and (vi) the cessation or repudiation of any applicable guarantee or other credit support document. Obligations under master netting agreements are often secured by collateral posted under an industry standard credit support annex to the master netting agreement. An event of default may also occur under a credit support annex if a party fails to make a collateral delivery that remains uncured following applicable notice and grace periods.

The netting and collateral rights incorporated in the master netting agreements are considered to be legally enforceable if a supportive legal opinion has been obtained from counsel of recognized standing that provides (i) the requisite level of certainty regarding enforceability and (ii) that the exercise of rights by the non-defaulting party to terminate and close-out transactions on a net basis under these agreements will not be stayed or avoided under applicable law upon an event of default, including bankruptcy, insolvency or similar proceeding.

A legal opinion may not be sought for certain jurisdictions where local law is silent or unclear as to the enforceability of such rights or where adverse case law or conflicting regulation may cast doubt on the enforceability of such rights. In some jurisdictions and for some counterparty types, the insolvency law may not provide the requisite level of certainty. For example, this may be the case for certain sovereigns, municipalities, central banks and U.S. pension plans.

Exposure to credit risk on derivatives is affected by market volatility, which may impair the ability of counterparties to satisfy their obligations to the Company. Credit limits are established and closely monitored for customers engaged in derivatives transactions. CGMHI considers the level of legal certainty regarding enforceability of its offsetting rights under master netting agreements and credit support annexes to be an important factor in its risk management process. Specifically, CGMHI generally transacts much lower volumes of derivatives under master netting agreements where CGMHI does not have the requisite level of legal certainty regarding enforceability, because such derivatives consume greater amounts of single counterparty credit limits than those executed under enforceable master netting agreements.

Cash collateral and security collateral in the form of G10 government debt securities are often posted by a party to a master netting agreement to secure the net open exposure of the other party; the receiving party is free to commingle/rehypothecate such collateral in the ordinary course of its business. Nonstandard collateral such as corporate bonds, municipal bonds, U.S. agency securities and/or MBS may also be pledged as collateral for derivative transactions. Security collateral posted to open and maintain a master netting agreement with a counterparty, in the form of cash and/or securities, may from time to time be segregated in an account at a third-party custodian pursuant to a tri-party account control agreement.

RISK FACTORS

(Extracted from (i) Citigroup's Quarterly Report on Form 10-Q for the fiscal quarter ended 30 June 2020, filed with the U.S. Securities and Exchange Commission on the 4th day of August, 2020, and (ii) Citigroup's Annual Report on Form 10-K for the fiscal year ended 31 December 2019, filed with the U.S. Securities and Exchange Commission on the 21st day of February 2019.)

The following discussion sets forth what management currently believes could be the most significant risks and uncertainties that could impact Citi's businesses, results of operations and financial condition. Other risks and uncertainties, including those not currently known to Citi or its management, could also negatively impact Citi's businesses, results of operations and financial condition. Thus, the following should not be considered a complete discussion of all of the risks and uncertainties Citi may face.

STRATEGIC RISKS

Macroeconomic and Other Challenges and Uncertainties Related to the COVID-19 Pandemic Will Likely Continue to Have Negative Impacts on Citi's Businesses and Results of Operations and Financial Condition.

The COVID-19 pandemic has spread globally, affecting all of the countries and jurisdictions where Citi operates. The pandemic has had, and will likely continue to have, negative impacts on Citi's businesses, revenues, expenses, credit costs and overall results of operations and financial condition, which could be material. The pandemic and responses to it have had, and will likely continue to have, a severe impact on global economic conditions, although the impacts will likely vary from time to time by country, state or region, largely depending upon the duration and severity of the public health consequences and availability of any effective therapeutic or vaccine. These impacts to global economic conditions include, among others:

- sharply reduced U.S. and global economic output and employment, resulting in loss of employment and lower consumer spending, cards purchase sales and loan volumes;
- disruption of global supply chains;
- significant disruption and volatility in financial markets;
- temporary closures, reduced activity and failures of many businesses, leading to loss of revenues and net losses; and
- the institution of social distancing and restrictions on movement in and among the United States and other countries.

The extent of the pandemic's impact on Citi's financial performance and operations, including its ability to execute its business initiatives and strategies, will continue to depend on future developments in the U.S. and globally, which are uncertain and cannot be predicted, including the duration and further spread of the disease, as well as the severity of the economic downturn or any delay or weakness in the economic recovery. The impact will in part be dependent on government and other actions taken to lessen the health and economic repercussions, such as medical investments and advances, restrictions on movement of people, transportation and businesses, and the effectiveness of past and any future fiscal, monetary and other governmental actions. Ongoing legislative and regulatory changes in the U.S. and globally to address the economic impact from the pandemic, such as consumer and corporate relief measures, could further affect Citi's businesses, credit costs and results. Citi could also face challenges, including legal and reputational, and scrutiny in its implementation of and ongoing efforts to provide these relief measures. Such implementations and efforts have resulted in, and may continue to result in, litigation, including class actions, or regulatory and government actions and proceedings. Such actions may result in judgments, settlements, penalties and fines adverse to Citi. In addition, the different types of government actions could vary in scale and duration across jurisdictions and regions with varying degrees of effectiveness.

The impact of the pandemic on Citi's consumer and corporate borrowers will also vary by region, sector or industry, with some borrowers experiencing greater stress levels, which could lead to increased pressure on the results of operations and financial condition of such borrowers, increased borrowings or credit ratings downgrades, thus likely leading to higher credit costs. In addition, stress levels ultimately experienced by Citi's borrowers may be different from and more intense than assumptions made in earlier estimates or models used by Citi during or prior to the emergence of the pandemic, resulting in a further increase in Citi's allowance for credit losses or net credit losses.

The pandemic may not be sufficiently contained for an extended period of time, due to a further emergence or re-emergence of widespread infections. A prolonged health crisis could continue to reduce economic activity in the U.S. and other countries, resulting in a further decline in employment and business and consumer confidence. These factors could further negatively impact global economic activity and Citi's consumer customers and corporate clients; cause a continued decline in Citi's revenues and the demand for its products and services; lead to a prolonged period of lower interest rates; and further increase Citi's credit and other costs. These factors could also cause a continued increase in Citi's balance sheet, risk-weighted assets and allowance for credit loss reserves, resulting in a decline in regulatory capital ratios or liquidity measures, as well as regulatory demands for higher capital levels and/or reductions in capital distributions. Moreover, any disruption or failure of Citi's performance of, or its ability to perform, key business functions, as a result of the continued spread of COVID-19 or otherwise, could adversely affect Citi's operations.

Any disruption to, breaches of or attacks on Citi's information technology systems, including from cyber incidents, could have adverse effects on Citi's businesses. These systems are supporting a substantial portion of Citi's employees who have been affected by local pandemic restrictions and have been forced to work remotely. In addition, these systems interface with and depend on third-party systems, and Citi could experience service denials or disruptions if demand for such systems were to exceed capacity or if a third-party system fails or experiences any interruptions. Citi has also taken measures to maintain the health and safety of its employees; however, these measures could result in increased expenses, and widespread illness could negatively affect staffing within certain functions, businesses or geographies. In addition, Citi's ability to recruit, hire and onboard employees in key areas could be negatively impacted by global pandemic restrictions.

Further, it is unclear how the macroeconomic business environment or societal norms may be impacted after the pandemic. The post-pandemic environment may undergo unexpected developments or changes in financial markets, the fiscal, tax and regulatory environments and consumer customer and corporate client behavior. These developments and changes could have an adverse impact on Citi's results of operations and financial condition. Ongoing business and regulatory uncertainties and changes may make Citi's longer-term business, balance sheet and budget planning more difficult or costly. Citi, its management and its businesses may also experience increased or different competitive and other challenges in this environment. To the extent that it is not able to adapt or compete effectively, Citi could experience loss of business and its results of operations and financial condition could suffer.

Citi's Ability to Return Capital to Common Shareholders Consistent with Its Capital Planning Efforts and Targets Substantially Depends on the CCAR Process and the Results of Regulatory Stress Tests.

Citi's ability to return capital to its common shareholders consistent with its capital planning efforts and targets, whether through its common stock dividend or through a share repurchase program, substantially depends, among other things, on regulatory approval, including through the CCAR process required by the Federal Reserve Board (FRB) and the supervisory stress tests required under the Dodd-Frank Act. The ability to return capital also depends on Citi's results of operations and effectiveness in managing its level of risk-weighted assets and GSIB surcharge. Citi's ability to accurately predict, interpret or explain to stakeholders the outcome of the CCAR process, and thus to address any market or investor perceptions, may be limited as the FRB's assessment of Citi's capital adequacy is conducted using the FRB's proprietary stress test models. In addition, all CCAR firms, including Citi, will continue to be subject to a rigorous evaluation of their capital planning practices, including, but not limited to, governance, risk management and internal controls.

The FRB has stated that it expects leading capital adequacy practices to continue to evolve and to likely be determined by the FRB each year as a result of its cross-firm review of capital plan submissions. Similarly, the FRB has indicated that, as part of its stated goal to continually evolve its annual stress testing requirements, several parameters of the annual stress testing process may continue to be altered, including the severity of the stress test scenario, the FRB modeling of Citi's balance sheet and the addition of components deemed important by the FRB.

Citi will be required to incorporate the current expected credit losses (CECL) methodology into its stress testing methodologies, data and disclosure beginning with the 2020 supervisory stress test cycle. The FRB has stated that it plans to maintain its current framework for calculating allowances on loans in the supervisory stress test for the 2020 and 2021 supervisory stress test cycles, and to evaluate appropriate future enhancements to this framework as best practices for implementing CECL are developed. The impacts on Citi's capital adequacy of incorporating CECL on an ongoing basis, and of other potential regulatory changes in the FRB's stress testing methodologies, remain unclear. For additional information regarding the CECL methodology, see Note 1 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

In addition, in 2018, the FRB proposed to more closely integrate the results of the quantitative assessment in CCAR with firms' ongoing minimum capital requirements under the U.S. Basel III rules. Proposed changes to the stress testing regime include, among others, introduction of a firm-specific "stress capital buffer" (SCB), which would be equal to the maximum decline in a firm's Common Equity Tier 1 Capital ratio under a severely adverse scenario over a nine-quarter CCAR measurement period, subject to a minimum requirement of 2.5%. The FRB proposed that the SCB would replace the capital conservation buffer in Citi's ongoing regulatory capital requirements for Standardized Approach capital ratios. The SCB would be calculated by the FRB using its proprietary data and modeling of each firm's results. Accordingly, a firm's SCB would change annually based on the supervisory stress test results, thus potentially resulting in year-to-year volatility in the calculation of the SCB.

Although various uncertainties exist regarding the extent of, and the ultimate impact to Citi from, these changes to the FRB's stress testing and CCAR regimes, these changes would likely increase the level of capital Citi is required or elects to hold, including as part of Citi's estimated management buffer, thus potentially impacting the extent to which Citi is able to return capital to shareholders.

In June 2020, the FRB determined that changes in financial markets and macroeconomic outlooks related to the COVID-19 pandemic could have a material effect on the risk profile and financial condition of each firm subject to its capital plan rule, and therefore require updated capital plans. Accordingly, the FRB is requiring each firm, including Citi, to update and resubmit its capital plan within 45 days after the FRB provides updated scenarios. The FRB also established temporary limitations on capital distributions during the third quarter of 2020, which may be extended by the FRB. Citi declared common dividends of $0.51 per share for the third quarter of 2020 on July 23, 2020, which would not be impacted by the Federal Reserve Board's temporary limitations on capital distributions.

Macroeconomic, Geopolitical and Other Challenges and Uncertainties Globally Could Have a Negative Impact on Citi's Businesses and Results of Operations.

Citi has experienced, and could experience in the future, negative impacts to its businesses and results of operations as a result of macroeconomic, geopolitical and other challenges, uncertainties and volatility. For example, protracted or widespread trade tensions, including changes in trade policies, which have resulted in retaliatory measures from other countries, could result in a further reduction or realignment of trade flows among countries and negatively impact businesses, sectors and economic growth rates. In addition, adverse developments or downturns in one or more of the world's larger economies would likely have a significant impact on the global economy or the economies of other countries because of global financial and economic linkages. Additional areas of uncertainty include, among others, geopolitical tensions and conflicts, natural disasters, pandemics and election outcomes. For example, it was reported in January 2020 that a novel strain of coronavirus which first surfaced in China, had spread to several other countries, resulting in various uncertainties, including the potential impact to Asian and global economies, trade and consumer and corporate clients.

Governmental fiscal and monetary actions, or expected actions, such as changes in interest rate policies and any program implemented by a central bank to change the size of its balance sheet, could significantly impact interest rates, economic growth rates, the volatility of global financial markets, foreign exchange rates and capital flows among countries. For example, in 2019, the FRB reduced its benchmark U.S. interest rate three times to add additional stimulus to the U.S. economy. The interest rates on Citi loans are typically based off or set at a spread over a benchmark interest rate, including the U.S. benchmark interest rate, and are therefore likely to decline as benchmark rates decline. By contrast, the interest rates at which Citi pays depositors are already low and unlikely to decline much further. Consequently, declining loan rates and largely unchanged deposit rates would likely compress Citi's net interest revenue. Citi's net interest revenue could also be adversely affected due to a flattening of the interest rate yield curve (e.g., a lower spread between shorter-term versus longer-term interest rates), as Citi, similar to other banks, typically pays interest on deposits based on shorter-term interest rates and earns money on loans typically based on longer-term interest rates.

Despite the U.K.'s official withdrawal from the European Union (EU) as of January 31, 2020, numerous uncertainties continue to exist regarding the U.K.'s future relationship with the EU. For example, the terms of the U.K. withdrawal continue to be negotiated between the U.K. and the EU, including their future trading relationship. It remains unclear whether the parties will be able to agree on terms prior to the end of the currently scheduled transition period on December 31, 2020. If no agreement is reached on terms of the exit in a timely manner, it would likely result in what is commonly referred to as a "no deal" or "hard" exit scenario. A hard exit scenario would result in the U.K. and EU losing reciprocal financial services license-passporting rights and require the U.K. to deal with the EU as a third-country regime, but without an equivalence regime or transition period in place. A hard exit scenario could cause severe disruptions in the movement of goods and services between the U.K. and EU countries and negatively impact financial markets and the U.K. and EU economies. Citi's business and operations could be impacted by these and other factors, including the preparedness and reaction of clients, counterparties and financial markets infrastructure. For information about Citi's actions to manage the U.K.'s exit from the EU, see "Managing Global Risk—Strategic Risk—Exit of U.K. from EU" below. Further, the economic and fiscal situations of some EU countries have remained fragile, and concerns and uncertainties remain in the U.K. and Europe over the resulting effects of the U.K.'s exit from the EU.

These and additional global macroeconomic, geopolitical and other challenges, uncertainties and volatilities have negatively impacted, and could continue to negatively impact, Citi's businesses, results of operations and financial condition, including its credit costs, revenues in its *Markets and securities services* and other businesses, and AOCI (which would in turn negatively impact Citi's book and tangible book value).

Citi, Its Management and Its Businesses Must Continually Review, Analyze and Successfully Adapt to Ongoing Regulatory and Legislative Uncertainties and Changes in the U.S. and Globally.

Despite the adoption of final regulations and laws in numerous areas impacting Citi and its businesses over the past several years, Citi, its management and its businesses continually face ongoing regulatory and legislative uncertainties and changes, both in the U.S. and globally. While the areas of ongoing regulatory and legislative uncertainties and changes facing Citi are too numerous to list completely, various examples include, but are not limited to (i) potential fiscal, monetary, regulatory and other changes arising from the U.S. federal government and others; (ii) potential changes to various aspects of the regulatory capital framework applicable to Citi (see the capital return risk factor above); and (iii) the terms of and other uncertainties resulting from the U.K.'s exit from the EU (see the macroeconomic challenges and uncertainties risk factor above). When referring to "regulatory," Citi is including both formal regulation and the views and expectations of its regulators in their supervisory roles.

Ongoing regulatory and legislative uncertainties and changes make Citi's and its management's long-term business, balance sheet and budget planning difficult or subject to change. For example, U.S. and other regulators globally have implemented and continue to discuss various changes to certain regulatory requirements, which would require ongoing assessment by management as to the impact to Citi, its businesses and business planning. Business planning is required to be based on possible or proposed rules or outcomes, which can change dramatically upon finalization, or upon implementation or interpretive guidance from numerous regulatory bodies worldwide, and such guidance can change.

Moreover, U.S. and international regulatory and legislative initiatives have not always been undertaken or implemented on a coordinated basis, and areas of divergence have developed and continue to develop with respect to the scope, interpretation, timing, structure or approach, leading to inconsistent or even conflicting requirements, including within a single jurisdiction. For example, in May 2019, the European Commission adopted, as part of Capital Requirements Directive V (CRD V), a new requirement for major banking groups headquartered outside the EU (which would include Citi) to establish an intermediate EU holding company where the foreign bank has two or more institutions (broadly meaning banks, broker-dealers and similar financial firms) established in the EU. While in some respects the requirement mirrors an existing U.S. requirement for non-U.S. banking organizations to form U.S. intermediate holding companies, the implementation of the EU holding company requirement could lead to additional complexity with respect to Citi's resolution planning, capital and liquidity allocation and efficiency in various jurisdictions. Regulatory and legislative changes have also significantly increased Citi's compliance risks and costs (see the implementation and interpretation of regulatory changes risk factor below).

Citi's Continued Investments and Efficiency Initiatives May Not Be as Successful as It Projects or Expects.
Citi continues to leverage its scale and make incremental investments to deepen client relationships, increase revenues and lower expenses. For example, Citi continues to make investments to enhance its digital capabilities across the franchise, including digital platforms and mobile and cloud-based solutions, as well as make investments in risk management and controls. Citi also has been investing in higher-return businesses, such as the U.S. cards and wealth management businesses in *Global Consumer Banking (GCB)* and treasury and trade solutions, securities services and other businesses in *Institutional Clients Group (ICG)*. Citi also continues to execute on its previously disclosed investment of more than $1 billion in Citibanamex. Further, Citi has been pursuing efficiency improvements through various technology and digital initiatives, organizational simplification and location strategies, which are intended to self-fund Citi's incremental investment initiatives as well as offset growth-driven expenses.

Citi's investments and efficiency initiatives are being undertaken as part of its overall strategy to meet operational and financial objectives, including, among others, those relating to shareholder returns. There is no guarantee that these or other initiatives Citi may pursue will be as productive or effective as Citi expects, or at all. Citi's investment and efficiency initiatives may continue to evolve as its business strategies and the market environment change, which could make the initiatives more costly and more challenging to implement, and limit their effectiveness. Moreover, Citi's ability to achieve expected returns on its investments and costs savings depends, in part, on factors that it cannot control, such as macroeconomic conditions, customer, client and competitor actions and ongoing regulatory changes, among others.

Uncertainties Regarding the Transition Away from or Possible Discontinuance of the London Inter-Bank Offered Rate (LIBOR) or Any Other Interest Rate Benchmark Could Have Adverse Consequences for Market Participants, Including Citi.
LIBOR is extensively used as a "benchmark" or "reference rate" across financial products and markets globally. The U.K. Financial Conduct Authority (FCA) has raised questions about the future sustainability of LIBOR, and, as a result, the FCA obtained voluntary panel bank support to sustain LIBOR only until 2021, and LIBOR is expected to be discontinued as early as January 1, 2022. In addition, following guidance provided by the Financial Stability Board, other regulators have suggested reforming or replacing other benchmark rates with alternative reference rates. Accordingly, the transition away from and discontinuance of LIBOR or any other benchmark rate presents various uncertainties, risks and challenges to financial markets and institutions, including Citi. These include, among others, the pricing, liquidity, value of, return on and market for financial instruments and contracts that reference LIBOR or any other applicable benchmark rate.

Citi issues, trades, holds or otherwise uses a substantial amount of securities or products that reference LIBOR, including, among others, derivatives, corporate loans, commercial and residential mortgages, credit cards, securitized products and other securities. The transition away from and discontinuation of LIBOR presents significant operational, legal, reputational or compliance, financial and other risks to Citi. For example, LIBOR transition presents various challenges related to contractual mechanics of existing floating rate financial instruments and contracts that reference

LIBOR and mature after 2021. Certain of these instruments and contracts do not provide for alternative benchmark rates, which makes it unclear what the future benchmark rates would be after LIBOR's cessation. Even if the instruments and contracts provide for a transition to alternative benchmark rates, the new benchmark rates may significantly differ from the prior rates. As a result, Citi may need to proactively address any contractual uncertainties or rate differences in such instruments and contracts, which would likely be both time consuming and costly. In addition, the transition away from and discontinuance of LIBOR could result in disputes, including litigation, involving holders of outstanding instruments and contracts that reference LIBOR, whether or not the underlying documentation provides for alternative benchmark rates. Citi will also need to develop significant internal systems and infrastructure to transition to alternative benchmark rates to both manage its businesses and support clients.

For additional information about Citi's ongoing management of LIBOR transition risk, see "Managing Global Risk—Strategic Risk—LIBOR Transition Risk" below.

Citi's Ability to Utilize Its DTAs, and Thus Reduce the Negative Impact of the DTAs on Citi's Regulatory Capital, Will Be Driven by Its Ability to Generate U.S. Taxable Income.

At December 31, 2019, Citi's net DTAs were $23.1 billion, net of a valuation allowance of $6.5 billion, of which $10.7 billion was excluded from Citi's Common Equity Tier 1 Capital under the U.S. Basel III rules. Of the net DTAs at December 31, 2019, $6.3 billion related to foreign tax credit carry-forwards (FTCs), net of a valuation allowance. The carry-forward utilization period for FTCs is 10 years and represents the most time-sensitive component of Citi's DTAs. The FTC carry-forwards at December 31, 2019 expire over the period of 2020–2029. Citi must utilize any FTCs generated in the then-current-year tax return prior to utilizing any carry-forward FTCs.

The accounting treatment for realization of DTAs, including FTCs, is complex and requires significant judgment and estimates regarding future taxable earnings in the jurisdictions in which the DTAs arise and available tax planning strategies. Citi's ability to utilize its DTAs will primarily be dependent upon Citi's ability to generate U.S. taxable income in the relevant tax carry-forward periods. Although utilization of FTCs in any year is generally limited to 21% of foreign source taxable income in that year, overall domestic losses (ODL) that Citi has incurred in the past allow it to reclassify domestic source income as foreign source. Failure to realize any portion of the net DTAs would have a corresponding negative impact on Citi's net income and financial returns.

Citi does not expect to be subject to the Base Erosion Anti-Abuse Tax (BEAT), which, if applicable to Citi in any given year, would have a significantly adverse effect on both Citi's net income and regulatory capital.

For additional information on Citi's DTAs, including FTCs, see Notes 1 and 9 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

Citi's Interpretation or Application of the Complex Tax Laws to Which It Is Subject Could Differ from Those of the Relevant Governmental Authorities, Which Could Result in the Payment of Additional Taxes, Penalties or Interest.

Citi is subject to various income-based and non-income-based tax laws of the U.S. and its states and municipalities, as well as the numerous non-U.S. jurisdictions in which it operates. These tax laws are inherently complex and Citi must make judgments and interpretations about the application of these laws, including the Tax Cuts and Jobs Act (Tax Reform), to its entities, operations and businesses. Citi's interpretations and application of the tax laws, including with respect to Tax Reform, withholding, stamp, service and other non-income taxes, could differ from that of the relevant governmental taxing authority, which could result in the payment of additional taxes, penalties or interest, which could be material.

Citi's Presence in the Emerging Markets Subjects It to Various Risks as well as Increased Compliance and Regulatory Risks and Costs.

During 2019, emerging markets revenues accounted for approximately 37% of Citi's total revenues (Citi generally defines emerging markets as countries in Latin America, Asia (other than Japan, Australia and New Zealand), Central and Eastern Europe, the Middle East and Africa). Although Citi continues to pursue its target client strategy, Citi's presence in the emerging markets subjects it to a number of risks, including limitations of hedges on foreign investments, foreign currency volatility, sovereign volatility, election outcomes, regulatory changes and political events, foreign exchange controls, limitations on foreign investment, sociopolitical instability (including from hyperinflation), fraud, nationalization or loss of licenses, business restrictions, sanctions or asset freezes, potential criminal charges, closure of branches or subsidiaries and confiscation of assets. For example, Citi operates in several countries that have, or have had in the past, strict foreign exchange controls, such as Argentina, that limit its ability to convert local currency into U.S. dollars and/or transfer funds outside of those countries.

Moreover, if the economic situation in an emerging markets country where Citi operates were to deteriorate below a certain level, U.S. regulators may impose mandatory loan loss or other reserve requirements on Citi, which would increase its credit costs and decrease its earnings. In addition, political turmoil and instability have occurred in certain regions and countries, including Asia, the Middle East and Latin America, which have required, and may continue to require, management time and attention and other resources (such as monitoring the impact of sanctions on certain emerging markets economies as well as impacting Citi's businesses and results of operations in affected countries).

Citi's emerging markets presence also increases its compliance and regulatory risks and costs. For example, Citi's operations in emerging markets, including facilitating cross-border transactions on behalf of its clients, subject it to higher compliance risks under U.S. regulations that are primarily focused on various aspects of global corporate activities, such as anti-money laundering regulations and the Foreign Corrupt Practices Act. 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 Citi's business activities. Any failure by Citi to comply with applicable U.S. regulations, as well as the regulations in the countries and markets in which it operates as a result of its global footprint, could result in fines, penalties, injunctions or other similar restrictions, many of which could negatively impact Citi's results of operations and reputation (see the implementation and interpretation of regulatory changes and legal and regulatory proceedings risk factors below).

A Deterioration in or Failure to Maintain Citi's Co-Branding or Private Label Credit Card Relationships, Including as a Result of Any Bankruptcy or Liquidation, Could Have a Negative Impact on Citi's Results of Operations or Financial Condition.

Citi has co-branding and private label relationships through its Citi-branded cards and Citi retail services credit card businesses with various retailers and merchants globally, whereby in the ordinary course of business Citi issues credit cards to customers of the retailers or merchants. Citi's co-branding and private label agreements provide for shared economics between the parties and generally have a fixed term. The five largest relationships, which include Sears, constituted an aggregate of approximately 11% of Citi's revenues in 2019. These relationships could be negatively impacted by, among other things, the general economic environment, declining sales and revenues or other operational difficulties of the retailer or merchant, termination due to a contractual breach by Citi or by the retailer or merchant, or other factors, including bankruptcies, liquidations, restructurings, consolidations or other similar events.

Over the last several years, a number of U.S. retailers have continued to experience declining sales, which has resulted in significant numbers of store closures and, in a number of cases, bankruptcies, as retailers attempt to cut costs and reorganize. For example, despite its exit from bankruptcy in 2019, Sears continues to close stores and experience declining sales. In addition, as has been widely reported, competition among card issuers, including Citi, for these relationships is significant, and it has become increasingly difficult in recent years to maintain such relationships on the same terms or at all.

