## JPMORGAN CHASE & CO.

# LIQUIDITY COVERAGE RATIO DISCLOSURE Revised as of 4/13/2021

For the quarterly period ended December 31, 2020

## **Table of Contents**

| Liquidity Coverage Ratio   | 1          |
|--|------------|
| High Quality Liquid Assets and other liquidity sources                                     | 3          |
| Net Cash Outflows  | 4          |
| Sources of funds   | 5          |
| Deposits   | 5          |
| Short-term funding   | $\epsilon$ |
| Long-term funding and issuance   | $\epsilon$ |
| Off-balance sheet obligations and transactions   | 7          |
| Off-balance sheet lending-related financial instruments, guarantees, and other commitments | 7          |
| Derivative contracts   | 7          |
| Liquidity management   | 8          |
| Liquidity risk oversight   | 8          |

#### Liquidity coverage ratio

The U.S. Liquidity Coverage Ratio rule (the "LCR rule") requires that JPMorgan Chase & Co. ("the Firm") and JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A.") maintain an amount of eligible High Quality Liquid Assets ("HQLA") that is sufficient to meet its estimated total net cash outflows over a prospective 30 calendar-day period of significant stress. Eligible HQLA, for purposes of calculating the LCR, is the amount of unencumbered HQLA that satisfy certain operational considerations as defined in the LCR rule. HQLA primarily consist of cash and certain high-quality liquid securities as defined in the LCR rule. The LCR for both the Firm and JPMorgan Chase Bank, N.A. is required to be a minimum of 100%.

Under the LCR rule, the amount of eligible HQLA held by JPMorgan Chase Bank, N.A. that is in excess of its standalone 100% minimum LCR requirement, and that is not transferable to non-bank affiliates, must be excluded from the Firm's reported eligible HQLA.

The following table summarizes the Firm and JPMorgan Chase Bank, N.A.'s average LCR for the three months ended December 31, 2020 based on the Firm's interpretation of the finalized LCR framework.

This updated version of the below table (revised as of April 13, 2021) contains a corrected value for the amount of Excess eligible HQLA at JPMorgan Chase Bank, N.A.

| Average weighted amount <sup>(a)</sup> (in millions) | <br>Three months ended<br>December 31, 2020 |  |  |
|--|---|--|--|
| JPMorgan Chase & Co.:                                |   |  |  |
| Eligible HQLA <sup>(b)</sup>                         | \$<br>697,059                               |  |  |
| Net cash outflows                                    | 634,037                                     |  |  |
| LCR  | 110 %                                       |  |  |
| Excess eligible HQLA <sup>(b)</sup>                  | \$<br>63,022                                |  |  |
| JPMorgan Chase Bank, N.A.:                           |   |  |  |
| LCR  | 160 %                                       |  |  |
| Excess eligible HQLA                                 | \$<br>401,903                               |  |  |

<sup>(</sup>a) Represents the average weighted amount after applying regulatory prescribed (1) HQLA haircuts; and (2) cash outflow and inflow rates, respectively.

The Firm's average LCR was driven by:

- Eligible HQLA, which primarily consists of cash on deposit at central banks and eligible Level 1 securities, and,
- Net cash outflows predominantly related to the Firm's deposits, lending-related commitments and, to a lesser extent, derivatives and unsecured debt.

The Firm's average LCR was 110%, 114% and 116% for the three months ended December 31, 2020, September 30, 2020 and December 31, 2019.

The Firm's average LCR decreased during the three months ended December 31, 2020, compared with the three-month period ended September 30, 2020, predominantly driven by a decrease in cash from long-term debt maturities, including the early termination of certain of the Firm's debt at the end of the third quarter 2020.

The Firm's average LCR decreased during the three months ended December 31, 2020, compared with the prior year period primarily due to the relative impact on net cash outflows from the significant increase in deposits as well as elevated market activities in the Corporate and Investment Bank.

The JPMorgan Chase Bank, N.A.'s average LCR was 160%, 157% and 116% for the three months ended December 31, 2020, September 30, 2020 and December 31, 2019.

