

ALLL Roadmap: Are You Ready for the Future?

Given all the attention the ALLL is receiving from regulators and FASB, it is important to understand how your institution will be impacted in the near, mid and long-term.

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With You Today

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Topics

- Long-term: The implication of FASB's CECL model

- Regan Camp, Sageworks

- Mid-term: Preparing for stressed ALLL forecasts

- Dave Kever, Crowe Horwath LLP

- Short-term: Creating an ALLL roadmap

- Tim Reimink, Crowe Horwath LLP

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

Crowe Knows Banking

- More than 50 years of experience serving financial services organizations
- Dedicated financial services group:
 - 1,100 organizations served across the country
 - Ranks No. 1 nationally in the number of audits for publicly traded financial institutions.*
 - Drives over 30% of Crowe revenue
- Active in networking, supporting and sponsoring leading organizations:
- ABA-endorsed services:
 - Credit, internal audit, IT, BSA/AML and regulatory compliance services
- Credit 360 capabilities
 - Portfolio analytics
 - ALLL and stress testing
 - Loan processes and technology

* Source: SNL Financial



Corporation for American Banking, L.L.C.

Crowe governance, risk, and compliance management solutions are endorsed by the American Bankers Association (ABA) through its subsidiary, the Corporation for American Banking. The ABA endorsement of these solutions indicates they deliver high quality and meet performance standards, and offer the potential to improve your bank's profitability and performance.

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 **SNL**Financial

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The views and interpretations expressed in the presentation are those of the presenters and the presentation is not intended to provide accounting or other advice or guidance with respect to the matters covered.

Topics

- Long-term: The implication of FASB's CECL model
-

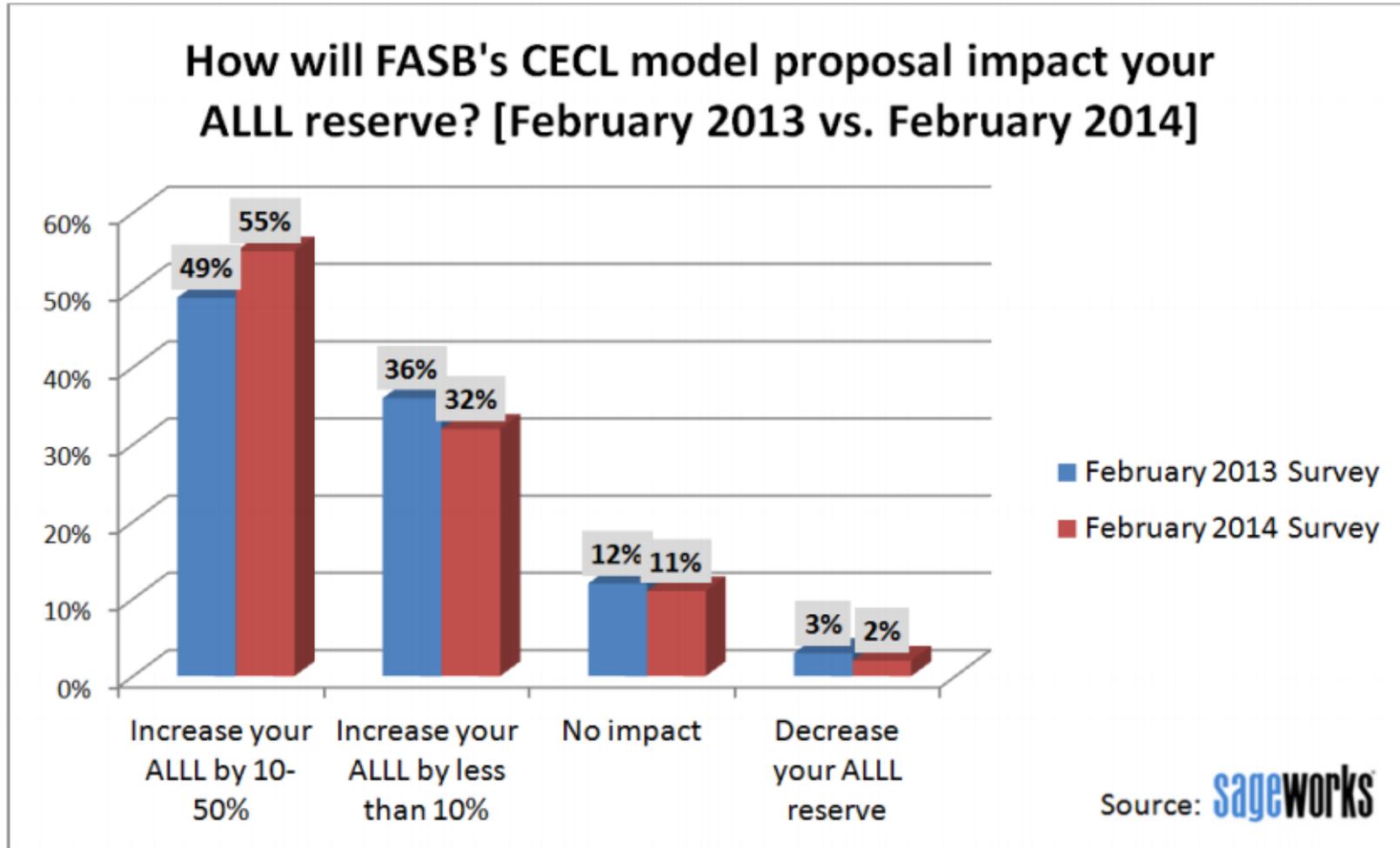
- Mid-term: Preparing for stressed ALLL forecasts
-

