Managing a Transition to a New ALLL Process

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What is the ALLL?

- The Allowance for Losses on Loans and Leases (ALLL), originally referred to as the reserve for bad debts, is a valuation reserve established and maintained by charges against a bank’s operating income. It is an estimate of uncollectible amounts used to reduce the book value of loans and leases to the amount a bank can expect to collect.
  - The ALLL is the most significant estimate on a bank’s financial statement and regulatory reports.
  - It is derived by a framework established by the bank.
  - Forward Looking - Must cover loan losses over a one year horizon.
What is the ALLL?

- The ALLL includes an Allocated Allowance for:
  - ASC 450 loans - accounting guidance for pools of homogeneous loans that are not individually assessed
  - ASC 310 loans - accounting guidance for loans that are individually impaired

- In addition, the ALLL can include an Unallocated Allowance to cover inherent risk at a macro level

- The ALLL relies on the accuracy of the bank’s risk rating process
What is Expected Loss (EL) in Relation to ALLL?

- The Expected Loss is used to assess the inherent risk within a grouping of specific loan types by individual loan risk grades on a one-year horizon in accordance with ASC 450 guidelines (formula reserve).

- \[ \text{EAD} \times \text{PD} \times \text{LGD} = \text{EL} \]
  - \( \text{EAD} \) = Exposure at Default (Outstanding loan balance)
  - \( \text{PD} \) = Probability of Default (Borrower)
  - \( \text{LGD} \) = Loss Given Default (Facility)

- The Expected Loss does not apply for loans that are individually impaired in accordance with ASC 310 guidelines.
Risk Rating Systems

- Risk rating systems measure credit risk based on the borrower’s expected performance and differentiate individual credits and groups of credits by the risk they pose.
- Most risk rating systems can be described as either statistical or expert judgment systems.
  - Single rating systems typically rely on expert judgment and present a blended Probability of Default (PD) and Loss Given Default (LGD).
  - Dual Risk Rating (DRR) systems are typically statistical systems based on quantitative measures with a qualitative overlay.
  - DRR systems bifurcate PD and LGD.
Why use Dual Risk Rating?

- DRR is an industry best practice
- It is the foundation for ALLL
- DRR better differentiate risk better than expert judgment systems and provide better distribution of grades when implemented appropriately
Model Risk Management

- When adopting a new model (ALLL, DRR, etc) involve MRM from the very beginning.
- MRM must approve the use and ongoing monitoring of all bank models.
- If using a vended model, they need to have a thorough understanding how the model was developed and validated.
Moving to a Dual Risk Rating System

- Mid-sized banks typically do not have sufficient historical data or resources to support developing a DRR system internally so they purchase a vended model.
- Synovus has implemented Moody’s Analytics DRR models/scorecards housed in the RiskAnalyst platform.
- Moody’s Analytics Dual Risk Rating platform includes PD and LGD scorecards for C&I (RiskCalc and Large Firm) and Income Producing Real Estate (office, retail, industrial, multifamily).
- Involve Model Risk Management (MRM) early to review, validate, and approve models related to implementing.
Quantitative Measures of PD

- The quantitative component uses financial spreads to calculate financial ratios which drive the major part of the risk grade. This reduces subjectivity in the risk grading process.
- Spreading procedures are needed to create consistency so that the financial ratios are calculated accurately and reliably across all customers.
- Having consistent spreading procedures in place helps ensure financial ratios are accurate triggers for default.
Qualitative Measures of PD

- Qualitative components capture risks and mitigants that financial ratios alone do not capture and should be taken into account when determining the overall risk grade.
- For example, qualitative components within the Moody’s Analytics RiskCalc scorecard include:
  - Audit Financial Statement vs. Company Prepared
  - Owner’s Support
  - Customer Power
  - Market Conditions
  - Years in Relationship
  - Credit History
  - Experience in Industry
  - Risk Appetite
Qualitative Measures of PD

- Qualitative factors fine tune a risk grade
- Like spreading financials, the Bank’s Grading Consistency Guidelines should address documenting qualitative inputs
- Having Grading Consistency Guidelines will help ensure qualitative inputs are true credit risk mitigants or triggers of default
DRR Overrides

- Overrides should be limited and capture risks and mitigants outside of the existing model.
- Have a defined list of Probability of Default (PD) overrides for both upgrades and downgrades. For example:
  - Regulatory classified definitions should always drive final ratings (downgrade)
  - Hidden Equity on balance sheet (potential upgrade)
  - Limit use of “Other” to downgrades only
-Overrides must be tracked and monitored so a validation can be completed.
- Synovus does not allow overrides for Loss Given Default (LGD).
Identify Subject Matter Experts

- Identify teams of Subject Matter Experts (SME) to help create Spreading Procedures and Grading Consistency Guidelines
- SMEs can be specialized (C&I and CRE)
- These teams can assist in training programs bank wide
- They can also field questions as it relates to either quantitative or qualitative components of the dual risk rating system
Identify IT Subject Matter Experts

