The opinions expressed herein are solely those of the author and do not necessarily represent those of the Federal Reserve System.
Example: C&I Loan Balances

C&I Loan Growth - Stress Scenario CCAR 2012
Indexed to Q4 2011

Median C&I Loan Balance Path

Source: Y-14 and the Board of Governors of the Federal Reserve System
Example: C&I Loan Balances

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Median C&I Loan Balance Path

80th Percentile Projection

20th Percentile Projection

DJ Total Stock Market Index

Source: Y-14 and the Board of Governors of the Federal Reserve System
Modeling Challenges

1. Quantifying economic sensitivity

C&I Loan Growth - Stress Scenario CCAR 2012
Indexed to Q4 2011

Median C&I Loan Balance Path
20th Percentile Projection
DJ Total Stock Market Index
Modeling Challenges

1. Quantifying economic sensitivity
2. Determining conditional relationships
Modeling Challenges

1. Quantifying economic sensitivity
2. Determining conditional relationships
3. Maintaining consistency
Modeling Challenges

1. Quantifying economic sensitivity
2. Determining conditional relationships
3. Maintaining consistency
4. Validation
Challenge: Economic Sensitivity

• Disaggregate
  – Model NIM by asset type
  – Model originations instead of balances

• Aggregate

• Transform variables
  – Taking natural logarithms or modeling growth rates may uncover relationships

• Alternative macro variables
  – May need to use variables that are not provided by the Fed
Challenges: Conditionality, Data

- Correlations change in stress periods
  - Pool stress periods to estimate relationships
  - Use nonlinear statistical techniques

- Firm data series may be flawed
  - Examine data outside the firm
    - Industry
    - International
Challenge: Consistency

• Internal
  – Paths of balances and revenues/expenses should be correlated
  – Originations, defaults, and loan balances are related

• External
  – Path of balance/revenue/expense should make sense given the macro scenario
  – Projecting share gains => relative outperformance
Challenge: Validation

• Operational
  – Run the exercise with different employees

• Out-of-sample testing; Benchmarking:
  – Make projections for 2008-2009 knowing only the information through 2007
  – Scenario analysis can be helpful

• Variable Selection:
  – Look for economic as well as statistical significance
Modeling Challenge Suggestions

1. Disaggregate; manipulate variables
2. Focus on modeling the shock
3. Communicate key features of the scenario
4. Implement repeatable processes; backtest