

**The Bank of New York Mellon Corporation  
The Bank of New York Mellon**



**BNY MELLON**

**Company-Run Stress Test  
Dodd-Frank Act Stress Test Results**

**June 28, 2021**

**Supervisory Severely Adverse Scenario**

## *Introduction*

Throughout this document The Bank of New York Mellon Corporation on a consolidated basis is referred to as “BNY Mellon,” the “Firm,” “we,” “our” and “us.” BNY Mellon and The Bank of New York Mellon (the “Institutional Bank”) are required to conduct company-wide stress tests pursuant to 12 C.F.R. part 252 (the “Regulation”). A summary of those results is also required to be published under the Regulation. Accordingly, we have developed the following disclosure, which contains the information required by the Regulation to be disclosed publicly and has been prepared in accordance with the Regulation. Any differences between the presentation of information concerning BNY Mellon or the Institutional Bank in this disclosure and how we present such information for other purposes are solely due to our efforts to comply with the Regulation. The information presented in this disclosure does not, in any way, reflect changes to our organizational structure, business plans or practices, or strategy.

The projections contained herein are based on the Supervisory Severely Adverse Scenario provided by the Board of Governors of the Federal Reserve System (the “Federal Reserve”) in connection with the 2021 annual Dodd-Frank Act Stress Testing (“DFAST”) exercise. The Supervisory Severely Adverse Scenario is designed to be generally representative of a severe economic downturn scenario that can be described in many respects as similar to the recession beginning in 2008. The specific variables included in the Supervisory Severely Adverse Scenario such as economic activity, unemployment, exchange rates, prices, incomes, and interest rates are detailed in the document published by the Federal Reserve on February 12, 2021 titled “2021 Stress Test Scenarios”.

The Firm’s DFAST relies on various models to forecast performance under stressed conditions. These models cover loss estimates, revenue and expense projections, scenario infrastructure, and risk-weighted asset calculations. The projections contained within this disclosure represent hypothetical estimates that involve an economic outcome that is more adverse than expected, and accordingly these estimates are not forecasts of expected losses, pre-provision net revenue (“PPNR”), net income before taxes, or capital ratios. The Federal Reserve also conducts stress testing of financial institutions, including BNY Mellon, based on its own forecasting models and methodologies for which it does not disclose all details.

The Regulation requires us, among other things, to make certain assumptions regarding capital actions (“Dodd-Frank Capital Actions”) when computing pro forma capital ratios across the nine-quarter planning horizon. The capital actions assumptions in DFAST have recently been revised for company-run stress tests conducted under Regulation YY.

The Firm’s capital action assumptions for DFAST are as follows:

- The covered company will not pay any dividends on any instruments that qualify as common equity tier 1 capital (i.e. common stock dividends).
- The covered company will make payments on instruments that qualify as additional tier 1 capital or tier 2 capital equal to the stated dividend, interest, or principal due on such instrument.
- The covered company will not redeem or repurchase any capital instrument that is eligible for inclusion in the numerator of a regulatory capital ratio.
- The covered company will not make any issuances of common stock, including no issuance related to employee compensation, or preferred stock.

The stress test results summarized in this report should not be interpreted as expected or likely outcomes, but rather as a possible result under hypothetical, highly adverse economic conditions.

*Supervisory Severely Adverse Scenario Projections for BNY Mellon and the Institutional Bank*

As demonstrated by BNY Mellon's DFAST results, which are detailed below, we maintain excess capital above regulatory minimums in every quarter, for every ratio, over the entire planning horizon throughout the Supervisory Severely Adverse Scenario. This success is driven by a number of factors, including the Firm's strong capital generation, asset quality, business mix, and risk profile.

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**BNY Mellon - Tables of Statistical Results**

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**ANNUAL FIRM-RUN RESULTS**

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**Dodd-Frank Act Stress Testing Results**

The capital ratios are calculated using the Dodd-Frank Capital Actions. These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of expected losses, revenues, net income before taxes, or capital ratios. The minimum capital ratio presented is for the period from the first quarter of 2021 through the first quarter of 2023.