JPMorgan Chase Bank, N.A.'s average LCR increased during the three months ended December 31, 2020, compared with both the three month periods ended September 30. 2020 and December 31, 2019 primarily due to growth in deposits. Deposits continued to increase in the fourth quarter primarily driven by the COVID-19 pandemic and the related effect of certain government actions. Additionally, on March 24, 2020, the Federal Reserve, in response to the COVID-19 pandemic, issued an interim final rule (issued as final on December 22, 2020) reducing reserve requirements to zero percent effective March 26. 2020, which increased JPMorgan Chase Bank, N.A.'s HQLA by approximately \$25 billion. The increase in excess liquidity in JPMorgan Chase Bank, N.A. is excluded from the Firm's reported LCR under the LCR rule. Refer to Regulatory Developments Relating to COVID-19 Pandemic on pages 52-53 and the Liquidity Risk Management section on pages 102-108 in the JPMorgan Chase's Annual Report on Form 10-K for the year ended December 31, 2020 ("2020 Form 10-K") for additional information on Covid-19 pandemic related U.S. government actions, facilities, and programs.

The Firm and JPMorgan Chase Bank, N.A.'s average LCR fluctuates from period to period, due to changes in its eligible HQLA and estimated net cash outflows as a result of ongoing business activity.

<sup>(</sup>b) Excludes average excess eligible HQLA at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates.

The following table presents further detail on the Firm's average LCR, and average unweighted and weighted amount of eligible HQLA, cash outflows and cash inflows, for the three months ended December 31, 2020.

| hree mo         | nths ended December 31, 2020<br>ns)  | Average<br>Unweighted<br>Amount <sup>(a)</sup> | Average<br>Weighted<br>Amount <sup>(b)</sup> |
|-----------------|--|--|--|
| IGH-QU <i>A</i> | ALITY LIQUID ASSETS  |  |  |
| 1               | Total eligible high-quality liquid assets (HQLA), of which: <sup>(c)</sup>   | \$<br>697,059                                  | \$<br>697,059                                |
| 2               | Eligible level 1 liquid assets   | 697,058  | 697,058                                      |
| 3               | Eligible level 2A liquid assets  | 1  | 1  |
| 4               | Eligible level 2B liquid assets  | _  | -  |
| ASH OU          | FFLOW AMOUNTS  |  |  |
| 5               | Deposit outflow from retail customers and counterparties, of which:  | \$<br>1,014,353                                | \$<br>74,741                                 |
| 6               | Stable retail deposit outflow  | 586,798  | 17,604                                       |
| 7               | Other retail funding outflow   | 332,439  | 34,940                                       |
| 8               | Brokered deposit outflow   | 95,116   | 22,197                                       |
| 9               | Unsecured wholesale funding outflow, of which:   | 1,061,872                                      | 392,953                                      |
| 10              | Operational deposit outflow  | 707,905  | 176,714                                      |
| 11              | Non-operational funding outflow  | 347,994  | 210,266                                      |
| 12              | Unsecured debt outflow   | 5,973  | 5,973  |
| 13              | Secured wholesale funding and asset exchange outflow <sup>(d)</sup>  | 788,624  | 193,070                                      |
| 14              | Additional outflow requirements, of which:   | 570,604  | 180,577                                      |
| 15              | Outflow related to derivative exposures and other collateral requirements  | 85,313   | 60,371                                       |
| 16              | Outflow related to credit and liquidity facilities including unconsolidated structured transactions and mortgage commitments | 485,291  | 120,206                                      |
| 17              | Other contractual funding obligation outflow   | 4,376  | 4,376  |
| 18              | Other contingent funding obligations outflow <sup>(e)</sup>  | 272,805  | 9,924  |
| 19              | TOTAL CASH OUTFLOW   | \$<br>3,712,634                                | \$<br>855,641                                |
| ASH INF         | LOW AMOUNTS  |  |  |
| 20              | Secured lending and asset exchange cash inflow <sup>(d)</sup>  | \$<br>841,531                                  | \$<br>229,276                                |
| 21              | Retail cash inflow   | 25,967   | 12,984                                       |
| 22              | Unsecured wholesale cash inflow <sup>(f)</sup>   | 29,310   | 23,595                                       |
| 23              | Other cash inflows, of which:  | 17,751   | 17,278                                       |
| 24              | Net derivative cash inflow   | 10,899   | 10,899                                       |
| 25              | Securities cash inflow   | 5,126  | 5,126  |
| 26              | Broker-dealer segregated account inflow  | 1,253  | 1,253  |
| 27              | Other cash inflow  | 473  | -  |
| 28              | TOTAL CASH INFLOW  | \$<br>914,559                                  | \$<br>283,133                                |
|                 |  |  | Average<br>Weighted<br>Amount <sup>(b)</sup> |
| 29              | HQLA AMOUNT <sup>(c)</sup>   |  | \$<br>697,059                                |
| 30              | TOTAL NET CASH OUTFLOW AMOUNT EXCLUDING THE MATURITY MISMATCH ADD-ON   |  | \$<br>572,508                                |
| 31              | MATURITY MISMATCH ADD-ON   |  | 61,529                                       |
| 32              | TOTAL NET CASH OUTFLOW AMOUNT  |  | \$<br>634,037                                |
| 32              |  |  |  |

