How to Determine the Right Measure of Loss

Presented by:

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Questions

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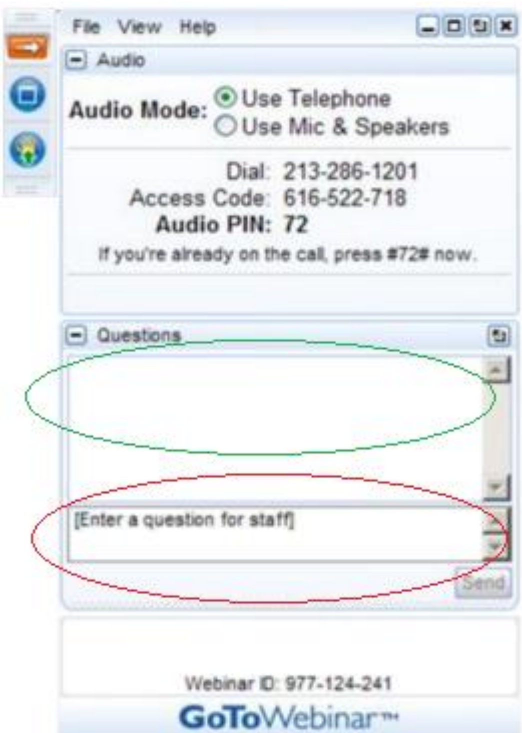

Link to download slides

Area to enter questions

About Sageworks

- Financial information company that provides credit and risk management solutions to financial institutions

- Data and applications used by thousands of financial institutions and accounting firms across North America

- Provides resources, including whitepapers, webinars, videos, and templates, for bankers accessible at www.sageworksanalyst.com

About the Presenters

- **Ed Bayer**
  - Ed is the managing director in Sageworks’ financial institution division. He previously served as a senior risk management consultant, with a primary focus on ALLL provisions and stress testing loan portfolios.

- **Garrett Morris**
  - Garrett is a senior risk management consultant at Sageworks, where he serves as an expert in loan portfolio management. He primarily assists financial institutions in understanding and complying with federal accounting guidance when determining the ALLL and conducting loan portfolio stress testing.

Learning Objectives

- Different methods to measure loss for FAS 5 loans
- Determining the best way to measure loss
- What is:
  - Historical Loss
  - Migration Analysis
  - PD/LGD
  - Loss Discovery
- Challenges and benefits of each method
- How to choose the right method
- Things to remember

Determining the Best Way to Measure Loss

- Detailed examination of loan portfolio performance with special consideration given to:
  - Loss experience during times of economic uncertainty
  - Changes in:
    - Portfolio concentrations
    - Risk profile
    - Management
- Engage credit and risk management personnel
- Select method (or methods) most likely to accurately estimate a one-year expected loss
- Document research and periodically review the method for accuracy

Historical Loss

- Available options
  - Peer group data
  - Call report data
  - Internal aggregate historical loss data

- Utilizes an annualized average net charge-off rate incurred during a prescribed time period as a proxy for estimating "probable" losses
  - Rate derived from the bank's portfolio
  - Rate derived from a pool of peer bank Call Reports

- Most commonly used by smaller financial institutions or smaller loan pools

Historical Loss – Things to Consider

- Availability of data
  - Loan-level information is preferable for accurate loss rates
  - Peer bank loss data must be gathered and calculated
- Loss horizon
  - One size fits all?
  - How long?
- Portfolio segmentation
  - Use the segmentation that best represents the pool
  - Sub-segmentation not necessary but allows for deeper level of granularity

Historical Loss - Challenges

- Is the rate being calculated accurately?
  - Annualized
  - Average balance
- Data availability
  - Need peer information going back more than 1 year
  - Accessing and managing pool data and transactions
- Consistency
- System challenges:
  - Changes to segmentation
  - Multiple loan platforms
  - System integrations
  - Mergers (legacy systems)

Historical Loss - Benefits

- Data is typically available and identifiable
  - Peer data (UBPR)
  - Call Reports
  - Loan portfolio level and transactions

- Most commonly used method

- Method is easily understood by banks and regulators

Migration Analysis

- Evaluates the movement of a subsegment (risk level, risk grade, etc.) of loans to loss over a selected timeframe, without regard to new loans