While various mitigating factors could be available to Citi if any of the above events were to occur—such as by replacing the retailer or merchant or offering other card products—these events, particularly bankruptcies or liquidations, could negatively impact the results of operations or financial condition of Citi-branded cards, Citi retail services or Citi as a whole, including as a result of loss of revenues, increased expenses, higher cost of credit, impairment of purchased credit card relationships and contract-related intangibles or other losses.

Citi's Inability in Its Resolution Plan Submissions to Address Any Shortcomings or Deficiencies Identified or Guidance Provided by the FRB and FDIC Could Subject Citi to More Stringent Capital, Leverage or Liquidity Requirements, or Restrictions on Its Growth, Activities or Operations, and Could Eventually Require Citi to Divest Assets or Operations.

Title I of the Dodd-Frank Act requires Citi to prepare and submit a plan to the FRB and the FDIC for the orderly resolution of Citigroup (the bank holding company) and its significant legal entities under the U.S. Bankruptcy Code in the event of future material financial distress or failure. On December 17, 2019, the FRB and FDIC issued feedback on the resolution plans filed on July 1, 2019 by the eight U.S. GSIBs, including Citi. The FRB and FDIC identified one shortcoming, but no deficiencies, in Citi's resolution plan relating to governance mechanisms. For additional information on Citi's resolution plan submissions, see "Managing Global Risk—Liquidity Risk" below.

Under Title I, if the FRB and the FDIC jointly determine that Citi's resolution plan is not "credible" (which, although not defined, is generally believed to mean the regulators do not believe the plan is feasible or would otherwise allow the regulators to resolve Citi in a way that protects systemically important functions without severe systemic disruption), or would not facilitate an orderly resolution of Citi under the U.S. Bankruptcy Code, and Citi fails to resubmit a resolution plan that remedies any identified deficiencies, Citi could be subjected to more stringent capital, leverage or liquidity requirements, or restrictions on its growth, activities or operations. If within two years from the imposition of any requirements or restrictions Citi has still not remediated any identified deficiencies, then Citi could eventually be required to divest certain assets or operations. Any such restrictions or actions would negatively impact Citi's reputation, market and investor perception, operations and strategy.

Citi's Performance and the Performance of Its Individual Businesses Could Be Negatively Impacted if Citi Is Not Able to Effectively Compete for Highly Qualified Employees.

Citi's performance and the performance of its individual businesses largely depends on the talents and efforts of its diverse and highly skilled employees. Specifically, Citi's continued ability to compete in its businesses, to manage its businesses effectively and to continue to execute its overall global strategy depends on its ability to attract new employees and to retain and motivate its existing employees. If Citi is unable to continue to attract and retain the most highly qualified employees, Citi's performance, including its competitive position, the successful execution of its overall strategy and its results of operations could be negatively impacted.

Citi's ability to attract and retain employees depends on numerous factors, some of which are outside of its control. For example, the banking industry generally is subject to more comprehensive regulation of executive and employee compensation than other industries, including deferral and clawback requirements for incentive compensation. Citi often competes in the market for talent with entities that are not subject to such comprehensive regulatory requirements on the structure of incentive compensation, including, among others, technology companies. Other factors that could impact Citi's ability to attract and retain employees include its culture and the management and leadership of the Company as well as its individual businesses, presence in the particular market or region at issue and the professional opportunities it offers.

Financial Services Companies and Others as well as Emerging Technologies Pose Increasingly Competitive Challenges to Citi.

Citi operates in an increasingly competitive environment, which includes both financial and non-financial services firms, such as traditional banks, online banks, financial technology companies and others. These companies compete on the basis of, among other factors, size, quality and type of products and services offered, price, technology and reputation. Emerging technologies have the potential to intensify competition and accelerate disruption in the financial services industry.

Citi competes with financial services companies in the U.S. and globally that continue to develop and introduce new products and services. In recent years, non-financial services firms, such as financial technology companies, have begun to offer services traditionally provided by financial institutions, such as Citi. These firms attempt to use technology and mobile platforms to enhance the ability of companies and individuals to borrow money, save and invest. To the extent that Citi is not able to compete effectively with these and other firms, Citi could be placed at a competitive disadvantage, which could result in loss of customers and market share, and its businesses, results of operations and financial condition could suffer. For additional information on Citi's competitors, see the co-brand and private label cards risk factor above.

OPERATIONAL RISKS

A Disruption of Citi's Operational Systems Could Negatively Impact Citi's Reputation, Customers, Clients, Businesses or Results of Operations and Financial Condition.

A significant portion of Citi's operations relies heavily on the secure processing, storage and transmission of confidential data and other information as well as the monitoring of a large number of complex transactions on a minute-by-minute basis. For example, through *GCB* and treasury and trade solutions and securities services businesses in *ICG*, Citi obtains and stores an extensive amount of personal and client-specific information for its retail, corporate and governmental customers and clients and must accurately record and reflect their extensive account transactions.

With the evolving proliferation of new technologies and the increasing use of the internet, mobile devices and cloud technologies to conduct financial transactions, large global financial institutions such as Citi have been, and will continue to be, subject to an increasing risk of operational disruption or cyber or information security incidents from these activities (for additional information, see the cybersecurity risk factor below). These incidents are unpredictable and can arise from numerous sources, not all of which are in Citi's control, including, among others, human error, fraud or malice on the part of employees, accidental technological failure, electrical or telecommunication outages, failures of computer servers or other similar damage to Citi's property or assets. These issues can also arise as a result of failures by third parties with which Citi does business, such as failures by internet, mobile technology and cloud service providers or other vendors to adequately safeguard their systems and prevent system disruptions or cyber attacks.

Such events could cause interruptions or malfunctions in the operations of Citi (such as the temporary loss of availability of Citi's online banking system or mobile banking platform), as well as the operations of its clients, customers or other third parties. Given Citi's global footprint and the high volume of transactions processed by Citi, certain errors or actions may be repeated or compounded before they are discovered and rectified, which would further increase these costs and consequences. Any such events could also result in financial losses as well as misappropriation, corruption or loss of confidential and other information or assets, which could negatively impact Citi's reputation, customers, clients, businesses or results of operations and financial condition, perhaps significantly.

Citi's and Third Parties' Computer Systems and Networks Have Been, and Will Continue to Be, Susceptible to an Increasing Risk of Continually Evolving, Sophisticated Cybersecurity Activities That Could Result in the Theft, Loss, Misuse or Disclosure of Confidential Client or Customer Information, Damage to Citi's Reputation, Additional Costs to Citi, Regulatory Penalties, Legal Exposure and Financial Losses.

Citi's computer systems, software and networks are subject to ongoing cyber incidents such as unauthorized access, loss or destruction of data (including confidential client information), account takeovers, unavailability of service, computer viruses or other malicious code, cyber attacks and other similar events. These threats can arise from external parties, including cyber criminals, cyber terrorists, hacktivists and nation state actors, as well as insiders who knowingly or unknowingly engage in or enable malicious cyber activities.

Third parties with which Citi does business, as well as retailers and other third parties with which Citi's customers do business, may also be sources of cybersecurity risks, particularly where activities of customers are beyond Citi's security and control systems. For example, Citi outsources certain functions, such as processing customer credit card transactions, uploading content on customer-facing websites and developing software for new products and services. These relationships allow for the storage and processing of customer information by third-party hosting of or access to Citi websites, which could lead to compromise or the potential to introduce vulnerable or malicious code, resulting in security breaches impacting Citi customers. Furthermore, because financial institutions are becoming increasingly interconnected with central agents, exchanges and clearing houses, including as a result of the derivatives reforms over the last few years, Citi has increased exposure to cyber attacks through third parties. While many of Citi's agreements with the third parties include indemnification provisions, Citi may not be able to recover sufficiently, or at all, under the provisions to adequately offset any losses Citi may incur from third-party cyber incidents.

Citi has been subject to intentional cyber incidents from external sources over the last several years, including (i) denial of service attacks, which attempted to interrupt service to clients and customers, (ii) data breaches, which obtained unauthorized access to customer account data and (iii) malicious software attacks on client systems, which attempted to allow unauthorized entrance to Citi's systems under the guise of a client and the extraction of client data. While Citi's monitoring and protection services were able to detect and respond to the incidents targeting its systems before they became significant, they still resulted in limited losses in some instances as well as increases in expenditures to monitor against the threat of similar future cyber incidents. There can be no assurance that such cyber incidents will not occur again, and they could occur more frequently and on a more significant scale.

Further, although Citi devotes significant resources to implement, maintain, monitor and regularly upgrade its systems and networks with measures such as intrusion detection and prevention and firewalls to safeguard critical business applications, there is no guarantee that these measures or any other measures can provide absolute security. Because the methods used to cause cyber attacks change frequently or, in some cases, are not recognized until launched or even later, Citi may be unable to implement effective preventive measures or proactively address these methods until they are discovered. In addition, given the evolving nature of cyber threat actors and the frequency and sophistication of the cyber activities they carry out, the determination of the severity and potential impact of a cyber incident may not occur for a substantial period until after the incident has been discovered. Also, while Citi engages in certain actions to reduce the exposure resulting from outsourcing, such as performing security control assessments of third-party vendors and limiting third-party access to the least privileged level necessary to perform job functions, these actions cannot prevent all third-party-related cyber attacks or data breaches.

Cyber incidents can result in the disclosure of personal, confidential or proprietary customer or client information, damage to Citi's reputation with its clients and the market, customer dissatisfaction and additional costs to Citi, including expenses such as repairing systems, replacing customer payment cards, credit monitoring or adding new personnel or protection technologies. Regulatory penalties, loss of revenues, exposure to litigation and other financial losses, including loss of funds, to both Citi and its clients and customers and disruption to Citi's operational systems could also result from cyber incidents (for additional information on the potential impact of operational disruptions, see the operational systems risk factor above). Moreover, the increasing risk of cyber incidents has resulted in increased legislative and regulatory scrutiny of firms' cybersecurity protection services and calls for additional laws and regulations to further enhance protection of consumers' personal data.

While Citi maintains insurance coverage that may, subject to policy terms and conditions including significant self-insured deductibles, cover certain aspects of cyber risks, such insurance coverage may be insufficient to cover all losses.

For additional information about Citi's management of cybersecurity risk, see "Managing Global Risk—Operational Risk—Cybersecurity Risk" below.

Changes to or Incorrect Assumptions, Judgments or Estimates in Citi's Financial Statements Could Cause Significant Unexpected Losses or Impacts in the Future.

U.S. GAAP requires Citi to use certain assumptions, judgments and estimates in preparing its financial statements, including the estimate of the allowance for credit losses, reserves related to litigation, regulatory and tax matters exposures, valuation of DTAs and the fair values of certain assets and liabilities, among other items. If Citi's assumptions, judgments or estimates underlying its financial statements are incorrect or differ from actual or subsequent events, Citi could experience unexpected losses or other adverse impacts, some of which could be significant. For example, Citi has incurred losses related to its foreign operations that are reported in the foreign currency translation adjustment (CTA) components of *Accumulated other comprehensive income (loss) (AOCI)*. In accordance with U.S. GAAP, a sale or substantial liquidation of any foreign operations, such as those related to Citi's legacy businesses, would result in reclassification of any foreign CTA component of *AOCI* related to that foreign operation, including related hedges and taxes, into Citi's earnings. For additional information on Citi's accounting policy for foreign currency translation and its foreign CTA components of *AOCI*, see Notes 1 and 19 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

In addition, changes to financial accounting or reporting standards or interpretations, whether promulgated or required by the Financial Accounting Standards Board (FASB) or other regulators, could present operational challenges and could also require Citi to change certain of the assumptions or estimates it previously used in preparing its financial statements, which could negatively impact how it records and reports its financial condition and results of operations generally and/or with respect to particular businesses (see the changes to financial accounting and reporting standards risk factor below). For additional information on the key areas for which assumptions and estimates are used in preparing Citi's financial statements, see Notes 1 and 27 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

Changes to Financial Accounting and Reporting Standards or Interpretations Could Have a Material Impact on How Citi Records and Reports Its Financial Condition and Results of Operations.

Periodically, the FASB issues financial accounting and reporting standards that may govern key aspects of Citi's financial statements or interpretations thereof when those standards become effective, including those areas where Citi is required to make assumptions or estimates. For example, the FASB's new accounting standard on credit losses (CECL), which became effective for Citi on January 1, 2020, requires earlier recognition of credit losses on loans and held-to-maturity securities and other financial assets. The CECL methodology requires that lifetime "expected credit losses" be recorded at the time the financial asset is originated or acquired. The expected credit losses are adjusted each period for changes in expected lifetime credit losses. The CECL methodology replaces the multiple existing impairment models under U.S. GAAP that generally required that a loss be "incurred" before it was recognized. The CECL methodology represents a significant change from existing GAAP and may result in material changes to Citi's accounting for financial instruments. Citi's ongoing estimates of its expected credit losses will depend upon its CECL models and assumptions, existing and forecasted macroeconomic conditions and the credit quality, composition and other characteristics of Citi's loan and other applicable portfolios. These factors are likely to cause variability in Citi's expected credit losses under CECL compared to previous GAAP and, thus, impact its results of operations and regulatory capital. For additional information on this and other accounting standards, including the expected impacts on Citi's results of operations and financial condition, see Note 1 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

Citi May Incur Significant Losses and Its Regulatory Capital and Capital Ratios Could Be Negatively Impacted if Its Risk Management Processes, Strategies or Models Are Deficient or Ineffective.

Citi utilizes a broad and diversified set of risk management and mitigation processes and strategies, including the use of risk models in analyzing and monitoring the various risks Citi assumes in conducting its activities. For example, Citi uses models as part of its comprehensive stress testing initiatives across Citi. Citi also relies on data to aggregate, assess and manage various risk exposures. Management of these risks is made even more challenging within a global financial institution such as Citi, particularly given the complex, diverse and rapidly changing financial markets and conditions in which Citi operates as well as that losses can occur from untimely, inaccurate or incomplete processes caused by unintentional human error.

These processes, strategies and models are inherently limited because they involve techniques, including the use of historical data in many circumstances, assumptions and judgments that cannot anticipate every economic and financial outcome in the markets in which Citi operates, nor can they anticipate the specifics and timing of such outcomes. Citi could incur significant losses, and its regulatory capital and capital ratios could be negatively impacted, if Citi's risk management processes, including its ability to manage and aggregate data in a timely and accurate manner, strategies or models are deficient or ineffective. Such deficiencies or ineffectiveness could also result in inaccurate financial, regulatory or risk reporting.

Moreover, Citi's Basel III regulatory capital models, including its credit, market and operational risk models, currently remain subject to ongoing regulatory review and approval, which may result in refinements, modifications or enhancements (required or otherwise) to these models. Modifications or requirements resulting from these ongoing reviews, as well as any future changes or guidance provided by the U.S. banking agencies regarding the regulatory capital framework applicable to Citi, have resulted in, and could continue to result in, significant changes to Citi's risk-weighted assets. These changes can negatively impact Citi's capital ratios and its ability to achieve its regulatory capital requirements as it projects or as required.

CREDIT RISKS

Credit Risk and Concentrations of Risk Can Increase the Potential for Citi to Incur Significant Losses.

Credit risk arises from Citi's lending and other businesses in both GCB and ICG. Citi has credit exposures to counterparties in the U.S. and various countries and jurisdictions globally, including end-of-period consumer loans of $310 billion and end-of-period corporate loans of $390 billion at year-end 2019. A default by a borrower or other counterparty, or a decline in the credit quality or value of any underlying collateral, exposes Citi to credit risk. Despite Citi's target client strategy, various macroeconomic, geopolitical and other factors, among other things, can increase Citi's credit risk and credit costs (for additional information, see the co-branding and private label credit card, macroeconomic challenges and uncertainties and emerging markets risk factors above).

While Citi provides reserves for expected losses for its credit exposures, such reserves are subject to judgments and estimates that could be incorrect or differ from actual future events. Under the new CECL accounting standard, the allowance for credit losses reflects expected losses, rather than incurred losses, which could lead to more volatility in the allowance and the provision for credit losses as forecasts of economic conditions change. In addition, Citi's future allowance may be affected by seasonality of its cards portfolios based on historical evidence showing that (i) credit card balances along with 30+ days past due balances increase during the third and fourth quarters each year as the holiday season approaches; and (ii) during the first and second quarters, borrowers use tax refunds to pay down balances while delinquent balances from the prior third and fourth quarters are charged off. For additional information, see the incorrect assumptions or estimates and changes to financial accounting and reporting standards risk factors above. For additional information on the impact of CECL, see Note 1 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K. For additional information on Citi's credit risk, see "Managing Global Risk—Credit Risk" and "Managing Global Risk—Strategic Risk" below and Note 14 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

Concentrations of risk, particularly credit and market risks, can also increase Citi's risk of significant losses. As of year-end 2019, Citi's most significant concentration of credit risk was with the U.S. government and its agencies, which primarily results from trading assets and investments issued by the U.S. government and its agencies (for additional information, including concentrations of credit risk to other public sector entities, see Note 23 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K). In addition, Citi routinely executes a high volume of securities, trading, derivative and foreign exchange transactions with non-U.S. sovereigns and with counterparties in the financial services industry, including banks, insurance companies, investment banks, governments, central banks and other financial institutions. Moreover, Citi has indemnification obligations in connection with various transactions that expose it to concentrations of risk, including credit risk from hedging or reinsurance arrangements related to those obligations (for additional information about these exposures, see Note 26 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K). A rapid deterioration of a large borrower or other counterparty or within a sector or country where Citi has large exposures or guarantees or unexpected market dislocations could cause Citi to incur significant losses.

LIQUIDITY RISKS

The Maintenance of Adequate Liquidity and Funding Depends on Numerous Factors, Including Those Outside of Citi's Control, Such as Market Disruptions and Increases in Citi's Credit Spreads.

As a global financial institution, adequate liquidity and sources of funding are essential to Citi's businesses. Citi's liquidity and sources of funding can be significantly and negatively impacted by factors it cannot control, such as general disruptions in the financial markets, governmental fiscal and monetary policies, regulatory changes or negative investor perceptions of Citi's creditworthiness, unexpected increases in cash or collateral requirements and the inability to monetize available liquidity resources. Citi competes with other banks and financial institutions for deposits, which represent Citi's most stable and lowest cost of long-term funding. The competition for retail banking deposits has increased as a result of online banks and digital banking, among others. Furthermore, given the decline in interest rates, a growing number of customers have transferred deposits to other products, including investments and interest-bearing accounts, and/or other financial institutions. This, along with slower growth in deposits, has resulted in a more challenging environment for Citi. For additional information on the impact of interest rates, see the macroeconomic challenges and uncertainties risk factor above.

Moreover, Citi's costs to obtain and access secured funding and long-term unsecured funding are directly related to its credit spreads. Changes in credit spreads are driven by both external market factors and factors specific to Citi, and can be highly volatile. For additional information on Citi's primary sources of funding, see "Managing Global Risk—Liquidity Risk" below.

Citi's ability to obtain funding may be impaired if other market participants are seeking to access the markets at the same time, or if market appetite declines, as is likely to occur in a liquidity stress event or other market crisis. A sudden drop in market liquidity could also cause a temporary or lengthier dislocation of underwriting and capital markets activity. In addition, clearing organizations, central banks, clients and financial institutions with which Citi interacts may exercise the right to require additional collateral based on their perceptions or the market conditions, which could further impair Citi's access to and cost of funding.

As a holding company, Citi relies on interest, dividends, distributions and other payments from its subsidiaries to fund dividends as well as to satisfy its debt and other obligations. Several of Citi's U.S. and non-U.S. subsidiaries are or may be subject to capital adequacy or other regulatory or contractual restrictions on their ability to provide such payments, including any local regulatory stress test requirements. Limitations on the payments that Citi receives from its subsidiaries could also impact its liquidity.

The Credit Rating Agencies Continuously Review the Credit Ratings of Citi and Certain of Its Subsidiaries, and a Ratings Downgrade Could Have a Negative Impact on Citi's Funding and Liquidity Due to Reduced Funding Capacity and Increased Funding Costs, Including Derivatives Triggers That Could Require Cash Obligations or Collateral Requirements.

The credit rating agencies, such as Fitch, Moody's and S&P, continuously evaluate Citi and certain of its subsidiaries. Their ratings of Citi and its more significant subsidiaries' long-term/senior debt and short-term/commercial paper are based on a number of factors, including standalone financial strength, as well as factors that are not entirely within the control of Citi and its subsidiaries, such as the agencies' proprietary rating methodologies and assumptions, and conditions affecting the financial services industry and markets generally.

Citi and its subsidiaries may not be able to maintain their current respective ratings. A ratings downgrade could negatively impact Citi's ability to access the capital markets and other sources of funds as well as the costs of those funds, and its ability to maintain certain deposits. A ratings downgrade could also have a negative impact on Citi's funding and liquidity due to reduced funding capacity and the impact from derivative triggers, which could require Citi to meet cash obligations and collateral requirements. In addition, a ratings downgrade could have a negative impact on other funding sources such as secured financing and other margined transactions for which there may be no explicit triggers, and on contractual provisions and other credit requirements of Citi's counterparties and clients that may contain minimum ratings thresholds in order for Citi to hold third-party funds. Some entities could have ratings limitations on their permissible counterparties, of which Citi may or may not be aware.

Furthermore, a credit ratings downgrade could have impacts that may not be currently known to Citi or are not possible to quantify. Certain of Citi's corporate customers and trading counterparties, among other clients, could re-evaluate their business relationships with Citi and limit the trading of certain contracts or market instruments with Citi in response to ratings downgrades. Changes in customer and counterparty behavior could impact not only Citi's funding and liquidity but also the results of operations of certain Citi businesses. For additional information on the potential impact of a reduction in Citi's or Citibank's credit ratings, see "Managing Global Risk—Liquidity Risk" below.

COMPLIANCE RISKS

Ongoing Interpretation and Implementation of Regulatory and Legislative Requirements and Changes in the U.S. and Globally Have Increased Citi's Compliance and Other Risks and Costs.

Citi is continually required to interpret and implement extensive and frequently changing regulatory and legislative requirements, resulting in substantial compliance, regulatory and other risks and costs. In addition, there are heightened regulatory scrutiny and expectations in the U.S. and globally for large financial institutions, as well as their employees and agents, with respect to, among other things, governance, risk management practices and controls. A failure to comply with these requirements and expectations or resolve any identified deficiencies could result in increased regulatory oversight and restrictions.

Over the past several years, Citi has been required to implement a significant number of regulatory and legislative changes across all of its businesses and functions, and these changes continue. The changes themselves may be complex and subject to interpretation, and will require continued investments in Citi's global operations and technology solutions. In some cases, Citi's implementation of a regulatory or legislative requirement is occurring simultaneously with changing or conflicting regulatory guidance, legal challenges or legislative action to modify or repeal existing rules or enact new rules. Moreover, in some cases, there have been entirely new regulatory or legislative requirements or regimes, resulting in large volumes of regulation and potential uncertainty regarding regulatory expectations as to what is required in order to be in compliance.

Examples of regulatory or legislative changes that have resulted in increased compliance risks and costs include (i) a proliferation of laws relating to the limitation of cross-border data movement and/or collection and use of customer information, including data localization and protection and privacy laws, which also can conflict with or increase compliance complexity with respect to other laws, including anti-money laundering laws; and (ii) the FRB's "total loss absorbing capacity" (TLAC) requirements, including, among other things, consequences of a breach of the clean holding company requirements, given there are no cure periods for the requirements.

Increased and ongoing compliance requirements and uncertainties have resulted in higher costs for Citi. For example, Citi employed roughly 30,000 risk, regulatory and compliance staff as of year-end 2019, out of a total employee population of 200,000, compared to approximately 14,000 as of year-end 2008 with a total employee population of 323,000. These higher compliance costs can require management to incur additional expense, including potentially away from ongoing business investment initiatives.

Extensive and changing compliance requirements can also result in increased reputational and legal risks for Citi, as failure to comply with regulations and requirements, or failure to comply with regulatory expectations, can result in enforcement and/or regulatory proceedings (for additional discussion, see the legal and regulatory proceedings risk factor below).

Citi Is Subject to Extensive Legal and Regulatory Proceedings, Examinations, Investigations and Inquiries That Could Result in Significant Penalties and Other Negative Impacts on Citi, Its Businesses and Results of Operations.

At any given time, Citi is defending a significant number of legal and regulatory proceedings and is subject to numerous governmental and regulatory examinations, investigations and other inquiries. The global judicial, regulatory and political environment has generally been challenging for large financial institutions. The complexity of the federal and state regulatory and enforcement regimes in the U.S., coupled with the global scope of Citi's operations, also means that a single event or issue may give rise to a large number of overlapping investigations and regulatory proceedings, either by multiple federal and state agencies and authorities in the U.S. or by multiple regulators and other governmental entities in different jurisdictions, as well as multiple civil litigation claims in multiple jurisdictions. Citi can be subject to enforcement proceedings not only because of violations of law and regulation, but also due to a failure, as determined by its regulators, to have adequate policies and procedures, or to remedy deficiencies on a timely basis.

U.S. and non-U.S. regulators have been increasingly focused on "conduct risk," a term used to describe the risks associated with behavior by employees and agents, including third parties, that could harm clients, customers or the integrity of the markets, such as improperly creating, selling, marketing or managing products and services or improper incentive compensation programs with respect thereto, failures to safeguard a party's personal information, or failures to identify and manage conflicts of interest. In addition to the greater focus on conduct risk, the heightened scrutiny and expectations generally from regulators could lead to investigations and other inquiries, as well as remediation requirements, more regulatory or other enforcement proceedings, civil litigation and higher compliance and other risks and costs.

Further, while Citi takes numerous steps to prevent and detect conduct by employees and agents that could potentially harm clients, customers or the integrity of the markets, such behavior may not always be deterred or prevented. Banking regulators have also focused on the overall culture of financial services firms, including Citi. In addition to regulatory restrictions or structural changes that could result from perceived deficiencies in Citi's culture, such focus could also lead to additional regulatory proceedings.

In addition, the severity of the remedies sought in legal and regulatory proceedings to which Citi is subject has remained elevated. U.S. and certain international governmental entities have increasingly brought criminal actions against, or have sought criminal convictions from, financial institutions and individual employees, and criminal prosecutors in the U.S. have increasingly sought and obtained criminal guilty pleas or deferred prosecution agreements against corporate entities and individuals and other criminal sanctions from those institutions and individuals. These types of actions by U.S. and international governmental entities may, in the future, have significant collateral consequences for a financial institution, including loss of customers and business, and the inability to offer certain products or services and/or operate certain businesses. Citi may be required to accept or be subject to similar types of criminal remedies, consent orders, sanctions, substantial fines and penalties, remediation and other financial costs or other requirements in the future, including for matters or practices not yet known to Citi, any of which could materially and negatively affect Citi's businesses, business practices, financial condition or results of operations, require material changes in Citi's operations or cause Citi reputational harm.