Table 1: Projected Stressed Capital Ratios Through the First Quarter of 2023 Under the Supervisory Severely Adverse Scenario

	<b>Actual<sup>1</sup></b>	<b>Stressed Capital Ratios</b>	
	<b>4Q2020</b>	<b>Ending</b>	<b>Minimum</b>
Common Equity Tier 1 capital ratio (%)	13.4%	15.8%	10.9%
Tier 1 capital ratio (%)	16.1%	18.8%	13.7%
Total capital ratio (%)	17.1%	20.1%	15.0%
Tier 1 leverage ratio (%)	6.3%	6.5%	4.9%
Supplementary leverage ratio (%)	8.6%	8.7%	6.9%

<sup>1</sup>Actual fourth quarter 2020 Common Equity Tier 1, Tier 1 and Total capital ratios are calculated using the U.S. capital rules' standardized approach risk weighting framework ("Standardized Approach"). At December 31, 2020 BNY Mellon's reported Common Equity Tier 1, Tier 1 capital, and Total capital ratios were 13.1%, 15.8%, and 16.7%, respectively, based on the U.S capital rules' advanced approaches risk weighting framework ("Advanced Approaches"), which was the Firm's constraining measure for that quarter.

Table 2: Projected Risk-Weighted Assets ("RWA")

	<b>Actual 4Q 2020</b>	<b>Projected 1Q 2023</b>
RWA <sup>1</sup> (\$ in Billions)	\$164	\$148

<sup>1</sup>RWA calculated using the Standardized Approach.

Table 3: Projected Loan Losses by Type of Loan for the First Quarter of 2021 through the First Quarter of 2023 Under the Supervisory Severely Adverse Scenario

	Millions of Dollars	Portfolio Loss Rates (%) <sup>1</sup>
<b>Loan Losses</b>	\$1,185	2.4%
First-lien mortgages, domestic	\$11	0.1%
Junior liens and HELOCs, domestic	\$0	0%
Commercial real estate, domestic	\$573	13.5%
Credit cards	\$0	0%
Commercial and industrial	\$80	4.2%
Other consumer	\$10	0.3%
Other loans	\$511	1.6%

<sup>1</sup>Average loan balance used to calculate portfolio loss rates excludes loans held for sale and loans held for investment under the fair value option, and are calculated over nine quarters. Portfolio loss rates are rounded to the nearest tenth of a percentage point.

Table 4: Projected PPNR, Losses and Net Income Before Taxes for the First Quarter of 2021 Through the First Quarter of 2023 Under the Supervisory Severely Adverse Scenario

	Millions of Dollars	Percent of Average Assets <sup>4</sup>
PPNR <sup>1</sup>	\$4,312	1.0%
<i>Less</i>		
Provisions	\$1,528	0.3%
Realized losses/(gains) on securities Available-for-Sale/Held-to-Maturity (“AFS/HTM”)	\$0	0%
Trading and counterparty losses <sup>2</sup>	\$1,268	0.3%
Other losses/(gains) <sup>3</sup>	\$104	0.0%
<i>Equals</i>		
Net income before taxes	\$1,412	0.3%
Other Comprehensive Income	\$105	
Other effects on capital	<b>Actual 4Q 2020</b>	<b>1Q 2023</b>
Accumulated other comprehensive income included in capital (Millions of dollars)	\$(985)	\$(880)

<sup>1</sup>PPNR includes losses from operational risk events.

<sup>2</sup>Trading and counterparty losses include mark-to-market and credit valuation adjustments losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

<sup>3</sup>Other losses/(gains) includes projected change in funding value adjustments/overnight index swaps, as well as non-collateralized loan obligation (“CLO”) and CLO impairment losses.

<sup>4</sup>Average assets are averaged over the nine-quarter planning horizon. Percentages are rounded to the nearest tenth of a percentage point.

### ***Institutional Bank - Summary of Results.***

When conducting the company-run stress test under the Supervisory Severely Adverse Scenario using capital actions consistent with the state member bank requirements as outlined in 12 CFR § 252.15(a)(2), the Institutional Bank evaluated the types of risks and utilized the same methodologies as described below in the discussion concerning BNY Mellon. The Institutional Bank primarily incorporates BNY Mellon's Asset Servicing, Issuer Services, Treasury Services, Clearance and Collateral Management businesses and constituted approximately 82% of BNY Mellon's assets as of December 31, 2020.

