BMO Financial Group

BMO Financial Corp. and

BMO Harris Bank N.A.

Dodd-Frank Act Company-Run Stress Test

Supervisory Severely Adverse Scenario Results Disclosure

June 21, 2018

Overview

BMO Financial Corp. (BFC), a U.S. Intermediate Holding Company (IHC), is a wholly-owned subsidiary of Bank of Montreal (BMO) and is regulated by the Board of Governors of the Federal Reserve System (FRB or "the Fed"). BFC's wholly-owned principal banking subsidiary, BMO Harris Bank N.A. (BHB), is regulated by the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation. BFC and BHB are collectively referred to as "the Companies."

As an IHC with total consolidated assets of $50 billion or more, BFC is subject to the **Supervisory and Company-Run Stress Test Requirements for Covered Companies**[1] rule issued by the FRB to implement the stress test requirements established in section 165(i)(1) and (2) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act). In addition, BHB is subject to the **Annual Stress Test**[2] rule issued by the OCC. The rules and guidance provided by the OCC for the BHB stress test are consistent with those provided by the FRB for BFC's Dodd-Frank Act stress test.

The annual Dodd-Frank Act company-run stress test results presented in this report estimate the impact of a hypothetical severely adverse macroeconomic scenario (Supervisory Severely Adverse scenario) provided by the FRB and the OCC on the capital position of the Companies over a nine-quarter forecast horizon. The Supervisory Severely Adverse scenario is described in additional detail below.

The Companies performed their internal stress tests using their own models, practices, methodologies and assumptions to project pre-provision net revenue, provisions, losses and capital ratios under the Supervisory Severely Adverse scenario except in those cases where practices, methodologies and assumptions were specifically prescribed by rules, instructions or guidance published by the FRB and/or the OCC. Consequently, BFC results might differ, potentially materially, from the projections that the FRB makes using its own models, methodologies and assumptions.

In addition, bank holding companies and IHCs are required to assume a uniform set of conditions regarding capital actions over the forecast horizon to enable comparison of results across institutions and neutralize the effect of company-specific assumptions regarding capital actions. Under this requirement, BFC must calculate its pro forma capital ratios using the following factors and assumptions regarding its capital actions over the forecast horizon for the Supervisory Severely Adverse scenario:

1. For the initial quarter of the forecast horizon (Q1 2018), take into account actual capital actions taken throughout the quarter;
2. For each of the subsequent quarters (Q2 2018 through Q1 2020), include in the projection of capital:
    i. Common stock dividends equal to the quarterly average dollar amount of common stock dividends that the company paid in the previous year (i.e., the initial quarter of the forecast horizon and the preceding three calendar quarters);

    ii. 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 such instrument during the quarter;

    iii. 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

[1] 'Supervisory and Company-Run Stress Test Requirements for Covered Companies' Final Rule, 12 C.F.R. Part 252

[2] 'Annual Stress Test' Final Rule, 12 C.F.R Part 46

iv. 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.

In actual practice, if a severely adverse scenario were to occur, the Companies would take capital and other management actions mandated by their internal policies and which are necessary or appropriate to respond to such stress.

BFC and BHB are well-capitalized with strong, pre-stress actual Basel III Common Equity Tier 1 (CET1) ratios of 12.1% and 12.8%, respectively, as of December 31, 2017, and have sufficient capital to withstand the consequences of severe stress. As depicted by the results of the Supervisory Severely Adverse scenario presented below, BFC and BHB maintain strong capital levels, with minimum stressed CET1 ratios of 10.4% and 11.6%, respectively, over the forecast horizon, which are considerably higher than the applicable Basel III regulatory well-capitalized requirement of 6.5% and minimum value of 4.5%. The Companies maintain pro forma regulatory capital ratios that are higher than the regulatory minimums throughout the forecast horizon, despite reduced pre-provision net revenue and higher losses.