Further, many large claims—both private civil and regulatory—asserted against Citi are highly complex, slow to develop and may involve novel or untested legal theories. The outcome of such proceedings is difficult to predict or estimate until late in the proceedings. Although Citi establishes accruals for its legal and regulatory matters according to accounting requirements, Citi's estimates of, and changes to, these accruals involve significant judgment and may be subject to significant uncertainty, and the amount of loss ultimately incurred in relation to those matters may be substantially higher than the amounts accrued. In addition, certain settlements are subject to court approval and may not be approved.

For additional information relating to Citi's legal and regulatory proceedings and matters, including Citi's policies on establishing legal accruals, see Note 27 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

MANAGING GLOBAL RISK

Overview

For Citi, effective risk management is of primary importance to its overall operations. Accordingly, Citi's risk management process has been designed to monitor, evaluate and manage the principal risks it assumes in conducting its activities. Specifically, the activities that Citi engages in, and the risks those activities generate, must be consistent with Citi's mission and value proposition, the key principles that guide it and Citi's risk appetite.

Risk management must be built on a foundation of ethical culture. Under Citi's mission and value proposition, which was developed by its senior leadership and distributed throughout the Company, Citi strives to serve its clients as a trusted partner by responsibly providing financial services that enable growth and economic progress while earning and maintaining the public's trust by constantly adhering to the highest ethical standards. As such, Citi asks all employees to ensure that their decisions pass three tests: they are in Citi's clients' interests, create economic value and are always systemically responsible. In addition, Citi evaluates employees' performance against behavioral expectations set out in Citi's leadership standards, which were designed in part to effectuate Citi's mission and value proposition. Other culture-related efforts in connection with conduct risk, ethics and leadership, escalation and treating customers fairly help Citi to execute its mission and value proposition.

Citi's Company-wide risk governance framework consists of the key policies, standards and processes through which Citi identifies, assesses, measures, monitors and controls risks across the Company. It also emphasizes Citi's risk culture and lays out standards, procedures and programs that are designed to set, reinforce and enhance the Company's risk culture, integrate its values and conduct expectations into the organization, providing employees with tools to assist them with making prudent and ethical risk decisions and to escalate issues appropriately.

Citi selectively takes risks in support of its underlying customer-centric strategy. Citi's objective is to ensure that those risks are consistent with its mission and value proposition and principle of responsible finance; that they are identified, assessed, measured, monitored and controlled; and that they are captured in Citi's risk/reward assessment.

Citi's risk appetite framework, which is approved by the Citigroup Board of Directors, includes both a risk appetite statement, which articulates the aggregate level and types of risk that Citi is willing to accept in order to achieve its business objectives, as well as the overall approach through which risk appetite is established, communicated and monitored. It is built on quantitative boundaries, which include risk limits or thresholds, and on qualitative principles to guide behavior. Citi's risk appetite framework is comprehensive, incorporating all risks, enterprise-wide and applicable across products, functions and geographies.

Citi's risks are generally categorized and summarized as follows:

- *Credit risk* is the risk of loss resulting from the decline in credit quality or the failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations.
- *Liquidity risk* is the risk that the Company will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without adversely affecting either daily operations or financial conditions of the Company. The risk may be exacerbated by the inability of the Company to access funding sources or monetize assets and the composition of liability funding and liquid assets.
- *Market risk (including price risk and interest rate risk)* is the risk of loss arising from changes in the value of Citi's assets and liabilities resulting from changes in market variables, such as interest rates, exchange rates or credit spreads. Losses can be exacerbated by the negative convexity of positions, as well as the presence of basis or correlation risks.
- *Operational risk* is the risk of loss resulting from inadequate or failed internal processes, systems, human factors or from external events. It includes the reputation and franchise risk impact associated with business practices or market conduct in which Citi is involved. It also includes the risk of failing to comply with applicable laws and regulations, but excludes strategic risk (see below).
- *Compliance risk* is the risk to current or projected financial conditions and resilience arising from violations of laws, rules or regulations, or from non-conformance with prescribed practices, internal policies and procedures or ethical standards. It also includes the exposure to litigation (known as legal risk) from all aspects of banking, traditional and nontraditional. Compliance risk spans across all risk types outlined in the risk governance framework.
- *Reputational risk* is the risk to current or projected financial conditions and resilience arising from negative public opinion.
- *Strategic risk* is the risk to current or anticipated earnings, capital, or franchise or enterprise value arising from poor but authorized business decisions (in compliance with regulations, policies and procedures), an inability to adapt to changes in the operating environment or other external factors that may impair the ability to carry out a business strategy. Strategic risk also includes:
    - *Country risk*, which is the risk that an event in a country (precipitated by developments within or external to a country) will impair the value of Citi's franchise or will adversely affect the ability of obligors within that country to honor their obligations. Country risk events may include sovereign defaults, banking crises, currency crises, currency convertibility and/or transferability restrictions or political events.

Citi manages its risks through a "three lines of defense" model: (i) business management; (ii) Independent Risk Management and Independent Compliance Risk Management and other control functions; and (iii) Internal Audit. The three lines of defense collaborate with each other in structured forums and processes to bring together various perspectives and to lead the organization toward outcomes that are in clients' interests, that create economic value and that are systemically responsible.

CREDIT RISK

Overview

Credit risk is the risk of loss resulting from the decline in credit quality or the failure of a borrower, counterparty, third party or issuer to honor its financial or contractual obligations. Credit risk arises in many of Citigroup's business activities, including:

- consumer, commercial and corporate lending;
- capital markets derivative transactions;
- structured finance; and
- securities financing transactions (repurchase and reverse repurchase agreements, and securities loaned and borrowed).

Credit risk also arises from settlement and clearing activities, when Citi transfers an asset in advance of receiving its counter-value or advances funds to settle a transaction on behalf of a client. Concentration risk, within credit risk, is the risk associated with having credit exposure concentrated within a specific client, industry, region or other category.

Credit risk is one of the most significant risks Citi faces as an institution. For additional information, see "Risk Factors—Credit Risk" above. As a result, Citi has a well-established framework in place for managing credit risk across all businesses. This includes a defined risk appetite, credit limits and credit policies, both at the business level as well as at the Company-wide level. Citi's credit risk management also includes processes and policies with respect to problem recognition, including "watch lists," portfolio reviews, stress tests, updated risk ratings and classification triggers.

With respect to Citi's settlement and clearing activities, intraday client usage of lines is monitored against limits, as well as against usage patterns. To the extent that a problem develops, Citi typically moves the client to a secured (collateralized) operating model. Generally, Citi's intraday settlement and clearing lines are uncommitted and cancellable at any time.

To manage concentration of risk within credit risk, Citi has in place a correlation framework consisting of industry limits, an idiosyncratic framework consisting of single name concentrations for each business and across Citigroup and a specialized framework consisting of product limits.

Credit exposures are generally reported in notional terms for accrual loans, reflecting the value at which the loans as well as loan and other off-balance sheet commitments are carried on the Consolidated Balance Sheet. Credit exposure arising from capital markets activities is generally expressed as the current mark-to-market, net of margin, reflecting the net value owed to Citi by a given counterparty.

The credit risk associated with these credit exposures is a function of the idiosyncratic creditworthiness of the obligor, as well as the terms and conditions of the specific obligation. Citi assesses the credit risk associated with its credit exposures on a regular basis through its loan loss reserve process, as well as through regular stress testing at the company, business, geography and product levels. These stress-testing processes typically estimate potential incremental credit costs that would occur as a result of either downgrades in the credit quality or defaults of the obligors or counterparties.

LIQUIDITY RISK

Overview

Adequate and diverse sources of funding and liquidity are essential to Citi's businesses. Funding and liquidity risks arise from several factors, many of which are mostly or entirely outside Citi's control, such as disruptions in the financial markets, changes in key funding sources, credit spreads, changes in Citi's credit ratings and macroeconomic, geopolitical and other conditions. For additional information, see "Risk Factors" above.

Citi's funding and liquidity management objectives are aimed at (i) funding its existing asset base, (ii) growing its core businesses, (iii) maintaining sufficient liquidity, structured appropriately, so that Citi can operate under a variety of adverse circumstances, including potential Company-specific and/or market liquidity events in varying durations and severity, and (iv) satisfying regulatory requirements, including, among other things, those related to resolution planning. Citigroup's primary liquidity objectives are established by entity, and in aggregate, across two major categories:

- Citibank (including Citibank Europe plc, Citibank Singapore Ltd. and Citibank (Hong Kong) Ltd.); and
- Citi's non-bank and other entities, including the parent holding company (Citigroup Inc.), Citi's primary intermediate holding company (Citicorp LLC), Citi's broker-dealer subsidiaries (including Citigroup Global Markets Inc., Citigroup Global Markets Ltd. And Citigroup Global Markets Japan Inc.) and other bank and non-bank subsidiaries that are consolidated into Citigroup (including Citibanamex).

At an aggregate Citigroup level, Citi's goal is to maintain sufficient funding in amount and tenor to fully fund customer assets and to provide an appropriate amount of cash and high-quality liquid assets (as discussed below), even in times of stress, in order to meet its payment obligations as they come due. The liquidity risk management framework provides that in addition to the aggregate requirements, certain entities be self-sufficient or net providers of liquidity, including in conditions established under their designated stress tests.

Citi's primary sources of funding include (i) deposits via Citi's bank subsidiaries, which are Citi's most stable and lowest cost source of long-term funding, (ii) long-term debt (primarily senior and subordinated debt) primarily issued at the parent and certain bank subsidiaries, and (iii) stockholders' equity. These sources may be supplemented by short-term borrowings, primarily in the form of secured funding transactions.

As referenced above, Citi's funding and liquidity framework ensures that the tenor of these funding sources is of sufficient term in relation to the tenor of its asset base. The goal of Citi's asset/liability management is to ensure that there is excess liquidity and tenor in the liability structure relative to the liquidity profile of the assets. This reduces the risk that liabilities will become due before assets mature or are monetized. This excess liquidity is held primarily in the form of high-quality liquid assets (HQLA).

Citi's liquidity is managed via a centralized treasury model by Treasury, in conjunction with regional and in-country treasurers with independent oversight provided by Independent Risk Management. Pursuant to this approach, Citi's HQLA are managed with emphasis on asset-liability management and entity-level liquidity adequacy throughout Citi.

The Chief Risk Officer and Citi's CFO co-chair Citi's Asset Liability Management Committee (ALCO), which includes Citi's Treasurer and other senior executives. ALCO, among other things, sets the strategy of the liquidity portfolio and monitors its performance. Significant changes to portfolio asset allocations need to be approved by ALCO.

MARKET RISK

Overview

Market risk is the potential for losses arising from changes in the value of Citi's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices and credit spreads, as well as their implied volatilities. Market risk emanates from both Citi's trading and non-trading portfolios. For additional information on market risk, see "Risk Factors" above.

Each business is required to establish, with approval from Citi's market risk management, a market risk limit framework for identified risk factors that clearly defines approved risk profiles and is within the parameters of Citi's overall risk appetite. These limits are monitored by the Risk organization, Citi's country and business Asset and Liability Committees and the Citigroup Asset and Liability Committee. In all cases, the businesses are ultimately responsible for the market risks taken and for remaining within their defined limits.

Market Risk of Trading Portfolios

Trading portfolios include positions resulting from market-making activities, the CVA relating to derivative counterparties and all associated hedges, fair value option loans and hedges of the loan portfolio within capital markets origination within CGMHI.

The market risk of CGMHI's trading portfolios is monitored using a combination of quantitative and qualitative measures, including, but not limited to:

- factor sensitivities;
- value at risk (VAR); and
- stress testing.

Each trading portfolio across CGMHI's businesses has its own market risk limit framework encompassing these measures and other controls, including trading mandates, new product approval, permitted product lists, and pre-trade approval for larger, more complex and less liquid transactions.

Factor Sensitivities

Factor sensitivities are expressed as the change in the value of a position for a defined change in a market risk factor, such as a change in the value of a U.S. Treasury bill for a one-basis-point change in interest rates. Citi's market risk management, within the Risk organization, works to ensure that factor sensitivities are calculated, monitored and limited for all material risks taken in the trading portfolios.

Value at Risk (VAR)

VAR estimates, at a 99% confidence level, the potential decline in the value of a position or a portfolio under normal market conditions assuming a one-day holding period. VAR statistics, which are based on historical data, can be materially different across firms due to differences in portfolio composition, differences in VAR methodologies and differences in model parameters. As a result, Citi believes VAR statistics can be used more effectively as indicators of trends in risk-taking within a firm, rather than as a basis for inferring differences in risk-taking across firms.

Citi uses a single, independently approved Monte Carlo simulation VAR model (see "VAR Model Review and Validation" below), which has been designed to capture material risk sensitivities (such as first- and second-order sensitivities of positions to changes in market prices) of various asset classes/risk types (such as interest rate, credit spread, foreign exchange, equity and commodity risks). Citi's VAR includes positions that are measured at fair value.

Citi believes its VAR model is conservatively calibrated to incorporate fat-tail scaling and the greater of short-term (approximately the most recent month) and long-term (three years) market volatility. The Monte Carlo simulation involves approximately 450,000 market factors, making use of approximately 350,000 time series, with sensitivities updated daily, volatility parameters updated intra-monthly and correlation parameters updated monthly. The conservative features of the VAR calibration contribute an approximate 26% add-on to what would be a VAR estimated under the assumption of stable and perfectly, normally distributed markets.

The table below presents CGMHI's average and period-end Trading VAR for 2020 and 2019:

In millions of dollars	June 30, 2020	Six Month 2020 Average	June 30, 2019	Six Month 2019 Average
Interest rate	$ 91	$ 88	$ 52	$ 43
Equity	25	47	27	18
Commodity	16	15	19	22
Foreign exchange	5	6	19	16
Covariance adjustment (1)	(44)	(60)	(57)	(49)
Total trading VAR—all market risk factors, including general and specific risk (excluding credit portfolios) (2)	93	96	60	50
Specific risk-only component (3)	(2)	8	2	5
Total trading VAR—general market risk factors only (excluding credit portfolios)	95	88	58	45
Incremental impact of the credit portfolio (4)	3	3	—	(1)
Total trading and credit portfolio VAR	$ 96	$ 99	$ 60	$ 49

(1) Covariance adjustment (also known as diversification benefit) equals the difference between the total VAR and the sum of the VARs tied to each individual risk type. The benefit reflects the fact that the risks within each and across risk types are not perfectly correlated and, consequently, the total VAR on a given day will be lower than the sum of the VARs relating to each individual risk type. The determination of the primary drivers of changes to the covariance adjustment is made by an examination of the impact of both model parameter and position changes.

(2) The total trading VAR includes mark-to-market and certain fair value option trading positions in CGMHI, with the exception of fair value option securities financing agreements with embedded derivatives and all CVA exposures.

(3) The specific risk-only component represents the level of equity and fixed income issuer-specific risk embedded in VAR.

(4) The credit portfolio is composed of mark-to-market positions associated with the CVA relating to derivative counterparties and all associated CVA hedges. FVA and DVA are not included. The credit portfolio also includes certain fair value option securities financing agreements with embedded derivatives and hedges to the leveraged finance pipeline within capital markets origination in CGMHI.

The table below provides the range of market factor VARs associated with CGMHI's total trading VAR, inclusive of specific risk:

	Six Month 2020		Six Month 2019	
In millions of dollars	Low	High	Low	High
Interest rate	$ 33	$ 205	$ 36	$ 57
Equity	18	130	10	49
Commodity	9	23	16	32
Foreign exchange	3	14	6	22
Total trading	$ 42	$ 214	$ 41	$ 68
Total trading and credit portfolio	48	211	41	67

Note: No covariance adjustment can be inferred from the above table as the high and low for each market factor will be from different close-of-business dates.

VAR Model Review and Validation

Generally, Citi's VAR review and model validation process entails reviewing the model framework, major assumptions and implementation of the mathematical algorithm. In addition, as part of the model validation process, product specific back-testing on portfolios is periodically completed and reviewed with Citi's U.S. banking regulators.

Significant VAR model and assumption changes must be independently validated within Citi's risk management organization. This validation process includes a review by model validation group within Citi's Model Risk Management. In the event of significant model changes, parallel model runs are undertaken prior to implementation. In addition, significant model and assumption changes are subject to the periodic reviews and approval by Citi's U.S. banking regulators.

Stress Testing

Citi performs market risk stress testing on a regular basis to estimate the impact of extreme market movements. It is performed on individual positions and trading portfolios, as well as in aggregate, inclusive of multiple trading portfolios. Citi's market risk management, after consultations with the businesses, develops both systemic and specific stress scenarios, reviews the output of periodic stress testing exercises and uses the information to assess the ongoing appropriateness of exposure levels and limits. Citi uses two complementary approaches to market risk stress testing across all major risk factors (i.e., equity, foreign exchange, commodity, interest rate and credit spreads): top-down systemic stresses and bottom-up business-specific stresses. Systemic stresses are designed to quantify the potential impact of extreme market movements on an institution-wide basis, and are constructed using both historical periods of market stress and projections of adverse economic scenarios. Business-specific stresses are designed to probe the risks of particular portfolios and market segments, especially those risks that are not fully captured in VAR and systemic stresses.

The systemic stress scenarios and business-specific stress scenarios at Citi are used in several reports reviewed by senior management and also to calculate internal risk capital for trading market risk. In general, changes in market values are defined over a one-year horizon. For the most liquid positions and market factors, changes in market values are defined over a shorter two-month horizon. The limited set of positions and market factors whose market value changes are defined over a two-month horizon are those that in management's judgment have historically remained very liquid during financial crises, even as the trading liquidity of most other positions and market factors materially declined.

OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed internal processes, systems or human factors, or from external events. It includes risk of failing to comply with applicable laws and regulations, but excludes strategic risk. Operational risk includes the reputation and franchise risk associated with business practices or market conduct in which Citi is involved, as well as compliance, conduct and legal risks.

Operational risk is inherent in Citi's global business activities, as well as related support functions, and can result in losses arising from events associated with the following, among others:

- fraud, theft and unauthorized activity;
- employment practices and workplace environment;
- clients, products and business practices;
- physical assets and infrastructure; and
- execution, delivery and process management.

The Company's goal is to keep operational risk at appropriate levels relative to the characteristics of Citi's businesses, the markets in which it operates, its capital and liquidity and the competitive, economic and regulatory environment.

To anticipate, mitigate and control operational risk, Citi has established policies and a global framework for assessing, monitoring and communicating operational risks and the overall operating effectiveness of the internal control environment across Citigroup. As part of this framework, Citi has defined its operational risk appetite and has established a manager's control assessment (MCA) process (a process through which managers at Citi identify, monitor, measure, report on and manage risks and the related controls) to help managers self-assess significant operational risks and key controls and identify and address weaknesses in the design and/or operating effectiveness of internal controls that mitigate significant operational risks.

Each major business segment must implement an operational risk process consistent with the requirements of this framework. The process for operational risk management includes the following steps:

- identify and assess key operational risks;
- design controls to mitigate identified risks;
- establish key risk indicators;
- implement a process for early problem recognition and timely escalation;
- produce comprehensive operational risk reporting; and
- ensure that sufficient resources are available to actively improve the operational risk environment and mitigate emerging risks.

As new products and business activities are developed, processes are designed, modified or sourced through alternative means and operational risks are considered.

An Operational Risk Management Committee has been established to provide oversight for operational risk across Citigroup and to provide a forum to assess Citi's operational risk profile and ensure actions are taken so that Citi's operational risk exposure is actively managed consistent with Citi's risk appetite. The Committee seeks to ensure that these actions address the root causes that persistently lead to operational risk losses and create lasting solutions to minimize these losses. Members include Citi's Chief Risk Officer and Citi's Head of Operational Risk and senior members of their organizations. These members cover multiple dimensions of risk management and include business and regional Chief Risk Officers and senior operational risk managers.

In addition, risk management, including Operational Risk Management, works proactively with the businesses and other independent control functions to embed a strong operational risk management culture and framework across Citi. Operational Risk Management engages with the businesses to ensure effective implementation of the Operational Risk Management framework by focusing on (i) identification, analysis and assessment of operational risks, (ii) effective challenge of key control issues and operational risks and (iii) anticipation and mitigation of operational risk events.

Information about the businesses' operational risk, historical operational risk losses and the control environment is reported by each major business segment and functional area. The information is summarized and reported to senior management, as well as to the Audit and Risk Committees of Citi's Board of Directors.

Operational risk is measured and assessed through Operational Risk Capital and Operational Risk Regulatory Capital for the Advanced Approaches under Basel III. Projected operational risk losses under stress scenarios are also required as part of the Federal Reserve Board's CCAR process.

For additional information on Citi's operational risks, see "Risk Factors—Operational Risk" above.

Cybersecurity Risk

Cybersecurity risk is the business risk associated with the threat posed by a cyber attack, cyber breach or the failure to protect Citi's most vital business information assets or operations, resulting in a financial or reputational loss (for additional information, see the operational systems and cybersecurity risk factors in "Risk Factors—Operational Risks" above). With an evolving threat landscape, ever-increasing sophistication of cybersecurity attacks and use of new technologies to conduct financial transactions, Citi and its clients, customers and third parties are and will continue to be at risk for cyber attacks and information security incidents. Citi recognizes the significance of these risks and, therefore, employs an intelligence-led strategy to prevent, detect, respond to and recover from cyber attacks. Further, Citi actively participates in financial industry, government and cross-sector knowledge-sharing groups to enhance individual and collective cyber resilience.

Citi's technology and cybersecurity risk management program is built on three lines of defense. Citi's first line of defense under the Office of the Chief Information Security Officer provides frontline business, operational and technical controls and capabilities to protect against cybersecurity risks, and to respond to cyber incidents and data breaches. Citi manages these threats through state-of-the-art Fusion Centers, which serve as central command for monitoring and coordinating responses to cyber threats. The enterprise information security team is responsible for infrastructure defense and security controls, performing vulnerability assessments and third-party information security assessments, employee awareness and training programs and security incident management, in each case working in coordination with a network of information security officers who are embedded within the businesses and functions on a global basis.

Citi's Operational Risk Management-Technology and Cyber (ORM-T/C) and Independent Compliance Risk Management-Technology and Information Security (ICRM-T) groups serve as the second line of defense, and actively evaluate, anticipate and challenge Citi's risk mitigation practices and capabilities. Internal audit serves as the third line of defense and independently provides assurance on how effectively the organization as a whole manages cybersecurity risk. Citi also has multiple senior committees such as the Information Security Risk Committee (ISRC), which governs enterprise-level risk tolerance inclusive of cybersecurity risk.

Citi seeks to proactively identify and remediate technology and cybersecurity risks before they materialize as incidents that negatively affect business operations. Accordingly, the ORM-T/C team independently challenges and monitors capabilities in accordance with Citi's defined Technology and Cyber Risk Appetite statements. To address evolving cybersecurity risks and corresponding regulations, ORM-T/C also monitors cyber legal and regulatory requirements, identifies and defines emerging risks, executes strategic cyber threat assessments, performs new products and initiative reviews, performs data management risk oversight and conducts cyber risk assurance reviews (inclusive of third-party assessments). In addition, ORM-T/C employs tools and oversees and challenges metrics that are both tailored to cybersecurity and technology and aligned with Citi's overall operational risk management framework to effectively track, identify and manage risk.

COMPLIANCE RISK

Compliance risk is the risk to current or projected financial condition and resilience arising from violations of laws or regulations, or from nonconformance with prescribed practices, internal policies and procedures or ethical standards. This risk exposes a bank to fines, civil money penalties, payment of damages and the voiding of contracts. Compliance risk is not limited to risk from failure to comply with consumer protection laws; it encompasses the risk of noncompliance with all laws and regulations, as well as prudent ethical standards and contractual obligations. It also includes the exposure to litigation (known as legal risk) from all aspects of banking, traditional and nontraditional.

Compliance risk spans all risk types in Citi's risk governance framework and the risk categories outlined in the Governance, Risk, Compliance (GRC) taxonomy. Citi seeks to operate with integrity, maintain strong ethical standards and adhere to applicable policies and regulatory and legal requirements. Citi must maintain and execute a proactive Compliance Risk Management (CRM) Policy that is designed to manage compliance risk effectively across Citi, with a view to fundamentally strengthen the compliance risk management culture across the lines of defense, taking into account Citi's risk governance framework and regulatory requirements. Independent Compliance Risk Management's (ICRM) primary objectives are to:

- Maintain and oversee an integrated CRM Policy that facilitates enterprise-wide compliance with local, national or cross-border laws, rules or regulations, Citi's internal policies, standards and procedures and relevant standards of conduct;
- Assess compliance risks and issues across product lines, functions and geographies, supported by globally consistent systems and compliance risk management processes;
- Drive and embed a culture of compliance and control throughout Citi; and
- Provide compliance risk data aggregation and reporting capabilities.

To anticipate, control and mitigate compliance risk, Citi has established the CRM Policy to achieve standardization and centralization of methodologies and processes, and to enable more consistent and comprehensive execution of compliance risk management.

Citi has a commitment, as well as an obligation, to identify, assess and mitigate compliance risks associated with its businesses and functions. ICRM is responsible for oversight of Citi's CRM Policy, while all businesses and global control functions are responsible for managing their compliance risks and operating within the Compliance Risk Appetite.

Citi carries out its objectives and fulfills its responsibilities through the integrated CRM Policy, which is based upon four components: (i) governance and organization; (ii) compliance risk requirements; (iii) processes and activities; and (iv) resources and capabilities. To achieve this, Citi follows these CRM Policy process steps:

- Identifying regulatory changes and performing the impact assessment, as well as capturing and monitoring adherence to existing regulatory requirements.
- Establishing, maintaining and adhering to policies, standards and procedures for the management of compliance risk, in accordance with policy governance requirements.
- Developing and providing training to support the effective execution of roles and responsibilities related to the identification, control, reporting and escalation of matters related to compliance risks.
- Self-assessment (e.g., Managers Control Assessment) of compliance risk.
- ICRM is responsible for independently assessing the management of compliance risks.
- Independently testing and monitoring that Citi is operating within the Compliance Risk Appetite. Identifying instances of non-conformance with laws, regulations, rules and breaches of internal policies.
- Escalating through the appropriate channels, which may include governance forums, the results of monitoring, testing, reporting or other oversight activities that may represent a violation of law, regulation, policy or other significant compliance risk and take reasonable action to see that the matter is appropriately identified, tracked and resolved, including through the issuance of corrective action plans against the first line of defense.