As demonstrated by the Institutional Bank's DFAST results, the Institutional Bank maintains excess regulatory capital in every quarter of the planning horizon for every ratio of the Supervisory Severely Adverse Scenario. This success is driven by a number of factors, including the Institutional Bank's strong capital generation, asset quality, business mix, and risk profile. The Institutional Bank recognizes that the DFAST 2021 exercise approaches risk-weighted assets solely from the perspective of the Standardized Approach, whereas during recent quarters the Advanced Approaches has been the Institutional Bank's constraining measure.

The significant loss drivers for the Institutional Bank, with the exception of losses related to a major counterparty default, are substantially the same as those described below for BNY Mellon.

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### **Institutional Bank - Tables of Statistical Results**

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#### **FIRM-RUN RESULTS**

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Table 5: Projected Stressed Capital Ratios Through the First Quarter of 2023 Under the Supervisory Severely Adverse Scenario

	<b>Actual<sup>1</sup></b>	<b>Stressed Capital Ratios<sup>2</sup></b>	
	<b>4Q2020</b>	<b>Ending</b>	<b>Minimum</b>
Common Equity Tier 1 capital ratio (%)	18.0%	20.0%	15.9%
Tier 1 capital ratio (%)	18.0%	20.0%	15.9%
Total capital ratio (%)	18.4%	20.5%	16.5%
Tier 1 leverage ratio (%)	6.4%	6.0%	5.1%
Supplementary leverage ratio (%)	8.5%	8.9%	7.5%

<sup>1</sup>Actual fourth quarter 2020 Common Equity Tier 1, Tier 1 and Total capital ratios are calculated using the Standardized Approach. At December 31, 2020 the Institutional Bank's reported constraining Common Equity Tier 1, Tier 1 capital, and Total capital ratios were 17.1%, 17.1%, and 17.3%, respectively, based on asset risk-weightings using the Advanced Approaches.

<sup>2</sup>The capital ratios incorporate the effects of capital actions in accordance with requirements 12 CFR § 252.15(a)(2). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of expected losses, revenues, net income before taxes, or capital ratios. The minimum capital ratio presented is for the period from the first quarter of 2021 through the first quarter of 2023.

## *Risks and Methodologies*

BNY Mellon conducts Enterprise-Wide Stress Testing at regular intervals. Enterprise-Wide Stress Testing evaluates all of the Firm's lines of business, products, geographic areas, and risk types, incorporating the results given a certain stress-test scenario. It is an important component of assessing our capital adequacy, identifying any higher risk business activities, and providing our capital planning process with a forward-looking evaluation of our ability to execute planned capital actions in an economic environment that is more adverse than anticipated. Please refer to BNY Mellon's Annual Report on Form 10-K for the year ended December 31, 2020 for a broader description of BNY Mellon's capital planning and risk management processes.

A description of the types of risks included in the stress test and a general description of methodologies applied follows.

### *Description of types of risk included in the stress test*

When conducting the company-run stress test under the Supervisory Severely Adverse Scenario, which, as noted above, incorporates Dodd-Frank Capital Actions, we evaluated and incorporated the principal risks that have been determined to influence us. These risks include operational risk, market risk, credit risk, liquidity risk, model risk and strategic risk.

*Operational Risk.* The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk includes compliance and technology risks.

*Market Risk.* The risk of financial loss, including losses to earnings and the erosion of capital, resulting from the movements in market risk factors. Market risk factors include, but are not limited to, interest rates, credit spreads, foreign exchange rates, commodity and equity prices, market liquidity and mortgage pre-payment speeds.

*Credit Risk.* The risk of loss if any of our borrowers or other counterparties were to default on their obligations to us. Credit risk is resident in the majority of our assets, but primarily concentrated in the loan and securities books, as well as off-balance sheet exposures such as lending commitments, letters of credit, and securities lending indemnifications.