Supervisory Severely Adverse Scenario

Scenario Overview

The Supervisory Severely Adverse scenario released by the FRB[3] and OCC is characterized by a severe global recession that is accompanied by a global aversion to long-term fixed-income assets. In this scenario, the level of U.S. real GDP begins to decline in Q1 2018 and reaches a trough in Q3 2019 that is 7.5% below the pre-recession peak. The unemployment rate increases by almost 6%, to 10%, by Q3 2019. Headline consumer price inflation falls below 1% at an annual rate by Q2 2018 and then rises to about 1.5% at an annual rate by the end of the scenario. Short-term Treasury rates fall and remain near zero through the end of the scenario period. Financial conditions in corporate and real estate lending markets are stressed severely, with the spread between yields on investment-grade corporate bonds and yields on long-term Treasury securities widening to 5.75% by the start of 2019. Asset prices drop sharply in this scenario, with equity prices falling by 65% through early 2019. House prices and commercial real estate prices also experience large declines, with house prices and commercial real estate prices falling by 30% and 40%, respectively, by Q3 2019.

Scenario Estimates

The Companies maintain strong regulatory capital ratios throughout the forecast horizon from Q1 2018 through Q1 2020. The minimum and ending values are depicted below. Also shown below are risk-weighted asset projections as well as loan loss and income statement forecasts throughout the scenario.

[3] The Supervisory Scenario descriptions can be obtained from the following publication: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20180201a.htm

BFC/BHB Projected Stressed Capital Ratios through Q1 2020						
Ratio	BFC			BHB		
	Actual Q4 2017	Stressed Capital Ratios [1]		Actual Q4 2017	Stressed Capital Ratios [1]	
		Ending	Minimum		Ending	Minimum
Common Equity Tier 1 capital ratio	12.1%	10.4%	10.4%	12.8%	11.8%	11.6%
Tier 1 risk-based capital ratio	12.6%	11.1%	11.1%	12.8%	11.8%	11.6%
Total risk-based capital ratio	15.3%	14.3%	14.3%	14.0%	13.5%	13.3%
Tier 1 Leverage ratio	9.8%	8.5%	8.5%	11.5%	10.3%	10.3%

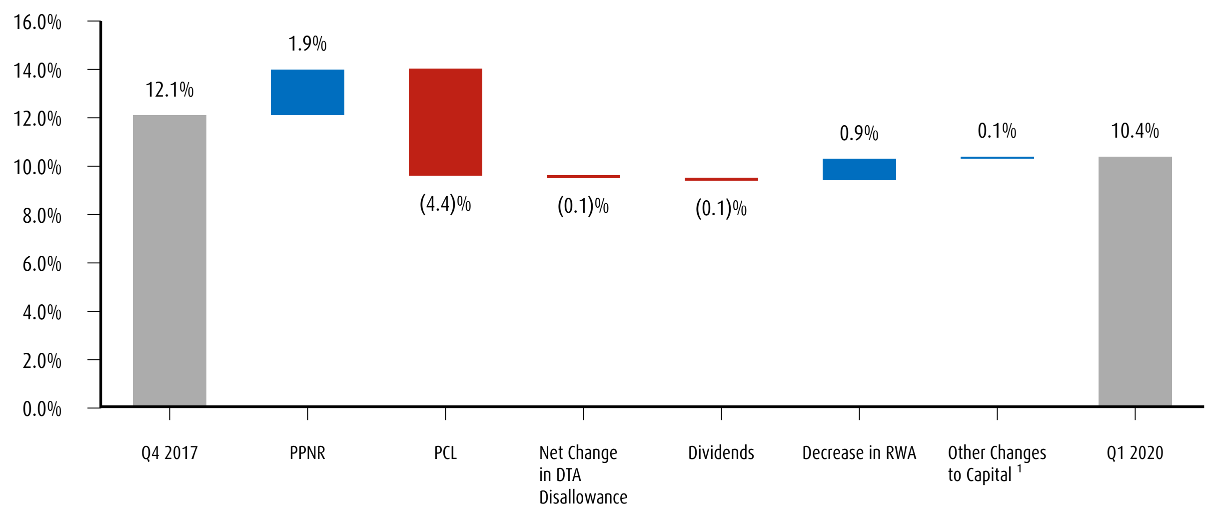
[1] The pro forma stressed capital ratios are calculated using DFAST capital actions and assumptions as described above. These projections represent hypothetical estimates under severely adverse economic conditions specified in the Supervisory Severely Adverse scenario. The minimum capital ratios presented are for the period Q1 2018 through Q1 2020.