REPUTATIONAL RISK

Citi's reputation is a vital asset in building trust with its stakeholders and Citi is diligent in communicating its corporate values to its employees, customers and investors. To support this, Citi has defined a reputation risk appetite approach. Under this approach, each major business segment has implemented a risk appetite statement and related key indicators to monitor and address weaknesses that may result in significant reputation risks. The approach requires that each business segment or region escalates significant reputation risks that require review or mitigation through its business practice committee or equivalent.

The business practices committees are part of the governance infrastructure that Citi has in place to properly review business activities, sales practices, product design, perceived conflicts of interest and other potential franchise or reputation risks. These committees may also raise potential franchise, reputation or systemic risks for due consideration by the business practices committee at the corporate level. All of these committees, which are composed of Citi's most senior executives, provide the guidance necessary for Citi's business practices to meet the highest standards of professionalism, integrity and ethical behavior consistent with Citi's mission and value proposition.

Further, the responsibility for maintaining Citi's reputation is shared by all employees, who are guided by Citi's code of conduct. Employees are expected to exercise sound judgment and common sense in decisions and actions. They are also expected to promptly and appropriately escalate all issues that present potential franchise, reputation and/or systemic risk.

STRATEGIC RISK

Overview

Citi executive management, with Citi's CEO at the lead, is responsible for the development and execution of Citi's strategy. This strategy is translated into forward-looking plans that are then cascaded across the organization. Strategic risk is monitored through a range of practices: regular Citigroup Board of Director meetings provide strategic external checkpoints where management's progress against executing the plans is assessed and where decisions to refine the strategic direction of the Company are evaluated; Citi's executive management assesses progress against executing the defined plans; CEO reviews, which include a risk assessment of the plans, occur across products, regions and functions to focus on progress against executing the plans; products, regions and functions have internal reviews to assess performance at lower levels across the organization; and specific forums exist to focus on key areas that drive strategic risk such as balance sheet management, the introduction of new or modified products and services and country management, among others. In addition to these day-to-day practices, significant strategic actions, such as mergers, acquisitions or capital expenditures, are reviewed and approved by, or notified to, the Citigroup and Citibank Boards of Directors, as appropriate.

Exit of U.K. from EU

As a result of a 2016 U.K. referendum, Citi has reorganized certain U.K. and EU operations and implemented contingency plans to address the U.K.'s official exit from the EU, which occurred as of January 31, 2020. In addition, Citi has established a formal program with senior-level sponsorship and governance to deliver a coordinated response to the U.K.'s exit.

Until negotiations between the U.K. and the EU are finalized and any exit agreement is ratified, Citi continues to plan for a "hard" exit scenario. Citi's strategy focuses on providing continuity of services to its U.K. and EU clients with minimal disruption. Consequently, Citi has migrated certain business activities to alternative legal entities and branches with appropriate regulatory permissions to carry out such activity, and has established required capabilities in the U.K. and EU. Citi's plans for a U.K. exit from the EU have primarily covered:

- the enhancement of Citi's European bank in Ireland, supported by its substantial European branch network to ensure business continuity for its EU clients;
- the conversion of Citi's banking subsidiary in Germany into Citi's EU investment firm to support broker-dealer activities with EU clients;
- the establishment of a new U.K. consumer bank to focus on servicing consumer business clients in the U.K.; and
- the amendments to existing U.K. legal entities or branches, where required, to ensure continuity of services to U.K. and non-EU clients.

Citi has worked closely with clients, regulators and other relevant stakeholders in the execution of its plans to prepare for the U.K.'s exit from the EU. In addition, Citi continues to monitor macroeconomic scenarios and market events and has been undertaking stress testing to assess potential impacts on its businesses. For additional information, see "Risk Factors—Strategic Risks" above.

LIBOR Transition Risk

Citi recognizes that a transition away from and discontinuance of LIBOR presents risks and challenges that could significantly impact financial markets and market participants, including Citi (for information about Citi's risks from a transition away from and discontinuation of LIBOR or any other benchmark, see "Risk Factors—Strategic Risks" above). Accordingly, Citi has continued its efforts to identify and manage its LIBOR transition risks.

Citi's LIBOR governance and implementation program remains focused on identifying and addressing the LIBOR transition impacts to Citi's clients, operational capabilities and legal and financial contracts, among others. The program operates globally across Citi's businesses and functions and includes active involvement of senior management, oversight by Citi's Asset and Liability Committee and reporting to the Risk Management Committee of Citigroup's Board of Directors. As part of the program, Citi has developed LIBOR transition action plans and associated roadmaps under the following key workstreams: program management; transition strategy and risk management; customer management, including internal communications and training, legal/contract management and product management; financial exposures and risk management; regulatory and industry engagement; operations and technology; and finance, risk, tax and treasury.

During 2019, Citi continued to participate in a number of working groups formed by global regulators, including the Alternative Reference Rates Committee (ARRC) convened by the Federal Reserve Board. These working groups continue to promote and advance development of alternative reference rates and to identify and address potential challenges from any transition to such rates. Citi also continues to engage with and monitor developments involving regulators, financial accounting bodies and others on LIBOR transition matters and relief.

Moreover, Citi has been investing in its systems and infrastructure, as client activity moves away from LIBOR to alternative reference rates. Citi also has continued to identify its LIBOR transition exposures, including existing financial instruments that do not contain contract provisions that adequately contemplate the discontinuance of reference rates and that would require additional negotiation with counterparties. In addition, Citi has begun to mitigate its LIBOR transition exposures by, among other things, using alternative reference rates in certain newly issued financial instruments and products. For example, since early 2019, Citi has issued both preferred stock and benchmark debt referencing the Secured Overnight Financing Rate (SOFR) and updated the LIBOR determination method in its debt documentation with the ARRC recommended fallback language. Citi has also been conducting LIBOR transition-related training for employees.

UNREGISTERED SALES OF EQUITY SECURITIES, REPURCHASES OF EQUITY SECURITIES AND DIVIDENDS

(Extracted from (i) Citigroup's Quarterly Report on Form 10-Q for the fiscal quarter ended 31 March 2020, filed with the U.S. Securities and Exchange Commission on the 4th day of May, 2020, and (ii) Citigroup's Quarterly Report on Form 10-Q for the fiscal quarter ended 30 June 2020, filed with the U.S. Securities and Exchange Commission on the 4th day of August, 2020.)

Unregistered Sales of Equity Securities

None.

Equity Security Repurchases [(1)]

The following table summarizes Citi's common stock repurchases during the three months ended March 31, 2020:

In millions, except per share amounts	Total shares purchased	Average price paid per share	Approximate dollar value of shares that may yet be purchased under the plan or programs
January 2020			
Open market repurchases [(2)]	14.1	$ 78.86	$ 5,745
Employee transactions [(3)]	—	—	N/A
February 2020			
Open market repurchases [(2)]	16.3	74.60	4,531
Employee transactions [(3)]	—	—	N/A
March 2020			
Open market repurchases [(2)]	10.3	57.87	3,930
Employee transactions [(3)]	—	—	N/A
Total for 1Q20 and remaining program balance as of March 31, 2020	40.7	$ 71.83	$ 3,930

(1) As previously announced, on March 15, 2020, Citi joined other major U.S. banks in suspending stock repurchases in light of the COVID-19 pandemic. Through March 31, 2020, Citi returned approximately $57.4 billion in capital over the past three Comprehensive Capital Analysis and Review (CCAR) cycles, including $2.9 billion in stock during the first quarter of 2020. Citi had been approved to return roughly $62.3 billion in capital over the three-year CCAR period ending June 30, 2020. There is no change to Citi's dividend policy.

(2) Represents repurchases under the $17.1 billion 2019 common stock repurchase program (2019 Repurchase Program) that was approved by Citigroup's Board of Directors and announced on June 27, 2019. The 2019 Repurchase Program was part of the planned capital actions included by Citi as part of the 2019 CCAR. Shares repurchased under the 2019 Repurchase Program were added to treasury stock. The 2019 Repurchase Program expires on June 30, 2020.

(3) Consisted of shares added to treasury stock related to (i) certain activity on employee stock option program exercises where the employee delivers existing shares to cover the option exercise, or (ii) under Citi's employee restricted share awards where shares are withheld to satisfy tax requirements.

N/A Not applicable

Equity Security Repurchases [1]

The following table summarizes Citi's common stock repurchases during the three months ended June 30, 2020:

In millions, except per share amounts	Total shares purchased	Average price paid per share	Approximate dollar value of shares that may yet be purchased under the plan or programs
April 2020			
Open market repurchases [2]	—	$ —	$ 3,930
Employee transactions [3]	—	—	N/A
May 2020			
Open market repurchases [2]	—	—	3,930
Employee transactions [3]	—	—	N/A
June 2020			
Open market repurchases [2]	—	—	—
Employee transactions [3]	—	—	N/A
Total for 2Q20 and remaining program balance as of June 30, 2020	—	$ —	$ —

(1) As previously announced, on March 15, 2020, Citi joined other major U.S. banks in suspending stock repurchases in light of the COVID-19 pandemic. There was no change to Citi's dividend policy.

(2) Citi's $17.1 billion 2019 common stock repurchase program (2019 Repurchase Program), which was approved by Citigroup's Board of Directors and announced on June 27, 2019, expired on June 30, 2020. The 2019 Repurchase Program was part of the planned capital actions included by Citi as part of the 2019 CCAR.

(3) Consisted of shares added to treasury stock related to (i) certain activity on employee stock option program exercises where the employee delivers existing shares to cover the option exercise, or (ii) under Citi's employee restricted share awards where shares are withheld to satisfy tax requirements.

N/A Not applicable

Dividends

Consistent with the regulatory capital framework, Citi declared common dividends of $0.51 per share for the third quarter of 2020 on July 23, 2020, and intends to maintain its planned capital actions, which include common dividends of $0.51 per share over the four-quarter window of fourth quarter of 2020 to third quarter of 2021 (the 2020 CCAR cycle), subject to approval of Citi's Board of Directors and the latest financial and macroeconomic conditions.

In addition to Board of Directors' approval, Citi's ability to pay common stock dividends substantially depends on the results of the CCAR process required by the Federal Reserve Board and the supervisory stress tests required under the Dodd-Frank Act. In June 2020, the Federal Reserve Board determined that changes in financial markets and macroeconomic outlooks related to the COVID-19 pandemic could have a material effect on the risk profile and financial condition of each firm subject to its capital plan rule, and therefore require updated capital plans. Accordingly, the Federal Reserve Board is requiring each firm, including Citi, to update and resubmit its capital plan within 45 days after the Federal Reserve Board provides updated scenarios.

Through the end of the third quarter of 2020, the Federal Reserve Board has authorized firms, including Citi, to pay common stock dividends that do not exceed an amount equal to the average of the firm's net income for the four preceding calendar quarters, unless otherwise specified by the Federal Reserve Board, provided that the firm does not exceed the amount of common stock dividends paid in the second quarter of 2020. Citi's common dividends of $0.51 per share during the third quarter of 2020 is not impacted by the Federal Reserve Board's temporary limitations on capital distributions, as Citi's average quarterly net income for the four preceding calendar quarters of $3.4 billion is more than sufficient under the four quarter average net income test.

Any dividend on Citi's outstanding common stock would also need to be made in compliance with Citi's obligations on its outstanding preferred stock.

For information on the ability of Citigroup's subsidiary depository institutions to pay dividends, see Note 18 to the Consolidated Financial Statements in Citi's 2019 Annual Report on Form 10-K.

CITIGROUP GLOBAL MARKETS HOLDINGS INC.
AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS
AS OF JUNE 30, 2020 AND DECEMBER 31, 2019
AND FOR THE SIX MONTHS ENDED
JUNE 30, 2020 AND 2019
(UNAUDITED)

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)

	Six Months Ended June 30,	
In millions of dollars	2020	2019
Revenues:		
Investment banking	$ 2,621	$ 2,052
Principal transactions	3,760	1,469
Commissions and fees	937	779
Fiduciary fees	129	133
Other revenue	157	532
Total non-interest revenues	7,604	4,965
Interest and dividends	3,835	6,776
Interest expense	2,924	5,962
Net interest and dividends	911	814
Total revenues, net of interest expense	8,515	5,779
Operating expenses:		
Compensation and benefits	2,641	2,450
Communications	409	471
Brokerage, clearing and exchange fees	662	588
Professional services	145	123
Occupancy and equipment	114	87
Advertising and market development	54	105
Other operating and administrative expenses	664	895
Total operating expenses	4,689	4,719
Income before income taxes	3,826	1,060
Provision for income taxes	857	272
Net income	$ 2,969	$ 788

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Six Months Ended June 30,	
In millions of dollars	2020	2019
Net income	$ 2,969	$ 788
Add: Other comprehensive income (loss)		
Net change in debt valuation adjustment (DVA), net of taxes	329	(341)
Benefit plans liability adjustment, net of taxes	142	44
Net change in foreign currency translation adjustment, net of taxes	(143)	(4)
Total other comprehensive income (loss)	328	(301)
Total comprehensive income	$ 3,297	$ 487

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF FINANCIAL CONDITION

In millions of dollars		June 30, 2020 (Unaudited)		December 31, 2019
Assets				
Cash and cash equivalents		$ 8,163		$ 7,949
Cash segregated under federal and other regulations		8,494		8,492
Securities borrowed and purchased under agreements to resell (including $171,177 and $151,220 as of June 30, 2020 and December 31, 2019, respectively, at fair value)		246,458		216,983
Trading account assets (including $163,451 and $115,684 pledged to creditors at June 30, 2020 and December 31, 2019, respectively):				
U.S. Treasury and federal agency securities	60,403		17,933	
Foreign government securities	48,394		35,026	
Mortgage-backed securities	42,197		29,987	
Equity securities	33,836		35,315	
Corporate	18,647		17,152	
Derivatives	18,464		15,771	
Asset-backed securities	2,467		2,632	
State and municipal securities	1,003		1,979	
Other trading assets	2,105		2,178	
		227,516		157,973
Securities received as collateral, at fair value (all pledged to counterparties)		5,154		5,872
Receivables:				
Loans to affiliates	49,335		44,617	
Customers	17,166		15,911	
Brokers, dealers and clearing organizations	28,279		19,124	
Other	2,575		2,254	
		97,355		81,906
Goodwill		2,193		2,193
Other assets (including $4,398 and $2,756 as of June 30, 2020 and December 31, 2019, respectively, at fair value)		13,521		13,058
Total assets		$608,854		$494,426

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF FINANCIAL CONDITION

In millions of dollars, except shares		June 30, 2020 (Unaudited)		December 31, 2019
Liabilities				
Short-term borrowings (including $4,947 and $3,998 as of June 30, 2020 and December 31, 2019, respectively, at fair value)		$ 29,058		$ 28,225
Securities loaned and sold under agreements to repurchase (including $59,445 and $40,499 as of June 30, 2020 and December 31, 2019, respectively, at fair value)		250,703		182,054
Trading account liabilities:				
Foreign government securities	30,562		25,681	
Derivatives	23,364		19,505	
U.S. Treasury and federal agency securities	21,659		17,838	
Equity securities	17,592		13,969	
Corporate and other debt securities	9,906		8,216	
		103,083		85,209
Payables and accrued liabilities:				
Customers	48,700		43,766	
Obligations to return securities received as collateral, at fair value	5,777		6,334	
Brokers, dealers and clearing organizations	5,147		2,732	
Other	8,850		7,172	
		68,474		60,004
Long-term debt (including $44,229 and $38,929 as of June 30, 2020 and December 31, 2019, respectively, at fair value)		121,753		106,369
Total liabilities		573,071		461,861
CGMHI stockholder's equity				
Common stock (par value $.01 per share, 1,000 shares authorized; 1,000 shares issued and outstanding)		—		—
Additional paid-in capital		28,624		28,624
Retained earnings		7,835		4,945
Accumulated other comprehensive income (loss) (AOCI)		(677)		(1,005)
Total CGMHI stockholder's equity		35,782		32,564
Noncontrolling interest		1		1
Total equity		35,783		32,565
Total liabilities and equity		$608,854		$494,426

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDER'S EQUITY
(Unaudited)

	Six Months Ended June 30,	
In millions of dollars	2020	2019
Common stock and additional paid-in capital		
Balance, beginning of period	$ 28,624	$ 28,691
Capital contributions from (to) Parent	—	—
Balance, end of period	28,624	28,691
Retained earnings		
Balance, beginning of period	4,945	4,452
Adjustment to opening balance, net of taxes (1)	40	14
Adjusted balance, beginning of period	4,985	4,466
Net income	2,969	788
Dividends	(119)	(12)
Balance, end of period	7,835	5,242
Accumulated other comprehensive income (loss)		
Balance, beginning of period	(1,005)	(354)
Net change in debt valuation adjustment (DVA), net of taxes	329	(341)
Benefit plans liability adjustment, net of taxes	142	44
Foreign currency translation adjustment, net of taxes and hedges	(143)	(4)
Net change in Accumulated other comprehensive income (loss)	328	(301)
Balance, end of period	(677)	(655)
Total CGMHI stockholder's equity	35,782	33,278
Noncontrolling interest	1	1
Total equity	$ 35,783	$ 33,279

(1) See Note 1 to the Consolidated Financial Statements for additional details.

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

CITIGROUP GLOBAL MARKETS HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended June 30,	
In millions of dollars	2020	2019
Cash flows from operating activities:		
Net income	$ 2,969	$ 788
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation and amortization	27	27
Net change in:		
Trading account assets	(69,543)	(29,825)
Securities received as collateral, at fair value	718	(892)
Receivables	(10,731)	(9,912)
Other assets	(3,736)	(621)
Trading account liabilities	17,874	(1,294)
Payables and accrued liabilities	8,470	(2,115)
Net cash used in operating activities	(53,952)	(43,844)
Cash flows from investing activities:		
Securities borrowed or purchased under agreements to resell	(29,475)	9,510
Loans to affiliates	(4,718)	(6,548)
Other, net	—	(32)
Net cash provided by (used in) investing activities	(34,193)	2,930
Cash flows from financing activities:		
Dividends paid	(118)	(12)
Securities loaned or sold under agreements to repurchase	68,649	20,904
Proceeds from issuance of long-term debt	26,195	10,817
Repayment of long-term debt	(10,474)	(3,941)
Short-term borrowings, net	4,109	12,066
Net cash provided by financing activities	88,361	39,834
Change in cash and cash equivalents and cash segregated under federal and other regulations	216	(1,080)
Cash and cash equivalents and cash segregated under federal and other regulations at beginning of period	16,441	15,680
Cash and cash equivalents and cash segregated under federal and other regulations at end of period	$ 16,657	$ 14,600
Cash and cash equivalents	$ 8,163	$ 7,417
Cash segregated under federal and other regulations	8,494	7,183
Cash and cash equivalents and cash segregated under federal and other regulations at end of period	$ 16,657	$ 14,600
Cash paid during the period for interest	$ 3,006	$ 5,763

The Notes to the Consolidated Financial Statements are an integral part of these Consolidated Financial Statements.

1. BASIS OF PRESENTATION, UPDATED ACCOUNTING POLICIES AND ACCOUNTING CHANGES

Basis of Presentation

The accompanying unaudited Consolidated Financial Statements as of June 30, 2020 and for the six-month periods ended June 30, 2020 and 2019 include the accounts of Citigroup Global Markets Holdings Inc. (CGMHI) and its consolidated subsidiaries. The Company is a direct wholly owned subsidiary of Citigroup Inc. (Citigroup or Citi).

In the opinion of management, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation have been reflected. The accompanying unaudited Consolidated Financial Statements should be read in conjunction with the Consolidated Financial Statements and related notes included in the Company's 2019 Audited Financial Statements.

Certain financial information that is normally included in annual financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP), but is not required for interim reporting purposes, has been condensed or omitted.

Management must make estimates and assumptions that affect the Consolidated Financial Statements and the related footnote disclosures. While management uses its best judgment, actual results could differ from those estimates.

As noted above, the Notes to these Consolidated Financial Statements are unaudited.

Throughout these Notes, "CGMHI" and "the Company" refer to Citigroup Global Markets Holdings Inc. and its consolidated subsidiaries.

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

See Note 1 to the Consolidated Financial Statements in the Company's 2019 Audited Financial Statements for a summary of all of CGMHI's significant accounting policies.

ACCOUNTING CHANGES

Accounting for Financial Instruments—Credit Losses

Overview

In June 2016, the Financial Accounting Standards Board (FASB) issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)*. The ASU introduced a new credit loss methodology, the Current Expected Credit Losses (CECL) methodology, which requires earlier recognition of credit losses while also providing additional transparency about credit risk. CGMHI adopted the ASU as of January 1, 2020, which resulted in a $40 million increase in CGMHI's opening *Retained earnings*, net of deferred income taxes, at January 1, 2020.

The CECL methodology utilizes a lifetime "expected credit loss" measurement objective for the recognition of credit losses for loans, receivables and other financial assets measured at amortized cost at the time the financial asset is originated or acquired. The allowance for credit losses (ACL) is adjusted each period for changes in expected lifetime credit losses. The CECL methodology represents a significant change from prior U.S. GAAP and replaced the prior multiple existing impairment methods, which generally required that a loss be incurred before it was recognized. Within the life cycle of a loan or other financial asset, the methodology generally results in the earlier recognition of the provision for credit losses and the related ACL than prior U.S. GAAP.

Secured Financing Transactions

Most of CGMHI's reverse repurchase agreements, securities borrowing arrangements and margin loans require that the borrower continually adjust the amount of the collateral securing CGMHI's interest, primarily resulting from changes in the fair value of such collateral. In such arrangements, ACLs are recorded based only on the amount by which the asset's amortized cost basis exceeds the fair value of the collateral. No ACLs are recorded where the fair value of the collateral is equal to or exceeds the asset's amortized cost basis, as CGMHI does not expect to incur credit losses on such well-collateralized exposures.

Subsequent Measurement of Goodwill

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The ASU simplifies the subsequent measurement of goodwill impairment by eliminating the requirement to calculate the implied fair value of goodwill (i.e., previously referred to as step 2 of the goodwill impairment test) to measure a goodwill impairment charge. Under the ASU, the impairment test is the comparison of the fair value of a reporting unit with its carrying amount, with the impairment charge being the deficit in fair value, but not exceeding the total amount of goodwill allocated to that reporting unit. The simplified one-step impairment test applies to all reporting units (including those with zero or negative carrying amounts).

The ASU was adopted by CGMHI as of January 1, 2020 with prospective application and did not impact the first six months of 2020 results. The future impact of the ASU will depend upon the performance of CGMHI's reporting units and the market conditions impacting the fair value of each reporting unit going forward.

Reference Rate Reform

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional guidance to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. Specifically, the guidance permits an entity, when certain criteria are met, to consider amendments to contracts made to comply with reference rate reform to meet the definition of a modification under U.S. GAAP. It further allows hedge accounting to be maintained. The expedients and exceptions provided by the amendments are permitted to be adopted any time through December 31, 2022 and do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, except for certain optional expedients elected for certain hedging relationships existing as of December 31, 2022. The ASU was adopted by CGMHI as of June 30, 2020 with prospective application and did not impact the first six months of 2020 results.

2. PRINCIPAL TRANSACTIONS

Principal transactions revenue consists of realized and unrealized gains and losses from trading activities. Trading activities include revenues from fixed income, equities, credit and commodities products and foreign exchange transactions that are managed on a portfolio basis characterized by primary risk. Not included in the table below is the impact of net interest revenue related to trading activities, which is an integral part of trading activities' profitability. Principal transactions include CVA (credit valuation adjustments) and FVA (funding valuation adjustments) on over-the-counter derivatives. These adjustments are discussed further in Note 9 to the Consolidated Financial Statements.

In certain transactions, CGMHI incurs fees and presents these fees paid to third parties in operating expenses.

The following table presents *Principal transactions* revenue:

	Six Months Ended June 30,	
In millions of dollars	2020	2019
Interest rate risks [1]	$ 1,351	$ 808
Credit products and risks [2]	1,504	545
Commodity and other risks [3]	446	75
Equity risks [4]	410	9
Foreign exchange risks [5]	49	32
Total principal transactions revenue	$ 3,760	$ 1,469

(1) Includes revenues from government securities and corporate debt, municipal securities, mortgage securities and other debt instruments. Also includes spot and forward trading of currencies and exchange-traded and over-the-counter (OTC) currency options, options on fixed income securities, interest rate swaps, currency swaps, swap options, caps and floors, financial futures, OTC options and forward contracts on fixed income securities.

(2) Includes revenues from structured credit products.

(3) Primarily includes revenues from crude oil, refined oil products, natural gas and other commodities trades.

(4) Includes revenues from common, preferred and convertible preferred stock, convertible corporate debt, equity-linked notes and exchange-traded and OTC equity options and warrants.

(5) Includes revenues from foreign exchange spot, forward, option and swap contracts, as well as foreign currency translation gains and losses.

3. INCENTIVE PLANS AND EMPLOYEE BENEFITS

Incentive Plans

For additional information on the Company's incentive plans, see Note 4 to the Consolidated Financial Statements in the Company's 2019 Audited Financial Statements.

Pension, Postretirement, Post Employment and Defined Contribution Plans

For additional information on the Company's pension, postretirement, post employment and defined contribution plans, see Note 4 to the Consolidated Financial Statements in the Company's 2019 Audited Financial Statements.

The Company's allocated pretax expense associated with the Citigroup pension, postretirement, post employment and defined contribution plans amounted to approximately $65 million and $67 million for the six months ended June 30, 2020 and 2019, respectively.

4. SECURITIES BORROWED, LOANED AND SUBJECT TO REPURCHASE AGREEMENTS

For additional information on the Company's resale and repurchase agreements and securities borrowing and lending agreements, see Note 6 to the Consolidated Financial Statements in the Company's 2019 Audited Financial Statements.

Securities borrowed and purchased under agreements to resell, at their respective carrying values, consisted of the following:

In millions of dollars	June 30, 2020	December 31, 2019
Securities purchased under agreements to resell (including $123,297 and $119,144 as of June 30, 2020 and December 31, 2019, respectively, at fair value)	$ 155,699	$ 145,782
Deposits paid for securities borrowed (including $47,880 and $32,076 as of June 30, 2020 and December 31, 2019, respectively, at fair value)	90,759	71,201
Total	$ 246,458	$ 216,983

Securities loaned and sold under agreements to repurchase, at their respective carrying values, consisted of the following:

In millions of dollars	June 30, 2020	December 31, 2019
Securities sold under agreements to repurchase (including $59,026 and $40,064 as of June 30, 2020 and December 31, 2019, respectively, at fair value)	$ 238,206	$ 170,517
Deposits received for securities loaned (including $419 and $435 as of June 30, 2020 and December 31, 2019, respectively, at fair value)	12,497	11,537
Total	$ 250,703	$ 182,054

It is the Company's policy to take possession of the underlying collateral, monitor its market value relative to the amounts due under the agreements and, when necessary, require prompt transfer of additional collateral in order to maintain contractual margin protection. For resale and repurchase agreements, when necessary, the Company posts additional collateral in order to maintain contractual margin protection.