- Identify several people in IT to become a subject matter expert on DRR infrastructure
  - A database administrator or developer needs to be indentified so that they can learn data structure to be able to extract out at some point
  - A business analyst needs to be indentified to understand how the application feeds the database
  - A project manager is needed to help keep all these task on point and to set the priority of the business analyst and database administrator
Collecting Qualitative, Quantitative, and Loan Accounting Data for Dual Risk Rating Purposes

- Collecting DRR data is crucial for the Allowance process in order to complete the analysis on the data.
- Creating a link between RiskAnalyst and the Loan Accounting System ties loan data.
- Challenge: The PD rating data is linked at the borrower/obligor level and LGD is linked at the note level.
  - Engaging a database administrator to develop links is critical to the future of DRR.
Collecting Qualitative, Quantitative, and Loan Accounting Data for Dual Risk Rating Purposes

- When building a project plan for collecting data, build in adequate time to make sure you are collecting and have defined all the information that you want.
- The DRR database needs to be appropriately structured to link PD and LGD data to the Loan Accounting system.
Extracting Properly Linked Data

- This data will be needed for multiple purposes. For example:
  - Model Risk Management Analysis and Documentation
  - Allowance Analysis and Documentation
  - Regulatory Purposes
  - SOX Controls
  - Portfolio Management
  - Monitoring of Loans for Lenders
  - Monitoring of Loans for Credit Review and Audit
  - Exception Reporting
## Synovus Single Rating System vs Dual Risk Rating

<table>
<thead>
<tr>
<th><strong>Single Rating System</strong></th>
<th><strong>Dual Risk Rating</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic scale</td>
<td>Uses a Master Rating Scale</td>
</tr>
<tr>
<td>1-9 Single Rating Scale</td>
<td>1-16 Rating Scale for PD</td>
</tr>
<tr>
<td>1-5 are pass and 6-9 are regulatory classified</td>
<td>1-11 are pass and 12-16 are regulatory classified</td>
</tr>
<tr>
<td>Quantitative and Qualitative are combined into each risk rating</td>
<td>A-I for Rating Scale for LGD</td>
</tr>
<tr>
<td>Combines borrower and facility risk in single rating</td>
<td>Looks at the borrower and the facility individually</td>
</tr>
<tr>
<td>Relies on expert judgment</td>
<td>Less subjectivity in overall rating</td>
</tr>
<tr>
<td>When notching up or down on risk grade you cannot separate PD and LGD</td>
<td>Qualitative notches the PD and the LGD</td>
</tr>
<tr>
<td></td>
<td>Better data capture</td>
</tr>
</tbody>
</table>
Developing a Master Rating Scale

- A Master Rating Scale provides a common language of risk across the institution.
- It separates borrower risk (PD) from facility risk (LGD) on a static scale.
- Data collected must be representative of the entire commercial portfolio so data extraction of properly linked data is key.
- Data collection may require manual inputs if not already captured in loan databases.
Calibrating and Validating a Master Rating Scale

- Synovus consulted with Moody’s Risk Analytics to develop, calibrate, and validate our master rating scale.
- Calibration and validation must be done in order to determine that scorecard inputs are representative of the portfolio and perform as the bank would expect.
  - Calibration – Provides a more “normalized” distribution and consistent anchor points.
  - Validation - Confirm to the Bank that financial ratios in the model as well as the model overall can effectively discriminate credit riskiness of the obligors in the portfolio during the periods of financial distress and rebound.
- This has to be signed off by Model Risk Management prior to model implementation.
Calibrating and Validating a Master Rating Scale

- Accuracy Ratio is the industry best practice to determine if the Master Rating Scale is a good fit.

- Moody’s Risk Analyst uses an Expected Default Frequency (EDF) which is the equivalent of a PD. Risk Analyst has two versions of EDF:
  - Credit Cycle Adjusted (CCA) EDF which applies a high level current industry impact to the Financial Statement EDF
  - Financial Statement Only (FSO) EDF which is based only on the financial ratios
Calibrating and Validating a Master Rating Scale

- The calibration and validation will determine whether FSO or CCA is right for the portfolio.
- We view FSO as more of a Through-the-Cycle look and CCA as more Point-in-Time.
- CCA will be more volatile on the Allowance.
- Keep in mind for the Allowance which one makes the most sense from a business and statistical standpoint.
### Example of a Master Rating Scale