<sup>(</sup>a) Represents the average notional amount of (1) eligible HQLA before applying regulatory-prescribed haircuts; and (2) balances subject to outflows and inflows over a prospective 30-day period before applying regulatory-prescribed outflow and inflow rates.

<sup>(</sup>b) Represents the average weighted amount after applying regulatory prescribed (1) HQLA haircuts; and (2) cash outflow and inflow rates, respectively.

<sup>(</sup>c) Excludes average excess eligible HQLA at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates.

<sup>(</sup>d) Outflows on line 13 predominantly relate to securities loaned or sold under repurchase agreements and collateralized deposits; these amounts are largely offset by inflows reported on line 20 from securities borrowed or purchased under resale agreements and margin loans. These amounts include outflows and inflows associated with certain prime brokerage activities.

<sup>(</sup>e) Predominantly reflects repurchases of debt securities issued by the Firm that mature more than 30 calendar days after the calculation date.

<sup>(</sup>f) Predominantly reflects repayments of wholesale loans.

#### High quality liquid assets

As mentioned above, eligible HQLA is the amount of liquid assets that qualify for inclusion in the LCR. HQLA primarily consist of unencumbered cash and certain high-quality liquid securities as defined in the LCR rule.

For the three months ended December 31, 2020, the Firm's average eligible HQLA was \$697.1 billion compared with average eligible HQLA of \$670.2 billion for the three months ended September 30, 2020. These amounts exclude the amount of eligible HQLA at JPMorgan Chase Bank, N.A that is in excess of its stand-alone 100% minimum LCR requirement, and that is not transferable to non-bank affiliates.

The following table presents the Firm's average eligible HQLA included in the LCR broken out by HQLA-eligible cash and securities for the three months ended December 31, 2020.

| Average weighted amount (in millions)         | Three months ended<br>December 31, 2020 |         |  |  |
|---|---|---------|--|--|
| Eligible HQLA                                 |   |         |  |  |
| Eligible cash <sup>(a)</sup>                  | \$                                      | 455,612 |  |  |
| Eligible level 1 securities <sup>(b)(c)</sup> |   | 241,446 |  |  |
| Total eligible Level 1 assets                 |   | 697,058 |  |  |
| Eligible level 2a securities (c)(d)           |   | 1       |  |  |
| Eligible level 2b securities <sup>(c)</sup>   |   | _       |  |  |
| Total eligible HQLA                           | \$                                      | 697,059 |  |  |

- (a) Represents cash on deposit at central banks, primarily the Federal Reserve Bank.
- (b) Predominantly U.S. Treasuries, U.S government agency mortgagebacked securities ("MBS"), and sovereign bonds. Excludes excess level 1 securities held by JPMorgan Chase Bank, N.A.
- (c) HQLA eligible securities may be reported in securities borrowed or purchased under resale agreements, trading assets, or investment securities on the Firm's Consolidated balance sheets.
- (d) Primarily U.S. government-sponsored enterprise agency MBS ("GSE") net of applicable haircuts under the LCR rule. Excludes excess level 2a securities held by JPMorgan Chase Bank, N.A.

#### Other liquidity sources

In addition to the assets reported in the Firm's eligible HQLA above, the Firm had unencumbered marketable securities, such as equity and debt securities, that the Firm believes would be available to raise liquidity. This includes securities included as part of the excess eligible HQLA at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates. The fair value of these securities was approximately \$740 billion as of December 31, 2020, although the amount of liquidity that could be raised would be dependent on prevailing market conditions.

