

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



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

June 21, 2019

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 2019 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 5, 2019 titled “2019 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule.”

The Firm’s DFAST relies on various models to forecast performance under stressed conditions. These models cover loss estimates, revenue 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. These Dodd-Frank Capital Actions include:

- For the first quarter of 2019, actual capital actions;
- For the second through ninth quarters of the planning horizon, the following capital actions:
 1. Common stock dividends equal to the quarterly average dollar amount of common stock dividends that BNY Mellon paid in the previous four quarters (that is, the first quarter of the planning horizon and the preceding three calendar quarters) plus common stock dividends attributable to issuances related to expensed employee compensation, or in connection with a planned merger or acquisition to the extent reflected in our pro forma balance sheet estimates;

2. Payments on any other instrument that is eligible for inclusion in the numerator of a regulatory capital ratio equal to the stated dividend, interest, or principal due on that instrument during the quarter;
3. An assumption of no redemption or repurchase of any capital instrument that is eligible for inclusion in the numerator of a regulatory capital ratio; and
4. An assumption of no issuances of common stock or preferred stock, except for issuances related to expensed employee compensation or in connection with a planned merger or acquisition reflected in our pro forma balance sheet estimates.

In practice, if a severely adverse economic scenario were to in fact occur, we could change planned distributions and it is highly likely that we would respond with certain capital conservation actions consistent with internal policy. 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 regulatory capital 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 and its risk profile.

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BNY Mellon - Tables of Statistical Results

ANNUAL FIRM-RUN RESULTS

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 2019 through the first quarter of 2021.

Table 1: Projected Stressed Capital Ratios Through the First Quarter of 2021 Under the Supervisory Severely Adverse Scenario

	Actual ¹	Stressed Capital Ratios	
	4Q2018	Ending	Minimum
Common Equity Tier 1 capital ratio (%)	11.7%	13.5%	9.8%
Tier 1 capital ratio (%)	14.1%	16.2%	12.0%
Total capital ratio (%)	15.1%	17.4%	13.0%
Tier 1 leverage ratio (%)	6.6%	6.2%	5.2%
Supplementary leverage ratio (%)	6.0%	5.9%	4.9%

¹Actual fourth quarter 2018 Common Equity Tier 1, Tier 1 and Total capital ratios are calculated using the Standardized Approach. At December 31, 2018 BNY Mellon's reported Common Equity Tier 1, Tier 1 capital, and Total capital ratios were 10.7%, 12.8%, and 13.6%, respectively, based on Basel III components of capital, as phased-in, and credit risk asset risk-weightings using the Advanced Approaches, which was the Firm's constraining measure for that quarter.

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

	Actual 4Q 2018	Projected 1Q 2021
RWA ¹ (\$ in Millions)	\$149,618	\$130,640

¹RWA calculated using the U.S. capital rules' Standardized Approach methodology.

Table 3: Projected Loan Losses by Type of Loan for the First Quarter of 2019 through the First Quarter of 2021 Under the Supervisory Severely Adverse Scenario

	Millions of Dollars	Portfolio Loss Rates (%) ¹
Loan Losses	\$1,560	3.4%
First-lien mortgages, domestic	\$18	0.2%
Junior liens and HELOCs, domestic	\$0	0.0%
Commercial real estate, domestic	\$331	10.3%
Credit cards	\$0	0.0%
Commercial and industrial	\$60	2.6%
Other consumer	\$23	0.8%
Other loans	\$1,128	4.1%

¹Average 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 Losses, Revenue, and Net Income Before Taxes for the First Quarter of 2019 Through the First Quarter of 2021 Under the Supervisory Severely Adverse Scenario

	Millions of Dollars	Percent of Average Assets ⁴
PPNR ¹	\$5,453	1.5%
<i>Less</i>		
Provisions	\$1,734	0.5%
Realized losses/(gains) on securities Available-for-Sale/Held-to-Maturity (“AFS/HTM”)	\$157	0.0%
Trading and counterparty losses ²	\$1,512	0.4%
Other losses/(gains) ³	-\$11	0.0%
<i>Equals</i>		
Net income before taxes	\$2,061	0.6%
Other Comprehensive Income	\$315	
Other effects on capital	Actual 4Q 2018	1Q 2021
AOCI included in capital (Billions of dollars)	(\$3,171)	(\$2,856)

¹PPNR includes losses from operational risk events.

²Trading 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.

³Other losses/(gains) includes projected change in Funding Value Adjustments/Overnight Index Swaps as well as CLO Impairment losses.

⁴Average assets are averaged over the nine-quarter planning horizon. Amounts 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 Dodd-Frank Capital Actions, the Institutional Bank evaluated the types of risks and utilized the same methodologies as described above 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 79% of assets as of 12/31/18.

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 2019 exercise approaches risk-weighted assets solely from the perspective of the Standardized Approach for Advanced Approaches organizations, while 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.

Institutional Bank - Tables of Statistical Results

FIRM-RUN RESULTS

Table 5: Projected Stressed Capital Ratios Through the First Quarter of 2021 Under the Supervisory Severely Adverse Scenario

	Actual¹	Stressed Capital Ratios²	
	4Q2018	Ending	Minimum
Common Equity Tier 1 capital ratio (%)	16.5%	14.2%	14.2%
Tier 1 capital ratio (%)	16.8%	14.3%	14.3%
Total capital ratio (%)	17.5%	15.4%	15.1%
Tier 1 leverage ratio (%)	7.6%	5.0%	5.0%
Supplementary leverage ratio (%)	6.8%	4.6%	4.6%

¹Actual fourth quarter 2018 Common Equity Tier 1, Tier 1 and Total capital ratios are calculated using the Standardized Approach. At December 31, 2018 the Institutional Bank's reported constraining Common Equity Tier 1, Tier 1 capital, and Total capital ratios were 14.0%, 14.3%, and 14.7%, respectively, based on asset risk-weightings using the Advanced Approaches.

