FEDERAL RESERVE BANK of NEW YORK

Supervisory model changes: Principles, Processes, and Governance

Stress Testing Model Symposium, October 4 2017

Moderated by James Vickery, Federal Reserve Bank of New York

Disclaimer

The opinions in this presentation are those of the presenter, and not those of the Federal Reserve Bank of New York or the Federal Reserve System.

Supervisory models: Principles, Policies and Governance

- *Focus of this panel*: Federal Reserve's independent model-based supervisory projections of bank income and capital under stress (used for CCAR and DFAST).

- Topics:
  - Discuss **principles** that guide the design of Fed supervisory models, and **policies** derived from those principles.
  - Discuss issues related to greater public **disclosure** of the Fed's supervisory models and projections.
  - Highlight some particular areas of **ongoing model research and development**.

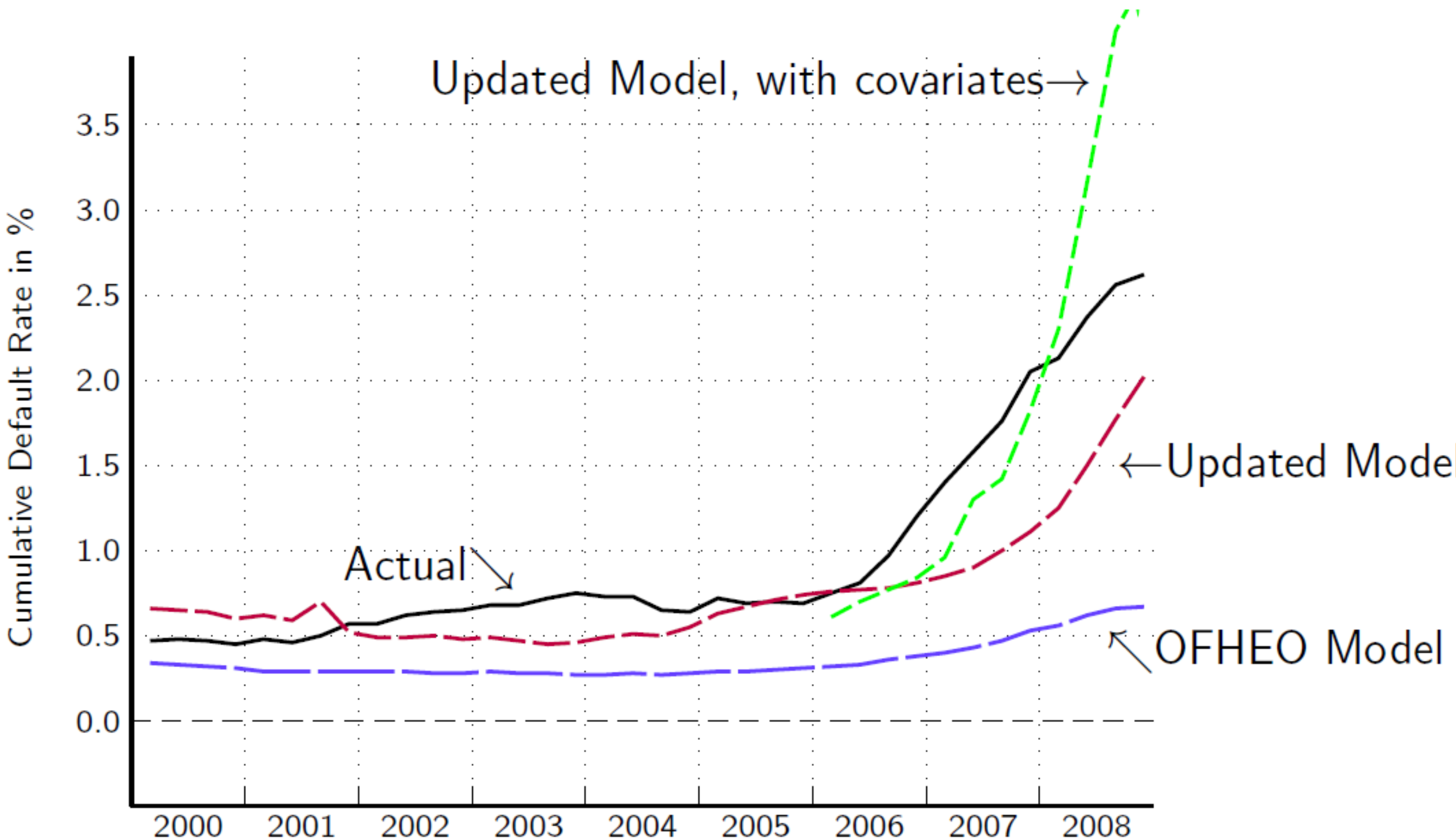
Why are model enhancements necessary?

- Why make changes in supervisory models? Some reasons:
  - To incorporate richer or more up-to-date data.
  - To reflect advancements in modelling techniques.
  - To address issues identified by the Fed’s System Model Validation (SMV) group.
  - To adopt a more stable model or one which performs better, particularly under stress.

- Federal Reserve practice is to public disclose significant model enhancements along with rationale.
  - e.g., in 2017, enhancements to operational risk, pre-provision net revenue and commercial real estate models.

Example: Potential risks of static models

- Academic research: pre-crisis stress tests of Fannie Mae and Freddie Mac would have better reflected rising mortgage default risk if models had been updated over time.



Notes: Two year cumulative default rate. Source: Frame et al. (2015, see slide 7 for full reference)

Some areas of modelling R&D

- Simplify and enhance modelling of other-than-temporary impairment for investment securities (more details shortly).
- Enhanced modelling of commercial & residential mortgage loss-given default (LGD) incorporating richer data.
- More granular modeling of bank deposit interest expenses.
- Expanding suite of “benchmark” models. Why?
  - Reference point for assessing results from primary model.
  - “Sandpit” to test out alternative assumptions and ideas.
  - In some cases, first step before shifting to new model.

Our panelists

- Robert Sarama, Manager, Stress Testing Research
  Federal Reserve Board

- Patrick de Fontnouvelle, Vice President
  Federal Reserve Bank of Boston

- Michael Moise, Manager, Stress Testing Modeling and Analysis
  Federal Reserve Board

Reference

- Reference for graph on slide 4:

  Kristopher Gerardi, W. Scott Frame and Paul Willen (2015), **“The Failure of Supervisory Stress Testing: Fannie Mae, Freddie Mac, and OFHEO,”** Federal Reserve Bank of Atlanta Working Paper 2015-3, March.

  https://www.frbatlanta.org/research/publications/wp/2015/03.aspx