A substantial portion of the resale and repurchase agreements is recorded at fair value, as described in Notes 9 and 10 to the Consolidated Financial Statements. The remaining portion is carried at the amount of cash initially advanced or received, plus accrued interest, as specified in the respective agreements.

A substantial portion of securities borrowing and lending agreements is recorded at the amount of cash advanced or received. The remaining portion is recorded at fair value as the Company elected the fair value option for certain securities borrowed and loaned portfolios, as described in Note 10 to the Consolidated Financial Statements. With respect to securities loaned, the Company receives cash collateral in an amount generally in excess of the market value of the securities loaned. The Company monitors the market value of securities borrowed and securities loaned on a daily basis and obtains or posts additional collateral in order to maintain contractual margin protection.

The following tables present the gross and net resale and repurchase agreements and securities borrowing and lending agreements and the related offsetting amounts permitted under ASC 210-20-45. The tables also include amounts related to financial instruments that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting rights has been obtained. Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

In millions of dollars	Gross amounts of recognized assets	Gross amounts offset on the Consolidated Balance Sheet (1)	Net amounts of assets included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default (2)	Net amounts (3)
	As of June 30, 2020				
Securities purchased under agreements to resell	$ 287,288	$ 131,589	$ 155,699	$ 133,572	$ 22,127
Deposits paid for securities borrowed	94,820	4,061	90,759	18,669	72,090
Total	$ 382,108	$ 135,650	$ 246,458	$ 152,241	$ 94,217

In millions of dollars	Gross amounts of recognized liabilities	Gross amounts offset on the Consolidated Balance Sheet (1)	Net amounts of liabilities included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default (2)	Net amounts (3)
Securities sold under agreements to repurchase	$ 369,796	$ 131,589	$ 238,207	$ 159,993	$ 78,214
Deposits received for securities loaned	16,557	4,061	12,496	4,078	8,418
Total	$ 386,353	$ 135,650	$ 250,703	$ 164,071	$ 86,632

In millions of dollars	Gross amounts of recognized assets	Gross amounts offset on the Consolidated Balance Sheet (1)	Net amounts of assets included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default (2)	Net amounts (3)
	As of December 31, 2019				
Securities purchased under agreements to resell	$ 254,998	$ 109,216	$ 145,782	$ 125,676	$ 20,106
Deposits paid for securities borrowed	79,800	8,599	71,201	17,361	53,840
Total	$ 334,798	$ 117,815	$ 216,983	$ 143,037	$ 73,946

In millions of dollars	Gross amounts of recognized liabilities	Gross amounts offset on the Consolidated Balance Sheet (1)	Net amounts of liabilities included on the Consolidated Balance Sheet	Amounts not offset on the Consolidated Balance Sheet but eligible for offsetting upon counterparty default (2)	Net amounts (3)
Securities sold under agreements to repurchase	$ 279,733	$ 109,216	$ 170,517	$ 124,746	$ 45,771
Deposits received for securities loaned	20,136	8,599	11,537	3,502	8,035
Total	$ 299,869	$ 117,815	$ 182,054	$ 128,248	$ 53,806

(1) Includes financial instruments subject to enforceable master netting agreements that are permitted to be offset under ASC 210-20-45.
(2) Includes financial instruments subject to enforceable master netting agreements that are not permitted to be offset under ASC 210-20-45, but would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the offsetting right has been obtained.
(3) Remaining exposures continue to be secured by financial collateral, but the Company may not have sought or been able to obtain a legal opinion evidencing enforceability of the offsetting right.

The following tables present the gross amount of liabilities associated with repurchase agreements and securities lending agreements, by remaining contractual maturity:

In millions of dollars	Open and overnight	Up to 30 Days	31-90 Days	Greater than 90 Days	Total
	As of June 30, 2020				
Securities sold under agreements to repurchase	$ 206,252	$ 88,425	$ 39,958	$ 35,161	$ 369,796
Deposits received for securities loaned	14,121	189	1,216	1,031	16,557
Total	$ 220,373	$ 88,614	$ 41,174	$ 36,192	$ 386,353

	As of December 31, 2019				
In millions of dollars	Open and overnight	Up to 30 Days	31-90 Days	Greater than 90 Days	Total
Securities sold under agreements to repurchase	$ 128,891	$ 75,313	$ 35,427	$ 40,102	$ 279,733
Deposits received for securities loaned	17,352	208	1,789	787	20,136
Total	$ 146,243	$ 75,521	$ 37,216	$ 40,889	$ 299,869

The following tables present the gross amount of liabilities associated with repurchase agreements and securities lending agreements, by class of underlying collateral:

	As of June 30, 2020		
In millions of dollars	Repurchase agreements	Securities lending agreements	Total
U.S. Treasury and federal agency securities	$ 168,123	$ —	$ 168,123
State and municipal securities	1,117	1	1,118
Foreign government securities	115,502	192	115,694
Corporate bonds	20,830	349	21,179
Equity securities	12,293	15,245	27,538
Mortgage-backed securities	42,139	—	42,139
Asset-backed securities	3,925	—	3,925
Other trading assets	5,867	770	6,637
Total	$ 369,796	$ 16,557	$ 386,353

	As of December 31, 2019		
In millions of dollars	Repurchase agreements	Securities lending agreements	Total
U.S. Treasury and federal agency securities	$ 128,259	$ 27	$ 128,286
State and municipal securities	1,938	5	1,943
Foreign government securities	83,478	272	83,750
Corporate bonds	18,391	249	18,640
Equity securities	11,927	19,429	31,356
Mortgage-backed securities	27,805	—	27,805
Asset-backed securities	4,872	—	4,872
Other trading assets	3,063	154	3,217
Total	$ 279,733	$ 20,136	$ 299,869

5. DEBT

For additional information regarding CGMHI’s short-term borrowings and long-term debt, see Note 7 to the Consolidated Financial Statements in CGMHI’s 2019 Audited Financial Statements.

Short-Term Borrowings

In millions of dollars	June 30, 2020	December 31, 2019
Borrowings from affiliates	$ 16,888	$ 17,129
Commercial paper	6,972	6,321
Other short-term borrowings	5,198	4,775
Total	$ 29,058	$ 28,225

Long-Term Debt

In millions of dollars	June 30, 2020	December 31, 2019
Senior notes	$ 108,005	$ 93,117
Subordinated notes	13,748	13,252
Total long-term debt	$ 121,753	$ 106,369

Long-term debt with affiliates totaled $76.9 billion and $66.8 billion at June 30, 2020 and December 31, 2019, respectively.

6. CAPITAL REQUIREMENTS

Certain U.S. and non-U.S. broker/dealer subsidiaries are subject to various securities and commodities regulations and capital adequacy requirements promulgated by the regulatory and exchange authorities of the countries in which they operate. These regulatory restrictions may impose regulatory capital requirements and limit the amounts that these subsidiaries can pay in dividends or advance to the Company.

Capital requirements related to the Company's principal regulated subsidiaries at June 30, 2020 are as follows:

In millions of dollars

Subsidiary	Jurisdiction	Net capital or equivalent	Excess over minimum requirement
Citigroup Global Markets Inc.	U.S. Securities and Exchange Commission Uniform Net Capital Rule (Rule 15c3-1)	$ 10,196	$ 6,235
Citigroup Global Markets Limited	United Kingdom's Prudential Regulation Authority	$ 9,482	$ 2,759

Citigroup Global Markets Inc. (CGMI) has elected to compute net capital in accordance with the provisions of Appendix E of SEC Rule 15c3-1 (Net Capital Rule). This methodology allows CGMI to compute market risk capital charges using internal value-at-risk models. Under Appendix E of the Net Capital Rule, CGMI is required to hold tentative net capital in excess of $1 billion and net capital in excess of $500 million. CGMI is also required to notify the SEC in the event that its tentative net capital is less than $5 billion. As of June 30, 2020, CGMI had tentative net capital in excess of both the minimum and the notification requirements.

7. SECURITIZATIONS AND VARIABLE INTEREST ENTITIES

For additional information regarding CGMHI's use of special purpose entities (SPEs) and variable interest entities (VIEs), see Note 9 to the Consolidated Financial Statements in CGMHI's 2019 Audited Financial Statements.

The Company's involvement with consolidated and unconsolidated VIEs with which the Company holds significant variable interests is presented below:

	As of June 30, 2020							
				Maximum exposure to loss in significant unconsolidated VIEs (1)				
				Funded exposures (2)		Unfunded exposures		
In millions of dollars	Total involvement with SPE assets	Consolidated VIE / SPE assets	Significant unconsolidated VIE assets (3)	Debt investments	Equity investments	Funding commitments	Derivatives	Total
Mortgage securitizations (4)								
U.S. agency-sponsored	$ 71,836	$ —	$ 71,836	$ 1,781	$ —	$ —	$ —	$ 1,781
Non-agency-sponsored	29,512	—	29,512	436	—	—	—	436
Collateralized loan obligations	8,145	—	8,145	194	—	—	—	194
Other	447	187	260	—	—	—	1	1
Total	$ 109,940	$ 187	$ 109,753	$ 2,411	$ —	$ —	$ 1	$ 2,412

	As of December 31, 2019								
				Maximum exposure to loss in significant unconsolidated VIEs(1)					
				Funded exposures (2)		Unfunded exposures			
In millions of dollars	Total involvement with SPE assets	Consolidated VIE / SPE assets	Significant unconsolidated VIE assets (3)	Debt investments	Equity investments	Funding commitments	Derivatives	Total
Mortgage securitizations (4)								
U.S. agency-sponsored	$ 73,483	$ —	$ 73,483	$ 2,196	$ —	$ —	$ —	$ 2,196
Non-agency-sponsored	25,836	—	25,836	408	—	—	—	408
Collateralized loan obligations	8,021	—	8,021	270	—	—	—	270
Other	560	27	533	4	—	4	1	9
Total	$ 107,900	$ 27	$ 107,873	$ 2,878	$ —	$ 4	$ 1	$ 2,883

(1) The definition of maximum exposure to loss is included in the text that follows this table.

(2) Included on the Company's June 30, 2020 and December 31, 2019 Consolidated Statement of Financial Condition.

(3) A significant unconsolidated VIE is an entity in which the Company has any variable interest considered to be significant, regardless of the likelihood of loss.

(4) CGMHI mortgage securitizations also include agency and non-agency (private-label) re-securitization activities. These SPEs are not consolidated. See "Re-securitizations" below for further discussion.

The previous tables do not include:

- certain VIEs structured by third parties in which the Company holds securities in inventory, as these investments are made on arm's-length terms;
- certain positions in mortgage- and asset-backed securities held by the Company, which are classified as *Trading account assets,* in which the Company has no other involvement with the related securitization entity deemed to be significant (for more information on these positions, see Note 9 to the Consolidated Financial Statements); and
- certain representations and warranties exposures in legacy CGMHI-sponsored mortgage- and asset-backed securitizations, in which the Company has no variable interest or continuing involvement as servicer. The outstanding balance of mortgage loans securitized during 2005 to 2008 in which the Company has no variable interest or continuing involvement as servicer was approximately $6 billion and $6 billion at June 30, 2020 and December 31, 2019, respectively.

The asset balances for consolidated VIEs represent the carrying amounts of the assets consolidated by the Company. The asset balances for unconsolidated VIEs in which the Company has significant involvement represent the most current information available to the Company. In most cases, the asset balances represent an amortized cost basis without regard to impairments, unless fair value information is readily available to the Company.

The maximum funded exposure represents the balance sheet carrying amount of the Company's investment in the VIE. It reflects the initial amount of cash invested in the VIE, adjusted for any accrued interest and cash principal payments received. The carrying amount may also be adjusted for increases or declines in fair value or any impairment in value recognized in earnings. The maximum exposure of unfunded positions represents the notional amount of a derivative instrument considered to be a variable interest. In certain transactions, the Company has entered into derivative instruments or other arrangements that are not considered variable interests in the VIE (e.g., interest rate swaps, cross-currency swaps or where the Company is the purchaser of credit protection under a credit default swap or total return swap where the Company pays the total return on certain assets to the SPE). Receivables under such arrangements are not included in the maximum exposure amounts.

Significant Interests in Unconsolidated VIEs—Balance Sheet Classification

The following table presents the carrying amounts and classification of significant variable interests in unconsolidated VIEs:

In millions of dollars	June 30, 2020	December 31, 2019
Trading account assets	$ 2,020	$ 2,530
Other assets	391	348
Total assets	$ 2,411	$ 2,878

Re-securitizations

The Company engages in re-securitization transactions in which debt securities are transferred to a VIE in exchange for new beneficial interests. CGMHI did not transfer non-agency (private label) securities to re-securitization entities during the six months ended June 30, 2020 and 2019. These securities are backed by either residential or commercial mortgages and are often structured on behalf of clients.

As of June 30, 2020 and December 31, 2019, CGMHI held no retained interests in private label re-securitization transactions structured by CGMHI.

The Company also re-securitizes U.S. government-agency guaranteed mortgage-backed (agency) securities. During the six months ended June 30, 2020 and 2019, CGMHI transferred agency securities with a fair value of approximately $19.4 billion and $14.5 billion, respectively, to re-securitization entities.

As of June 30, 2020, the fair value of CGMHI-retained interests in agency re-securitization transactions structured by CGMHI totaled approximately $1.8 billion (including $859 million related to re-securitization transactions executed in 2020) compared to $2.2 billion as of December 31, 2019 (including $1.3 billion related to re-securitization transactions executed in 2019), which is recorded in *Trading account assets*. The original fair values of agency re-securitization transactions in which CGMHI holds a retained interest as of June 30, 2020 and December 31, 2019 were approximately $71.8 billion and $73.5 billion, respectively.

As of June 30, 2020 and December 31, 2019, the Company did not consolidate any private label or agency re-securitization entities.

8. DERIVATIVES ACTIVITIES

In the ordinary course of business, the Company enters into various types of derivative transactions. All derivatives are recorded in *Trading account assets/Trading account liabilities* on the Consolidated Statement of Financial Condition. For additional information regarding the Company's use of and accounting for derivatives, see Note 10 to the Consolidated Financial Statements in CGMHI's 2019 Audited Financial Statements.

Information pertaining to the Company's derivative activities, based on notional amounts, is presented in the table below. Derivative notional amounts are reference amounts from which contractual payments are derived and do not represent a complete measure of CGMHI's exposure to derivative transactions. CGMHI's derivative exposure arises primarily from market fluctuations (i.e., market risk), counterparty failure (i.e., credit risk) and/or periods of high volatility or financial stress (i.e., liquidity risk), as well as any market valuation adjustments that may be required on the transactions. Moreover, notional amounts do not reflect the netting of offsetting trades. For example, if CGMHI enters into a receive-fixed interest rate swap with $100 million notional, and offsets this risk with an identical but opposite pay-fixed position with a different counterparty, $200 million in derivative notionals is reported, although these offsetting positions may result in de minimis overall market risk.

In addition, aggregate derivative notional amounts can fluctuate from period to period in the normal course of business based on CGMHI's market share, levels of client activity and other factors.

Derivative Notionals

	Hedging instruments under ASC 815		Trading derivative instruments	
In millions of dollars	June 30, 2020	December 31, 2019	June 30, 2020	December 31, 2019
Interest rate contracts				
Swaps	$ 278	$ 276	$ 5,239,507	$ 5,277,764
Futures and forwards	—	—	2,057,136	1,171,365
Written options	—	—	557,073	701,157
Purchased options	—	—	536,250	672,318
Total interest rate contracts	278	276	8,389,966	7,822,604
Foreign exchange contracts				
Swaps	—	—	718,669	713,844
Futures, forwards and spot	—	—	668,475	542,261
Written options	—	—	108,159	90,334
Purchased options	—	—	109,905	91,152
Total foreign exchange contracts	—	—	1,605,208	1,437,591
Equity contracts				
Swaps	—	—	142,965	160,127
Futures and forwards	—	—	61,143	54,159
Written options	—	—	324,629	386,068
Purchased options	—	—	325,477	413,532
Total equity contracts	—	—	854,214	1,013,886
Commodity and other contracts				
Swaps	—	—	75,792	64,064
Futures and forwards	494	1,195	69,208	61,650
Written options	—	—	22,438	22,216
Purchased options	—	—	20,906	18,586
Total commodity and other contracts	494	1,195	188,344	166,516
Credit derivatives (1)				
Protection sold	—	—	538,258	863,633
Protection purchased	—	—	542,615	886,178
Total credit derivatives	—	—	1,080,873	1,749,811
Total derivative notionals	$ 772	$ 1,471	$ 12,118,605	$ 12,190,408

(1) Credit derivatives are arrangements designed to allow one party (protection purchaser) to transfer the credit risk of a “reference asset” to another party (protection seller). These arrangements allow a protection seller to assume the credit risk associated with the reference asset without directly purchasing that asset. The Company enters into credit derivative positions for purposes such as risk management, yield enhancement, reduction of credit concentrations and diversification of overall risk.

The following table presents the gross and net fair values of the Company’s derivative transactions and the related offsetting amounts as of June 30, 2020 and December 31, 2019. Gross positive fair values are offset against gross negative fair values by counterparty, pursuant to enforceable master netting agreements. Under ASC 815-10-45, payables and receivables in respect of cash collateral received from or paid to a given counterparty pursuant to a credit support annex are included in the offsetting amount if a legal opinion supporting the enforceability of netting and collateral rights has been obtained. GAAP does not permit similar offsetting for security collateral.

In addition, the following table reflects rule changes adopted by clearing organizations that require or allow entities to treat certain derivative assets, liabilities and the related variation margin as settlement of the related derivative fair values for legal and accounting purposes, as opposed to presenting gross derivative assets and liabilities that are subject to collateral, whereby the counterparties would also record a related collateral payable or receivable. As a result, the tables reflect a reduction of approximately $16.0 billion and $12.5 billion as of June 30, 2020 and December 31, 2019, respectively, of derivative assets and derivative liabilities that previously would have been reported on a gross basis, but are now legally settled and not subject to collateral. The table also presents amounts that are not permitted to be offset, such as security collateral or cash collateral posted at third-party custodians, but which would be eligible for offsetting to the extent that an event of default has occurred and a legal opinion supporting enforceability of the netting and collateral rights has been obtained.

Derivative Mark-to-Market (MTM) Receivables/Payables

	Derivatives classified in Trading account assets / liabilities (1) (2)			
	June 30, 2020		December 31, 2019	
In millions of dollars	**Assets**	**Liabilities**	**Assets**	**Liabilities**
Derivative instruments designated as ASC 815 hedges				
Over-the-counter interest rate contracts	$ 28	$ —	$ 30	$ —
Total derivatives instruments designated as ASC 815 hedges	28	—	30	—
Derivatives instruments not designated as ASC 815 hedges				
Over-the-counter	231,453	229,283	168,642	163,541
Cleared	6,840	6,321	3,965	4,292
Exchange traded	—	1,026	2	5
Interest rate contracts	238,293	236,630	172,609	167,838
Over-the-counter	23,367	22,711	20,080	20,009
Cleared	—	—	210	210
Foreign exchange contracts	23,367	22,711	20,290	20,219
Over-the-counter	15,411	17,731	19,849	19,312
Cleared	42	10	—	—
Exchange traded	18,978	18,636	5,787	6,597
Equity contracts	34,431	36,377	25,636	25,909
Over-the-counter	11,271	15,619	10,796	13,174
Exchange traded	320	318	51	21
Commodity and other contracts	11,591	15,937	10,847	13,195
Over-the-counter	11,353	11,746	20,981	20,902
Cleared	1,220	1,241	1,483	1,688
Credit derivatives	12,573	12,987	22,464	22,590
Total derivatives instruments not designated as ASC 815 hedges	320,255	324,642	251,846	249,751
Total derivatives	320,283	324,642	251,876	249,751
Cash collateral paid/received (3)	5,348	6,016	4,592	7,700
Less: Netting agreements (4)	(284,038)	(284,038)	(220,100)	(220,100)
Less: Netting cash collateral received/paid (5)	(23,129)	(23,256)	(20,597)	(17,846)
Net receivables / payables included on the Consolidated Statement of Financial Condition	$ 18,464	$ 23,364	$ 15,771	$ 19,505
Additional amounts subject to an enforceable master netting agreement, but not offset on the Consolidated Statement of Financial Condition				
Less: Cash collateral received/paid	(58)	(1)	(14)	(3)
Less: Non-cash collateral received/paid	(3,577)	(1,987)	(2,402)	(1,600)
Total net receivables/payables	$ 14,829	$ 21,376	$ 13,355	$ 17,902

(1) The derivatives fair values are also presented in Note 9 to the Consolidated Financial Statements.

(2) Over-the-counter (OTC) derivatives are derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. Cleared derivatives include derivatives executed bilaterally with a counterparty in the OTC market, but then novated to a central clearing house, whereby the central clearing house becomes the counterparty to both of the original counterparties. Exchange-traded derivatives include derivatives executed directly on an organized exchange that provides pre-trade price transparency.

(3) At June 30, 2020, reflects the net amount of the $28,604 million and $29,145 million of gross cash collateral paid and received, respectively. Of the gross cash collateral paid, $23,256 million was used to offset trading derivative liabilities. Of the gross cash collateral received, $23,129 million was used to offset trading derivative assets. At December 31, 2019, reflects the net amount of the $22,438 million and $28,297 million of gross cash collateral paid and received, respectively. Of the gross cash collateral paid, $17,846 million was used to offset trading derivative liabilities and, of the gross cash collateral received, $20,597 million was used to offset trading derivative assets.

(4) Represents the netting of derivative receivable and payable balances with the same counterparty under enforceable netting agreements.

(5) Represents the netting of cash collateral paid and received by counterparty under enforceable credit support agreements.

For the six months ended June 30, 2020 and 2019, amounts recognized in *Principal transactions* in the Consolidated Statement of Income include certain derivatives not designated in a qualifying hedging relationship. CGMHI presents this disclosure by business classification, showing derivative gains and losses related to its trading activities together with gains and losses related to non-derivative instruments within the same trading portfolios, as this represents how these portfolios are risk managed. See Note 2 to the Consolidated Financial Statements for further information.

Fair Value Hedges

Hedging of Benchmark Interest Rate Risk
CGMHI hedges exposure to changes in the fair value of fixed-rate long-term debt. For qualifying fair value hedges of interest rate risk, the changes in the fair value of the derivative and the change in the fair value of the hedged item attributable to the hedged risk are presented within *Interest expense*.

Hedging of Commodity Price Risk
The Company hedges the change in fair value attributable to spot price movements in physical commodities inventories. The hedging instrument is a futures contract to sell the underlying commodity. In this hedge, the change in the value of the hedged inventory is reflected in earnings, which offsets the change in the fair value of the futures contract that is also reflected in earnings. Although the change in the fair value of the hedging instrument recorded in earnings includes changes in forward rates, CGMHI excludes the differential between the spot and the contractual forward rates under the futures contract from the assessment of hedge effectiveness and it is generally reflected directly in earnings over the life of the hedge. CGMHI also excludes changes in forward rates from the assessment of hedge effectiveness and records it in *Other comprehensive income*.

The following table summarizes the gains (losses) on the Company's fair value hedges:

	Gains / (losses) on fair value hedges (1) Six Months Ended June 30,			
	2020		2019	
In millions of dollars	Other revenue	Net interest revenue	Other revenue	Net interest revenue
Gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges:				
Interest rate hedges	$ —	$ (2)	$ —	$ 1
Commodity hedges	(91)	—	(102)	—
Total gain (loss) on the hedging derivatives included in assessment of the effectiveness of fair value hedges	(91)	(2)	(102)	1
Gain (loss) on the hedged item in designated and qualifying fair value hedges:				
Interest rate hedges	—	2	—	(1)
Commodity hedges	91	—	102	—
Total gain (loss) on the hedged item in designated and qualifying fair value hedges	91	2	102	(1)
Net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges				
Interest rate hedges	—	—	—	—
Commodity hedges	(10)	—	23	—
Total net gain (loss) on the hedging derivatives excluded from assessment of the effectiveness of fair value hedges	$ (10)	$ —	$ 23	$ —

(1) Gain (loss) amounts for interest rate risk hedges are included in *Interest expense*.

Cumulative Basis Adjustment

Upon electing to apply ASC 815 fair value hedge accounting, the carrying value of the hedged item is adjusted to reflect the cumulative changes in the hedged risk. This cumulative hedge basis adjustment becomes part of the carrying value of the hedged item until the hedged item is derecognized from the balance sheet. The table below presents the carrying amount of CGMHI's hedged assets and liabilities under qualifying fair value hedges at June 30, 2020 and December 31, 2019, along with the cumulative hedge basis adjustments included in the carrying value of those hedged assets and liabilities, that would reverse through earnings in future periods.

In millions of dollars			
Balance sheet line item in which hedged item is recorded	Carrying amount of hedged asset/ liability	Cumulative fair value hedging adjustment increasing (decreasing) the carrying amount	
		Active	De-designated
As of June 30, 2020			
Trading account assets	$ 228	$ 2	$ —
Long-term debt	306	28	—
As of December 31, 2019			
Trading account assets	$ 230	$ 12	$ —
Long-term debt	306	30	—

Credit Derivatives

The following tables summarize the key characteristics of the Company's credit derivatives portfolio by counterparty and derivative form:

	Fair values		**Notionals**	
In millions of dollars at June 30, 2020	**Receivable**	**Payable**	**Protection purchased**	**Protection sold**
By industry of counterparty:				
Banks	$ 7,329	$ 7,478	$ 295,951	$ 312,801
Broker-dealers	1,437	880	25,072	23,309
Non-financial	39	80	3,115	750
Insurance and other financial institutions	3,768	4,549	218,477	201,398
Total by industry of counterparty	12,573	12,987	542,615	538,258
By instrument:				
Credit default swaps and options	12,103	11,992	537,080	531,048
Total return swaps and other	470	995	5,535	7,210
Total by instrument	12,573	12,987	542,615	538,258
By rating of reference entity:				
Investment grade	5,068	4,748	404,613	397,793
Non-investment grade	7,505	8,239	138,002	140,465
Total by rating of reference entity	12,573	12,987	542,615	538,258
By maturity:				
Within 1 year	975	1,299	130,428	128,094
From 1 to 5 years	7,808	8,211	358,847	363,232
After 5 years	3,790	3,477	53,340	46,932
Total by maturity	$ 12,573	$ 12,987	$ 542,615	$ 538,258

	Fair values		Notionals	
In millions of dollars at December 31, 2019	**Receivable**	**Payable**	**Protection purchased**	**Protection sold**
By industry of counterparty:				
Banks	$ 18,740	$ 18,565	$ 647,813	$ 643,050
Broker-dealers	669	617	25,558	22,956
Non-financial	20	42	1,796	246
Insurance and other financial institutions	3,035	3,366	211,011	197,381
Total by industry of counterparty	22,464	22,590	886,178	863,633
By instrument:				
Credit default swaps and options	21,737	21,790	875,722	851,148
Total return swaps and other	727	800	10,456	12,485
Total by instrument	22,464	22,590	886,178	863,633
By rating of reference entity:				
Investment grade	12,466	12,385	715,059	691,049
Non-investment grade	9,998	10,205	171,119	172,584
Total by rating of reference entity	22,464	22,590	886,178	863,633
By maturity:				
Within 1 year	1,533	1,581	160,323	144,948
From 1 to 5 years	19,388	19,567	660,021	659,855
After 5 years	1,543	1,442	65,834	58,830
Total by maturity	$ 22,464	$ 22,590	$ 886,178	$ 863,633

Credit Risk-Related Contingent Features in Derivatives

Certain derivative instruments contain provisions that require the Company to either post additional collateral or immediately settle any outstanding liability balances upon the occurrence of a specified event related to the credit risk of the Company. These events, which are defined by the existing derivative contracts, are primarily downgrades in the credit ratings of the Company and its affiliates.