- Exposes greater clarity on loan quality within each pool

- Regulators are increasingly asking banks to consider migration
  - Vague on defining migration

- Often used by larger institutions
  - Adequate number of loans in each pool is necessary

Migration Analysis - Things to Consider

- Detailed sub-segmentation is required to accurately measure migration
  - Segment by product or loan type
  - Sub-segment by risk level or risk rating
- Sound risk rating process and program needed
- When segments change due to re-organization or merger, those changes must be pushed back in time
- Loss horizons
  - Segments perform differently over time and may need different migration periods

Migration Analysis - Challenges

- Considerable data requirements required
  - As little as 1 year’s detailed data required
  - 1,000 loans require 36,000 lines of data for 3 years’ data

- Model development and validation

- Pools must be statistically large enough to avoid loss rate anomalies

Migration Analysis - Benefits

- Statistically viable method to accurately derive a loss rate
- Highlights changes in portfolio composition and quality
- Reserve may be more accurate because it factors in the risk profile and underwriting standards in place during the loss horizon
- Attractive to regulators - involves a statistical, granular analysis of the portfolio
- Currently considered the most robust and comprehensive loss calculation under today's guidance

Historical Loss vs. Migration Analysis

Migration Analysis vs. Historical Loss Rate Method ALLL Provisions							
Migration Analysis for ALLL Provisions using Current Balances					*Using Re-Structured Ratings*		
C&I Pass	163	0.08	13.04		183	0.08	14.64
C&I Special Mention	57	0.14	7.98		57	0.14	7.98
C&I Substandard	30	0.36	10.80		10	0.36	3.60
Total ALLL Provision			**31.82**				**26.22**
Historical Loss Rate Analysis for ALLL Provisions using Current Balances					*Using Re-Structured Ratings*		
C&I	250	0.093	23.29		250	0.093	23.29
Total ALLL Provision			**23.29**				**23.29**

PD/LGD Method

- Uses pre-determined measures of default and loss to calculate expected loss

- Probability of Default (PD)
  - % likelihood a customer will make full and timely repayment of their credit obligations within one year
  - Assigned to each risk rating or segment

- Loss Given Default (LGD)
  - Loss amount if there is a default (%)
  - Variable (%) assigned to each loan that reflects losses within the loan's industry or product

PD/LGD Method

- Exposure at Default (EAD)
  - Also current balance at time of default
  - Loan amount at the time of default

- Expected Loss =

$$\text{EAD} \times \text{PD} \times \text{LGD}$$

Loss Discovery Method

- Loss discovery period, or loss emergence period, is the period of times it takes, on average, for the bank to identify when a borrower cannot meet their obligations to when a charge off occurs
  - An addition to existing reserve calculations

- A factor, representing the period, is added to the reserve calculation
  - Balance x (Loss Rate + Qualitative Adjustments) x Loss Discovery Period = FAS 5 Reserve

- Different loss discovery periods among products
  - Consumer loans or as little as 6 months (or .5)
  - Commercial loans as much as 1-2 years
    - Annual visit with annual financials

Loss Discovery Method - Challenges & Benefits

Challenges

- Requires strong credit and loan administration teams to evaluate discovery periods

- Discovery period could be deemed subjective

Benefits

- Allows bank to quantify risk before true risk has been discovered

How to Choose the Right Method

- Carefully analyze the portfolio's performance and loss history
  - For each line of business
  - Engage credit and risk management partners

- Account for changes in credit policies, portfolio volume and management

- Develop quantifiable research and documentation to support decision

- Consider different loss methods or periods across segments if portfolio analysis warrants the change

Things to Remember

- Document, document and document your decision
- Understand the selected loss measure and loss horizon should be unique to your bank and its experiences
- As your institution grows, always consider moving to a more comprehensive ALLL calculation
- Re-evaluate loss methods and loss horizons periodically and when expected losses do not align with actual losses

3rd Annual Risk Management Summit

- ALLL & stress testing presentations, panels, group discussion and networking
- More info: web.sageworks.com/summit

Additional Resources & Contact Info

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Additional resources:

- Whitepapers, archived webinars and more: sageworksanalyst.com
- LinkedIn: ALLL Forum for Bankers
- Twitter: @sageworksbanker