*Liquidity Risk.* The risk that BNY Mellon cannot meet its cash and collateral obligations at a reasonable cost for both expected and unexpected cash flows, without adversely affecting daily operations or financial conditions. Liquidity risk can arise from cash flow mismatches, market constraints from the inability to convert assets to cash, the inability to raise cash in the markets, deposit run-off, or contingent liquidity events.

*Model Risk.* The potential loss arising from incorrectly designing / applying an estimation approach or inaccuracies caused by market, credit or liquidity stress.

*Strategic Risk.* The risk arising from adverse business decisions, poor implementation of business decisions or lack of responsiveness to changes in the financial industry and operating environment. Strategic and/or business risks may also arise from the acceptance of new businesses, the introduction or modification of products, strategic finance and risk management decisions, business process changes, complex transactions, acquisitions/divestitures/joint ventures and major capital expenditures/investments.

General Description of Methodologies

We have forecasted projected losses, PPNR, and other items affecting capital using a series of models and estimation techniques that translate the economic and financial variables in the Supervisory Severely Adverse Scenario to losses, revenues and noninterest expenses.

Occasionally it is necessary to supplement modeled projections with expert judgment where historical data may be inadequate to project loss, revenue and expense estimates, or historical relationships may not hold up under forward-looking hypothetical scenarios. In these cases, which are referred to as qualitative frameworks, we ensure consistency of projections with the conditions of the stress test through a cross-functional governance structure and control environment that incorporates multiple levels of review, challenge, and approval.

Loan Losses. We have developed a series of models and qualitative frameworks to estimate losses on various types of loans. Loss projection methods are product-specific and link economic variables to credit performance based on historical and expected relationships. The table below identifies major loan types and key assumptions used to derive loss estimates.

Table 6: Credit Portfolio Loss Methodologies and Drivers

Loan Type	Description of Methodology	Key Drivers
<b>Domestic Residential Mortgages</b>	Statistical model estimated using loan-level data on mortgage characteristics and performance supplemented by macroeconomic indicators and housing price data.	Macroeconomic factors such as: Housing Price Index (“HPI”) Unemployment rate Mortgage rates
<b>Domestic Commercial Real Estate Loans</b>	Individually assigning counterparties stressed ratings by adjusting the inputs to BNY Mellon’s commercial real estate (“CRE”) credit rating scorecard, which produces a stressed probability of default (“PD”) rating for each quarter. For each impaired exposure, a scenario-based loss given default (“LGD”) percentage is applied to the exposure at default (“EAD”) to generate an immediate credit loss.	Macroeconomic factors such as: Unemployment rate Commercial real estate price index
<b>Wholesale and Other*</b>	Expected loss model relying on stressed transition matrix, PD, LGD, and usage given default (“UGD”). The stressed transition matrix, LGD and UGD were linked to macroeconomic factors through statistical models. For each impaired exposure, a stressed LGD percentage is applied to the EAD to generate an immediate credit loss.	as: CBOE Volatility Index (“VIX”) Equity indices Gross domestic product (“GDP”) growth rate Treasury yields Unemployment

\*Commercial and industrial, loans to depositories and other financial institutions, loans for purchasing or carrying securities, overdrafts, and leases.

Provision for Loan Losses. The credit loss allowance was calculated utilizing the current expected credit loss (“CECL”) methodology. We use a quantitative methodology (applying a point in time PD, LGD, and EAD) and a qualitative framework in determining the allowance. The qualitative framework employs management judgment when assessing internal risk factors and environmental factors to compute an additional allowance for each component of the loan portfolio. Changes in the allowance balance are reflected through the provision to provide adequate coverage for potential future losses.



Realized Gains/Losses on Securities. We use instrument-specific methodologies to forecast Expected Credit Loss (“ECL”) (before flooring) on the AFS securities and Provision on the AFS and HTM securities in the investment portfolio. The inherent credit risk for most AFS and HTM securities is forecasted using product-specific cash flow models and tools which utilize a variety of macroeconomic factors (HPI, unemployment rate, GDP, interest rates, etc.) and takes into account collateral type and characteristics. Loss estimates are recognized in accordance with our established accounting policy.

