Northern Trust Corporation

Market Risk Disclosures

June 30, 2016

Market Risk Disclosures

Effective January 1, 2013, Northern Trust Corporation (Northern Trust) adopted revised risk based capital guidelines for market risk commonly referred to as Basel II.5 (the Market Risk Rule), issued jointly by the Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, and Federal Deposit Insurance Corporation. The Market Risk Rule requires Northern Trust to disclose publicly, for each material portfolio of covered positions, certain quantitative and qualitative information. Quantitative disclosures include period-end Value at Risk (VaR) based measures and Stressed VaR (SVaR) based measures.

Qualitative disclosures include the composition of material covered portfolios, Northern Trust's valuation policies, procedures and methodologies, and the characteristics of the internal models in use. All information provided below is at a consolidated Northern Trust level.

Foreign Exchange Trading Activities

Positions covered under market risk regulations arise from Northern Trust's foreign exchange (FX) trading, which consists principally of providing FX services to clients. Most of those services are provided in connection with Northern Trust's global custody business. The primary market risk associated with global FX trading activities is FX risk.

Foreign currency trading positions exist when aggregate obligations to purchase and sell a currency other than the U.S. dollar either do not offset each other in amount or offset each other over different time periods.

The FX trading portfolio at Northern Trust is composed of spot, forward, and non-deliverable forward currency transactions. The portfolio holds no futures, options, or structured derivatives. As of June 30, 2016, approximately 99% of FX contracts were to mature in less than 12 months and the average maturity of outstanding contracts was approximately 56 days.

As of June 30, 2016, Northern Trust authorized trading in 54 different currencies. In response to changes in liquidity, client demand, and the economic, political, and regulatory environment of each currency's domicile, currencies may be dropped from or added to the tradable list and position limits may be revised.

Other Nonmaterial Trading Activities

Market risk associated with other trading activities is negligible. Northern Trust's broker-dealer subsidiary, Northern Trust Securities, Inc. (NTSI), maintains a small portfolio of trading securities held for customer accommodation purposes, which averaged $0.8 million for the quarter ended June 30, 2016.

Northern Trust is also party to interest rate derivative (IRD) contracts consisting mostly of interest rate swaps entered into to meet clients' interest rate risk management needs, but also including a small number of caps, floors, and swaptions. All IRD transactions are executed by Northern Trust's Treasury Department. When Northern Trust enters into client transactions, its practice is to mitigate the resulting market risk with offsetting interbank derivative transactions with matching terms and maturities.

Valuation Practices

Values of FX spot and forward positions, and of securities held by NTSI, are updated directly from observable market prices. For IRDs, Northern Trust updates interest rates daily through automated data feeds from established data vendors. Rates and prices are utilized in standard pricing models to determine position valuations.

Value at Risk and Required Capital

The table below presents levels of VaR and the VaR component of required capital for FX, as of June 30, 2016. VaR is shown at the 99% confidence level, at a one-day horizon, and with volatilities equally weighted over a one-year look-back period. The VaR component of required capital is assessed at the 99% confidence level and ten-day horizon.

($ In Millions)	VaR, 99% One-Day	VaR Component of Required Capital
High	$0.6	$4.2
Low	$0.2	$3.2
Average	$0.4	$3.7
Quarter End	$0.5	$4.2

Stressed Value at Risk Measures

The table below presents levels of SVaR for FX based on the same assumptions and inputs as above, but replaying the severe one-year financial crisis period of August 2008 to August 2009.

($ In Millions)	SVaR, 99% One-Day	SVaR Component of Required Capital
High	$1.7	$11.2
Low	$0.5	$9.4
Average	$1.0	$10.5
Quarter End	$1.1	$11.2

The VaR and SVaR totals indicate the degree of risk inherent in non-U.S. currency positions during the most recent quarters; however, they are not predictive of expected gain or loss. Actual future gains or losses are dependent on market conditions and the amounts and tenors of future non-U.S. currency positions.

