BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

DIVISION OF BANKING
SUPERVISION AND REGULATION

February 16, 2016

Subject: Enhancements to Federal Reserve Models Used to Estimate Operational Risk and Capital

Dear Sir or Madam,

The Federal Reserve is committed to continuous assessment and enhancement of the supervisory models used in the stress testing program required under the Dodd-Frank Wall Street Reform and Consumer Protection Act.[1] As has been the practice in previous years,[2] the purpose of this letter is to notify firms participating in the upcoming Dodd-Frank Act Stress Test (DFAST) and Comprehensive Capital Analysis and Review (CCAR) of enhancements to certain aspects of these models.[3]

[1] See 12 USC 5365(i)(1).
[2] For letters in previous years, see "Enhancements to Federal Reserve Projected Capital," December 12, 2014: http://www.federalreserve.gov/bankinforeg/scm-changes-letter-20141215.pdf and "Federal Reserve Independent Balance Sheet and RWA Projections," December 16, 2013: http://www.federalreserve.gov/bankinforeg/independent-projections-letter-20131216.pdf
[3] In addition to enhancements to the supervisory capital model or other models, a number of other factors will affect year-over-year changes in projected regulatory capital ratios. Those factors include changes in the supervisory scenarios, bank holding companies' recent performance, portfolio composition, and business mix at the "as-of" date of the stress test, any material restatement of prior regulatory reports, and the overall quality of regulatory data submitted by all participating bank holding companies. Combined, these factors could have material effects on bank holding companies' projected capital ratios each year without any change in supervisory models.

Main model enhancements to the Operational Risk Model

The projections of pre-provision net revenue (PPNR) include losses from operational-risk events, expenses related to put-backs of mortgages, and expenses related to the disposition of other real estate owned. Combined, they represent a major component of the projections of PPNR.[4]

The projections of operational risk losses include both historically-based loss estimates, based on an average of multiple approaches, and estimates of potential costs from unfavorable litigation outcomes. For DFAST 2016, the Federal Reserve will estimate historically-based loss projections using an average of two models—the historical simulation model, in which loss severity is drawn from historical realized loss data, and the panel regression model, which relates operational risk losses to macroeconomic conditions—and will no longer use the loss distribution approach model.[5]

Additionally, the historical simulation model has two modifications: (1) projections for each firm incorporate large historical losses (in terms of the severity of losses) observed across all BHCs rather than an individual firm's own historical data, and (2) projections of losses from the historical simulation model will be set at percentiles of the loss distribution that correspond to the severity of the supervisory scenarios.[6]

Collectively, these changes are expected to improve model stability and reduce year-over-year variation in projected operational risk losses. The aggregate effect of these changes is expected to be a moderate increase in operational risk losses as a percentage of RWAs, based on analysis using DFAST 2015 scenarios and information. The changes are expected to result in higher projected losses for firms that have experienced fewer of these events historically but are still vulnerable to such loss events.

Main model enhancements to the Capital Calculation

The Federal Reserve has made several changes to the supervisory capital calculation to improve precision. Main model enhancements include:

- Incorporating greater precision in the adjustments to the regulatory capital ratio denominators.
- Modifying assumptions regarding the relationship between mortgage servicing assets (MSAs) and associated deferred tax liabilities (DTLs).

[4] For example, aggregate projected losses from operational risk events, expenses relating to mortgage put-backs, and expenses relating to the disposition of other real estate owned averaged more than $130 billion over the last three DFAST cycles.

[5] For more detail on the supervisory models used in DFAST 2015, see *Appendix B* of Board of Governors of the Federal Reserve System (2015), "Dodd-Frank Act Stress Test 2015: Supervisory Stress Test Methodology and Results."

[6] The percentile for the severely adverse scenario corresponds to the frequency of severe recessions over a sixty-year historical span.

Firms with large balances of items that are fully deducted from regulatory capital, particularly goodwill, are expected to have lower regulatory capital ratios[7] due to this calculation change. The change in assumption underlying the relationship between MSAs and associated DTLs in the capital calculation is expected to result in higher capital ratios for firms with MSAs, based on the analysis utilizing DFAST 2015 scenarios and information.

[7] The regulatory capital ratios include the common equity tier 1 risk-based capital ratio, tier 1 risk-based capital ratio, total risk-based capital ratio, and tier 1 leverage ratio.