Operational Losses. We use a methodology to estimate operational losses that incorporates both internal and external data. We forecast both litigation and non-litigation operational losses under separate methodologies. For non-litigation loss estimates, the estimates are developed with two components: 1) large, idiosyncratic losses, and 2) smaller day-to-day or “business-as-usual losses”.

For non-litigation loss estimates, our forecasting methodology centers on workshops to review and assess the risks in our operational risk taxonomy, led by our Chief Operational Risk Officer. These workshops included participants from our business, business partner, and risk and compliance teams. Subject matter experts (“SMEs”) considered and discussed the outputs of our operational risk framework elements (e.g., Risk and Control Self-Assessment data, emerging risks, as well as internal and external event data) and other key information such as risk drivers, including macroeconomic factors, to challenge and supplement our Material Risk Inventory. For large idiosyncratic operational loss events, SMEs developed specific storylines and estimates. For business-as-usual losses, historical operational losses were used as a reference point in developing the forecast, supplemented with expert judgment to incorporate anticipated future impacts based on risk drivers.

For litigation loss estimates, we use a forward-looking, scenario-based process as a core component of our litigation loss estimation methodology. This methodology is centered on the use of expert judgment and scenario-based determinations and leverages subject matter expertise in our Legal department. This methodology generally estimates severe yet reasonably plausible litigation-related costs for key active matters and certain possible claims in stress scenarios.

Balance Sheet. We have developed a suite of models using statistical and qualitative estimation methodologies to project each major balance sheet segment. The statistical models are based on logical relationships to economic drivers. For balance sheet segments where developing a model was inappropriate, a rules-based qualitative approach was developed with pre-determined, repeatable, data-driven processes in order to generate projections. An aggregate secondary statistical model exists for a subset of balance sheet segments to aid in review and challenge. In addition, relevant SMEs develop judgment-based forecasts for their respective products using the macroeconomic variables derived from their business expertise and experience. These are used to challenge the primary model forecasting framework. A structured internal review of model and qualitative results is discussed by a panel of SMEs, risk managers and management, at review and challenge meetings, to formalize balance sheet composition.

Pre-Provision Net Revenue. Consistent with balance sheet development and exposure assumptions used for loss estimation, we use a suite of models to project all key elements of PPNR including net interest income, noninterest income, and noninterest expense.

Table 7: PPNR Methodologies and Assumptions

PPNR Component	Description of Methodology	Key Assumptions
<b>Net Interest Income</b>	Current and forecasted balance sheet positions are modeled by product type and reflect growth, runoff, prepayment, and loss projection assumptions.	Future balance sheet growth  Runoff and pricing assumptions  Interest rates and macroeconomic indicators
<b>Noninterest Income</b>	Total noninterest income projection is composed of a series of distinct projection models, each of which creates a fee revenue projection for some aspect of the business using historical fee revenue and business volume data.  Regression models are tied to the business and economic drivers, while certain areas are estimated using other techniques such as management judgment, seasonality, and historical averages.	Business dynamic and strategic relationship to economic drivers such as: Fixed income and equity asset prices  Interest rates  Volatility measurements  Volume measurements
<b>Noninterest Expense</b>	Variable expenses were modeled based primarily on historical expense to noninterest revenue relationships or its relationship to pre-incentive PPNR.  Expenses deemed to be fixed in nature are projected generally in line with inflation.	Noninterest revenue projections  Pre-incentive PPNR  Growth rates

*Capital Position.* Our forecasting process employed a set of methodologies to reflect losses and PPNR on pro forma capital levels and ratios. Future balance sheet growth, runoff, and pricing assumptions were developed using the framework and suite of models described under the “Balance Sheet” section above and are reflective of the economic and interest rate environments being analyzed under the Supervisory Severely Adverse Scenario. We forecast RWA based on the changes in individual asset components in each quarter of the projection horizon. Credit RWA was projected in a manner consistent with U.S. capital rules and applicable regulatory guidance, which required us to use Standardized Approach to calculate credit RWA. Additionally, the U.S. capital rules’ market risk capital rules were used to calculate market risk RWA.

