Northern Trust

Annual Company-Run Stress Test Results

Dodd-Frank Act Stress Test Disclosure

Supervisory Severely Adverse Scenario

June 25, 2020

NTAC:3NS-20

Introduction

Northern Trust Corporation (the Corporation) is a leading provider of wealth management, asset servicing, asset management, and banking solutions to corporations, institutions, families and individuals worldwide. The Corporation is a financial holding company conducting business through various U.S. and non-U.S. subsidiaries, with a network of offices in 22 U.S. states, Washington, D.C., and 22 international locations in Canada, Europe, the Middle East, and the Asia-Pacific region. The Corporation's principal subsidiary, The Northern Trust Company (the Bank), was founded in 1889 and represents nearly 100% of the Corporation's consolidated assets. As used in the remainder of this document, except where the context otherwise requires, the terms "Corporation" and "Bank" shall include the subsidiaries of such entities on a consolidated basis.

The Corporation and the Bank are required to conduct company-run stress tests and disclose a summary of those results pursuant to the requirements of 12 CFR Part 252 (the Regulation). Accordingly, management has developed the following disclosure, which contains the information required by the Regulation to be disclosed publicly. Any differences in the presentation of information concerning either the Corporation or the Bank contained herein relative to how such information is presented for other purposes is solely due to efforts to comply with the Regulation. The information presented herein does not, in any way, reflect changes to the business plans, practices, or strategy of either the Corporation or the Bank. The projections contained herein are based on the severely adverse scenario provided by the Board of Governors of the Federal Reserve System for the 2020 Comprehensive Capital Analysis and Review (Supervisory Severely Adverse Scenario) and assumptions required by the Regulation. These projections do not represent expected actual pre-provision net revenue (PPNR), losses, net income before taxes, or capital ratios. Rather, the projections are intended to assist with the assessment of sources and uses of capital under stressed economic and financial market conditions.

The Regulation requires the Corporation and the Bank to include, among other things, certain assumptions with respect to capital actions (Dodd-Frank Act Capital Actions) including for each of the second through ninth quarters of the assessment horizon: common stock dividends equal to the quarterly average dollar amount of common stock dividends that the Corporation paid in the previous year; payments on any other instrument 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; and no redemption or repurchase of any capital instrument eligible for inclusion in the numerator of a regulatory capital ratio.

Risks Included in the Stress Test

When conducting the company-run stress test under the Supervisory Severely Adverse Scenario with Dodd-Frank Act Capital Actions, the Corporation evaluated and incorporated the principal risks which impact this assessment. These risks include credit risk, operational risk, market risk, and strategic risk.

Credit risk is the risk to interest income or principal from the failure of a borrower or counterparty to perform on an obligation. Credit risk is inherent in many of the Corporation's activities. A significant component of credit risk relates to loans, leases, securities, and counterparty-related exposures. In addition, credit risk is inherent in certain contractual obligations such as legally binding commitments to extend credit, commercial letters of credit, and standby letters of credit.

Operational risk is the risk of loss from inadequate or failed internal processes, human factors and systems, or from external events. Operational risk is inherent in each of the Corporation's businesses and corporate functions and reflects the potential for inadequate information systems, operating problems, product design and delivery difficulties, potential legal actions, or catastrophes to result in losses. This includes the potential that continuity of service and resiliency may be impacted. Operational risk also includes fiduciary, compliance and legal risks, which under the Corporation's risk structure are governed and managed explicitly.

Market risk refers to interest rate risk and trading risk. Interest rate risk is the potential for movements in interest rates to cause changes in net interest income and the market value of equity. Changes in interest rates can have a positive or negative impact on net interest income depending on the positioning of assets, liabilities, and off-balance-sheet instruments. Trading risk is the potential for movements in market variables such as foreign exchange and interest rates to cause changes in the value of trading positions. The Corporation is exposed to trading risk primarily through foreign exchange trading.

Strategic risk is the vulnerability of the organization to internal or external developments that render corporate strategy ineffective or unachievable. The consequences of strategic risk can be diminished long-term earnings and capital, as well as reputational damage to the firm. Strategic risk includes macroeconomic and geopolitical risk, as well as business risk.

Macroeconomic and geopolitical risk centers on events or themes that would have a significant, detrimental impact on financial markets, and by extension, financial services firms. Business risk arises from internal, secular, competitive, and/or regulatory changes.

Methodologies Used in the Stress Test

The Corporation uses a series of models and estimation techniques that translate the economic and financial variables in the Supervisory Severely Adverse Scenario to project PPNR, provision for credit losses, and net income before taxes. General descriptions of the methodologies used in the company-run stress test under the Supervisory Severely Adverse Scenario are described below.

