Stress Testing Residential Mortgages

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The views expressed here are my own and not necessarily those of the Federal Reserve or its staff.
Mortgages in a stress environment

1. What are some ways to get robustness?
   • In general?
   • Specific—how best to model...
2. performance of loans in mod programs?
3. presence of “silent seconds”?
4. payment shocks on HELOCs?
A lesson of the crisis

- Model net charge offs on real estate loans at large commercial banks using a quantile model

- Seek robustness by looking at the 5% or 1% quantile

(Forthcoming paper by Francisco Covas, Bernard Rump and Egon Zakrajsek of the Federal Reserve Board)
In bad times, NCOs are persistent

At the upper quantiles (when NCOs are high), the AR coefficient is close to unity!
Let’s backtest the model through the crisis

- Four-quarter ahead out-of-sample forecasts
- Do actual NCOs stay inside a range of quantiles?
Lessons

• Modeling losses in a stress event is hard

• Look deep in the tails—the there are no happy accidents in stress scenarios

• Think about underlying structural changes