Leveraging Economic Forecasts Through Qualitative Overlays

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R&S Economic Forecasts in CECL
CECL Estimation Forecasting Requirement

Lifetime loss estimate from origination – replacing “incurred loss” model”, where

“The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances.”

Does CECL Require Quantitative Forecasting?

- CECL does NOT require a specific quantitative approach
  - **Qualitative overlays acceptable** for smaller institutions
- Auditors and shareholders will hold institutions to different standards
  - Large banks will be expected to use quantitative approaches
  - But no strict rules on scenario design, number or weighting
- Impact of future “reasonable and supportable” economic forecasts on loss estimates is required
How to Leverage R&S Economic Forecasts in CECL?

What are the options?

1. Qualitative overlay approach (Small Institution Solution)

   » Use forecasts and current conditions narratives to adjust historically-driven CECL estimate

   » Consider outlook of local economy – state/MSA

   » Consider risks to local economy (trade war, immigration, financial market uncertainty)

   – captured in alternative scenarios
How to Leverage R&S Economic Forecasts in CECL?

What are the options?

2. Quantitative overlay approach
   - Select a single scenario to estimate CECL with a scenario-conditioned model
   - Run “shadow scenarios” to inform any qualitative adjustments

3. Probability weighted scenarios approach (Similar to IFRS 9)
   - Estimate CECL under several alternative economic scenarios
   - Compute a probability weighted average as the CECL estimate

4. Simulated scenarios approach (Theoretically Pure)
   - Estimate CECL under thousands of simulated scenarios
   - Compute CECL as the average loss across all paths
What Makes an Economic Forecast R&S?

☑️ Based on sound, generally accepted economic theory
☑️ Incorporates inter-relationships and feedback effects
  • A shock to one factor impacts all other factors over time
☑️ Considers a range of possible outcomes
  • Includes upside and downside risks
☑️ Provides information at varying levels of geography
  • Captures local economic conditions
☑️ Utilizes a rigorous, auditable process for data and forecasting
Integrated National, State and Metro-level Forecasts

Unemployment rate, %

National

State

Metro

2019Q1 F

2019Q1 F
Qualitative Overlay Approach

Historical estimate adjusted for current & future conditions

- Institution may use a vintage-loss rate approach to estimate losses based on historical experience

- Adjust this calculated loss estimate based on an expected increase in unemployment within the geographic footprint

Current conditions and forward looking assumptions
Local Economy Forecasts
Capture Local Conditions…

Unemployment rate, %, under the most likely outcome
...And Exposure to Downside Risks

Unemployment rate, %, under a deep recession
Border Towns and Auto Hubs at Risk From Trade War…

North American exports as share of GDP, 5-yr avg, 2013-2017, %

Metro areas with at least 250,000 residents that export most heavily to Mexico and Canada.

Sources: International Trade Administration, BEA, Moody’s Analytics
... As Is Farm Output in Midwest

Crop exports to China, YTD through Oct, 2008=100

Sources: Census Bureau, Moody’s Analytics
Florida, Northeast Exposed to Immigration Clamp Down

Net migration per 1,000 residents, 2018, #

- Florida
- Massachusetts
- New Jersey
- Washington DC
- Connecticut
- South Dakota
- Washington
- Maryland

Sources: Census Bureau, Moody’s Analytics
Northeast Incomes Rely on Financial Services Health

Sources: New York State Comptroller, BLS, Moody’s Analytics
Qualitative Overlays to Account for Regional Diff.

Assume that the starting historical portfolio loss rate is 1.20%
Apply qualitative adjustments to the regional sub-segments

<table>
<thead>
<tr>
<th>Region</th>
<th>Adjustment for Current Conditions</th>
<th>Adjustment for Future Conditions</th>
<th>Adjusted Loss Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Antonio, TX</td>
<td>-0.55%</td>
<td>-0.10%</td>
<td>0.55%</td>
</tr>
<tr>
<td>El Paso, TX</td>
<td>-0.25%</td>
<td>0.35%</td>
<td>1.30%</td>
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<td>Detroit, MI</td>
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<td>0.35%</td>
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<tr>
<td>Peoria, IL</td>
<td>0.25%</td>
<td>0.50%</td>
<td>1.95%</td>
</tr>
</tbody>
</table>
For More Information

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