

A Modest Proposal? Federal Reserve Proposes Increased Transparency of Stress Testing

December 15, 2017 | Client Update | 8-minute read

In what we expect to be the first step in a process of increasing the transparency of the Federal Reserve's supervisory stress tests and their application to banking organizations subject to the Dodd-Frank Act supervisory stress testing requirements and the Federal Reserve's Comprehensive Capital Analysis and Review (CCAR) framework, the Federal Reserve [issued three proposals](#) last week designed to increase the transparency of its supervisory stress test models and scenarios. The Federal Reserve stated that enhanced transparency will strengthen the credibility of the stress tests and help the public better evaluate the results.

The three proposals are as follows:

I. Enhanced Disclosure of Supervisory Stress Test Models

The Federal Reserve proposes to disclose additional information about its supervisory stress test models and methodologies. The enhanced disclosures would consist of three components:

1. **Enhanced Description of Models.** The Federal Reserve would expand the current description of the supervisory stress test models in two ways:
 - By providing more detailed information about the models' structure, including certain important equations relating to the calculation of probability of default (PD), loss given default (LGD) and exposure at default (EAD) for relevant portfolios of assets.
 - By including a table listing the key loan characteristics and macroeconomic variables that influence the results of a given model.
2. **Estimated Loss Rates.** The Federal Reserve would include estimated loss rates for groups of loans or other assets with distinct characteristics to show how the supervisory models that are used to project losses on the most material loan portfolios treat specific assets under stress. The proposal uses an example of corporate loans, and shows that the disclosure could include:
 - Multiple groups of loans with combinations of three characteristics:
 - ??Industry sector (financial vs. non-financial)
 - Security status (secured vs. unsecured)
 - Ratings (investment grade vs. non-investment grade).
 - Three estimated loss rates for each group of loans under both the (i) supervisory adverse and (ii) supervisory severely adverse scenarios:
 - ??Average loan loss rate
 - 25th percentile of estimated loan loss rates
 - 75th percentile of estimated loan loss rates

- Summary statistics for the loans in each group, such as numbers of loans and percentage of utilized balance by facility type, credit rating, priority/lien position, interest rate variability, industry classification and type of guarantee (if any).
3. **Hypothetical Loan Portfolios and Loss Rates.** The Federal Reserve would publish portfolios of hypothetical loans or other assets and their loss rates, as estimated by the supervisory models used to project losses on the most material loan portfolios, that would allow banking organizations and other third parties to use their own models to estimate losses on the portfolios and compare the loss rates under their models to those under the Federal Reserve's models. The disclosures could include:
- Three sets of hypothetical loan portfolios, and their variables, designed to mimic characteristics of actual loans reported by banking organizations:
 - Full sample of loans in data set
 - Lower than average risk loans
 - Higher than average risk loans
 - Loss rates estimated by the Federal Reserve's supervisory models for each portfolio of hypothetical loans under both the (i) supervisory adverse and (ii) supervisory severely adverse scenarios.

The Federal Reserve stated that it expects to publish the enhanced disclosures in the first quarter of each year, starting with selected portfolios in 2018. The Federal Reserve also clarified that the proposed enhanced model disclosures would in all cases focus on particular models and their projected results compared to its current practice of aggregating projections that in most cases reflect the outputs from multiple supervisory models. They would also differ from current disclosures in that they would not include accounting and other adjustments to translate projected losses into provisions and other income or expense items used to calculate stressed pre-tax net income.

II. Changes to Federal Reserve Policy Statement on Scenario Design Framework

The Federal Reserve proposes to modify its framework for designing the annual hypothetical economic scenarios used for supervisory stress tests, set forth in its November 29, 2013 policy statement, to enhance the countercyclicality and transparency of the framework and increase the risk coverage of its scenarios. The key changes are:

- **Unemployment Rate.** Providing more specific guidance about when the Federal Reserve may adopt an increase of less than 4 percentage points in the unemployment rate in the severely adverse scenario, i.e., when the unemployment rate at the start of the scenario is elevated, but the labor market is strengthening and the higher than usual credit losses resulting from the previously elevated unemployment rates have already been or are in the process of being realized by the banking organizations.
- **Quantitative Guide for House Prices.** Establishing an explicit, quantitative guide for house prices in the severely adverse scenario. Specifically, in specifying the path for house prices, the Federal Reserve will consider the ratio of nominal house price index (HPI) to nominal, per capita disposable income (DPI) (HPI-DPI ratio). The Federal Reserve would typically set the decrease in the HPI-DPI ratio at the greater of (i) 25% from its starting value and (ii) the percentage required to bring the ratio down to its trough in the 2008 financial crisis.
- **Stressed Funding Costs.** Providing notice that the Federal Reserve intends to incorporate increased costs of short-term wholesale funding for banking organizations in the adverse and severely adverse scenarios. This addition is targeted for 2019 for the adverse scenario and no earlier than 2020 for the severely adverse scenario.

III. Supervisory Stress Testing Model Policy Statement

The proposed stress testing policy statement describes the Federal Reserve's overall approach to supervisory stress testing, focusing on the key principles and policies that guide the development, implementation and validation of the stress test models. This policy statement is intended to complement the policy statement on scenario design and addresses three main topics:

- **Principles of Supervisory Stress Testing.** The Federal Reserve uses seven guiding principles in the design of its supervisory stress tests and its approach to supervisory modeling:
 - **Independence.** The Federal Reserve's models are developed internally and separately from those used by banking organizations. Firm-provided data are used only when absolutely necessary (e.g., to project trading or counterparty losses).