The Firm also had available borrowing capacity at Federal Home Loan Banks ("FHLBs") and the discount window at the Federal Reserve Bank as a result of collateral pledged by the Firm to such banks of approximately \$307 billion as of December 31, 2020. This borrowing capacity excludes the benefit of cash and securities reported in the Firm's eligible HQLA or other unencumbered securities that are currently pledged at the Federal Reserve Bank discount window and other central banks. Although available, the Firm does not view this borrowing capacity at the Federal Reserve Bank discount window and the other central banks as a primary source of liquidity. For additional information, see Liquidity Risk Management on pages 102-108 in 2020 Form 10-K.

#### Net cash outflows

The Firm's estimated net cash outflows over the aforementioned 30-day period of stress are based on standardized stress outflow and inflow rates prescribed in the LCR rule, which are applied to the balances of the Firm's assets, sources of funds, and obligations. The net cash outflows included in the LCR may differ from the liquidity impacts the Firm may experience in an actual time of stress, due to uncertainty in the nature, severity, and duration of the stress event.

The following table summarizes a select range of outflow and inflow rates defined in the LCR rule:

|   |  | Outflow/Inflow rate |   |         |   |
|---|--|---------------------|---|---------|---|
| Category  | Average Unweighted Amount  |                     | Minimum   | Maximum |   |
| Deposits from retail customers and counterparties                               | Notional balance (excludes<br>deposits not subject to early<br>withdrawal with maturities<br>>30 days)         | 3%                  | Fully insured   | 40%     | Partially insured, third-party<br>placed, including brokered and<br>non-brokered  |
| Unsecured wholesale funding   |  |                     |   |         |   |
| Deposits  | Notional balance (excludes<br>contractual maturities >30<br>days and those not subject to<br>early withdrawal) | 5%                  | Fully insured, non-financial and financial, operational   | 100%    | Financial, non-operational,<br>hedge funds and private equit<br>funds   |
| Non-deposit funding, including debt   | Notional balance with contractual maturities ≤30 days  |                     |   | 100%    | Long-term debt, commercial<br>paper, other borrowed funds,<br>customer brokerage payables,<br>federal funds purchased   |
| Secured wholesale funding/lending<br>transactions                               | Notional balance with<br>contractual maturities ≤30<br>days  | 0%                  | Secured by Level 1 liquid<br>assets; secured lending where<br>the collateral has been<br>rehypothecated and the<br>transaction is assumed to<br>mature beyond 30 days | 100%    | Funding transactions secured by non-HQLA assets; excluding the transactions below that ar subject to lower outflow rates: (1) sovereigns, multilateral development banks and U.S. government-sponsored enterprises subject to a 20% risk weight, and, (2) customer short positions covered by other customers' collateral |
|   |  |                     |   | 100%    | Lending transactions secured<br>by assets, not included in the<br>Firm's HQLA and available for<br>immediate return or secured to<br>non-HQLA, excluding non-HQL<br>secured margin loans that are<br>subject to lower inflow rates  |
| Derivatives   |  |                     |   |         |   |
| Contractual   | Notional balance of cash and collateral associated with transactions maturing ≤30 days                         |                     |   | 100%    | Net cash outflow/inflow   |
| Contingent  | Notional balance of collateral<br>securing derivative<br>transactions  | 20%                 | Potential valuation change in<br>collateral pledged that is not a<br>level 1 liquid asset   | 100%    | Collateral outflow resulting<br>from a change in the Firm's<br>financial condition or due to a<br>change in the valuation of<br>derivative transactions; excess<br>client collateral  |
| Commitments   | Notional balance that can be<br>drawn in ≤30 days  | 0%                  | Affiliated depository institutions also subject to LCR rule   | 100%    | Financial sector institutions or subsidiaries thereof   |
| Other contingent funding obligations<br>(primarily Firm-issued debt securities) | Notional balance with contractual maturities >30 days  | 3%                  | Unstructured debt   | 5%      | Structured debt   |
| Retail and wholesale cash inflow (primarily loans)                              | Notional balance with contractual maturities ≤30 days  | 50%                 | Retail/SME <sup>(a)</sup> loans with contractual maturities ≤30 days  | 100%    | Financial sector loans and non operational deposit placement  |