The Corporation's PPNR is comprised of trust, investment and other servicing fees, other noninterest income, net interest income, and noninterest expense, including operational losses. Trust, investment, and other servicing fees are projected from models and management-derived projections that are based on relationships with macroeconomic indicators, such as equity indices, gross domestic product (GDP), and interest rates.

In a process similar to that used to project trust, investment, and other servicing fees, the Corporation utilizes various models and management-derived approaches to project levels of certain on- and off-balance-sheet items, primarily loans and deposits. For balance sheet items such as investment securities, money market assets, and borrowed funds, all of which are influenced by projected levels of deposits and loans, management-derived projections are used to estimate levels across the assessment horizon. Having determined projections of on- and off-balance-sheet exposures, the Corporation utilizes its asset liability modeling to project net interest income and accumulated other comprehensive income on the available for sale (AFS) securities portfolio for the scenario. Additionally, the Corporation utilizes this exposure information to calculate credit risk-weighted assets under the Basel III Standardized regime, and adds to this amount risk-weighted assets related to its market risk.

Other noninterest income consists of foreign exchange trading income, treasury management fees, securities commissions and trading income, and other operating income. All of these items are based on management-derived projections, which are informed by analysis of historical trends and the Corporation's current and projected business mix.

The Corporation projects noninterest expense through a comprehensive analysis of projections that are based on management's assessment of the macroeconomic scenario, business strategies, competitive dynamics, historical relationships, and experience. Primary expense categories are compensation and benefits, equipment and software, and outside services.

Using the macroeconomic factor projections for the scenario, the Corporation estimates the impact on the frequency of operational losses across the assessment horizon. The Corporation projects operational losses for certain material risks by combining frequency projections with the average loss severity. Losses for the remaining material risks are estimated using operational risk scenarios developed by the Corporation. These operational risk scenarios also capture idiosyncratic risks specific to the Corporation. Management reviews the operational loss results for all material risks for reasonableness given the conditions of the scenario, and, as a result of this review, management judgment may be applied to adjust the operational loss results.

The Corporation projects credit losses under stressed economic conditions by utilizing models and related qualitative estimation approaches that consider relationships between macroeconomic indicators and portfolio characteristics including obligor and loan/security level attributes. Management utilizes these segment-specific approaches to calculate probability of default and loss given default parameters over the life of the credit exposure. Segment level expected losses are aggregated and utilized to project non-performing loans, charge-offs, allowance for credit losses, and a credit provision for each scenario.

Statistical models and management-derived projections are used to project credit losses for held to maturity (HTM) and AFS securities held within the investment securities portfolio. The approaches use cash flow models that compare a discounted present value to book value, taking into account prepayment, default, and loss severities based on macroeconomic variables and loan-specific factors. Additionally, credit-migration-related methodologies are utilized to calculate an impairment charge based upon the probability of impairment.

Summary of Results for Northern Trust Corporation's Company-Run Annual Stress Test under the Supervisory Severely Adverse Scenario

The Supervisory Severely Adverse Scenario is characterized by a severe global recession that is accompanied by a period of heightened stress in commercial real estate markets and corporate debt markets.

As a result of these circumstances, the Corporation's balance sheet is projected to shrink during the initial quarters of the assessment horizon, before beginning to grow again, but ends the assessment horizon lower than Fourth Quarter 2019. Overall balance sheet size is driven by deposit levels, and the decline in deposits leads to lower levels of securities, which are offset slightly by higher levels of money market assets and loans and leases. Additionally, the credit quality of residential, commercial real estate, and commercial lending is projected to deteriorate as macroeconomic conditions worsen, causing credit losses to rise and remain elevated across the assessment horizon. The provision for credit losses is projected to increase significantly in the first projection quarter due to worsening credit conditions.

Total revenues are projected to decline across the assessment horizon before beginning to recover modestly near the end of the assessment horizon. Trust, investment, and other servicing fees are projected to decline due to falling equity markets and GDP levels, before recovering beginning in First Quarter 2021. Net interest income is projected to decline over the assessment horizon as a result of a shrinking balance sheet and low net interest margins. Consequently, net income is projected to decline significantly in the first projection quarter and remain very low for the remainder of the assessment horizon, despite slight decreases in noninterest expense across the assessment horizon.

The Corporation's risk-based capital ratios are projected to decrease slightly by the end of the assessment horizon, driven by Dodd-Frank Act Capital Actions and suppressed net income. The Tier 1 Leverage ratio is projected to end the assessment horizon at its actual Fourth Quarter 2019 level, and the Supplementary Leverage Ratio is projected to increase due in part to the implementation of section 402 of the Economic Growth, Regulatory Relief, and Consumer Protection Act, which removed central bank deposits from the supplementary leverage ratio calculation for custodial banks[1]. The Corporation's capital ratios remain above regulatory minimums and Capital Management Goals throughout the assessment horizon.

