Integration of Stress Testing Processes in the Banking Book

Michael Szwejdbka
VP Credit Risk Analytics
June 26, 2015

The views expressed are mine and not those of U.S. Bank
Puzzle Pieces

*The art of simplicity is a puzzle of complexity.*
-- Douglas Horton

- Stress testing requires coordination among many moving parts
- Full integration across the firm is one of the most difficult aspects of stress testing
  - Need consistent assumptions
  - Need consistent and continuous communication, governance

<table>
<thead>
<tr>
<th>Integration across:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lines of Business</td>
</tr>
<tr>
<td>Credit Models</td>
</tr>
<tr>
<td>Revenue Models</td>
</tr>
<tr>
<td>Spread Models</td>
</tr>
<tr>
<td>Loan Balance Projections</td>
</tr>
<tr>
<td>Capital Planning</td>
</tr>
<tr>
<td>Validation</td>
</tr>
</tbody>
</table>
Integration in the Banking Book

New volume
- Originations $15
- Utilization $2
- Acquisitions $0

Changes to Loan Portfolio

Amortization $7
- Maturities $2
- Prepays $5
- Charge-offs $1

Leaving the portfolio

Loan Portfolio $100

Loan Portfolio $102

Note: For illustrative purposes only, not an actual portfolio.
Difficulties

What makes integration so difficult?

- Early stress tests focused on credit; scope is wider now
  
  Ex. PPNR models

- Historically, pieces of the process have been handled by separate teams

- Teams that only had to walk together now need to dance together
  
  Ex. Prepayment assumptions in ALM need to be aligned with prepayment assumptions in Credit Loss Forecasting

- Legacy processes and inertia – moving away from ingrained processes; disparate systems need to be able to interact

- Deep understanding, at multiple levels of the organization, of what needs to change
Approaches

Many different modeling options for the system

- Each component in isolation
  
  Separate models for each component (i.e. loss models, utilization models, origination models, etc.)

- Holistic: The “Uber” Model
  
  One model made up of multiple components that interact with one another, a feedback loop

Issues: Integration, consistency

Issues: Ownership, complexity

Historical Modeling Practices

- Modeling practices relatively mature
  
  Credit
  
  Treasury

- Modeling practices relatively new
  
  Finance

Stress Testing (CCAR/DFAST)
How to Achieve Integration

Governance

- Governance is not just about the numbers
- Strong governance over assumptions and limitations is required for full integration
- Focus on the intersection of all the functions, the stress testing “sweet spot”

Communication

- Strong governance should enhance communication
- Consistent and clear messages to committees, management, and staff