CECL Implementation for Smaller, Less Complex Institutions

Speakers:

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Goals of Today’s Session

- Present a sample of available methods community banks may use to implement CECL
- Discuss common challenges for all methods
- Highlight important considerations on data points and data quality
- Provide references to additional resources that are currently available
Not Covered in Today’s Session

- We are NOT providing a formula that translates today’s incurred loss method to CECL
- We will not be discussing
  - data management
  - qualitative adjustments
  - segmentation
Overview of CECL

CECL is ... easy as A B C

- A valuation account
- Deducted from amortized cost basis of financial assets
- Used to present “net amount expected to be collected”
- Changes flow through net income

\[
A - B = C
\]

- **Amortized cost**: unpaid principal balance (UPB) lent to a customer adjusted for accrued interest, loan fees and origination expenses, repayments, writeoffs, nonaccrual practices, and certain hedging transactions
- **Amount expected to be collected**: remaining amounts expected to be collected from each loan
Loss Rate Method: Today vs. CECL

Current US GAAP

Annual

Historical charge-off experience
Adjustments (Q factors)
Loss discovery period
Loan category balance
ASC 450 (FAS 5) ALLL

Lifetime

Historical charge-off experience
Adjustments (Q Factors)
Loss discovery period
Loan category balance
CECL ALLL

Current & Forecast

Current Conditions

Loss discovery period
Loan category balance

CECL

Loss discovery period
Loan category balance

CECL ALLL

NOT today’s focus!!
## Refresher: Incurred Loss Calculation

<table>
<thead>
<tr>
<th>Year End</th>
<th>Amortized Cost</th>
<th>Average Balance</th>
<th>Annual Net Charge-offs</th>
<th>Annual Charge-off Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$9,350</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>9,398</td>
<td>9,374</td>
<td>32</td>
<td>0.34%</td>
</tr>
<tr>
<td>2017</td>
<td>10,779</td>
<td>10,088</td>
<td>33</td>
<td>0.33%</td>
</tr>
<tr>
<td>2018</td>
<td>11,050</td>
<td>10,914</td>
<td>50</td>
<td>0.46%</td>
</tr>
<tr>
<td>2019</td>
<td>10,738</td>
<td>10,894</td>
<td>42</td>
<td>0.39%</td>
</tr>
<tr>
<td>2020</td>
<td>10,000</td>
<td>10,369</td>
<td>31</td>
<td>0.30%</td>
</tr>
</tbody>
</table>

($ in thousands)

Totals may not sum precisely due to rounding.

## CECL Methods
Key Reminders

- All methods shown today illustrate a *starting point*. Management must make necessary *adjustments* and holistically evaluate the overall result to determine the final allowance for credit losses.
- This presentation does *not* provide a complete list of methods.
- This list of CECL methods is *not* a regulator preferred or a “safe harbor” list of methods.
- Institutions may choose other methods (e.g., roll-rate, discounted cash flows).
- *There is no one method that is appropriate for every institution.*

Snapshot/Open Pool Method
What is Snapshot/Open Pool Method?

- This method takes a snapshot of a loan portfolio at a point in time in history and tracks that loan portfolio’s performance in the subsequent periods until its ultimate disposition.
- Charge-offs in the subsequent periods are aggregated to derive an unadjusted lifetime historical charge-off rate.

![Diagram showing calculation of lifetime historical charge-off rate](image)

SnapShot/Open Pool Method

Fact Pattern:
- Calculate the allowance for credit losses as of 12/31/2020
- CRE loan portfolio (pool with loans of similar risk characteristics)
  - Amortized cost basis of $10 million
  - Average life of 5 years (contractual term adjusted by prepayments and reasonably expected troubled debt restructuring)

Current Conditions and Forecast:
- Management expects the following in 2021 and 2022:
  - Decline in real estate values
  - Rise in unemployment
- Management cannot reasonably forecast beyond 2022
- Assume 0.25% qualitative adjustment to represent both current conditions and reasonable & supportable forecasts.
## Snapshot/Open Pool Method (cont.)

<table>
<thead>
<tr>
<th>Year End</th>
<th>Amortized Cost</th>
<th>Charge-offs Associated with 2015 Snapshot Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$9,350</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>$9,398</td>
<td>32</td>
</tr>
<tr>
<td>2017</td>
<td>$10,779</td>
<td>32</td>
</tr>
<tr>
<td>2018</td>
<td>$11,050</td>
<td>14</td>
</tr>
<tr>
<td>2019</td>
<td>$10,738</td>
<td>9</td>
</tr>
<tr>
<td>2020</td>
<td>$10,000</td>
<td>2</td>
</tr>
</tbody>
</table>

($ in thousands)

Totals may not sum precisely due to rounding.