²The capital ratios are calculated using 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 2019 through the first quarter of 2021.

Risks and Methodologies

BNY Mellon conducts Enterprise-Wide Stress Testing at regular intervals as part of its Internal Capital Adequacy Assessment Process (“ICAAP”). 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, 2018 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, a general description of methodologies applied, and a summary of our company-run stress test results under the Supervisory Severely Adverse Scenario 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 and funding risk, and strategic risk.

Operational Risk. The risk of loss resulting from inadequate or failed internal processes, human factors and systems, breaches of technology and information systems, or from external events. Also includes fiduciary risk, reputational risk, and litigation risk.

Market Risk. The risk of loss due to adverse changes in the financial markets. Our market risks are primarily interest rate, foreign exchange, and equity risk. Market risk particularly impacts our exposures that are fair valued such as the securities portfolio, trading book, and equity investments.

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 and Funding Risk. The risk that we cannot meet our 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.

Strategic Risk. The risk that BNY Mellon does not effectively manage and protect the Firm’s market positioning and stability. This includes risks associated with the inability to maintain a strong understanding

of clients' needs, provide suitable product offerings that are financially viable and fit within the Firm's operating model and adapt to transformational change in the industry.

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 and revenues.

Occasionally it is necessary to supplement modeled projections with expert judgment where historical data may be inadequate to project loss and revenue 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
Domestic Residential Mortgages	Statistical model estimated using loan-level data on mortgage characteristics and performance supplemented by macroeconomic indicators and housing price data.	Macroeconomic factors such as: <ul style="list-style-type: none"> – Housing Price Index (“HPI”) – Unemployment rate – Mortgage rates
Domestic Commercial Real Estate Loans	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 downturn loss given default (“LGD”) percentage is applied to the exposure at default (“EAD”) to generate an immediate credit loss.	Macroeconomic factors such as: <ul style="list-style-type: none"> – Unemployment rate – BBB corporate yield – Commercial real estate price index – Prime rate
Wholesale and Other*	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.	Macroeconomic factors such as: <ul style="list-style-type: none"> – CBOE Volatility Index (“VIX”) – Equity indices – 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 is our estimate of incurred losses inherent in our portfolio. We use a quantitative methodology (product of the long run 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 other-than-temporary impairment (“OTTI”) on the securities 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 “foundational losses”.

For non-litigation loss estimates, our forecasting methodology centers on workshops organized around 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 teams. Subject matter experts (“SMEs”) considered and discussed the outputs of our operational risk framework elements (*e.g.*, Risk and Control Self-Assessment data, 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 foundational losses, historic 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.

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Table 7: PPNR Methodologies and Assumptions

PPNR Component	Description of Methodology	Key Assumptions
Net Interest Income	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
Noninterest Income	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 were 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 strategy assumptions Relationship to economic drivers such as: <ul style="list-style-type: none"> - Fixed income and equity asset prices - Interest rates - Volatility measurements - Volume measurements
Noninterest Expense	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 risk-weighted assets (“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 the U.S. capital rules’ Standardized Approach risk-weighting framework (the “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 been the Firm’s constraining measure. Additionally, as discussed above, our Supervisory Severely Adverse Scenario post-stress capital utilizes, in the second through ninth quarters of the planning horizon, the Dodd-Frank Capital Actions, which prescribe a series of assumptions regarding capital actions, including with respect to common stock dividends, contracted payments, and a general assumption of no redemptions, repurchases, or issuances of capital instruments.

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 custodial 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

Impairments within the securities portfolio, losses related to the default of a major counterparty, credit losses and operational risk losses contribute to the decline in BNY Mellon's regulatory capital ratios. Additionally, impairments within the securities portfolio, 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 Annual Report on Form 10-K for the year ended December 31, 2018 (including the Annual Report to Shareholders (the "Annual Report") included with the 10-K) (the "2018 Form 10-K"), the Quarterly Reports on Form 10-Q and the Current Reports on Form 8-K (each, a "'34 Act Report"). These periodic '34 Act Reports can be viewed, as they become available, on the SEC's website at www.sec.gov and at www.bnymellon.com. Information contained in '34 Act Reports that BNY Mellon provides to the SEC subsequent to the date of the 2018 Form 10-K may modify, update and supersede the information contained in the 2018 Form 10-K and provided in this document.

This document and BNY Mellon's '34 Act Reports referred to above contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "estimate," "forecast," "project," "anticipate," "confident," "target," "expect," "intend," "seek," "believe," "plan," "goal," "could," "should," "may," "will," "strategy," "opportunities," "trends" and words of similar meaning, signify forward-looking statements. These statements are based on the current beliefs and expectations of BNY Mellon's management and are subject to significant risks and uncertainties that are subject to change based on various important factors (some of which are beyond BNY Mellon's control). Actual results may differ materially from those set forth 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 can be found in the "Risk Factors" section of the 2018 Form 10-K, the Quarterly Report on Form 10-Q for the period ended March 31, 2019, and other subsequent '34 Act Reports filed with the SEC. All forward-looking statements speak only as of the date on which such statements are made and BNY Mellon does not undertake to update the forward-looking statements to reflect the impact of circumstances or events that may arise after the date of the forward-looking statements.