<sup>(</sup>a) SME - small and medium enterprises

#### Sources of funds

The Firm funds its global balance sheet through diverse sources of funding including stable deposits, secured and unsecured funding in the capital markets and stockholders' equity. Deposits are the primary funding source for JPMorgan Chase Bank, N.A. Additionally, JPMorgan Chase Bank, N.A. may also access funding through short- or longterm secured borrowings, through the issuance of unsecured long-term debt, or from borrowings from the Parent Company or its subsidiary, the Intermediate Holding Company ("IHC"). The Firm's non-bank subsidiaries are primarily funded from long-term unsecured borrowings and short-term secured borrowings, primarily securities loaned or sold under repurchase agreements. Excess funding is invested by Treasury and Chief Investment Office ("CIO") in the Firm's investment securities portfolio or deployed in cash or other short-term liquid investments based on their interest rate and liquidity risk characteristics.

#### **Deposits**

Deposits provide a stable source of funding and reduce the Firm's reliance on the wholesale funding markets. A significant portion of the Firm's deposits are consumer deposits and wholesale operating deposits, which are both considered to be stable sources of liquidity. Wholesale operating deposits are considered to be stable sources of liquidity because they are generated from customers that maintain operating service relationships with the Firm. For the three months ended December 31, 2020, the Firm had total average unweighted retail deposits of \$1,014.4 billion and average weighted cash outflows of \$74.7 billion, which resulted in an implied LCR cash outflow rate of 7%, and a 93% liquidity value. Additionally, for the three months ended December 31, 2020, the Firm had total average unweighted operating deposit balances of \$707.9 billion and average weighted cash outflows of \$176.7 billion, which resulted in an implied LCR cash outflow rate of 25%, and a 75% liquidity value.

The table below summarizes the average deposit cash outflows for purposes of the LCR for the three months ended December 31, 2020. Prescribed outflow rates are applied to the funding sources to calculate the average weighted amount of cash outflows included in the Firm's LCR.

| Deposit Outflows <sup>(a)</sup><br>Three months ended December 31, 2020<br>(in millions) | Avera | Average Unweighted Average Weighted<br>Amount Amount |    |         |      | 0 0 |  |
|--|-------|--|----|---------|------|-----|--|
| Deposit outflow from retail customers and counterparties, of which:                      | \$    | 1,014,353  | \$ | 74,741  | 7 %  |     |  |
| Stable retail deposit outflow  |       | 586,798  |    | 17,604  | 3 %  |     |  |
| Other retail funding outflow <sup>(b)</sup>  |       | 332,439  |    | 34,940  | 11 % |     |  |
| Brokered deposit outflow   |       | 95,116   |    | 22,197  | 23 % |     |  |
| Operational deposit outflow  |       | 707,905  |    | 176,714 | 25 % |     |  |
| Non-operational funding outflow <sup>(b)(c)</sup>  |       | 347,994  |    | 210,266 | 60 % |     |  |
| Total  | \$    | 2,070,252  | \$ | 461,721 | 22 % |     |  |

<sup>(</sup>a) Excludes approximately \$70.0 billion of average unweighted collateralized deposits, margin cash, and non-retail/SME time deposits with contractual maturities greater than 30 days per the LCR rule.

<sup>(</sup>b) Includes approximately \$28.3 billion of average unweighted non-deposit funding, primarily retail and wholesale customer brokerage payables, and other unsecured wholesale funding (which are included in accounts payable and other liabilities, and federal funds purchased and securities loaned or sold under repurchase agreements on the Firm's Consolidated balance sheets).

<sup>(</sup>c) Largely relates to cash in client operational accounts that is estimated to be in excess of the amount needed to support operational services provided to those clients.

#### **Short-term funding**

The Firm's sources of short-term secured funding primarily consist of securities loaned or sold under agreements to repurchase. These instruments are secured predominantly by high-quality securities collateral, including government-issued debt and U.S. GSE and government agency MBS.

Beginning in March 2020, the Federal Reserve announced a suite of facilities using its emergency lending powers under section 13(3) of the Federal Reserve Act to support the flow of credit to individuals, households and businesses adversely affected by the COVID-19 pandemic and to support the broader economy.

As of December 31, 2020, the Firm participated in the Money Market Mutual Fund ("MMLF") government facility. The secured nonrecourse advances under the MMLF are included in other borrowed funds. Refer to Capital Risk Management on pages 91-101 in the 2020 Form 10-K for additional information on the MMLF.