Northern Trust Corporation's Projected Stressed Capital Ratios through Q1 2022 under the Supervisory Severely Adverse Scenario

	Actual Q4 2019	Stressed Capital Ratios	
		Q1 2022	Minimum over Assessment Horizon
Common Equity Tier 1 Capital Ratio	12.7%	12.4%	11.8%
Tier 1 Risk-Based Capital Ratio	14.5%	13.7%	13.0%
Total Risk-Based Capital Ratio	16.3%	15.0%	14.8%
Tier 1 Leverage Ratio	8.7%	8.7%	8.6%
Supplementary Leverage Ratio	7.6%	8.6%	7.7%

[1] https://www.congress.gov/115/plaws/publ174/PLAW-115publ174.pdf

Northern Trust Corporation's Projected Losses, Revenue, and Net Income Before Taxes for Q1 2020 through Q1 2022 under the Supervisory Severely Adverse Scenario		
	Billions of Dollars	Percent of Average Assets
Pre-Provision Net Revenue	$2.0	1.7%
Other Revenue	$0.0	0.0%
less		
Provisions	$0.5	0.4%
Realized Losses/Gains on Securities	$0.0	0.0%
Trading and Counterparty Losses	$0.0	0.0%
Other Losses/Gains	$0.0	0.0%
equals		
Net Income Before Taxes	$1.5	1.3%

Northern Trust Corporation's Projected Loan Losses by Type of Loans for Q1 2020 through Q1 2022 under the Supervisory Severely Adverse Scenario		
	Billions of Dollars	Portfolio Loss Rates(1)
Loan Losses	$0.4	1.2%
First-Lien Mortgages, Domestic	$0.0	0.5%
Jr Liens and HELOCs, Domestic	$0.0	0.8%
Commercial and Industrial	$0.1	1.9%
Commercial Real Estate, Domestic	$0.2	4.4%
Credit Cards	$0.0	0.0%
Other Consumer	$0.0	1.4%
Other Loans	$0.1	0.5%

(1) Portfolio loss rates estimated as percent of average portfolio balance

Summary of Results for The Northern Trust Company's Company-Run Annual Stress Test under the Supervisory Severely Adverse Scenario

When conducting the company-run stress test, the Bank evaluated the types of risks and utilized the same methodologies as described above in the discussion concerning the Corporation, as the Bank represents nearly 100% of the consolidated assets of the Corporation and its business mix and processes are virtually identical to those of the Corporation.

All of the Bank's capital ratios, with the exception of the Total Risk-Based Capital ratio, are projected to increase slightly by the end of the assessment horizon, driven by a shrinking balance sheet and positive net income. The Total Risk-Based Capital ratio is projected to end the assessment horizon at its actual Fourth Quarter 2019 level.

The Northern Trust Company's Projected Stressed Capital Ratios through Q1 2022 under the Supervisory Severely Adverse Scenario

	Actual Q4 2019	Stressed Capital Ratios	
		Q1 2022	Minimum over Assessment Horizon
Common Equity Tier 1 Capital Ratio	12.3%	12.9%	11.9%
Tier 1 Risk-Based Capital Ratio	12.3%	12.9%	11.9%
Total Risk-Based Capital Ratio	14.0%	14.0%	13.5%
Tier 1 Leverage Ratio	7.3%	8.0%	7.7%
Supplementary Leverage Ratio	6.4%	8.0%	6.9%

FORWARD-LOOKING STATEMENTS

This document contains “forward-looking statements” within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are identified typically by words or phrases such as “believe,” “expect,” “anticipate,” “intend,” “estimate,” “project,” “likely,” “plan,” “goal,” “target,” “strategy,” and similar expressions or future or conditional verbs such as “may,” “will,” “should,” “would,” and “could.” Forward-looking statements contained herein include certain projections of our financial results and condition and capital ratios under a hypothetical stress scenario that incorporates a set of assumed economic and financial conditions prescribed by our regulators. The projections are not intended to be a forecast of expected future economic or financial conditions or a forecast of the Corporation’s or the Bank’s expected future financial results or condition, but rather reflect possible results under the hypothetical scenario. Our future financial results and conditions will be influenced by actual economic and financial conditions and other factors described in the Corporation’s reports filed with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended December 31, 2019, all of which are available on our website. The Corporation assumes no obligation to update its forward-looking statements.