## Additional Calculation

### Unadjusted lifetime historical charge-off rate

\[ \text{Unadjusted lifetime historical charge-off rate} = \frac{\text{Cumulative charge-offs}}{\text{Loan volume}} \]

### Total allowance for credit losses ratio

\[ \text{Total allowance for credit losses ratio} = \frac{\text{Total allowance}}{\text{Loan volume}} \]

### Amortization Cost

\[ \text{Amortization Cost} = \frac{\text{Amortization cost}}{\text{Loan volume}} \]
Vintage Method

What is Vintage Method?

- “Vintage” refers to the year of origination
- Vintage method tracks all charge-offs associated with a specific vintage (i.e., origination year)
- Borrowers’ historical charge-off pattern is used to estimate future losses

\[
\text{Lifetime historical charge-off rate associated with 20XX vintage} = \frac{\text{Total charge-offs related to 20XX originations}}{\text{Total amount of 20XX originations}}
\]
Vintage Method

Fact Pattern:  
SAME FACT PATTERN AS PRIOR METHOD

• Calculate the allowance for credit losses as of 12/31/2020
• CRE loan portfolio (pool with loans of similar risk characteristics)
  – Amortized cost basis of $10 million
  – Average life of 5 years (contractual term adjusted by prepayments and reasonably expected troubled debt restructuring)

Current Conditions and Forecast:
• Management expects the following in 2021 and 2022:
  – Decline in real estate values
  – Rise in unemployment
• Management cannot reasonably forecast beyond 2022
• Assume 0.25% qualitative adjustment to represent both current conditions and reasonable & supportable forecasts

Vintage Method (cont.)

Step 1: Capture and organize historical loan charge-off data

<table>
<thead>
<tr>
<th>Origination</th>
<th>Charge-offs ($)</th>
<th>Inception to Date Charge-offs</th>
<th>Total Lifetime Charge-offs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>Date</td>
<td>Period 1</td>
<td>Period 2</td>
</tr>
<tr>
<td>$5,500</td>
<td>2015</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>$5,000</td>
<td>2016</td>
<td>2</td>
<td>35</td>
</tr>
<tr>
<td>$3,500</td>
<td>2017</td>
<td>-</td>
<td>18</td>
</tr>
<tr>
<td>$3,100</td>
<td>2018</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>$3,100</td>
<td>2019</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>$2,940</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

($ in thousands)
Totals may not sum precisely due to rounding
**Vintage Method (cont.)**

**Step 2: Compute loan charge-off rates**

<table>
<thead>
<tr>
<th>Origination Amount</th>
<th>Date</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
<th>Period 5</th>
<th>Inception to Date Charge-offs (%)</th>
<th>Total Lifetime Charge-offs ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 5,500</td>
<td>2015</td>
<td>0.04%</td>
<td>0.35%</td>
<td>0.25%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>0.83%</td>
<td>0.83%</td>
</tr>
<tr>
<td>$ 5,000</td>
<td>2016</td>
<td>0.04%</td>
<td>0.70%</td>
<td>0.30%</td>
<td>0.16%</td>
<td></td>
<td>1.19%</td>
<td></td>
</tr>
<tr>
<td>$ 3,500</td>
<td>2017</td>
<td>0.00%</td>
<td>0.50%</td>
<td>0.23%</td>
<td></td>
<td></td>
<td>0.73%</td>
<td></td>
</tr>
<tr>
<td>$ 3,100</td>
<td>2018</td>
<td>0.04%</td>
<td>0.45%</td>
<td></td>
<td></td>
<td></td>
<td>0.49%</td>
<td></td>
</tr>
<tr>
<td>$ 3,300</td>
<td>2019</td>
<td>0.02%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.02%</td>
<td></td>
</tr>
<tr>
<td>$ 2,800</td>
<td>2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.00%</td>
<td></td>
</tr>
</tbody>
</table>

Denominator is the origination amount (NOT the outstanding loan balance) used to compute loan charge-off rates under vintage analysis

($ in thousands)

Totals may not sum precisely due to rounding

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**Vintage Method (cont.)**

**Step 3: Determine which historical loss period is a reasonable period on which to base the expected credit loss rate calculation**

<table>
<thead>
<tr>
<th>Origination Amount</th>
<th>Date</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
<th>Period 5</th>
<th>Remaining Lifetime Charge-offs (%)</th>
<th>Remaining Lifetime Charge-offs ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 5,500</td>
<td>2015</td>
<td>0.04%</td>
<td>0.35%</td>
<td>0.25%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>$ 5,000</td>
<td>2016</td>
<td>0.04%</td>
<td>0.70%</td>
<td>0.30%</td>
<td>0.16%</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>$ 3,500</td>
<td>2017</td>
<td>0.00%</td>
<td>0.50%</td>
<td>0.23%</td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>$ 3,100</td>
<td>2018</td>
<td>0.04%</td>
<td>0.45%</td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>$ 3,300</td>
<td>2019</td>
<td>0.02%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>$ 2,800</td>
<td>2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Average charge-off rate: 0.03% 0.50% 0.26% 0.15% 0.04%

($ in thousands)

Totals may not sum precisely due to rounding
Vintage Method (cont.)