Refer to Regulatory Developments Relating to COVID-19 Pandemic on pages 52-53 and the Liquidity Risk Management section on pages 102-108 in the 2020 Form 10-K for additional information on Covid-19 pandemic related U.S. government actions, facilities, and programs.

The Firm's sources of short-term unsecured funding consist of other borrowed funds and issuance of wholesale commercial paper.

#### Long-term funding and issuance

Long-term funding provides an additional source of stable funding and liquidity for the Firm. The Firm's long-term funding plan is driven primarily by expected client activity, liquidity considerations, and regulatory requirements, including total loss absorbing capacity ("TLAC"). Long-term funding objectives include maintaining diversification, maximizing market access and optimizing funding costs. The Firm evaluates various funding markets, tenors and currencies in creating its optimal long-term funding plan.

The significant majority of the Firm's long-term unsecured funding is issued by the Parent Company to provide flexibility in support of both bank and non-bank subsidiary funding needs. The Parent Company advances substantially all net funding proceeds to the IHC. The IHC does not issue debt to external counterparties. For additional information on long-term debt, see Note 20 of JPMorgan Chase's 2020 Form 10-K.

The Firm can also raise secured long-term funding through securitization of consumer credit card loans and through FHLB advances.

The following table summarizes average short-term and long-term funding, excluding deposits, as reported on the Firm's Consolidated balance sheets, for the three months ended December 31, 2020. For additional information, see the Consolidated Balance Sheet Analysis on pages 57-58 and Liquidity Risk Management on pages 102-108 and Note 20 of the 2020 Form 10-K.

| Sources of funds (excluding deposits)           |                |
|---|----------------|
| Three months ended December 31, 2020            |                |
| (in millions)                                   | Average Amount |
| Total short-term unsecured funding              | \$<br>19,918   |
| Total short-term secured funding <sup>(a)</sup> | \$<br>279,291  |
| Total long-term unsecured funding               | \$<br>260,306  |
| Total long-term secured funding                 | \$<br>23,768   |
| Preferred stock <sup>(b)</sup>                  | \$<br>30,063   |
| Common stockholders' equity <sup>(b)</sup>      | \$<br>241,672  |

<sup>(</sup>a) Primarily consists of short-term securities loaned or sold under agreements to repurchase which are reported net on the Firm's Consolidated balance sheets when the relevant netting criteria under U.S. GAAP have been met.

<sup>(</sup>b) For additional information on preferred stock and common stockholders' equity see Capital Risk Management on pages 91-101, Consolidated statements of changes in stockholders' equity, Note 21 and Note 22 in the 2020 Form 10-K.

#### Off-balance sheet obligations and transactions

In addition to the sources of funds described above, the LCR rule also requires the Firm to apply prescribed outflow and inflow rates against off-balance sheet obligations and transactions, primarily the Firm's lending-related commitments and derivative contracts.

### Off-balance sheet lending-related financial instruments, guarantees, and other commitments

In the normal course of business, the Firm enters into a number of off-balance sheet commitments to extend credit such as loan commitments, financial guarantees, standby letters of credit and commercial letters of credit to meet the financing needs of its customers. Unfunded commitments are the undrawn portion of such legally binding commitments to extend credit to customers. Unfunded commitments for (a) working capital and general corporate purposes, (b) extensions of credit to backstop commercial paper and other debt financings (whether in the form of a loan commitment, a letter of credit or a standby bond purchase agreement) in the event that those obligations cannot be refinanced or remarketed to new investors, and (c) committed liquidity facilities to clearing organizations, expose the Firm to varying levels of liquidity risk, and as such are subject to prescribed outflow rates under the LCR rule.

Additionally, the Firm provides other types of commitments in the form of financial instruments (e.g., certain credit lines) to its customers. The Firm can reduce or cancel these types of commitments by providing the borrower notice, or in some cases as permitted by law, without notice. Therefore, under the LCR rule, the notional amount of these commitments is not taken into consideration when calculating the Firm's net cash outflows.

