Minding Your Ps and Qs: Strategic Q Factor Analysis for Today and Tomorrow

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Your Presenter

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- ABA
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- Former Controller
Lending Policies
Econ/business conditions
Nature/vol/terms of portfolio
Exper/ability/depth of mgmt
Vol/sev of past due loans, etc.
Quality of loan review
Value of underlying collateral
Existence/effect of concentrations
Other external factors
How much of your ALLL is from your Q factors?
Review: Purpose of Q factors

Adjust rates for the difference between conditions that existed over the LAP to the Measurement Date.
The point is not to support Q factors. The point is to estimate losses in the portfolio. Our goal is to manage that ALLL balance.
Q Factor Analysis
Factors in Evaluating Q factors

“When estimating credit losses on each group of loans with similar risk characteristics...should consider its historical loss experience...adjusted for changes in trends, conditions, and other relevant factors...”
Q Factor Segment Interplay

**Q Factor**

- Lending Policies (Underwriting)
- Nature/volume/terms of the portfolio
- Concentrations

**Call Report Segments**

1. Secured by R/E
2. To depository…
3. Ag production…
4. C&I
5. Consumer…
Q Factor Analysis

- History
- Q factors
- Segments

ALLL
Q Factor Analysis: History

- Loss Emergence Period
- Loss Accumulation Period
Loss Emergence Period (LEP)

**Loss event**
Job/Revenue loss

**Charge-Off**

**Loss identification**
Delinquency
Downgrade

Pre-emergence pd → Loss Discovery pd
LEPs and Loss Accumulation Periods

• LEP justification
  – Supported by individual loan review, plus judgmental
  – Loss Discovery Period
    • Downgrade/Watch list, delinquencies through charge-off
  – Pre-emergence Period
    • Loan review timing, Specific loss event ID, some judgment

– LAP never be shorter than LEP
  – The more it differs, the greater the potential Q factor adjustment
Q Factor Analysis

- Economic conditions
- Experience of mgmt
- Past dues/ratings
- Collateral values
- Other Factors
Justifying Q Factors Today

- Directional consistency
- Quarterly/Yearly changes of each ALLL balance/Q factor
- Min/Max/Average ALLL balance/Q factor adjustment over the specified time period
  - Based on evaluated risk levels
Current Q Factor Analysis Summary

Break out Segments?
Apply different history?

Q factor analysis
CECL Model: Expected credit losses over life of loan or portfolio

- Applies to loans, loan commitments, and “Held To Maturity” securities
- Life of Loan (LOL) loss expectation (pool basis) effectively recorded at origination
- Forecast of the future to LOL required

- LOL includes prepayments, TDRs, not renewals
- Historic averages of “life of loan” losses
  - Used as starting point for estimates
  - Applied to periods beyond “forecastable future.”
How much of your CECL will be from your Q factors?
Q factors Under CECL

Adjust rates for the difference between conditions that existed over the LAP to the Measurement Date end of the contractual term.
Q Factors Under CECL Forecasts

Present & Future
- Economic conditions
- Experience of mgmt
- Past dues/ratings
- Collateral values
- Other Factors

Credit Risk
Q Factor Impact: 2015

If we adjust the ALLL by 10%...

- Pre-Tax Income: 95%
- CAPITAL: 0.8%
CECL “True Q” Factor Issues

• Sensitivity of assumptions
  • Large movement to small changes to assumptions
  • Large possible ranges
• Reduced comparability between companies
• Reduced comparability between periods
Q Factors Under CECL Forecasts

Is recent historical data a good basis for estimating expected losses...?

Credit Risk

...at a specific point in time?
Additional Qs Under CECL: History

- Recency vs. vintage
- Sufficient historic experience
- Quality of data

- ✓ Lending Policies (Underwriting, collection, charge-off, recovery)
- ✓ Nature/volume/terms of the portfolio
- ✓ Economic/business conditions
- ✓ Value of underlying collateral
- ✓ Vol/severity of past due loans, etc.
- ✓ Experience/ability of mgmt
- ✓ Quality of loan review
- ✓ Concentrations
Q Factors Under CECL Forecasts

Will we look at segments differently?

Credit Risk
CECL Q Factor Segment Interplay

**Q Factor**
- Lending Policies (Underwriting)
- Nature/volume/terms of the portfolio
- Concentrations

**Call Report Segments**
1. Secured by R/E
2. To depository…
3. Ag production…
4. C&I
5. Consumer…
6. Consumer…

**CECL Issues**
- Fixed rate vs. variable
- Credit rating
- Maturity date
- Length of term
Portfolio Mix: Impact on Q Factors

Principal Balance Exposure

- 60% exposure
- 20% exposure

Portfolio Balance Fully Amortizing Principal 6 year Term - 6% Rate
Portfolio Balance Fully Amortizing Principal 10 year Term - 6% Rate
• Most recent 10 year period is reasonable
  – Underwriting: Credit quality at origination
  – Contractual terms
    • Variable vs. fixed, Note rates, maturities

• Current conditions (collateral values, ratings, delinquency, etc.)

