Second Annual Stress Test Modeling Symposium:
CRE Break Out Session

Moderator
Steven Durfey – Federal Reserve Bank of Chicago

Panelists
Joseph Heller – Fifth Third
Joseph Nichols – Federal Reserve Board
Kiran Yalavarthy – Wells Fargo
Reduced Form vs. Structural Models

• Reduced Form Models:
  – Requires fewer assumptions about lender or borrower actions
  – Simple to estimate and forecast
  – Potential concerns of over-fitting to last cycle

• Structural Models:
  – Requires far more assumptions of lender and borrower actions
  – More complicated to estimate and forecast
  – More responsive to changes in market structure or new economic developments
Dealing with Sparse Historical Data

• Historical data on CRE loan performance tends to be drawn from portfolios of large stable-income properties (primarily commercial mortgage backed securities and insurance companies)

• How should these models be applied to owner-occupied CRE or construction loans?
  – Are owner-occupied CRE loans just C&I loans with different LGDs?
  – Do construction loans have the same sensitivity to macro shocks that income-producing loans have?
Modeling Roll-Overs and Extensions

- CRE loans often have balloon payments at maturity that need to be rolled over at maturity/completion of construction:
  - Do borrowers look to other sources of financing?
  - How does a roll-over differ from new financing?

- Distressed CRE loans are often extended:
  - What are the economic risks of this strategy given the cyclical nature of the CRE market?
  - How should this be modeled in a stress scenario?
Granularity of Model

• What is the appropriate level for a model:
  – Top-down model of portfolio level losses?
  – Roll-over model by market segment?
  – Loan level PD-LGD-EAD model?

• What is the trade off for increasing the granularity?
  – Increase ability to capture concentration risk
  – Increase dependence on noisy market measures
Risk Ratings vs. Borrower Financials

• Risk Ratings
  – Credit officer assigned an internal risk rating based on borrower financials
  – Risk rating updated in response to changes in loan status

• Borrower Financials
  – Bank collects information on borrower financials
  – Updated property value, rental income, occupancy rates
Open Q&A