The fair value (excluding CVA) of all derivative instruments with credit risk-related contingent features that were in a net liability position at both June 30, 2020 and December 31, 2019 was $8.3 billion and $7.3 billion, respectively. The Company posted $5.6 billion and $4.8 billion as collateral for this exposure in the normal course of business as of June 30, 2020 and December 31, 2019, respectively.

A downgrade could trigger additional collateral or cash settlement requirements for the Company and certain affiliates. In the event that Citigroup and CGMHI were downgraded a single notch by all three major rating agencies as of June 30, 2020, the Company could be required to post an additional $283 million as either collateral or settlement of the derivative transactions. In addition, the Company could be required to segregate with third-party custodians collateral previously received from existing derivative counterparties in the amount of $237 million upon the single notch downgrade, resulting in aggregate cash obligations and collateral requirements of approximately $520 million.

Derivatives Accompanied by Financial Asset Transfers

For transfers of financial assets accounted for as a sale by the Company and for which the Company has retained substantially all of the economic exposure to the transferred asset through a total return swap executed with the same counterparty in contemplation of the initial sale (and still outstanding), both the asset amounts derecognized and the gross cash proceeds received as of the date of derecognition were $2.6 billion and $5.8 billion as of June 30, 2020 and December 31, 2019, respectively.

At June 30, 2020, the fair value of these previously derecognized assets was $2.7 billion. The fair value of the total return swaps as of June 30, 2020 was $88 million recorded as gross derivative assets and $14 million recorded as gross derivative liabilities. At December 31, 2019, the fair value of these previously derecognized assets was $5.8 billion, and the fair value of the total return swaps was $116 million recorded as gross derivative assets and $42 million recorded as gross derivative liabilities.

The balances for the total return swaps are on a gross basis, before the application of counterparty and cash collateral netting, and are included primarily as equity derivatives in the tabular disclosures in this Note.

9. FAIR VALUE MEASUREMENT

For additional information regarding fair value measurement at CGMHI, see Note 12 to the Consolidated Financial Statements in CGMHI's 2019 Audited Financial Statements.

Market Valuation Adjustments

The table below summarizes the credit valuation adjustments (CVA) and funding valuation adjustments (FVA) applied to the fair value of derivative instruments at June 30, 2020 and December 31, 2019:

	Credit and funding valuation adjustments contra-liability (contra-asset)	
In millions of dollars	June 30, 2020	December 31, 2019
Counterparty CVA	$ (189)	$ (128)
Asset FVA	(86)	(51)
CGMHI (own-credit) CVA (1)	200	136
Liability FVA	39	15
Total CVA—derivative instruments (2)	$ (36)	$ (28)

(1) Determined using Citi-specific CDS spreads.
(2) FVA is included with CVA for presentation purposes.

The table below summarizes pretax gains (losses) related to changes in CVA on derivative instruments, net of hedges, FVA on derivatives and debt valuation adjustments (DVA) on the Company's own fair value option (FVO) liabilities for the periods indicated:

	Credit/funding/debt valuation adjustments gain (loss)	
	Six Months Ended June 30,	
In millions of dollars	2020	2019
Counterparty CVA	$ (47)	$ 18
Asset FVA	(35)	6
Own-credit CVA (1)	42	(52)
Liability FVA	24	(5)
Total CVA—derivative instruments	(16)	(33)
DVA related to own FVO liabilities	253	(425)
Total CVA and DVA (2)	$ 237	$ (458)

(1) Determined using Citi-specific CDS spreads.
(2) FVA is included with CVA for presentation purposes.

Fair Value Hierarchy

ASC 820-10 specifies a hierarchy of inputs based on whether the inputs are observable or unobservable. Observable inputs are developed using market data and reflect market participant assumptions, while unobservable inputs reflect the Company's market assumptions. These two types of inputs have created the following fair value hierarchy:

- Level 1: Quoted prices for *identical* instruments in active markets.
- Level 2: Quoted prices for *similar* instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations in which all significant inputs and significant value drivers are *observable* in active markets.
- Level 3: Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are *unobservable*.

As required under the fair value hierarchy, the Company considers relevant and observable market inputs in its valuations where possible. The frequency of transactions, the size of the bid-ask spread and the amount of adjustment necessary when comparing similar transactions are all factors in determining the relevance of observed prices in those markets.

Items Measured at Fair Value on a Recurring Basis

The following tables present for each of the fair value hierarchy levels the Company's assets and liabilities that are measured at fair value on a recurring basis at June 30, 2020 and December 31, 2019. The Company may hedge positions that have been classified in the Level 3 category with other financial instruments (hedging instruments) that may be classified as Level 3, but also with financial instruments classified as Level 1 or Level 2 of the fair value hierarchy. The effects of these hedges are presented gross in the following tables:

Fair Value Levels

In millions of dollars at June 30, 2020	**Level 1**	**Level 2**	**Level 3**	**Gross inventory**	**Netting** [1]	**Net balance**
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 298,136	$ 107	$ 298,243	$ (127,066)	$ 171,177
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	39,729	96	39,825	—	39,825
Residential	7	470	430	907	—	907
Commercial	—	1,248	217	1,465	—	1,465
Total trading mortgage-backed securities	7	41,447	743	42,197	—	42,197
U.S. Treasury and federal agency securities	58,328	2,075	—	60,403	—	60,403
State and municipal securities	—	945	58	1,003	—	1,003
Foreign government securities	45,230	3,159	5	48,394	—	48,394
Corporate	821	17,449	377	18,647	—	18,647
Equity securities	32,611	1,163	62	33,836	—	33,836
Asset-backed securities	3	693	1,771	2,467	—	2,467
Other trading assets	301	1,637	167	2,105	—	2,105
Total trading non-derivative assets	137,301	68,568	3,183	209,052	—	209,052
Trading derivatives						
Interest rate contracts	31	236,848	1,442	238,321		
Foreign exchange contracts	—	23,178	189	23,367		
Equity contracts	90	33,608	733	34,431		
Commodity contracts	—	10,346	1,245	11,591		
Credit derivatives	—	11,813	760	12,573		
Total trading derivatives	121	315,793	4,369	320,283		
Cash collateral paid [2]				5,348		
Netting agreements					(284,038)	
Netting of cash collateral received					(23,129)	
Total trading derivatives	121	315,793	4,369	325,631	(307,167)	18,464
Securities received as collateral	4,753	401	—	5,154	—	5,154
Investments - Non-marketable equity securities	—	243	186	429	—	429
Other financial assets measured on a recurring basis	—	2,598	12	2,610	—	2,610
Total assets	$ 142,175	$ 685,739	$ 7,857	$ 841,119	$ (434,233)	$ 406,886
Total as a percentage of gross assets [3]	17.0%	82.1%	0.9%			

See footnotes on the next page.

Items Measured at Fair Value on a Recurring Basis (continued)

In millions of dollars at June 30, 2020	Level 1	Level 2	Level 3	Gross inventory	Netting [(1)]	Net balance
Liabilities						
Securities loaned and sold under agreements to repurchase	$ —	$ 144,802	$ 625	$ 145,427	$ (85,982)	$ 59,445
Trading account liabilities						
Securities sold, not yet purchased	67,225	12,408	86	79,719	—	79,719
Trading derivatives						
Interest rate contracts	30	235,190	1,410	236,630		
Foreign exchange contracts	—	22,424	287	22,711		
Equity contracts	75	35,464	838	36,377		
Commodity contracts	—	14,792	1,145	15,937		
Credit derivatives	—	12,205	782	12,987		
Total trading derivatives	105	320,075	4,462	324,642		
Cash collateral received [(4)]				6,016		
Netting agreements					(284,038)	
Netting of cash collateral paid					(23,256)	
Total trading derivatives	105	320,075	4,462	330,658	(307,294)	23,364
Obligations to return securities received as collateral	5,376	401	—	5,777	—	5,777
Short-term borrowings	—	4,819	128	4,947	—	4,947
Long-term debt	—	34,829	9,400	44,229	—	44,229
Total liabilities	$ 72,706	$ 517,334	$ 14,701	$ 610,757	$ (393,276)	$ 217,481
Total as a percentage of gross liabilities [(3)]	12.0%	85.6%	2.4%			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.

(2) Reflects the net amount of $28,604 million of gross cash collateral paid, of which $23,256 million was used to offset derivative liabilities.

(3) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.

(4) Reflects the net amount of $29,145 million of gross cash collateral received, of which $23,129 million was used to offset derivative assets.

Items Measured at Fair Value on a Recurring Basis (continued)

Fair Value Levels

In millions of dollars at December 31, 2019	**Level 1**	**Level 2**	**Level 3**	**Gross inventory**	**Netting [1]**	**Net balance**
Assets						
Securities borrowed and purchased under agreements to resell	$ —	$ 252,465	$ 117	$ 252,582	$ (101,362)	$ 151,220
Trading non-derivative assets						
Trading mortgage-backed securities						
U.S. government-sponsored agency guaranteed	—	27,589	9	27,598	—	27,598
Residential	1	573	122	696	—	696
Commercial	—	1,632	61	1,693	—	1,693
Total trading mortgage-backed securities	1	29,794	192	29,987	—	29,987
U.S. Treasury and federal agency securities	14,660	3,273	—	17,933	—	17,933
State and municipal securities	—	1,975	4	1,979	—	1,979
Foreign government securities	30,795	4,227	4	35,026	—	35,026
Corporate	611	16,273	268	17,152	—	17,152
Equity securities	33,975	1,271	69	35,315	—	35,315
Asset-backed securities	5	1,464	1,163	2,632	—	2,632
Other trading assets	1	2,168	9	2,178	—	2,178
Total trading non-derivative assets	80,048	60,445	1,709	142,202	—	142,202
Trading derivatives						
Interest rate contracts	6	172,298	335	172,639		
Foreign exchange contracts	—	20,158	132	20,290		
Equity contracts	80	25,206	350	25,636		
Commodity contracts	—	10,056	791	10,847		
Credit derivatives	—	22,178	286	22,464		
Total trading derivatives	86	249,896	1,894	251,876		
Cash collateral paid [2]				4,592		
Netting agreements					(220,100)	
Netting of cash collateral received					(20,597)	
Total trading derivatives	86	249,896	1,894	256,468	(240,697)	15,771
Securities received as collateral	5,764	108	—	5,872	—	5,872
Investments - Non-marketable equity securities	—	293	217	510	—	510
Other financial assets measured on a recurring basis	—	2,243	3	2,246	—	2,246
Total assets	$ 85,898	$ 565,450	$ 3,940	$ 659,880	$ (342,059)	$ 317,821
Total as a percentage of gross assets [3]	13.1%	86.3%	0.6%			

See footnotes on the next page.

Items Measured at Fair Value on a Recurring Basis (continued)

In millions of dollars at December 31, 2019	Level 1	Level 2	Level 3	Gross inventory	Netting (1)	Net balance
Liabilities						
Securities loaned and sold under						
agreements to repurchase	$ —	$ 111,415	$ 757	$ 112,172	$ (71,673)	$ 40,499
Trading account liabilities						
Securities sold, not yet purchased	55,592	10,073	39	65,704	—	65,704
Trading derivatives						
Interest rate contracts	8	167,350	480	167,838		
Foreign exchange contracts	2	20,082	135	20,219		
Equity contracts	4	25,408	497	25,909		
Commodity contracts	—	12,478	717	13,195		
Credit derivatives	—	22,323	267	22,590		
Total trading derivatives	14	247,641	2,096	249,751		
Cash collateral received (4)				7,700		
Netting agreements					(220,100)	
Netting of cash collateral paid					(17,846)	
Total trading derivatives	14	247,641	2,096	257,451	(237,946)	19,505
Obligations to return securities						
received as collateral	6,226	108	—	6,334	—	6,334
Short-term borrowings	—	3,985	13	3,998	—	3,998
Long-term debt	—	31,611	7,318	38,929	—	38,929
Total liabilities	$ 61,832	$ 404,833	$ 10,223	$ 484,588	$ (309,619)	$ 174,969
Total as a percentage of gross liabilities (3)	13.0%	84.9%	2.1%			

(1) Represents netting of (i) the amounts due under securities purchased under agreements to resell and the amounts owed under securities sold under agreements to repurchase and (ii) derivative exposures covered by a qualifying master netting agreement and cash collateral offsetting.
(2) Reflects the net amount of $22,438 million of gross cash collateral paid, of which $17,846 million was used to offset derivative liabilities.
(3) Because the amount of the cash collateral paid/received has not been allocated to the Level 1, 2 and 3 subtotals, these percentages are calculated based on total assets and liabilities measured at fair value on a recurring basis, excluding the cash collateral paid/received on derivatives.
(4) Reflects the net amount of $28,297 million of gross cash collateral received, of which $20,597 million was used to offset derivative assets.

Changes in Level 3 Fair Value Category

The following tables present the changes in the Level 3 fair value category for the six months ended June 30, 2020 and 2019. The gains and losses presented below include changes in the fair value related to both observable and unobservable inputs.

The Company often hedges positions with offsetting positions that are classified in a different level. For example, the gains and losses for assets and liabilities in the Level 3 category presented in the tables below do not reflect the effect of offsetting losses and gains on hedging instruments that may be classified in the Level 1 or Level 2 categories. In addition, the Company hedges items classified in the Level 3 category with instruments also classified in Level 3 of the fair value hierarchy. The hedged items and related hedges are presented gross in the following tables:

In millions of dollars	Dec. 31, 2019	Net realized/unrealized gains (losses) incl. in Principal transactions	Other	Transfers into Level 3	Transfers out of Level 3	Purchases	Issuances	Sales	Settlements	Jun. 30, 2020	Unrealized gains (losses) still held [1]
Assets											
Securities borrowed and purchased under agreements to resell	$ 117	$ (19)	$ —	$ —	$ —	$ 108	$ —	$ —	$ (99)	$ 107	$ 4
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	9	(74)	—	16	(9)	209	—	(55)	—	96	6
Residential	122	2	—	204	(43)	273	—	(128)	—	430	(3)
Commercial	61	4	—	143	(17)	89	—	(63)	—	217	(10)
Total trading mortgage-backed securities	192	(68)	—	363	(69)	571	—	(246)	—	743	(7)
U.S. Treasury and federal agency securities	—	—	—	—	—	—	—	—	—	—	—
State and municipal	4	3	—	14	(4)	62	—	(21)	—	58	1
Foreign government	4	(1)	—	2	(2)	60	—	(58)	—	5	—
Corporate debt	268	290	—	85	(35)	407	—	(632)	(6)	377	(52)
Equity securities	69	8	—	39	(4)	206	—	(256)	—	62	(21)
Asset-backed securities	1,163	(102)	—	496	(61)	740	—	(465)	—	1,771	(222)
Other trading assets	9	200	—	10	(14)	70	—	(108)	—	167	(5)
Total trading non-derivative assets	1,709	330	—	1,009	(189)	2,116	—	(1,786)	(6)	3,183	(306)
Investments in non-marketable equity securities	217	—	16	1	—	—	—	(3)	(45)	186	11
Other financial assets measured on a recurring basis	3	—	10	2	(6)	3	—	—	—	12	10
Liabilities											
Securities loaned and sold under agreements to repurchase	$ 757	$ 26	$ —	$ —	$ —	$ —	$ —	$ —	$ (106)	$ 625	$ (33)
Trading account liabilities											
Securities sold, not yet purchased	39	(192)	—	36	(9)	—	9	(9)	(172)	86	(43)
Derivatives, net [2]											
Interest rate contracts	145	174	—	3	(44)	(6)	—	1	43	(32)	273
Foreign exchange contracts	3	(69)	—	24	9	—	—	—	(7)	98	(73)
Equity contracts	147	19	—	194	(222)	(23)	—	5	23	105	(21)
Commodity contracts	(74)	99	—	77	10	(63)	—	43	6	(100)	153
Credit derivatives	(19)	50	—	42	2	—	—	—	47	22	40
Total derivatives, net [2]	202	273	—	340	(245)	(92)	—	49	112	93	372
Short-term borrowings	13	19	—	86	(6)	—	61	—	(7)	128	21
Long-term debt	7,318	976	—	3,254	(2,444)	—	2,312	—	(64)	9,400	(1,075)

(1) Represents the amount of total gains or losses for the period, included in earnings, attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at June 30, 2020.
(2) Total Level 3 trading derivative assets and liabilities have been netted in these tables for presentation purposes only.

		Net realized/unrealized gains (losses) incl. in		Transfers							Unrealized gains
In millions of dollars	Dec. 31, 2018	Principal transactions	Other	into Level 3	out of Level 3	Purchases	Issuances	Sales	Settlements	Jun. 30, 2019	(losses) still held [1]
Assets											
Securities borrowed and purchased under agreements to resell	$ 115	$ 4	$ —	$ —	$ 3	$ 95	$ —	$ —	$ (95)	$ 122	$ 3
Trading non-derivative assets											
Trading mortgage-backed securities											
U.S. government-sponsored agency guaranteed	156	6	—	1	(27)	95	—	(43)	—	188	7
Residential	268	9	—	20	(39)	125	—	(261)	—	122	9
Commercial	77	4	—	5	(39)	63	—	(57)	—	53	(5)
Total trading mortgage-backed securities	501	19	—	26	(105)	283	—	(361)	—	363	11
U.S. Treasury and federal agency securities	—	—	—	—	—	—	—	—	—	—	—
State and municipal	26	(1)	—	—	(20)	—	—	(2)	—	3	—
Foreign government	31	1	—	—	(1)	4	—	(24)	—	11	—
Corporate debt	417	315	—	19	(32)	255	—	(457)	(2)	515	29
Equity securities	133	12	—	1	(11)	33	—	(71)	—	97	(27)
Asset-backed securities	1,479	(6)	—	13	(42)	462	—	(500)	—	1,406	57
Other trading assets	2	1	—	—	(1)	114	—	—	—	116	1
Total trading non-derivative assets	2,589	341	—	59	(212)	1,151	—	(1,415)	(2)	2,511	71
Investments in non-marketable equity securities	141	—	43	6	—	8	—	—	—	198	14
Other financial assets measured on a recurring basis	5	—	(3)	3	—	—	—	—	—	5	(3)
Liabilities											
Securities loaned and sold under agreements to repurchase	$ 983	$ (41)	$ —	$ 3	$ —	$ —	$ —	$ —	$ 58	$ 1,085	$ (24)
Trading account liabilities											
Securities sold, not yet purchased	174	(21)	—	3	(177)	—	(11)	1	(3)	8	—
Derivatives, net [2]											
Interest rate contracts	97	111	—	(57)	37	(15)	—	—	(7)	(56)	106
Foreign exchange contracts	77	49	—	2	10	—	—	—	(14)	26	21
Equity contracts	256	132	—	198	(94)	(2)	26	1	(42)	211	30
Commodity contracts	(258)	(260)	—	8	(11)	(119)	—	46	(48)	(122)	(137)
Credit derivatives	(3)	8	—	(22)	48	—	—	(14)	(19)	(18)	(18)
Total derivatives, net [2]	169	40	—	129	(10)	(136)	26	33	(130)	41	2
Short-term borrowings	37	26	—	10	(31)	—	165	—	(1)	154	(133)
Long-term debt	4,302	(125)	—	1,146	(1,534)	20	2,134	—	(344)	5,849	(1,167)

(1) Represents the amount of total gains or losses for the period, included in earnings, attributable to the change in fair value relating to assets and liabilities classified as Level 3 that are still held at June 30, 2019.
(2) Total Level 3 trading derivative assets and liabilities have been netted in these tables for presentation purposes only.

Level 3 Fair Value Rollforward

The following were the significant Level 3 transfers for the period December 31, 2019 to June 30, 2020:

- During the six months ended June 30, 2020, $3.3 billion of *Long-term debt* containing embedded derivatives was transferred from Level 2 to Level 3, as a result of interest rate option volatility, equity correlation and credit derivative inputs becoming unobservable and/or significant relative to the overall valuation of certain structured long-term debt products. In other instances, market changes resulted in unobservable volatility inputs becoming insignificant to the overall valuation of the instrument (e.g., when an option becomes deep-in or deep-out of the money). This has resulted in $2.4 billion of certain structured long-term debt products being transferred from Level 3 to Level 2 during the six months ended June 30, 2020.

The following were the significant Level 3 transfers for the period December 31, 2018 to June 30, 2019:

- During the six months ended June 30, 2019, transfers of *Long-term debt* of $1.1 billion from Level 2 to Level 3, and of $1.5 billion from Level 3 to Level 2, mainly related to structured debt, reflecting changes in the significance of unobservable inputs as well as certain underlying market inputs becoming less or more observable.

Valuation Techniques and Inputs for Level 3 Fair Value Measurements

The following tables present the valuation techniques covering the majority of Level 3 inventory and the most significant unobservable inputs used in Level 3 fair value measurements. Differences between this table and amounts presented in the Level 3 Fair Value Rollforward table represent individually immaterial items that have been measured using a variety of valuation techniques other than those listed.

As of June 30, 2020	Fair Value [1] *(in millions)*	Methodology	Input	Low [2] [3]	High [2] [3]	Weighted Average [4]
Assets						
Securities borrowed and purchased under agreements to resell	$ 107	Model-based	Interest rate	0.13 %	1.66 %	0.42 %
Mortgage-backed securities	$ 462	Price-based	Price	$ 25	$ 119	$ 88
	281	Yield analysis	Yield	1.72 %	18.44 %	8.29 %
State and municipal, foreign government, corporate and other debt securities	$ 554	Price-based	Price	$ —	$ 123	$ 85
Equity securities [5]	$ 60	Price-based	Price	$ —	$ 23,250	$ 1,367
Asset-backed securities	$ 1,264	Price-based	Price	$ 2	$ 100	$ 59
	507	Yield analysis	Yield	3.12 %	16.68 %	8.33 %
Non-marketable equity	$ 135	Comparables analysis	Price	$ 12	$ 1,871	$ 1,054
	29	Model-based	Appraised value	$500,000	$27,608,327	$21,440,195
	20	Price-based	Illiquidity discount	20.00 %	40.00 %	35.53 %
Derivatives – Gross [6]						
Interest rate contracts (gross)	$ 2,782	Model-based	IR normal volatility	0.16 %	0.84 %	0.54 %
			Inflation volatility	0.25 %	2.83 %	0.78 %
Foreign exchange contracts (gross)	$ 476	Model-based	FX volatility	2.09 %	15.28 %	8.80 %
			IR normal volatility	0.16 %	0.84 %	0.60 %
			IR-FX correlation	40.00 %	60.00 %	50.00 %
			IR-IR correlation	40.00 %	40.00 %	40.00 %
Equity contracts (gross) [7]	$ 1,555	Model-based	Equity volatility	3.85 %	49.33 %	25.51 %
			Forward price	63.19 %	106.16 %	89.25 %
			Equity-FX correlation	(95.00)%	59.35 %	(23.71)%
			Equity-Equity correlation	(47.12)%	99.61 %	62.34 %
Commodity contracts (gross)	$ 2,390	Model-based	Forward price	36.19 %	356.52 %	99.85 %
			Commodity volatility	(4.19)%	98.96 %	8.33 %
			Commodity correlation	(40.72)%	90.33 %	65.73 %
Credit derivatives (gross)	$ 1,205	Model-based	Credit spread	17 bps	675 bps	119 bps
	337	Price-based	Price	$ 23	$ 92	$ 80
			Upfront points	5.40 %	98.40 %	52.09 %
Other financial assets measured on a recurring basis	$ 12	Model-based	Forward price	74.01 %	103.92 %	81.98 %
			Commodity correlation	(40.72)%	90.33 %	65.73 %
			Commodity volatility	4.19 %	96.86 %	8.33 %
Liabilities						
Securities loaned and sold under agreements to repurchase	$ 625	Model-based	Interest rate	0.13 %	1.66 %	0.78 %

As of June 30, 2020	**Fair Value** [1] *(in millions)*	**Methodology**	**Input**	**Low** [2] [3]	**High** [2] [3]	**Weighted Average** [4]
Trading account liabilities						
Securities sold, not	$ 49	Price-based	Price	$ —	$ 866	$ 79
yet purchased	37	Model-based	Interest rate	9.57 %	27.68 %	11.98 %
			IR Lognormal volatility	52.16 %	107.54 %	86.92 %
Short-term borrowings						
and long-term debt	$ 9,527	Model-based	Forward price	36.19 %	356.52 %	93.78 %
			IR normal volatility	0.16 %	0.84 %	0.51 %
			Credit spread	455 bps	947 bps	642 bps
			Equity volatility	3.85 %	32.87 %	16.29 %

As of December 31, 2019	**Fair Value** [1] *(in millions)*	**Methodology**	**Input**	**Low** [2] [3]	**High** [2] [3]	**Weighted Average** [4]
Assets						
Securities borrowed and purchased under agreements to resell	$ 117	Model-based	Interest rate	1.59 %	3.67 %	2.72 %
Mortgage-backed securities	$ 183	Price-based	Price	$ 36	$ 524	$ 104
State and municipal, foreign government, corporate and other debt securities	$ 199	Price-based	Price	$ —	$ 1,238	$ 105
	85	Model-based				
Equity securities [5]	$ 66	Price-based	Price	$ —	$ 38,500	$ 3,169
Asset-backed securities	$ 809	Price-based	Price	$ 4	$ 103	$ 60
	354	Yield analysis	Yield	0.61 %	23.38 %	9.06 %
Non-marketable equity	$ 136	Comparables analysis	Price	$ 3	$ 2,019	$ 1,020
	53	Price-based	Appraised value	$317,192	$33,245,976	$11,161,570
	28	Model-based	PE ratio	20.00x	20.00x	20.00x
			Price to book ratio	1.50x	3.00x	1.88x
Derivatives – Gross [6]						
Interest rate contracts (gross)	$ 789	Model-based	IR normal volatility	0.09 %	0.56 %	0.48 %
			Inflation volatility	0.21 %	2.74 %	0.77 %
			IR-IR correlation	(51.00)%	40.00 %	24.12 %
			Forward price	37.62 %	362.57 %	104.12 %
			FX volatility	3.35 %	11.30 %	9.93 %
			IR-FX correlation	40.00 %	60.00 %	50.00 %
Foreign exchange contracts (gross)	$ 267	Model-based	IR normal volatility	0.27 %	0.66 %	0.57 %
			FX volatility	3.35 %	12.16 %	10.63 %
			IR-IR correlation	40.00 %	40.00 %	40.00 %
			IR-FX correlation	40.00 %	60.00 %	50.00 %
Equity contracts (gross) [7]	$ 846	Model-based	Forward price	37.62 %	362.57 %	97.51 %
			Equity volatility	3.16 %	48.90 %	19.27 %
			Equity-FX correlation	(94.48)%	60.00 %	(17.08)%
			Equity-Equity correlation	(45.00)%	99.61 %	46.75 %
			Equity-IR correlation	15.00 %	44.00 %	32.66 %
Commodity contracts (gross)	$ 1,508	Model-based	Forward price	37.62 %	362.57 %	119.26 %
			Commodity volatility	5.25 %	93.63 %	23.55 %
			Commodity correlation	(39.65)%	87.81 %	41.80 %
Credit derivatives (gross)	$ 346	Model-based	Price	$ 9	$ 100	$ 92
	207	Price-based	Upfront points	0.99 %	98.34 %	53.60 %
			Credit spread	10 bps	362 bps	100 bps
Other financial assets measured on a recurring basis	$ 3	Model-based	Forward price	58.73 %	200.19 %	118.42 %

As of December 31, 2019	**Fair Value [(1)]** *(in millions)*	**Methodology**	**Input**	**Low [(2) (3)]**	**High [(2) (3)]**	**Weighted Average [(4)]**
Liabilities						
Securities loaned and sold under agreements to repurchase	$ 757	Model-based	Interest rate	1.59 %	2.38 %	1.95 %
Trading account liabilities						
Securities sold, not yet purchased	$ 39	Price-based	Price	$ —	$ 866	$ 95
Short-term borrowings and long-term debt	$ 7,330	Model-based	Forward price	37.62 %	362.57 %	97.34 %
			Equity-IR correlation	15.00 %	44.00 %	32.66 %
			IR normal volatility	0.09 %	0.66 %	0.49 %
			Mean reversion	1.00 %	20.00 %	10.50 %
			Equity volatility	3.16 %	21.94 %	12.76 %

(1) The fair value amounts presented in these tables represent the primary valuation technique or techniques for each class of assets or liabilities.
(2) Some inputs are shown as zero due to rounding.
(3) When the low and high inputs are the same, there is either a constant input applied to all positions, or the methodology involving the input applies to only one large position.
(4) Weighted averages are calculated based on the fair values of the instruments.
(5) For equity securities, the price inputs are expressed on an absolute basis, not as a percentage of the notional amount.
(6) Trading account derivatives—assets and liabilities—are presented on a gross absolute value basis.
(7) Includes hybrid products.