The Firm recognizes that the Advanced Approaches has generally been the Firm’s constraining measure. Additionally, as discussed above, our Supervisory Severely Adverse Scenario post-stress capital utilizes the Dodd-Frank Capital Actions. These actions are consistent with the revised capital actions prescribed under Regulation YY, which includes no common stock dividends, a general assumption of no redemptions, repurchases, or issuances of capital instruments, and lastly the assumption that a firm will continue to make payments on any instrument that qualifies as additional tier 1 capital or tier 2 capital equal to the stated dividend, or contractual interest or principal due on such instrument during the quarter. These assumptions do not reflect currently planned capital actions, and might not reflect behavior in an actual severely stressed environment.

Counterparty Default. BNY Mellon is one of the eight banking organizations with substantial trading or processing and custodian operations required to incorporate a counterparty default scenario component into the Supervisory Severely Adverse Scenario. Specifically, per guidance, BNY Mellon is required to estimate and report the potential losses and related effects on capital associated with the instantaneous and unexpected default of the Firm's single largest counterparty across derivatives and securities financing activities, including securities lending, and repurchase/reverse repurchase agreement activity. BNY Mellon's single largest counterparty was determined by net stressed losses, which were computed by revaluing exposures and collateral using the set of hypothetical asset price shocks specified in the Federal Reserve's global market shock scenarios.

Explanation of the Most Significant Causes for Changes in Regulatory Capital

Losses related to the counterparty default, credit losses and operational risk losses contribute to the decline in BNY Mellon's regulatory capital ratios.

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## *Forward-Looking Statements*

*Additional information related to BNY Mellon is contained in BNY Mellon's reports filed with the Securities and Exchange Commission (the "SEC"), including the Quarterly Report on Form 10-Q for the period ended March 31, 2021 (the "Q1 2021 10-Q"), the Annual Report on Form 10-K for the year ended December 31, 2020 (including the Annual Report to Shareholders attached as an exhibit thereto) (the "2020 Form 10-K"), and the Current Reports on Form 8-K (collectively, the "SEC Filings"). The SEC Filings may be viewed, as they become available, on the SEC's website at [www.sec.gov](http://www.sec.gov) and on BNY Mellon's website at [www.bnymellon.com](http://www.bnymellon.com). BNY Mellon's future filings with the SEC may modify, update or supersede the information contained in the Q1 2021 10-Q, the 2020 Form 10-K and provided herein.*

*This document contains, and BNY Mellon's filings with the SEC may contain, forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements, which may be expressed in a variety of ways, including the use of future or present tense language, relate to, among other things, expectations regarding: our risk profile, capital plans, strategic priorities, financial goals, organic growth, performance, organizational quality and efficiency, investments, resiliency, capabilities, revenue, net interest revenue, money market fee waivers, fees, expenses, cost discipline, sustainable growth, company management, human capital management (including related ambitions, objectives, aims and goals), deposits, interest rates and yield curves, securities portfolio, taxes, business opportunities, divestments, volatility, preliminary business metrics regulatory capital ratios client experience and revenue growth; and statements regarding BNY Mellon's aspirations, as well as BNY Mellon's overall plans, strategies, goals, objectives, expectations, outlooks, estimates, intentions, targets, opportunities, focus and initiatives, including the potential effects of the coronavirus pandemic on any of the foregoing. Words such as "estimate," "forecast," "project," "anticipate," "likely," "target," "expect," "intend," "continue," "seek," "believe," "plan," "goal," "could," "should," "would," "may," "might," "will," "strategy," "synergies," "opportunities," "trends," "ambition," "objective," "aim," "future," "potentially," "outlook" and words of similar meaning, signify forward-looking statements. These statements are based upon current beliefs and expectations and are subject to significant risks and uncertainties (some of which are beyond BNY Mellon's control). Actual results may differ materially from those expressed or implied in the forward-looking statements. Factors that could cause BNY Mellon's actual results to differ materially from those described in the forward-looking statements, include, but are not limited to, the risk factors and other uncertainties set forth in the 2020 Form 10-K and BNY Mellon's other filings with the SEC. All forward-looking statements speak only as of the date on which such statements are made, and BNY Mellon undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such forward-looking statement is made or to reflect the occurrence of unanticipated events.*