Step 4: Compute allowance for credit losses: \( A \times B = C \)

<table>
<thead>
<tr>
<th>Origination Amount</th>
<th>Date</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
<th>Period 5</th>
<th>Remaining Lifetime ( (% )</th>
<th>Remaining Lifetime ( (%) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,500</td>
<td>2015</td>
<td>0.04%</td>
<td>0.35%</td>
<td>0.25%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5,000</td>
<td>2016</td>
<td>0.04%</td>
<td>0.70%</td>
<td>0.30%</td>
<td>0.16%</td>
<td>0.04%</td>
<td>0.04%</td>
<td>$ 2</td>
</tr>
<tr>
<td>3,500</td>
<td>2017</td>
<td>0.00%</td>
<td>0.50%</td>
<td>0.23%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>0.19%</td>
<td>$ 7</td>
</tr>
<tr>
<td>3,100</td>
<td>2018</td>
<td>0.04%</td>
<td>0.45%</td>
<td>0.35%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>0.45%</td>
<td>$ 14</td>
</tr>
<tr>
<td>3,100</td>
<td>2019</td>
<td>0.02%</td>
<td>0.50%</td>
<td>0.26%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>0.93%</td>
<td>$ 30</td>
</tr>
<tr>
<td>2,840</td>
<td>2020</td>
<td>0.03%</td>
<td>0.50%</td>
<td>0.26%</td>
<td>0.15%</td>
<td>0.04%</td>
<td>0.98%</td>
<td>$ 29</td>
</tr>
</tbody>
</table>

Unadjusted lifetime historical charge-offs \( S \):

- \( 83 \) \( S = \text{sum of } C \)

2020 Amort cost: \( 10,000 \)

Unadjusted lifetime historical charge-off rate: \( 0.83\% \)

Qualitative adjustments: \( 0.25\% \)

Total allowance for credit losses rate as of 2020: \( 1.06\% \)

Total allowance of credit losses as of 2020: \( 106 \)

($ in thousands)

Totals may not sum precisely due to rounding.

Simplified version

Probability of Default/Loss Given Default (PD/LGD) Method
Common Challenge for All Methods

- Significant adjustments may be necessary when:
  - Losses are minimal
  - Losses are sporadic with no predictive patterns
  - There is a low number of loans in each pool
  - Data is only available for a short historical period
  - Today’s portfolio composition varies significantly from historical portfolios
  - There are changes in economic environment (e.g., available historical data is from a recessionary period, but today’s environment is mid-expansionary period)
Important Considerations Regarding Data

Data Needs and Sources

- CECL allowances are based on “lifetime loan losses”
- Measure CECL allowances using relevant data about past events, including historical loss experience, current conditions, and reasonable and supportable forecasts
- Data availability is a factor to consider when selecting estimation method(s)
- Systems/operations and third party vendors
- Institutions should not wait! Begin now!
Loss Rate Examples: Data

- Unique loan identifier (i.e., account or loan number, borrower number)
- Loan product type
- Origination date
- Origination amount
- Maturity date
- Portfolio segmentation identifier
- Beginning and ending balances of a portfolio segment
- Periodic & cumulative charge-off & recovery amounts by date and unique loan identifier
- Paydown by unique loan identifier (scheduled payment and prepayments)

Additional Relevant Data

- Collateral/asset type
- Performance status (i.e., current, past due, reperforming)
- Other relevant credit risk metrics (e.g., LTV, credit scores, geographic location)
- Renewal and/or modification date
- Credit quality risk tracking
- Any data necessary to make current conditions and reasonable & supportable forecast adjustments
Data Quality Considerations

- Data quality is a critical component of the CECL estimate.
- Internal controls appropriate for the size and complexity of the institution should address data quality. Some examples:
  - System access controls
  - Input and maintenance controls over loan data
  - Management review controls
- Best practice: Design the controls as the CECL process is being designed, not as an afterthought

CECL Resources

- FASB Resources
  - ASU 2016-13 (core guidance p.101-123)
  - Transition Resource Group (TRG)
- Interagency Guidance
  - “Interagency Guidance on the New Accounting Standard on Financial Instruments – Credit Losses”
  - “Frequently Asked Questions on the Current Expected Credit Losses Methodology (CECL)”
- FRB: [https://learningcenter.frb.org/](https://learningcenter.frb.org/)
- CSBS: [https://www.csbs.org/job-aids](https://www.csbs.org/job-aids)

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