

Principles and Policies for Supervisory Stress Testing

Patrick de Fontnouvelle
Federal Reserve Bank of Boston

October 4, 2017

The views expressed in this presentation are solely my own, and do not necessarily represent policies or positions of the Federal Reserve Bank of Boston or the Federal Reserve System.

Overview

- The Federal Reserve Board has established a set of broad principles for supervisory stress testing.
- The principles also give rise to model policies which are tied to specific modeling and implementation issues.
- Some of these policies and principles have been discussed previously. (See final slide.)
- The Federal Reserve Board is considering ways to best communicate our principles and policies as part of the mission to improve stress testing disclosure. I will give a selective overview today.

Principles^{D17}

The Model Oversight Group (MOG) strives to produce ... projections that are

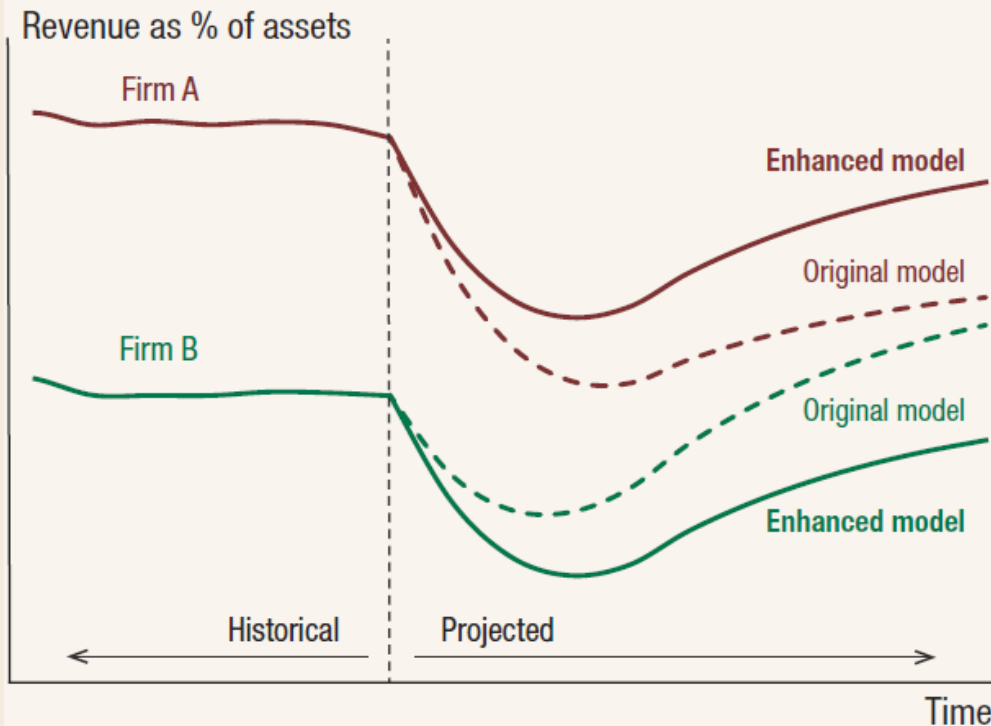
- P1) from an independent supervisory perspective;
- P2) forward-looking, may incorporate outcomes outside historical experience;
- P3) consistent and comparable across institutions and models;
- P4) generated from simpler and more transparent approaches, where appropriate;
- P5) stable and robust;
- P6) appropriately conservative; and
- P7) focused on stress outcomes.

Policy: Industrywide Modeling Approach^{D17}

- Components of this policy:
 - Models calibrated using pooled data from many institutions^{H15}
 - Minimize use of fixed effects (firm-specific dummy variables)^{H15}
 - Minimize use of time or vintage dummy variables^{H15}
 - No firm specific overlays or adjustments^{H15}
- Motivated by P3 (consistency); firms with similar portfolios should receive similar results
- Also motivated by P2 (forward looking)
- Potentially consider dummy variables if historical data are not sufficiently granular^{D17}

Enhanced PPNR Model for DFAST 2017^{D17}

Figure A. Hypothetical revenue projections from the original and enhanced PPNR models



- Data used in PPNR models are often insufficiently granular for the industrywide approach.
- PPNR models thus feature BHC-specific dummy variables.
- A BHC's own history is more predictive of revenues and expenses under stress than industry-level experience.

Policies Regarding Model Changes

- The MOG generally uses a two year model development cycle^{D16}
 - Year 1: model changes are implemented in the “development model,” which is reviewed and approved by the MOG
 - Year 2: the development model is formally validated, becomes the new production model, and is used to produce loss projections
- Policy on material model changes
 - To mitigate sudden changes in results, highly material model changes are generally phased in over two years.^{D17}
 - Results in year 1 are an average of results from the “old” and “new” models.
 - Motivated by P5 (stability)
 - Example: PPNR model changes introduced in DFAST 2017

Additional Policies

- Policy on missing data^{D17}
 - Immaterial portfolio: apply median loss rate across firms reporting
 - Material portfolios: apply conservative loss rates (P6)
 - These simple (P4) approaches ensure consistency across firms (P3)
- Policy on credit supply maintenance
 - Assume that the balance sheet does not contract during the stress period and that new loans have the same characteristics as existing portfolio.^{D14,*}
 - Not making assumptions about underwriting standards promotes consistent treatment across firms (P3).
 - This policy is also motivated by macroprudential considerations.^{T16}

* With the exception of loan age and delinquency status.

More on Principles and Policies

D14) “Dodd-Frank Act Stress Test 2014: Supervisory Stress Test Methodology and Results,” Board of Governors of the Federal Reserve System, March 2014.

D17) “Dodd-Frank Act Stress Test 2017: Supervisory Stress Test Methodology and Results,” Board of Governors of the Federal Reserve System, June 2017.

D16) “Panel on Supervisory Model Changes,” remarks by Patrick de Fontnouvelle at the 2016 Stress Testing Model Symposium, October 5, 2016.

H15) “Supervisory Stress Test Modeling: Principles and Policies,” presentation by Beverly Hirtle at the 2015 Stress Testing Model Symposium, June 25, 2015

T16) “Next Steps in the Evolution of Stress Testing,” Remarks by Gov. Daniel Tarullo at the Yale School of Management Leaders Forum, September 26, 2016.