Actual Q4 2017 and Projected Q1 2020 Risk-Weighted Assets [1]		
Billions of dollars	Actual Q4 2017	Projected Q1 2020 (Standardized Approach)
BFC Risk-Weighted Assets	99.9	91.5
BHB Risk-Weighted Assets	93.1	85.7

[1] For each quarter of the forecast horizon, risk-weighted assets are calculated under the Basel III standardized risk-based capital approach.

As depicted in the chart below, the change in capital ratios from actual Q4 2017 levels to the minimums projected in the hypothetical company-run Supervisory Severely Adverse scenario primarily reflects the impact of higher provisions for credit losses (PCL). This impact is partly offset by pre-provision net revenue (PPNR) generated over the forecast horizon as well as lower risk-weighted asset (RWA) levels.

Key Drivers of BFC's Pro Forma Common Equity Tier 1 Capital Ratio



[1] Other changes to capital include changes in disallowed intangibles net of related deferred tax liabilities as well as other miscellaneous adjustments.

BFC projected loan losses, by type of loan, from Q1 2018 through Q1 2020		
Loan Type	Billions of dollars	Portfolio loss rates (%) [1]
Total Loan Losses	3.8	5.5%
First lien mortgages	0.2	2.5%
Junior liens and HELOCs	0.1	3.2%
Commercial and industrial	1.9	7.0%
Commercial real estate [2]	0.8	7.7%
Credit cards	0.1	20.8%
Other consumer	0.2	3.1%
Other loans	0.6	4.0%

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and are calculated over nine quarters.
[2] Commercial real estate loans include loans secured by farmland.

BFC projected losses, revenue, and net income before taxes from Q1 2018 through Q1 2020		
Item	Billions of dollars	Percentage of Average Assets
Pre-provision net revenue [1]	1.9	1.5%
Other revenue	—	—%
Less		
Provisions	4.4	3.6%
Realized losses/(gains) on securities (AFS/HTM)	—	—%
Trading and counterparty losses/(gains)	0.0	0.0%
Other losses/(gains)	—	—%
Equals		
Net income/(loss) before taxes	(2.6)	(2.0)%

[1] Pre-provision net revenue is comprised of revenues less expenses, including mortgage repurchase expenses and other real estate owned (OREO) costs, as well as losses from operational risk events.

Material Risks Captured in the Stress Test

The Companies' Capital Adequacy Process (CAP) is grounded in the processes used to identify, understand and ultimately manage the risks arising from their business model and strategies. As part of the Companies' CAP, a broad spectrum of risks are evaluated and stressed, including credit and counterparty risk, market risk, operational risk and other applicable risks; these risks are described below.

- **Credit and Counterparty Risk:** Credit and counterparty risk is the potential for loss due to the failure of a borrower, endorser, guarantor or counterparty to repay a loan or honor another predetermined financial obligation. Credit and counterparty risk underlies every lending activity that the Companies enter into, and also arises in the transacting of trading and other capital markets products and the holding of investment securities.

- **Market Risk:** Market risk is the potential for adverse changes in the value of assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity and commodity prices and their implied volatilities, and credit spreads, and includes the risk of credit migration and default in our trading book. The Companies incur market risk in their trading and underwriting activities and structural banking activities.

- **Operational Risk:** Operational risk is the potential for loss resulting from inadequate or failed internal processes or systems, human interactions or external events.

- **Other Risks:** Other material risk types evaluated under the CAP and captured in the stress test include liquidity and funding risk, model risk, business risk, environmental and social risk, reputation risk and strategic risk.

Many of the Companies' material risks, including credit, market and operational risk, are driven by or correlated with changing macroeconomic conditions, and thus are stressed under the Supervisory Severely Adverse scenario using the methodologies described below.