• Prepayment rates not expected to change
  – Interest rate movement, compared to terms

• Forecasts of future: R/E values, unemployment trends
Q Factor Challenge: Less Detail

Less flexibility

More volatility
CECL  Q Factor Governance

1. Appropriateness of the segments
2. Availability and sufficiency of quality data
3. Sensitivity and range of changes to forecast assumptions
4. Backtesting
P Factors: What will you do in Practice?

Loss rate → Vintage → Migration → PD/LGD → DCF

What method do you use?
CECL Q Factor Analysis in Practice

Present & Future
• Economic conditions
• Experience of mgmt
• Past dues/ratings
• Collateral values
• Other Factors

Credit Risk

Segments

History

True Q factors

DCF (?)

Vintage

Migration

PD/LGD
Practical Reporting Under CECL

Risk/Credit dept

Vintage

Mi-gration

Loss rates

PD/LGD

DCF

Bd/Mgmt review
1. I’m not getting a dividend? What would happen if we anticipate only an X% increase in (Y) rates?
2. With that level of 4-rated loans, what would I normally expect to lose?
3. Which vintages are most at risk?
4. You said that you had already accounted for a deterioration in credit conditions within last year’s ALLL balance. Why would this year’s provisions need to increase THAT much?
5. Why did past-dues go up but my loss provision went down?
# Term Loans

## Amortized Cost Basis by Origination Year

<table>
<thead>
<tr>
<th>As of December 31</th>
<th>20X5</th>
<th>20X4</th>
<th>20X3</th>
<th>20X2</th>
<th>20X1</th>
<th>Prior</th>
<th>Cost Basis</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Residential mortgage:</td>
<td></td>
<td></td>
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<td>Risk rating</td>
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<td>1-2 internal grade</td>
<td>$-</td>
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<td>$-</td>
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<td>$-</td>
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<td>$-</td>
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<tr>
<td>Total residential mortgage loans</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
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<tr>
<td>Residential mortgage loans</td>
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<tr>
<td>Current-period gross write-offs</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
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<td>$-</td>
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<tr>
<td>Current-period recoveries</td>
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<tr>
<td>Current-period net write-offs</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
</tr>
</tbody>
</table>
Practical Questions CFO/CCOs must address

1. I’m not getting a dividend? What would happen if we anticipate only an X% increase in (Y) rates?
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4. You said that you had already accounted for a deterioration in credit conditions within last year’s ALLL balance. Why would this year’s provisions need to increase THAT much?
5. Why did past-dues go up but my loss provision went down?
## P Factor Solution: Coverage ratio

<table>
<thead>
<tr>
<th></th>
<th>Beginning of Period</th>
<th>End of Period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALLL Coverage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ALLL</td>
<td>$1,500</td>
<td>$1,750</td>
</tr>
<tr>
<td>Amortized Cost</td>
<td>100,000</td>
<td>115,000</td>
</tr>
<tr>
<td>Coverage</td>
<td>1.50%</td>
<td>1.52%</td>
</tr>
</tbody>
</table>
Minding Your Ps and Qs

1. Q factors cannot be considered exclusive of segments and history.

2. Governance process should be in place to reconsider what is “Q” and move it to “Quant”.

3. The more Quant analysis of segments and history, the less “Q” factor analysis is needed. This allows more flexibility in judgment in True Q factor analysis.
Minding Your CECL Ps and Qs

1. Increased sensitivity, potential volatility, lack of directional consistency necessitate more detailed analysis and governance. Language and expectation management are critical.

2. Measurement methods and analysis will integrate/reflect Q factor analysis and support the other methods. Plan expecting practice to evolve.

3. Public disclosures may dictate primary measurement methods and analysis.
Questions and Answers
ABA Resources on ABA.com

- www.aba.com/CECL
  - ABA Webinar recordings on CECL
    - 5 Questions You Need to Answer before Making a Decision on CECL
    - CECL Measurement Methods: Advantages and Challenges
  - ABA Discussion Paper: CECL Challenges: The Life of Loan Concept
  - ABA CECL Backgrounder and FAQ Documents
  - Fintellix Cost Analysis of ALLL Process
- ABA Accounting Committee mailing list or receive ABA e-newsletters
  - Tax and Accounting Newsbytes
  - ABA FYI for CFOs
- Join ABA CECL implementation groups
  - By product
  - By bank size
- Send message to mdockery@aba.com to sign up.