#### Facility Rating

<table>
<thead>
<tr>
<th>Borrower Rating</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pass</td>
<td>0.10%</td>
<td>0.01%</td>
<td>0.01%</td>
<td>0.02%</td>
<td>0.03%</td>
<td>0.04%</td>
</tr>
<tr>
<td>2</td>
<td>Pass</td>
<td>0.50%</td>
<td>0.03%</td>
<td>0.05%</td>
<td>0.10%</td>
<td>0.15%</td>
<td>0.20%</td>
</tr>
<tr>
<td>3</td>
<td>Pass</td>
<td>1.00%</td>
<td>0.05%</td>
<td>0.10%</td>
<td>0.20%</td>
<td>0.30%</td>
<td>0.40%</td>
</tr>
<tr>
<td>4</td>
<td>Pass</td>
<td>1.50%</td>
<td>0.08%</td>
<td>0.15%</td>
<td>0.30%</td>
<td>0.45%</td>
<td>0.60%</td>
</tr>
<tr>
<td>5</td>
<td>Pass</td>
<td>2.00%</td>
<td>0.10%</td>
<td>0.20%</td>
<td>0.40%</td>
<td>0.60%</td>
<td>0.80%</td>
</tr>
<tr>
<td>6</td>
<td>Pass</td>
<td>2.50%</td>
<td>0.13%</td>
<td>0.25%</td>
<td>0.50%</td>
<td>0.75%</td>
<td>1.00%</td>
</tr>
<tr>
<td>7</td>
<td>Pass</td>
<td>3.00%</td>
<td>0.15%</td>
<td>0.30%</td>
<td>0.60%</td>
<td>0.90%</td>
<td>1.20%</td>
</tr>
<tr>
<td>8</td>
<td>Pass</td>
<td>3.50%</td>
<td>0.18%</td>
<td>0.35%</td>
<td>0.70%</td>
<td>1.05%</td>
<td>1.40%</td>
</tr>
<tr>
<td>9</td>
<td>Pass</td>
<td>4.50%</td>
<td>0.23%</td>
<td>0.45%</td>
<td>0.90%</td>
<td>1.35%</td>
<td>1.80%</td>
</tr>
<tr>
<td>10</td>
<td>Pass</td>
<td>5.00%</td>
<td>0.25%</td>
<td>0.50%</td>
<td>1.00%</td>
<td>1.50%</td>
<td>2.00%</td>
</tr>
<tr>
<td>11</td>
<td>Pass</td>
<td>10.00%</td>
<td>0.50%</td>
<td>1.00%</td>
<td>2.00%</td>
<td>3.00%</td>
<td>4.00%</td>
</tr>
<tr>
<td>12</td>
<td>Pass</td>
<td>15.00%</td>
<td>1.50%</td>
<td>3.00%</td>
<td>4.50%</td>
<td>6.00%</td>
<td>7.50%</td>
</tr>
<tr>
<td>13</td>
<td>OAEM</td>
<td>20.00%</td>
<td>1.00%</td>
<td>2.00%</td>
<td>4.00%</td>
<td>6.00%</td>
<td>8.00%</td>
</tr>
<tr>
<td>14</td>
<td>Sub. A</td>
<td>30.00%</td>
<td>2.25%</td>
<td>5.00%</td>
<td>10.00%</td>
<td>15.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>15</td>
<td>Sub. NA</td>
<td>50.00%</td>
<td>2.50%</td>
<td>5.00%</td>
<td>10.00%</td>
<td>15.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>16</td>
<td>Doubtful</td>
<td>90.00%</td>
<td>4.50%</td>
<td>9.00%</td>
<td>18.00%</td>
<td>27.00%</td>
<td>36.00%</td>
</tr>
<tr>
<td>17</td>
<td>Loss</td>
<td>100.00%</td>
<td>5.00%</td>
<td>10.00%</td>
<td>20.00%</td>
<td>30.00%</td>
<td>40.00%</td>
</tr>
</tbody>
</table>
Documenting Dual Risk Rating for the Allowance

- Need to analyze and document impact to the Allowance for the change to Dual Risk Rating (DRR)
- The weight between qualitative and quantitative needs to have sensitivity analysis done so that you can document the rationale for which weights were used
- Analysis will need to be done on the Allowance to determine how much of the change is due to migration of loans vs differences from change in methodology
Documenting DRR for the Allowance

- Statistical outcomes must be weighed against business outcomes to determine the correct approach for the bank.
- The final outcomes analysis, after approved by Model Risk Management, must be presented to the Executive Group and the external auditor for sign off.
- Both have to be approved before going live with DRR.
Conclusions

- ALLL is the most significant estimate on a bank’s financial statement
- ALLL relies heavily on risk ratings
- DRR systems are more granular and provide a better distribution across ratings that expert judgment systems
- Engage a core team to include Model Risk Management, subject matter experts from C&I and CRE, and IT
Conclusions

- Collecting historical data and linking to loan systems is key to the Allowance process.
- Extracting the properly linked data for reporting, monitoring, and analyzing is critical.
- Master Rating Scale must be calibrated and validated.
- Sensitivity Analysis is required to document why certain decisions were made.
Conclusions

- Statistical outcomes must be weighed against business outcomes to make the appropriate decisions for the bank
- Need Internal and External Auditors signoff of the DRR and ALLL process before implementing
The End!

Any Questions?