Estimated Fair Value of Financial Instruments Not Carried at Fair Value

The following tables present the carrying value and fair value of the Company's financial instruments that are not carried at fair value. The tables below therefore exclude items measured at fair value on a recurring basis presented in the tables above.

	June 30, 2020		Estimated fair value		
In billions of dollars	Carrying value	Estimated fair value	Level 1	Level 2	Level 3
Assets					
Securities borrowed and purchased under agreements to resell	$ 75.3	$ 75.3	$ —	$ 75.3	$ —
Receivables	97.4	97.4	—	64.2	33.2
Other financial assets [(1)]	20.4	20.4	16.7	—	3.7
Liabilities					
Securities loaned and sold under agreements to repurchase	$ 191.3	$ 191.3	$ —	$ 191.3	$ —
Long-term debt	77.5	77.5	—	74.4	3.1
Other financial liabilities [(2)]	79.4	79.4	—	24.1	55.3

	December 31, 2019		Estimated fair value		
In billions of dollars	Carrying value	Estimated fair value	Level 1	Level 2	Level 3
Assets					
Securities borrowed and purchased under agreements to resell	$ 65.8	$ 65.8	$ —	$ 65.8	$ —
Receivables	81.9	81.9	—	56.1	25.8
Other financial assets [(1)]	20.1	20.1	16.4	—	3.7
Liabilities					
Securities loaned and sold under agreements to repurchase	$ 141.6	$ 141.6	$ —	$ 141.6	$ —
Long-term debt	67.4	67.5	—	64.4	3.1
Other financial liabilities [(2)]	72.3	72.3	—	24.2	48.1

(1) Includes cash and cash equivalents, cash segregated under federal and other regulations and other financial instruments included in *Other assets* on the Consolidated Statement of Financial Condition, for all of which the carrying value is a reasonable estimate of fair value.
(2) Includes short-term borrowings (carried at cost), payables to customers and brokers, dealers and clearing organizations, and other financial instruments included in *Other payables and accrued liabilities* on the Consolidated Statement of Financial Condition, for all of

which the carrying value is a reasonable estimate of fair value.

10. FAIR VALUE ELECTIONS

The Company may elect to report most financial instruments at fair value on an instrument-by-instrument basis with changes in fair value reported in earnings, other than DVA (see below). The election is made upon the initial recognition of an eligible financial asset or financial liability or when certain specified reconsideration events occur. The fair value election may not otherwise be revoked once an election is made. The changes in fair value are recorded in current earnings, other than DVA, which is reported in *AOCI*. Additional discussion regarding the applicable areas in which fair value elections were made is presented in Note 9 to the Consolidated Financial Statements.

The following table presents the changes in fair value of those items for which the fair value option has been elected:

	Changes in fair value—gains (losses) Six Months Ended June 30,	
In millions of dollars	**2020**	**2019**
Assets		
Securities borrowed and purchased under agreements to resell	$ 43	$ 31
Investments	—	—
Other financial assets	(100)	(228)
Total assets	$ (57)	$ (197)
Liabilities		
Securities loaned and sold under agreements to repurchase	$ (92)	$ 86
Trading account liabilities	—	(2)
Short-term borrowings (1)	975	(39)
Long-term debt (1)	2,125	(1,780)
Total liabilities	$ 3,008	$ (1,735)

(1) Includes DVA that is included in *AOCI*. See Note 9 to the Consolidated Financial Statements.

Own Debt Valuation Adjustments (DVA)

Own debt valuation adjustments are recognized on the Company's liabilities for which the fair value option has been elected using Citi's credit spreads observed in the bond market. Changes in fair value of the Company's fair value option liabilities related to changes in Citigroup's own credit spreads (DVA) are reflected as a component of *AOCI*.

Among other variables, the fair value of liabilities for which the fair value option has been elected (other than non-recourse debt and similar liabilities) is impacted by the narrowing or widening of Citigroup's credit spreads.

The estimated changes in the fair value of these non-derivative liabilities due to such changes in Citigroup's own credit spread (or instrument-specific credit risk) were a gain of $253 million and a loss of $425 million for the six months ended June 30, 2020 and 2019, respectively. Changes in fair value resulting from changes in instrument-specific credit risk were estimated by incorporating Citigroup's current credit spreads observable in the bond market into the relevant valuation technique used to value each liability as described above.

The Fair Value Option for Financial Assets and Financial Liabilities

Selected Portfolios of Securities Purchased Under Agreements to Resell, Securities Borrowed, Securities Sold Under Agreements to Repurchase, Securities Loaned and Certain Non-Collateralized Short-Term Borrowings

The Company elected the fair value option for certain portfolios of fixed income securities purchased under agreements to resell and fixed income securities sold under agreements to repurchase, securities borrowed, securities loaned and certain non-collateralized short-term borrowings held primarily by broker-dealer entities in the United States and United Kingdom. In each case, the election was made because the related interest rate risk is managed on a portfolio basis, primarily with offsetting derivative instruments that are accounted for at fair value through earnings.

Changes in fair value for transactions in these portfolios are recorded in *Principal transactions*. The related interest revenue and interest expense are measured based on the contractual rates specified in the transactions and are reported as *Interest revenue* and *Interest expense* in the Consolidated Statement of Income.

Certain Investments in Private Equity and Real Estate Ventures

The Company invests in private equity and real estate ventures for the purpose of earning investment returns and for capital appreciation. The Company has elected the fair value option for certain of these ventures, because such investments are considered similar to many private equity or hedge fund activities in the Company's investment companies, which are reported at fair value. The fair value option brings consistency in the accounting and evaluation of these investments. All investments (debt and equity) in such private equity and real estate entities are accounted for at fair value. These investments are classified as *Other assets* on the Company's Consolidated Statement of Financial Condition.

Changes in the fair values of these investments are classified in *Other revenue* in the Company's Consolidated Statement of Income.

Other Financial Assets

The Company also elected the fair value option for certain securities financing agreements with embedded derivatives. Changes in fair value for these transactions are recorded in *Principal transactions*.

Certain Structured Liabilities

The Company has elected the fair value option for certain structured liabilities whose performance is linked to structured interest rates, inflation, currency, equity, referenced credit or commodity risks. The Company elected the fair value option because these exposures are considered to be trading-related positions and, therefore, are managed on a fair value basis. These positions are classified as *Long-term debt* on the Company's Consolidated Statement of Financial Condition.

The following table provides information about the carrying value of structured notes, disaggregated by type of embedded derivative instrument:

In millions of dollars	June 30, 2020	December 31, 2019
Equity linked	$ 23,811	$ 21,019
Interest rate linked	10,886	9,918
Credit linked	2,400	2,412
Commodity linked	1,745	1,766
Foreign exchange linked	410	292
Total	$ 39,252	$ 35,407

The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (DVA) is reflected as a component of *AOCI* while all other changes in fair value are reported in *Principal transactions*. Changes in the fair value of these structured liabilities include accrued interest, which is also included in the change in fair value reported in *Principal transactions*.

Certain Non-Structured Liabilities

The Company has elected the fair value option for certain non-structured liabilities with fixed and floating interest rates. The Company has elected the fair value option where the interest rate risk of such liabilities may be economically hedged with derivative contracts or the proceeds are used to purchase financial assets that will also be accounted for at fair value through earnings. The elections have been made to mitigate accounting mismatches and to achieve operational simplifications. These positions are reported in *Short-term borrowings* and *Long-term debt* on the Company's Consolidated Statement of Financial Condition. The portion of the changes in fair value attributable to changes in Citigroup's own credit spreads (DVA) is reflected as a component of AOCI while all other changes in fair value will continue to be reported in *Principal transactions*.

Interest expense on non-structured liabilities is measured based on the contractual interest rates and reported as *Interest expense* in the Consolidated Statement of Income.

The following table provides information about long-term debt carried at fair value:

In millions of dollars	June 30, 2020	December 31, 2019
Carrying amount reported on the Consolidated Statement of Financial Condition	$ 44,229	$ 38,929
Aggregate unpaid principal balance in excess of (less than) fair value	(566)	(2,316)

The following table provides information about short-term borrowings carried at fair value:

In millions of dollars	June 30, 2020	December 31, 2019
Carrying amount reported on the Consolidated Statement of Financial Condition	$ 4,947	$ 3,998
Aggregate unpaid principal balance in excess of fair value	58	1,316

11. GUARANTEES, LEASES AND COMMITMENTS

CGMHI provides a variety of guarantees and indemnifications to its customers to enhance their credit standing and enable them to complete a wide variety of business transactions. For certain contracts meeting the definition of a guarantee, the guarantor must recognize, at inception, a liability for the fair value of the obligation undertaken in issuing the guarantee.

In addition, the guarantor must disclose the maximum potential amount of future payments that the guarantor could be required to make under the guarantee, if there were a total default by the guaranteed parties. The determination of the maximum potential future payments is based on the notional amount of the guarantees without consideration of possible recoveries under recourse provisions or from collateral held or pledged. As such, CGMHI believes such amounts bear no relationship to the anticipated losses, if any, on these guarantees.

For additional information regarding CGMHI's guarantees and indemnifications, see Note 14 to the Consolidated Financial Statements in CGMHI's 2019 Audited Financial Statements.

Derivative Instruments Considered to Be Guarantees

As of June 30, 2020, the maximum potential amount of future payments on derivative instruments considered to be guarantees was $9.9 billion, including $2.6 billion expiring within one year. As of December 31, 2019, the maximum potential amount of future payments on derivative instruments considered to be guarantees was $16.6 billion, including $7.7 billion expiring within one year. The carrying amount of the liabilities related to these derivative instruments considered to be guarantees was $462 million and $65 million at June 30, 2020 and December 31, 2019, respectively, and is recorded at fair value in *Trading account liabilities*.

Value-Transfer Networks (Including Exchanges and Clearing Houses) (VTNs)

The Company is a member of, or shareholder in, hundreds of value-transfer networks (VTNs) (payment, clearing and settlement systems as well as exchanges) around the world. As a condition of membership, many of these VTNs require that members stand ready to pay a pro rata share of the losses incurred by the organization due to another member's default on its obligations. CGMHI's potential obligations may be limited to its membership interests in the VTNs, contributions to the VTN's funds, or, in certain narrow cases, to the full pro rata share. At June 30, 2020 and December 31, 2019, CGMHI had $10.9 billion and $14.3 billion, respectively, in capped contingent liquidity facilities with VTNs. The maximum exposure is difficult to estimate as this would require an assessment of claims that have not yet occurred; however, management believes the risk of loss is remote given historical experience with the VTNs. Accordingly, there are no amounts reflected on the Consolidated Statement of Financial Condition as of June 30, 2020 or December 31, 2019 for potential obligations that could arise from Citi's involvement with VTN associations.

Futures and Over-the-Counter Derivatives Clearing

CGMHI provides clearing services on central clearing parties (CCP) for clients that need to clear exchange-traded and over-the-counter (OTC) derivative contracts with CCPs. Based on all relevant facts and circumstances, CGMHI has concluded that it acts as an agent for accounting purposes in its role as clearing member for these client transactions. As such, CGMHI does not reflect the underlying exchange-traded or OTC derivatives contracts in its Consolidated Financial Statements. See Note 8 for a discussion of CGMHI's derivatives activities that are reflected in its Consolidated Financial Statements.

As a clearing member, CGMHI collects and remits cash and securities collateral (margin) between its clients and the respective CCP. In certain circumstances, CGMHI collects a higher amount of cash (or securities) from its clients than it needs to remit to the CCPs. This excess cash is then held at depository institutions such as banks or carry brokers.

There are two types of margin: initial and variation. Where CGMHI obtains benefits from or controls cash initial margin (e.g., retains an interest spread), cash initial margin collected from clients and remitted to the CCP or depository institutions is reflected within *Payables to customers* and *Receivables from brokers, dealers and clearing organizations* or *Cash segregated under federal and other regulations*, respectively.

However, for exchange-traded and OTC-cleared derivative contracts where CGMHI does not obtain benefits from or control the client cash balances, the client cash initial margin collected from clients and remitted to the CCP or depository institutions is not reflected on CGMHI's Consolidated Statement of Financial Condition. These conditions are met when CGMHI has contractually agreed with the client that (i) CGMHI will pass through to the client all interest paid by the CCP or depository institutions on the cash initial margin, (ii) CGMHI will not utilize its right as a clearing member to transform cash margin into other assets, (iii) CGMHI does not guarantee and is not liable to the client for the performance of the CCP or the depository institution and (iv) the client cash balances are legally isolated from CGMHI's bankruptcy estate. The total amount of cash initial margin collected and remitted in this manner was approximately $15.0 billion and $11.5 billion as of June 30, 2020 and December 31, 2019, respectively.

Variation margin due from clients to the respective CCP, or from the CCP to clients, reflects changes in the value of the client's derivative contracts for each trading day. As a clearing member, CGMHI is exposed to the risk of non-performance by clients (e.g., failure of a client to post variation margin to the CCP for negative changes in the value of the client's derivative contracts). In the event of non-performance by a client, CGMHI would move to close out the client's positions. The CCP would typically utilize initial margin posted by the client and held by the CCP, with any remaining shortfalls required to be paid by CGMHI as clearing member. CGMHI generally holds incremental cash or securities margin posted by the client, which would typically be expected to be sufficient to mitigate CGMHI's credit risk in the event the client fails to perform.

As required by ASC 860-30-25-5, securities collateral posted by clients is not recognized on the Company's Consolidated Statement of Financial Condition.

Leases

The Company's operating leases, where CGMHI is a lessee, represent office space and branches. The operating lease ROU asset and lease liability were $769 million and $612 million, respectively, as of June 30, 2020, compared to an operating lease ROU asset of $828 million and lease liability of $660 million as of December 31, 2019. The Company recognizes fixed lease costs on a straight-line basis throughout the lease term in the Consolidated Statement of Income. In addition, variable lease costs are recognized in the period in which the obligation for those payments is incurred.

Other Commitments and Contingencies

CGMHI had margin loan indemnification agreements of $0.7 billion at June 30, 2020 and December 31, 2019. The commitments to potentially indemnify do not relate to a loan on CGMH's Consolidated Statement of Financial Condition, nor a commitment to extend a loan. The contingencies potentially triggering the obligation to indemnify have not occurred and are not expected to occur. As a result, there are no amounts reflected on the Consolidated Statement of Financial Condition as of June 30, 2020 or December 31, 2019 for potential obligations that could arise from these indemnifications provided by the Company.

Unsettled Reverse Repurchase and Securities Borrowing Agreements and Unsettled Repurchase and Securities Lending Agreements

In addition, in the normal course of business, the Company enters into reverse repurchase and securities borrowing agreements, as well as repurchase and securities lending agreements, which settle at a future date. At June 30, 2020 and December 31, 2019, the Company had approximately $20.0 billion and $14.7 billion of unsettled reverse repurchase and securities borrowing agreements, and approximately $79.9 billion and $41.7 billion of unsettled repurchase and securities lending agreements, respectively. For a further discussion of securities purchased under agreements to resell and securities borrowed, and securities sold under agreements to repurchase and securities loaned, including the Company's policy for offsetting repurchase and reverse repurchase agreements, see Note 4 to the Consolidated Financial Statements.

12. RELATED PARTY TRANSACTIONS

Citigroup Inc. owns 100% of the outstanding common stock of the Company. Pursuant to various intercompany agreements, a number of significant transactions are carried out between the Company and Citigroup and/or their affiliates, including the Citigroup parent company.

Detailed below is a summary of the Company's transactions with other Citigroup affiliates, which are included in the accompanying Consolidated Statement of Income and Consolidated Statement of Financial Condition. These amounts exclude intra-CGMHI balances that eliminate in consolidation.

STATEMENT OF INCOME ITEMS

	Six Months Ended June 30,	
In millions of dollars	2020	2019
Revenues		
Principal transactions [(1)]	$ 499	$ 1,361
Investment banking	238	215
All other revenues	26	69
Total non-interest revenues	763	1,645
Interest revenue	623	1,021
Interest expense	1,403	2,227
Net interest revenue (expense)	(780)	(1,206)
Total revenues, net of interest expense	$ (17)	$ 439
Operating expenses		
Communications	$ 202	$ 271
Occupancy and equipment	91	70
All other expenses [(2)]	564	835
Total non-interest expenses	$ 857	$ 1,176

(1) Includes mark-to-market valuation adjustments for derivatives or hedges executed with non-consolidated CGMHI affiliates, but does not include mark-to-market valuation adjustments related to any offsetting derivatives or hedges executed with third-parties external to CGMHI.

(2) Includes expenses from affiliates for shared services and charges, as well as fees for the early termination of debt with affiliates.

STATEMENT OF FINANCIAL CONDITION ITEMS

In millions of dollars	June 30, 2020	December 31, 2019
Assets		
Cash and cash equivalents	$ 6,527	$ 5,483
Cash segregated under federal and other regulations	4,943	6,322
Securities borrowed or purchased under agreements to resell	24,679	21,446
Derivatives	3,786	5,858
Loans to affiliates	49,335	44,617
Brokerage and other receivables and other assets	1,618	590
Total assets	$ 90,888	$ 84,316
Liabilities		
Short-term borrowings	$ 16,888	$ 17,129
Securities loaned or sold under agreements to repurchase	51,179	36,581
Derivatives	2,745	5,109
Payables and accrued liabilities:		
Customers and brokers, dealers and clearing organizations	7,501	6,902
Other	1,737	1,131
Long-term debt	76,880	66,791
Total liabilities	$156,930	$133,643

Stock-Based Compensation and Retirement Benefits

The Company participates in various Citigroup stock-based compensation programs under which Citigroup stock or stock options are granted to certain of the Company's employees. The Company has no stock-based compensation programs in which its own stock is granted. The Company pays Citigroup directly for participation in certain of its stock-based compensation programs, but receives a capital contribution for those awards related to participation in the employee incentive stock option program.

The Company participates in several non-contributory defined-benefit pension plans and a defined-contribution plan sponsored by Citigroup covering certain eligible employees.

CGMHI Tax-Sharing Agreement

The Company is included in the Citigroup consolidated federal tax return and is a party to a tax-sharing agreement with Citigroup. Under such agreement, the Company is entitled to a tax benefit for its losses and credits that are recognized in Citigroup's Consolidated Financial Statements. Settlements between the Company and Citigroup of current taxes occur throughout the year. The Company also files its consolidated and combined state income tax returns with Citigroup and/or others of its subsidiaries.

Other Intercompany Agreements

Citigroup and its subsidiaries engage in other transactions and servicing activities with the Company, including cash management, data processing, telecommunications, payroll processing and administration, facilities procurement, underwriting and others.

13. CONTINGENCIES

Accounting and Disclosure Framework

ASC 450 governs the disclosure and recognition of loss contingencies, including potential losses from litigation, regulatory, tax and other matters. ASC 450 defines a "loss contingency" as "an existing condition, situation, or set of circumstances involving uncertainty as to possible loss to an entity that will ultimately be resolved when one or more future events occur or fail to occur." It imposes different requirements for the recognition and disclosure of loss contingencies based on the likelihood of occurrence of the contingent future event or events. It distinguishes among degrees of likelihood using the following three terms: "probable," meaning that "the future event or events are likely to occur"; "remote," meaning that "the chance of the future event or events occurring is slight"; and "reasonably possible," meaning that "the chance of the future event or events occurring is more than remote but less than likely." These three terms are used below as defined in ASC 450. In establishing appropriate disclosure and recognition for loss contingencies, management assesses each matter including the role of the relevant Citigroup legal entity. Because specific loss contingency matters may involve multiple Citigroup legal entities and are not solely related to one legal entity, this process requires management to make certain estimates and judgments that affect the Company's Consolidated Financial Statements.

Accruals. ASC 450 requires accrual for a loss contingency when it is "probable that one or more future events will occur confirming the fact of loss" *and* "the amount of the loss can be reasonably estimated." In accordance with ASC 450, Citigroup establishes accruals for contingencies, including the litigation, regulatory and tax matters disclosed herein, when Citigroup believes it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. When the reasonable estimate of the loss is within a range of amounts, the minimum amount of the range is accrued, unless some higher amount within the range is a better estimate than any other amount within the range. Once established, accruals are adjusted from time to time, as appropriate, in light of additional information. The amount of loss ultimately incurred in relation to those matters may be substantially higher or lower than the amounts accrued for those matters.

Disclosure. ASC 450 requires disclosure of a loss contingency if "there is at least a reasonable possibility that a loss or an additional loss may have been incurred" *and* there is no accrual for the loss because the conditions described above are not met or an exposure to loss exists in excess of the amount accrued. In accordance with ASC 450, if Citigroup has not accrued for a matter because Citigroup believes that a loss is reasonably possible but not probable, or that a loss is probable but not reasonably estimable, and the reasonably possible loss is material, it discloses the loss contingency. In addition, Citigroup discloses matters for which it has accrued if it believes a reasonably possible exposure to material loss exists in excess of the amount accrued. In accordance with ASC 450, Citigroup's disclosure includes an estimate of the reasonably possible loss or range of loss for those matters as to which an estimate can be made. ASC 450 does not require disclosure of an estimate of the reasonably possible loss or range of loss where an estimate cannot be made. Neither accrual nor disclosure is required for losses that are deemed remote.

Litigation, Regulatory and Other Contingencies

Overview. In addition to the matters described below, in the ordinary course of business, CGMHI, its parent entity Citigroup, its affiliates and subsidiaries, and current and former officers, directors and employees (for purposes of this section, sometimes collectively referred to as Citigroup and Related Parties) routinely are named as defendants in, or as parties to, various legal actions and proceedings. Certain of these actions and proceedings assert claims or seek relief in connection with alleged violations of consumer protection, securities, banking, antifraud, antitrust, anti-money laundering, employment and other statutory and common laws. Certain of these actual or threatened legal actions and proceedings include claims for substantial or indeterminate compensatory or punitive damages, or for injunctive relief, and in some instances seek recovery on a class-wide basis.

In the ordinary course of business, Citigroup and Related Parties 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, restitution, disgorgement, injunctions or other relief. In addition, Citigroup is a bank holding company, and certain affiliates and subsidiaries of CGMHI are banks, registered broker-dealers, futures commission merchants, investment advisors or other regulated entities and, in those capacities, are subject to regulation by various U.S., state and foreign securities, banking, commodity futures, consumer protection and other regulators. In connection with formal and informal inquiries by these regulators, Citigroup and such affiliates and subsidiaries receive numerous requests, subpoenas and orders seeking documents, testimony and other information in connection with various aspects of their regulated activities. From time to time Citigroup and Related Parties also receive grand jury subpoenas and other requests for information or assistance, formal or informal, from federal or state law enforcement agencies including, among others, various United States Attorneys' Offices, the Asset Forfeiture and Money Laundering Section and other divisions of the Department of Justice, the Financial Crimes Enforcement Network of the United States Department of the Treasury, and the Federal Bureau of Investigation relating to Citigroup and its customers.

Because of the global scope of Citigroup's operations, and its presence in countries around the world, Citigroup and Related Parties are subject to litigation and governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal) in multiple jurisdictions with legal, regulatory and tax regimes that may differ substantially, and present substantially different risks, from those Citigroup and Related Parties are subject to in the United States. In some instances, Citigroup and Related Parties may be involved in proceedings involving the same subject matter in multiple jurisdictions, which may result in overlapping, cumulative or inconsistent outcomes.

Citigroup and CGMHI seek to resolve all litigation, regulatory, tax and other matters in the manner management believes is in the best interests of Citigroup and its shareholders, and contests liability, allegations of wrongdoing and, where applicable, the amount of damages or scope of any penalties or other relief sought as appropriate in each pending matter.