Comparison with Actual Outcomes

During the quarter ended June 30, 2016, Northern Trust did not incur an actual trading loss in excess of the daily VaR estimate. In addition to comparing actual gains or losses to VaR, Northern Trust also compares hypothetical gains or losses to VaR. Hypothetical gains or losses are computed by assuming the previous day's closing positions remain unchanged for the entire following day, updating market prices, and recomputing the portfolio's valuation. During the quarter ended June 30, 2016, Northern Trust experienced one day for which the computed hypothetical loss would have been greater than indicated by the VaR-based estimate at the 99% confidence level.

Characteristics of Value at Risk Models

FX VaR Modeling. As part of its risk management activities, Northern Trust measures daily the risk of loss associated with all non-U.S. currency positions using a VaR model and applying the historical simulation methodology. This statistical model provides estimates, based on a variety of high confidence levels, of the potential loss in value that might be incurred if an adverse shift in non-U.S. currency exchange rates were to occur over a small number of days. The model incorporates FX and interest rate volatilities and correlations in price movements among the currencies.

The FX VaR measures are computed in a vended software application which reads FX positions directly from Northern Trust's trading systems each day. Data vendors provide FX rates and interest rates for all currencies. The Corporate Market Risk function monitors on a daily basis VaR model inputs and outputs for reasonableness.

VaR Variations. Management monitors several variations of the FX VaR measures to meet specific regulatory and internal management needs. Variations include different methodologies (historical, variance-covariance, and Monte Carlo), equally-weighted and exponentially-weighted volatilities, horizons of one day and ten days, confidence levels ranging from 95% to 99.95%, and look-back periods of one year and four years. Those alternative measures provide management with a rich array of corroborating metrics and alternative perspectives on Northern Trust's market risks.

VaR Reporting. Automated daily reports are produced and distributed to business unit managers and risk managers. The Corporate Market Risk function also reviews and reports several variations of the VaR measures in historical time series format to provide management with a historical perspective on risk.

Model Risk Management

Financial and risk modeling are used by Northern Trust to inform numerous decisions regarding risk management, as well as capital estimation, financial reporting and disclosure, valuation and pricing, and portfolio management. Model risk may result from decisions based on models that produce incorrect results or models that are improperly used. The Model Risk Management function is responsible for the implementation and management of the enterprise-wide model risk framework and independently validating new models and reviewing and re-validating existing models.

Validations are documented and include an assessment of the conceptual soundness of the modeling approach, outcome analysis, applicability of use, model assumptions and limitations, development documentation, ongoing monitoring, and model controls. Oversight of Model Risk Management is provided by the Model Risk Oversight Committee.

Stress Tests and Capital Adequacy

Management monitors stress test results on an ongoing basis to assess the potential for exceeding Northern Trust's required capital. Should the results of a stress test exceed the required capital value, management would consider that information in assessing Northern Trust's capital adequacy.

Northern Trust runs a number of stress tests on the FX portfolio, including quadrupling volatility, measuring at an extreme number of standard deviations (six sigmas), stressing correlations to extremes, taking tail averages (conditional VaR or expected shortfall), zero diversification benefit, and zero correlation between spot and forward risks. Northern Trust runs a stressed VaR daily, which replays the severe one-year financial crisis period of August 2008 to August 2009. In assessing capital adequacy, management considers in particular the results of stress tests run weekly that reenact eight of the most severe historical events over a simulated ten-day period.

The capital adequacy assessment also considers risks that may not be captured fully in the VaR-based measure, such as concentration and liquidity risk under stressed market conditions.

Forward-Looking Statements

This document may include statements which constitute "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 include statements, other than those related to historical facts, that relate to Northern Trust's financial results and outlook, capital adequacy, dividend policy, anticipated expense levels, spending related to technology and regulatory initiatives, risk management policies, contingent liabilities, strategic initiatives, industry trends, and expectations regarding the impact of recent legislation. These statements are based on Northern Trust's current beliefs and expectations of future events or future results, and involve risks and uncertainties that are difficult to predict and subject to change. These statements are also based on assumptions about many important factors, including the factors discussed in Northern Trust's most recent annual report on Form 10-K and other filings with the U.S. Securities and Exchange Commission, all of which are available on Northern Trust's website. We caution you not to place undue reliance on any forward-looking statement as actual results may differ materially from those expressed or implied by forward-looking statements. Northern Trust assumes no obligation to update its forward-looking statements.