- **Forward-looking.** Models should avoid relying solely on extrapolating from past outcomes in order to make projections and should incorporate events or outcomes that have not yet occurred (e.g., macroeconomic scenarios and global market shocks).
 - **Consistency and Comparability.** The Federal Reserve uses the same set of models and assumptions to produce projections for all banking organizations subject to supervisory stress testing.
 - **Simplicity.** The Federal Reserve prefers models that allow for the most straightforward interpretation of results and that minimize implementation challenges.
 - **Robustness and Stability.** Changes in model projections over time should reflect underlying risk factors, scenarios and model enhancement, rather than being driven by temporary variations in model performance or inputs.
 - **Conservatism.** All else being equal, the Federal Reserve will use assumptions and approaches that result in larger losses or lower revenues.
 - **Ability to Evaluate the Impact of Severe Economic Stress.** The Federal Reserve focuses on the models' ability to project outcomes in stressed economic environments, such as capturing risks to capital that arise specifically under economic stress (e.g., losses to a banking organization from the default of its largest counterparty).
- **Supervisory Stress Test Model Policies.** The Federal Reserve has established the following policies to guide the development and implementation of stress test models consistent with the seven principles outlined above:
- **Soundness in Model Design.** Models are reviewed extensively during development and are subject to ongoing monitoring to ensure that they remain appropriate for use in the stress test exercise.
 - **Disclosure of Stress Test Information.** The Federal Reserve reiterated its general policy that any information that it discloses about stress testing is publicly disclosed.
 - The Federal Reserve does not privately disclose firm-specific results or other stress test-related information only to banking organizations, implicitly rejecting recommendations that the Federal Reserve should provide, on a confidential basis, the results of applying the supervisory models to the firm's portfolio.
 - **Phasing In of Highly Material Model Changes.** Model revisions that would have a “highly significant impact” on outcomes are phased in over two years.
 - In the first year, estimates produced by the revised model are averaged with those produced by the model used in the previous year. In the second and subsequent years, only the estimates produced by the revised model are considered.
 - **Limiting Reliance on Past Outcomes.** In order to maintain forward-looking outcomes of supervisory scenarios, the Federal Reserve generally excludes variables that would capture unobserved historical patterns, such as firm-specific or year-specific fixed effects.
 - **Global Market Shock and Largest Counterparty Default Components.** In addition to losses estimated under the macroeconomic scenarios, the supervisory stress tests incorporate two separate components that affect banking organizations' estimated losses but do not affect their projected risk-weighted assets or balances:
 - an assumed global market shock, which specifies movements in various market factors. This applies only to firms with significant trading exposure; and
 - the assumed default of the firm's largest single counterparty. This applies only to firms with substantial trading or processing and custody operations. The full effect of both of these components is realized in net income in the first quarter of the nine-quarter projection horizon of the supervisory stress tests.
 - **Incorporation of Business Plan Changes.** Scenario projections incorporate material changes in the firms' business plans, such as mergers, acquisitions or divestitures, over the projection horizon, as required under the Federal Reserve's capital plan rule.
 - **Credit Supply Maintenance.** The stress test incorporates the assumptions that, during the stress period, firms maintain or increase their balance sheets and the aggregate credit supply does not contract. Firms cannot rely on “shrinking to health” because such an industry-wide reaction would create a “credit crunch,” substantially increasing the severity and duration of an economic downturn.
 - **Treatment of Other Data.** The Federal Reserve does not apply firm-specific overlays to stress test results and does not use additional input data from only some firms with material exposure in a particular area. Conservative

values are assigned to missing or deficient data. For immaterial portfolios, a loss rate representing the median rates for the relevant firms is applied.

- **Principles and Policies of Supervisory Model Validation.** The Federal Reserve's supervisory model validation program is based on the following three principles, which are effectively extracted from the Federal Reserve's [SR Letter 11-7](#) on model risk management:
 - **Structural Independence.** An independent validation unit within the Federal Reserve subjects the supervisory models to effective challenge, with input from an outside panel of academic experts.
 - **Technical Competence of Validation Staff.** The validation staff are technically expert and validate the models with respect to conceptual soundness, ongoing monitoring, and outcomes analysis. Staff are re-allocated across models at regular intervals to provide a fresh perspective on models and practices.
 - **Stature of Validation Function.** The validation function has the appropriate influence and stature within the Federal Reserve to ensure that any issues are addressed in a timely, substantive manner. In several cases, models have been modified or implemented differently based on validators' feedback.

Comments on each of the stress testing proposals are due by January 22, 2018.

If you have any questions regarding the matters covered in this publication, please reach out to any of the lawyers listed below or your usual Davis Polk contact.

Luigi L. De Ghenghi

+1 212 450 4296

luigi.deghenghi@davispolk.com

This communication, which we believe may be of interest to our clients and friends of the firm, is for general information only. It is not a full analysis of the matters presented and should not be relied upon as legal advice. This may be considered attorney advertising in some jurisdictions. Please refer to the firm's privacy notice for further details.