Inherent Uncertainty of the Matters Disclosed. Certain of the matters disclosed below involve claims for substantial or indeterminate damages. The claims asserted in these matters typically are broad, often spanning a multi-year period and sometimes a wide range of business activities, and the plaintiffs' or claimants' alleged damages frequently are not quantified or factually supported in the complaint or statement of claim. Other matters relate to regulatory investigations or proceedings, as to which there may be no objective basis for quantifying the range of potential fine, penalty or other remedy. As a result, Citigroup is often unable to estimate the loss in such matters, even if it believes that a loss is probable or reasonably possible, until developments in the case, proceeding or investigation have yielded additional information sufficient to support a quantitative assessment of the range of reasonably possible loss. Such developments may include, among other things, discovery from adverse parties or third parties, rulings by the court on key issues, analysis by retained experts and engagement in settlement negotiations. Depending on a range of factors, such as the complexity of the facts, the novelty of the legal theories, the pace of discovery, the court's scheduling order, the timing of court decisions and the adverse party's, regulator's or other authority's willingness to negotiate in good faith toward a resolution, it may be months or years after the filing of a case or commencement of a proceeding or an investigation before an estimate of the range of reasonably possible loss can be made.

Matters as to Which an Estimate Can Be Made. For some of the matters disclosed below, Citigroup is currently able to estimate a reasonably possible loss or range of loss in excess of amounts accrued (if any). For some of the matters included within this estimation, an accrual has been made because a loss is believed to be both probable and reasonably estimable, but an exposure to loss exists in excess of the amount accrued. In these cases, the estimate reflects the reasonably possible range of loss in excess of the accrued amount. For other matters included within this estimation, no accrual has been made because a loss, although estimable, is believed to be reasonably possible, but not probable; in these cases, the estimate reflects the reasonably possible loss or range of loss.

These estimates are based on currently available information. As available information changes, the matters for which Citigroup is able to estimate will change, and the estimates themselves will change. In addition, while many estimates presented in financial statements and other financial disclosures involve significant judgment and may be subject to significant uncertainty, estimates of the range of reasonably possible loss arising from litigation, regulatory, tax, or other matters are subject to particular uncertainties. For example, at the time of making an estimate, Citigroup may have only preliminary, incomplete, or inaccurate information about the facts underlying the claim; its assumptions about the future rulings of the court or other tribunal on significant issues, or the behavior and incentives of adverse parties, regulators, or tax authorities may prove to be wrong; and the outcomes it is attempting to predict are often not amenable to the use of statistical or other quantitative analytical tools. In addition, from time to time an outcome may occur that Citigroup had not accounted for in its estimates because it had deemed such an outcome to be remote. For all these reasons, the amount of loss in excess of accruals ultimately incurred for the matters as to which an estimate has been made could be substantially higher or lower than the range of loss included in the estimate.

Matters as to Which an Estimate Cannot Be Made. For other matters disclosed below, Citigroup is not currently able to estimate the reasonably possible loss or range of loss. Many of these matters remain in very preliminary stages (even in some cases where a substantial period of time has passed since the commencement of the matter), with few or no substantive legal decisions by the court, tribunal or other authority defining the scope of the claims, the class (if any) or the potentially available damages or other exposure, and fact discovery is still in progress or has not yet begun. In many of these matters, Citigroup has not yet answered the complaint or statement of claim or asserted its defenses, nor has it engaged in any negotiations with the adverse party (whether a regulator, taxing authority or a private party). For all these reasons, Citigroup cannot at this time estimate the reasonably possible loss or range of loss, if any, for these matters.

Opinion of Management as to Eventual Outcome. Subject to the foregoing, it is the opinion of CGMHI's management, based on current knowledge and after taking into account its current legal accruals, that the eventual outcome of all matters described in this Note would not be likely to have a material adverse effect on the consolidated financial condition of CGMHI. Nonetheless, 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, from time to time, have a material adverse effect on CGMHI's consolidated results of operations or cash flows in particular quarterly or annual periods.

ANZ Underwriting Matter
In June 2018, the Australian Commonwealth Director of Public Prosecutions (CDPP) filed charges against Citigroup Global Markets Australia Pty Limited (CGMA) for alleged criminal cartel offenses following a referral by the Australian Competition and Consumer Commission. CDPP alleges that the cartel conduct took place following an institutional share placement by Australia and New Zealand Banking Group Limited (ANZ) in August 2015, where CGMA acted as joint underwriter and lead manager with other banks. CDPP also charged other banks and individuals, including current and former Citi employees. Separately, the Australian Securities and Investments Commission is conducting an investigation, and CGMA is cooperating with the investigation. Charges relating to CGMA are captioned R v. CITIGROUP GLOBAL MARKETS AUSTRALIA PTY LIMITED. The matter is before the Downing Centre Local Court in Sydney, Australia. Additional information concerning this action is publicly available in court filings under the docket number 2018/00175168.

Corporate Bonds Antitrust Litigation
On April 21, 2020, a complaint was filed against Citigroup, CGMI, and other defendants in the United States District Court for the Southern District of New York, asserting that defendants violated federal antitrust law by unreasonably restraining the trade of odd-lots of corporate bonds in the secondary market. The complaint seeks declaratory and injunctive relief, treble damages, pre- and post-judgment interest, and costs. The complaint is captioned LITOVICH, ET AL. v. BANK OF AMERICA CORPORATION, ET AL. Additional information concerning this action is publicly available in court filings under the docket number 1:20-cv-03154 (Liman, J.).

Foreign Exchange Matters
Regulatory Actions: Government and regulatory agencies in the U.S. and in other jurisdictions are conducting investigations or making inquiries regarding Citigroup's foreign exchange business. Citigroup is cooperating with these and related investigations and inquiries.

Antitrust and Other Litigation: In 2018, a number of institutional investors who opted out of the previously disclosed August 2018 final settlement filed an action against Citigroup, Citibank, CGMI and other defendants, captioned ALLIANZ GLOBAL INVESTORS, ET AL. v. BANK OF AMERICA CORP., ET AL., in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants manipulated, and colluded to manipulate, the foreign exchange markets. Plaintiffs assert claims under the Sherman Act and unjust enrichment claims, and seek consequential and punitive damages and other forms of relief. In July 2019, defendants moved to dismiss plaintiffs' second amended complaint. On May 28, 2020, the court granted in part and denied in part defendants' motion to dismiss the second amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 18 Civ. 10364 (S.D.N.Y.) (Schofield, J.).

In December 2018, a group of institutional investors issued a claim against Citibank, Citigroup and other defendants, captioned ALLIANZ GLOBAL INVESTORS GMBH AND OTHERS v. BARCLAYS BANK PLC AND OTHERS, in the High Court in London. Claimants allege that defendants manipulated, and colluded to manipulate, the foreign exchange market in violation of EU and U.K. competition laws. In July 2019, defendants responded to plaintiffs' claims, and in September 2019, claimants filed their reply. Additional information concerning this action is publicly available in court filings under the docket number CL-2018-000840.

In 2015, a putative class of consumers and businesses in the United States who directly purchased supracompetitive foreign currency at benchmark exchange rates filed an action against Citigroup and other defendants, captioned NYPL v. JPMORGAN CHASE & CO., ET AL., in the United States District Court for the Northern District of California. Subsequently, plaintiffs filed a third amended class action complaint, naming Citigroup, Citibank and Citicorp as defendants. Plaintiffs allege that they suffered losses as a result of defendants' alleged manipulation of, and collusion with respect to, the foreign exchange market. Plaintiffs assert claims under federal and California antitrust and consumer protection laws, and seek compensatory damages, treble damages and declaratory and injunctive relief. On April 30, 2020, plaintiffs filed a motion for class certification. Additional information concerning this action is publicly available in court filings under the docket numbers 15 Civ. 2290 (N.D. Cal.) (Chhabria, J.) and 15 Civ. 9300 (S.D.N.Y.) (Schofield, J.).

In 2017, putative classes of indirect purchasers of certain foreign exchange instruments filed an action against Citigroup, Citibank, Citicorp, CGMI and other defendants, captioned CONTANT, ET AL. v. BANK OF AMERICA CORP., ET AL., in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants engaged in a conspiracy to fix currency prices. Plaintiffs assert claims under the Sherman Act and various state antitrust laws, and seek compensatory damages and treble damages. In July 2019, the court granted preliminary approval of a settlement between plaintiffs and Citigroup, Citibank, Citicorp and CGMI. Additional information concerning this action is publicly available in court filings under the docket number 17 Civ. 3139 (S.D.N.Y.) (Schofield, J.).

On May 27, 2019, a putative class action was filed against Citibank and other defendants, captioned J WISBEY & ASSOCIATES PTY LTD v. UBS AG & ORS, in the Federal Court of Australia. Plaintiffs allege that defendants manipulated the foreign exchange markets. Plaintiffs assert claims under antitrust laws, and seek compensatory damages and declaratory and injunctive relief. On April 30, 2020, plaintiffs filed an application to amend their pleadings. Additional information concerning this action is publicly available in court filings under the docket number VID567/2019.

On July 29, 2019, an application, captioned MICHAEL O'HIGGINS FX CLASS REPRESENTATIVE LIMITED v. BARCLAYS BANK PLC AND OTHERS, was made to the U.K.'s Competition Appeal Tribunal requesting permission to commence collective proceedings against Citibank, Citigroup and other defendants. The application seeks compensatory damages for losses alleged to have arisen from the actions at issue in the European Commission's foreign exchange spot trading infringement decision (European Commission Decision of May 16, 2019 in Case AT.40135-FOREX (Three Way Banana Split) C(2019) 3631 final). Additional information concerning this action is publicly available in court filings under the docket number 1329/7/7/19.

On December 20, 2019, an application, captioned PHILLIP EVANS v. BARCLAYS BANK PLC AND OTHERS, was made to the U.K.'s Competition Appeal Tribunal requesting permission to commence collective proceedings against Citibank, Citigroup and other defendants. The application seeks compensatory damages similar to those in the Michael O'Higgins FX Class Representative Limited application. Additional information concerning this action is publicly available in court filings under the docket number 1336/7/7/19.

In September 2019, two motions for certification of class actions filed against Citibank, Citigroup and Citicorp and other defendants were consolidated, under the caption GERTLER, ET AL. v. DEUTSCHE BANK AG, in the Tel Aviv Central District Court in Israel. Plaintiffs allege that defendants manipulated the foreign exchange markets. The amended motion for certification has not yet been served on Citigroup or Citicorp. Additional information concerning this action is publicly available in court filings under the docket number CA 29013-09-18.

Interbank Offered Rates-Related Litigation and Other Matters

Antitrust and Other Litigation: In 2016, a putative class action was filed against Citibank, Citigroup and other defendants, now captioned FUND LIQUIDATION HOLDINGS LLC, AS ASSIGNOR AND SUCCESSOR-IN-INTEREST TO FRONTPOINT ASIAN EVENT DRIVEN FUND L.P., ET AL. v. CITIBANK, N.A., ET AL., in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants manipulated the Singapore Interbank Offered Rate and Singapore Swap Offer Rate. Plaintiffs assert claims under the Sherman Act, the Clayton Act, the RICO Act and state law. In May 2018, plaintiffs entered into a settlement with Citibank and Citigroup, under which Citibank and Citigroup agreed to pay approximately $10 million. In July 2019, the court found that it lacked subject-matter jurisdiction over the non-settling defendants and dismissed the case. The court also found that it lacked jurisdiction to approve the settlement and denied plaintiffs' motion for preliminary approval of the settlement. In August 2019, plaintiffs filed a notice of appeal with the United States Court of Appeals for the Second Circuit. Additional information concerning this action is publicly available in court filings under the docket numbers 16 Civ. 5263 (S.D.N.Y.) (Hellerstein, J.) and 19-2719 (2d Cir.).

In 2016, Banque Delubac filed an action against Citigroup, Citigroup Global Markets Limited (CGML) and Citigroup Europe Plc, captioned SCS BANQUE DELUBAC & CIE v. CITIGROUP INC., ET AL., in the Commercial Court of Aubenas in France. Plaintiff alleges that defendants suppressed LIBOR submissions between 2005 and 2012 and that Banque Delubac's EURIBOR-linked lending activity was negatively impacted as a result. Plaintiff asserts a claim under tort law, and seeks compensatory damages and consequential damages. In November 2018, the Commercial Court of Aubenas referred the case to the Commercial Court of Marseille. In March 2019, the Court of Appeal of Nîmes held that neither the Commercial Court of Aubenas nor any other court of France has territorial jurisdiction over Banque Delubac's claims. In May 2019, plaintiff filed an appeal before the *Cour de cassation* of France challenging the Court of Appeal of Nîmes's decision. Additional information concerning this action is publicly available in court filings under docket numbers RG no. 2018F02750 in the Commercial Court of Marseille and 19-16.931 in the *Cour de cassation*.

In May 2019, three putative class actions filed against Citigroup, Citibank, CGMI and other defendants were consolidated, under the caption IN RE ICE LIBOR ANTITRUST LITIGATION, in the United States District Court of the Southern District of New York. In July 2019, Plaintiffs filed a consolidated amended complaint. Plaintiffs allege that defendants suppressed ICE LIBOR. Plaintiffs assert claims under the Sherman Act, the Clayton Act and unjust enrichment, and seek compensatory damages, disgorgement and treble damages. In August 2019, defendants moved to dismiss the action. On March 26, 2020, the court granted Citigroup and the other defendants' motion to dismiss the action for failure to state a claim. On April 24, 2020, plaintiffs filed a notice of appeal with the United States Court of Appeals for the Second Circuit from the district court's grant of defendants' motion to dismiss the consolidated class action complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 19 Civ. 439 (S.D.N.Y.) (Daniels, J.) and 20-1492 (2d Cir.).

On March 2, 2020, in IN RE LIBOR-BASED FINANCIAL INSTRUMENTS ANTITRUST LITIGATION, the court granted preliminary approval of a settlement among Citigroup, Citibank, CGMI, and a class of purchasers of exchange-traded Eurodollar futures and options. Additional information concerning these actions is publicly available in court filings under the docket numbers 11 MD 2262 (S.D.N.Y.) (Buchwald, J.) and 17-1569 (2d Cir.).

Interest Rate and Credit Default Swap Matters

Regulatory Actions: The Commodity Futures Trading Commission (CFTC) is conducting an investigation into alleged anticompetitive conduct in the trading and clearing of interest rate swaps (IRS) by investment banks. Citigroup is cooperating with the investigation.

Antitrust and Other Litigation: Beginning in 2015, Citigroup, Citibank, CGMI, CGML, and numerous other parties were named as defendants in a number of industry-wide putative class actions related to IRS trading. These actions have been consolidated in the United States District Court for the Southern District of New York under the caption IN RE INTEREST RATE SWAPS ANTITRUST LITIGATION. The complaints allege that defendants colluded to prevent the development of exchange-like trading for IRS and assert federal and state antitrust claims and claims for unjust enrichment. Also consolidated under the same caption are individual actions filed by swap execution facilities, asserting federal and state antitrust claims, as well as claims for unjust enrichment and tortious interference with business relations. Plaintiffs in all of these actions seek treble damages, fees, costs, and injunctive relief. Lead plaintiffs in the class action moved for class certification in February 2019, and subsequently filed a fourth amended complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 18-CV-5361 (S.D.N.Y.) (Oetken, J.) and 16-MD-2704 (S.D.N.Y.) (Oetken, J.).

In 2017, Citigroup, Citibank, CGMI, CGML and numerous other parties were named as defendants in an action filed in the United States District Court for the Southern District of New York under the caption TERA GROUP, INC., ET AL. v. CITIGROUP, INC., ET AL. The complaint alleges that defendants colluded to prevent the development of exchange-like trading for credit default swaps and asserts federal and state antitrust claims and state law tort claims. In January 2020, plaintiffs filed an amended complaint. On April 3, 2020, defendants filed a motion to dismiss plaintiffs' amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 17-CV-4302 (S.D.N.Y.) (Sullivan, J.).

Sovereign Securities Matters

Regulatory Actions: Government and regulatory agencies in the U.S. and in other jurisdictions are conducting investigations or making inquiries regarding Citigroup's sales and trading activities in connection with sovereign and other government-related securities. Citigroup is cooperating with these investigations and inquiries.

Antitrust and Other Litigation: In 2015, putative class actions filed against CGMI and other defendants were consolidated, under the caption IN RE TREASURY SECURITIES AUCTION ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. In December 2017, a consolidated amended complaint was filed, alleging that defendants colluded to fix Treasury auction bids by sharing competitively sensitive information ahead of the auctions, and that defendants colluded to boycott and prevent the emergence of an anonymous, all-to-all electronic trading platform in the Treasuries secondary market. The complaint asserts claims under antitrust laws, and seeks damages, including treble damages where authorized by statute, and injunctive relief. In February 2018, defendants moved to dismiss the complaint. Additional information concerning this action is publicly available in court filings under the docket number 15-MD-2673 (S.D.N.Y.) (Gardephe, J.).

In 2016 and 2017, class actions by direct purchasers of supranational, sub-sovereign and agency (SSA) bonds filed against Citigroup, Citibank, CGMI, CGML and other defendants were consolidated, under the caption IN RE SSA BONDS

ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. In November 2018, a second amended consolidated complaint was filed, alleging that defendants, as market makers and traders of SSA bonds, colluded to fix the price at which they bought and sold SSA bonds in the secondary market. The complaint asserts claims under the antitrust laws and unjust enrichment, and seeks damages, including treble damages where authorized by statute, and disgorgement. In September 2019, the court granted defendants' motion to dismiss certain defendants, including CGML. On March 25, 2020, the court granted defendants' motion to dismiss the second amended consolidated class action complaint related to the SSA bond market with prejudice. On June 1, 2020, plaintiffs filed a notice of appeal with the United States Court of Appeals for the Second Circuit from the district court's grant of defendants' motion to dismiss the second amended consolidated class action complaint related to the SSA bond market. Additional information concerning these actions is publicly available in court filings under the docket numbers 16-cv-03711 (S.D.N.Y.) (Ramos, J.) and 20-1759 (2d Cir.).

On February 7, 2019, a putative class action, captioned STACHON v. BANK OF AMERICA N.A., ET AL., was filed against Citigroup, Citibank, CGMI, CGML and other defendants, captioned STACHON v. BANK OF AMERICA N.A., ET AL., in the United States District Court for the Southern District of New York. Plaintiffs assert claims under New York antitrust laws based on the same conduct alleged in IN RE SSA BONDS ANTITRUST LITIGATION and seek treble damages and injunctive relief. On June 25, 2020, plaintiff voluntarily dismissed the action without prejudice in light of the dismissal of the IN RE SSA BONDS ANTITRUST LITIGATION. Additional information concerning this action is publicly available in court filings under the docket number 19 Civ. 1205 (S.D.N.Y.) (Swain, J.).

In 2017, a class action related to the SSA bond market was filed in the Ontario Court of Justice in Canada, against Citigroup, Citibank, CGMI, CGML, Citibank Canada, Citigroup Global Markets Canada, Inc. and other defendants, asserting plaintiff claims under breach of contract, breach of the competition act, breach of foreign law, unjust enrichment and civil conspiracy. Plaintiffs seek compensatory and punitive damages and declaratory relief. Additional information concerning this action is publicly available in court filings under the docket number CV-17-586082-00CP (Ont. S.C.J.).

In 2017, purchasers of SSA bonds filed a similar action against Citigroup, Citibank, CGMI, CGML, Citibank Canada, Citigroup Global Markets Canada, Inc. and other defendants, captioned JOSEPH MANCINELLI, ET AL. v. BANK OF AMERICA CORPORATION, ET AL., in the Federal Court in Canada. In October 2019, plaintiffs filed an amended claim. Plaintiffs allege that defendants manipulated, and colluded to manipulate, the SSA bonds market. Plaintiffs assert claims under breach of the competition law, breach of foreign law, civil conspiracy, unjust enrichment, waiver of tort and breach of contract. Additional information concerning this action is publicly available in court filings under the docket number T-1871-17 (Fed. Ct.).

On September 10, 2019, plaintiffs filed a third consolidated amended complaint against CGMI and other defendants, under the caption IN RE GSE BONDS ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants conspired to manipulate the market for bonds issued by U.S. government-sponsored agencies. Plaintiffs assert a claim under the Sherman Act, and seek treble damages and injunctive relief. On June 16, 2020, the court granted final approval of a settlement with CGMI and 11 other defendants. Additional information concerning this action is publicly available in court filings under the docket number 19 Civ. 1704 (S.D.N.Y.) (Rakoff, J.).

On September 23, 2019, the State of Louisiana filed an action against CGMI and other defendants, captioned STATE OF LOUISIANA v. BANK OF AMERICA, N.A., ET AL., in the United States District Court for the Middle District of Louisiana. Plaintiff alleges that defendants conspired to manipulate the market for bonds issued by U.S. government-sponsored agencies. Plaintiff asserts a claim against defendants for a violation of the Sherman Act, and seeks treble damages and injunctive relief. Additional information concerning this action is publicly available in court filings under the docket number 19 Civ. 638 (M.D. La.) (Dick, C.J.).

On October 21, 2019, the City of Baton Rouge and related plaintiffs filed a substantially similar action against CGMI and other defendants, captioned CITY OF BATON ROUGE, ET AL. v. BANK OF AMERICA, N.A., ET AL., in the United States District Court for the Middle District of Louisiana. Plaintiffs allege that defendants conspired to manipulate the market for U.S. government-sponsored agencies bonds. Plaintiffs assert a claim under the Sherman Act, and seek treble damages and injunctive relief. Additional information concerning this action is publicly available in court filings under the docket number 19 Civ. 725 (M.D. La.) (Dick, C.J.).

In 2018, a putative class action was filed against Citigroup, CGMI, CFPI, CGMHI, Citibanamex, Grupo Banamex and other banks, captioned IN RE MEXICAN GOVERNMENT BONDS ANTITRUST LITIGATION, in the United States District Court for the Southern District of New York. Plaintiffs allege that defendants colluded in the Mexican sovereign bond market. In September 2019, the court granted defendants' motion to dismiss. Subsequently, plaintiffs filed an amended complaint against Citibanamex and other market makers in the Mexican sovereign bond market. Plaintiffs no longer assert any claims against Citigroup and any other Citi affiliates. The amended complaint alleges a conspiracy to fix prices in the Mexican sovereign bond market from January 1, 2006 to April 19, 2017, and asserts antitrust and unjust enrichment claims, and seek treble damages, restitution and injunctive relief. On February 21, 2020, Citibanamex and other defendants moved to dismiss the amended complaint. Additional information concerning this action is publicly available in court filings under the docket number 18-cv-2830 (S.D.N.Y.) (Oetken, J.).

On April 1, 2020, the Louisiana Asset Management Pool filed an action against CGMI and other defendants, captioned LOUISIANA ASSET MANAGEMENT POOL v. BANK OF AMERICA CORPORATION, ET AL., in the United States District Court for the Eastern District of Louisiana. Plaintiff alleges that defendants conspired to manipulate the market for bonds issued by U.S. government-sponsored agencies. Plaintiff asserts claims against defendants for violations of the Sherman Act and Louisiana state law, and seeks treble damages, injunctive relief, and state law remedies. Additional information concerning this action is publicly available in court filings under the docket number 20 Civ. 1095 (E.D. La.) (Guidry, J.).

Transaction Tax Matters

Citigroup and Citibank are engaged in litigation or examinations with non-U.S. tax authorities, including in India and Germany, concerning the payment of transaction taxes and other non-income tax matters.

Tribune Company Bankruptcy

Certain Citigroup affiliates (along with numerous other parties) have been named as defendants in adversary proceedings related to the Chapter 11 cases of Tribune Company (Tribune) filed in the United States Bankruptcy Court for the District of Delaware, asserting claims arising out of the approximately $11 billion leveraged buyout of Tribune in 2007. The actions were consolidated as IN RE TRIBUNE COMPANY FRAUDULENT CONVEYANCE LITIGATION and transferred to the United States District Court for the Southern District of New York.

In the adversary proceeding captioned KIRSCHNER v. FITZSIMONS, ET AL., the litigation trustee, as successor plaintiff to the unsecured creditors committee, seeks to avoid and recover as actual fraudulent transfers the transfers of Tribune stock that occurred as a part of the leveraged buyout. Several Citigroup affiliates, along with numerous other parties, were named as shareholder defendants and were alleged to have tendered Tribune stock to Tribune as a part of the buyout. In 2017, the United States District Court for the Southern District of New York dismissed the actual fraudulent transfer claim against the shareholder defendants, including the Citigroup affiliates. In July 2019, the litigation trustee filed an appeal to the United States Court of Appeals for the Second Circuit.

Several Citigroup affiliates, along with numerous other parties, are named as defendants in certain actions brought by Tribune noteholders, which seek to recover the transfers of Tribune stock that occurred as a part of the leveraged buyout, as state-law constructive fraudulent conveyances. The noteholders' claims were previously dismissed and the dismissal was affirmed on appeal. In May 2018, the United States Court of Appeals for the Second Circuit withdrew its 2016 transfer of jurisdiction to the district court to reconsider its decision in light of a recent United States Supreme Court decision. In December 2019, the Court of Appeals issued an amended decision again affirming the dismissal. In January 2020, the noteholders filed a petition for rehearing.

CGMI was named as a defendant in a separate action in connection with its role as advisor to Tribune. In January 2019, the court dismissed the action, which the litigation trustee has appealed to the United States Court of Appeals for the Second Circuit.

Additional information concerning these actions is publicly available in court filings under the docket numbers 08-13141 (Bankr. D. Del.) (Carey, J.), 11 MD 02296 (S.D.N.Y.) (Cote, J.), 12 MC 2296 (S.D.N.Y.) (Cote, J.), 13-3992 (2d Cir.), 19-0449 (2d Cir.), 19-3049 (2d Cir.) and 16-317 (U.S.).

Variable Rate Demand Obligation Litigation

On May 31, 2019, plaintiffs in the consolidated actions CITY OF PHILADELPHIA v. BANK OF AMERICA CORP., ET AL. and MAYOR AND CITY COUNCIL OF BALTIMORE v. BANK OF AMERICA CORP., ET AL. filed a consolidated complaint naming as defendants Citigroup, Citibank, CGMI, CGML and numerous other industry participants. The consolidated complaint asserts violations of the Sherman Act, as well as claims for breach of contract, breach of fiduciary duty, and unjust enrichment, and seeks damages and injunctive relief based on allegations that defendants served as remarketing agents for municipal bonds called variable rate demand obligations (VRDOs) and colluded to set artificially high VRDO interest rates. In July 2019, defendants filed a motion to dismiss the consolidated complaint. Additional information concerning these actions is publicly available in court filings under the docket numbers 19-CV-1608 (S.D.N.Y.) (Furman, J.) and 19-CV-2667 (S.D.N.Y.) (Furman, J.).

Settlement Payments

Payments required in settlement agreements described above have been made or are covered by existing litigation or other accruals.