Stress Testing Methodologies

The Companies' stress testing methodologies are focused on defining the relationship between macroeconomic variables and business volumes, revenues and losses in order to develop pro forma financial statements and estimate the impact on capital availability. The macroeconomic variables provided by the FRB and OCC are expanded as required, additional macroeconomic variables are used as determined to be appropriate, and these assumptions and interest rate curves are used to make projections. Key outputs from these processes are pro forma balance sheets and income statements, which are used to develop risk-weighted assets, average assets for leverage purposes and capital projections in order to estimate stressed regulatory capital ratios. The Companies use models, quantitative and qualitative methodologies, and management judgment, where applicable, to produce a comprehensive projection of business performance under hypothetical severe stress scenarios. All projected results are reviewed and challenged by teams of subject matter experts, and senior cross-functional and multi-disciplinary management committees, as well as by the Capital Committee of the BFC Board of Directors.

The specific methodologies employed are described below.

Credit and Other Losses

The Companies' loss estimation processes are supported by well-established risk measurement frameworks and complemented by robust governance, including independent model validation and effective challenge by business and risk management professionals. Results are benchmarked against key internal and external metrics of performance.

Specific to credit risk, loss estimation for each scenario is forecasted by Probability of Default (PD) and Loss Given Default (LGD) stress models that are driven by scenario-specific inputs, exposure and borrower attributes, and balance information. Commercial and Consumer net charge-offs are primarily estimated using quantitative models that forecast stress PD, stress LGD and exposure at default, as well as credit quality changes within the performing portfolios. Commercial and Consumer models are calibrated to BFC's and BHB's historical loss experience and use risk characteristics of loan segments and exposures to derive results under the Supervisory Severely Adverse scenario.

Operational losses are estimated using a combination of legal and non-legal loss modeling and company-specific events. The legal modeled losses use legal loss drivers and historical legal settlements, fees and reserves to assess increased losses during stress. The non-legal modeled losses use macroeconomic regression and historical losses to assess increased operational losses during stress periods. Additionally, company-specific events are added to further stress material risks not sufficiently stressed through the models.

Trading losses are estimated using market risk stress testing models. Other than temporary impairment on securities and equity investments is estimated at an individual investment level, as applicable.

Pre-Provision Net Revenue

The Companies use quantitative and qualitative methodologies based on applicable macroeconomic variables to estimate net interest income, non-interest revenue and non-interest expense. Net interest income components are estimated using the projected balance sheet, non-performing loan migration, and non-contractual net interest income. Non-interest revenue and non-interest expense are estimated utilizing historical experience, expert judgment and quantitative approaches. While a majority of the categories are quantitatively modeled, certain categories are judgmentally derived.

Provision for Loan and Lease Losses

The Companies utilize the loss estimates and credit quality changes forecasted by their methodologies along with a well-established qualitative general reserve framework to quantify the allowance for loan and lease losses. The provisions for loan and lease losses are appropriately estimated to absorb quarterly losses through the forecast horizon and beyond.

Capital Position

The impact of estimated pre-provision net revenue and losses, changes in asset levels, permitted capital and other management actions and changes in risk-weighted assets are used to estimate the Companies' capital position. Risk-weighted assets, average assets for leverage purposes and regulatory capital are calculated throughout the forecast horizon based on the Basel III methodology for non-advanced approaches institutions.

The annual Dodd-Frank Act company-run stress test results presented in this report (Stress Test Results) have been prepared in accordance with U.S. GAAP. The Stress Test Results present certain projected financial measures for BFC and BHB under the hypothetical economic and market scenario and assumptions provided by the FRB and OCC described herein. The Stress Test Results are not forecasts of actual financial results for either BFC or BHB. Investors in securities issued by Bank of Montreal and its affiliates should not rely on the Stress Test Results as being indicative of expected future results.

The stress testing of financial institutions conducted by the FRB is based on models and methodologies developed or employed by the FRB. The FRB does not disclose details of its models and methodologies. Therefore, BFC may not be able to explain certain variances between the FRB’s projections and BFC Stress Test Results included herein.