#### **Derivative contracts**

Derivatives enable clients and counterparties to manage risks including credit risk and risks arising from fluctuations in interest rates, foreign exchange, equities, and commodities. The Firm makes markets in derivatives in order to meet these needs and uses derivatives to manage certain risks associated with net open risk positions from its market-making activities, including the counterparty credit risk arising from derivative receivables. The Firm also uses derivative instruments to manage its own credit and other market risk exposure. The LCR net cash outflows related to derivative contracts primarily reflect potential calls from counterparties for the Firm to post additional collateral in the form of variation margin or initial margin due to potential valuation changes or downgrades of the Firm's external credit ratings. In addition, the LCR net derivative cash outflows reflect counterparties' contractual right to substitute higherquality collateral with lower quality collateral, as well as requiring the return of initial margin to clients. Substantially all of the Firm's OTC collateralized derivative transactions are required to be collateralized by HQLA eligible securities or cash which under the LCR rule results in limited outflows due to potential collateral valuation changes or collateral substitution. For additional information on derivative contracts, see pages 129-130 of the 2020 Form 10-K.

#### Liquidity management

Treasury and CIO is responsible for liquidity management. The primary objectives of effective liquidity management are to:

- Ensure that the Firm's core businesses and material legal entities are able to operate in support of client needs and meet contractual and contingent financial obligations through normal economic cycles as well as during stress events, and
- Manage an optimal funding mix and availability of liquidity sources.

As part of the Firm's overall liquidity management strategy, the Firm manages liquidity and funding using a centralized, global approach in order to:

- · Optimize liquidity sources and uses;
- Monitor exposures;
- Identify constraints on the transfer of liquidity between the Firm's legal entities; and
- Maintain the appropriate amount of surplus liquidity at a Firmwide and legal entity level, where relevant.

In the context of the Firm's liquidity management, Treasury and CIO is responsible for:

- Analyzing and understanding the liquidity characteristics of the assets and liabilities of the Firm, LOBs and legal entities, taking into account legal, regulatory, and operational restrictions;
- Developing internal liquidity stress testing assumptions;
- Defining and monitoring Firmwide and legal entityspecific liquidity strategies, policies, reporting and contingency funding plans;
- Managing liquidity within the Firm's approved liquidity risk appetite tolerances and limits;
- Managing compliance with regulatory requirements related to funding and liquidity risk; and
- Setting transfer pricing in accordance with underlying liquidity characteristics of balance sheet assets and liabilities as well as certain off-balance sheet items.

#### Liquidity risk oversight

The Firm has a Liquidity Risk Oversight function whose primary objective is to provide oversight of liquidity risk across the Firm. Liquidity Risk Oversight's responsibilities include:

- Defining, monitoring and reporting liquidity risk metrics;
- Establishing and monitoring limits and indicators, including liquidity risk appetite;
- Developing a process to classify, monitor and report limit breaches;
- Performing an independent review of liquidity risk management processes;

- Monitoring and reporting internal Firmwide and legal entity liquidity stress tests as well as regulatory defined liquidity stress tests;
- Approving or escalating for review new or updated liquidity stress assumptions; and
- Monitoring liquidity positions, balance sheet variances and funding activities;

#### Internal stress testing

Liquidity stress tests are intended to ensure that the Firm has sufficient liquidity under a variety of adverse scenarios, including scenarios analyzed as part of the Firm's resolution and recovery planning. Stress scenarios are produced for the Parent Company and the Firm's material legal entities on a regular basis, and other stress tests are performed in response to specific market events or concerns. Liquidity stress tests assume all of the Firm's contractual financial obligations are met and take into consideration:

- Varying levels of access to unsecured and secured funding markets,
- Estimated non-contractual and contingent cash outflows, and
- Potential impediments to the availability and transferability of liquidity between jurisdictions and material legal entities such as regulatory, legal or other restrictions.

Liquidity outflow assumptions are modeled across a range of time horizons and currency dimensions and contemplate both market and idiosyncratic stresses. As a result, these internal stress outflow assumptions may differ from the outflow assumptions prescribed in the LCR rule.

#### Governance

Committees responsible for liquidity governance include the Firmwide Asset Liability Committee ("ALCO") as well as line of business and regional ALCOs, the Treasurer Committee, and the CTC Risk Committee. In addition, the Board Risk Committee reviews and recommends to the Board of Directors, for formal approval, the Firm's liquidity risk tolerances, liquidity strategy, and liquidity policy. Refer to Firmwide Risk Management on pages 85-89 of the 2020 Form 10-K for further discussion of ALCO and other risk-related committees.