- Short-term: Creating an ALLL roadmap
-

Summary of Expected Loss Model

- FASB released latest proposal December 2012
- How does it impact financial institutions?
 - Forward-looking requirements
 - “Probable” threshold removed
 - Longer loss horizon
 - Time value of money plays a role
 - Collateral definitions
- OCC’s Thomas Curry expects allowance levels to increase by 30-50%

Impact on ALLL



Data!

| Current Historical Loss Rates | Future Expected Loss Rates |
|---|--|
| Data required each quarter: | Data required each quarter: |
| Charge-Offs | Charge-Offs |
| Recoveries | Recoveries |
| Aggregate Pool Data | Aggregate Pool Data |
| Beginning Balance of Pool | Beginning Balance of Pool |
| Ending Balance of Pool | Ending Balance of Pool |
| | Risk Rating by Individual Loan **New** |
| | Loan Duration **New** |
| | Individual Loan Balance **New** |
| | Individual Loan Charge-Offs and Recoveries (Partial + Full) **New** |
| | Individual Loan Segmentation **New** |
| $ALLL = \frac{\text{Charge-Offs} - \text{Recoveries}}{\text{Average Period Balance}} * 4$ | $ALLL = \frac{\text{Charge-Offs} - \text{Recoveries}}{\text{Average Period Balance}}$ <i>(For avg lifetime of each risk rating in each Pool)</i> |
| <i>Example: 8 pools * 5 fields * 12 periods</i> = 480 Fields of Data | <i>Example: 2,000 loans * 10 fields * (7 years * 4 quarters)</i> = 560,000 Fields of Data |

Number of loans, fields and periods are approximate figures and can vary between banks.

Change in Capital Requirements

- One-time adjustment to reserve will be a CAPITAL adjustment, NOT provision expense.
 - Plan ahead
 - Provision necessary amounts
 - Test multiple scenarios
 - Stay afloat!

Timeframe for CECL

- Russell Golden, chairman of FASB reiterates
 - To be released late 2014/early 2015
 - Final CECL model to be substantially the same to exposure draft of 2012
 - Take effect January 1, 2018?

- IASB's IFRS 9 Financial Instruments July 24, 2014

CECL Concerns

- How are future, life-of-loan losses reasonably predicted?
- Even more subjective judgment is required
- Greater regulatory scrutiny
- Insufficient IT capabilities
- Lack/inaccessibility of data, especially for small to mid-size banks
- Need to know where we are in the economic cycle

CECL Concerns (Continued)

- Implies we can identify when a downturn/recovery starts
- Implies we can predict the severity of a downturn
- Interaction with Basel III
- Discourages longer-term lending that customers may desire

How to Prepare

- Capture, archive and incorporate loan-level detail into the ALLL calculation
- Improve data processes
- Increase data integrity
- Reduce dependency on spreadsheets
- Be proactive rather than reactive – get ahead of the game

Ways to capture loan-level detail

➤ Limited Method

- Use core to capture detailed data (most cores go back ~13 months max)

➤ Static Method

- Begin storing core archives in data warehouse

➤ Dynamic Method

- Use automated solution to capture, store & calculate ALLL

Loan-level detail: Benefits

- More defensible calculations
- Minimize expected 30-50% increase in ALLL
- Migration analysis
- Develop PD model
- More granular stress testing
- Enhanced reconciliation capabilities
- Prevent future subjectivity

Topics

- Long-term: The implication of FASB's CECL model
-

- Mid-term: Preparing for stressed ALLL forecasts
-

- Short-term: Creating an ALLL roadmap
-

The Link Between ALLL and Stress Testing

- Stress testing is for all banks - reporting is for some banks
- Stress testing brings additional forecasting dimensions and complexity:
 - Longer time horizons
 - Macroeconomic-driven forecasting
 - Multiple scenarios
- ALLL forecasting for DFAST is complicated
 - ALLL is a reported line item to be included in each forecasted scenario
 - ALLL requires inputs from other forecasts such as credit losses, and is an input to other reports and forecasted items such as non-accruals and OREO.
- Integrating ALLL and Stress Testing systems will be required to support future, detailed ALLL forecasting requirements

DFAST Filing and Examine Requirements

- Separate forecasts and submissions for bank and/or holding company:
 - Detailed P&L, Net Charge-Offs, Balance Sheet, Capital Analysis for 3 Fed Scenarios
 - Scenario Variables Schedule
 - Supporting qualitative reports and analysis (Appendix A)

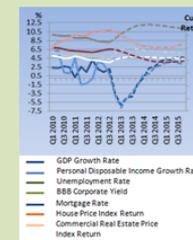
- For onsite examination banks prepare:
 - Risk and Governance Plan including Model Risk Management including independent validation of loss and PPNR forecast models, Production process controls and audits
 - Capital Plan including Risk Appetite, Risk Register, Stress Testing Policy, Methodology Approach & Documentation, Risk Assessment, Portfolio Assessment & Scoping

Baseline Scenario

The baseline scenario follows a contour very similar to the average projections from surveys of economic forecasters. This will be used to project the Bank's business forecast baseline.

Total loan and lease net charge-offs
Pre-provision net revenue
Net income
Allowance for loan and lease losses
Total assets
Total liabilities
Dividends and share repurchases
Total equity capital
Tier 1 common equity ratio
Tier 1 risk-based capital ratio
Tier 1 leverage ratio
Total risk-based capital ratio

A summary of the required detailed 9 Qtr forecast Income Statement, Balance Sheet, and Capital Analysis for each Scenario.



Adverse Scenario

Characterized by a weakening in economic activity across all of the economies with a global aversion to long-term fixed-income assets that bring about rapid rises in long-term rates and steepening yield curves in the U.S. and beyond.

Severely Adverse Scenario

Characterized by a substantial weakening in economic activity across all of the economies, with a significant reversal of recent improvements to the U.S. housing market and the euro area outlook.

Bank Defined Scenario (optional)

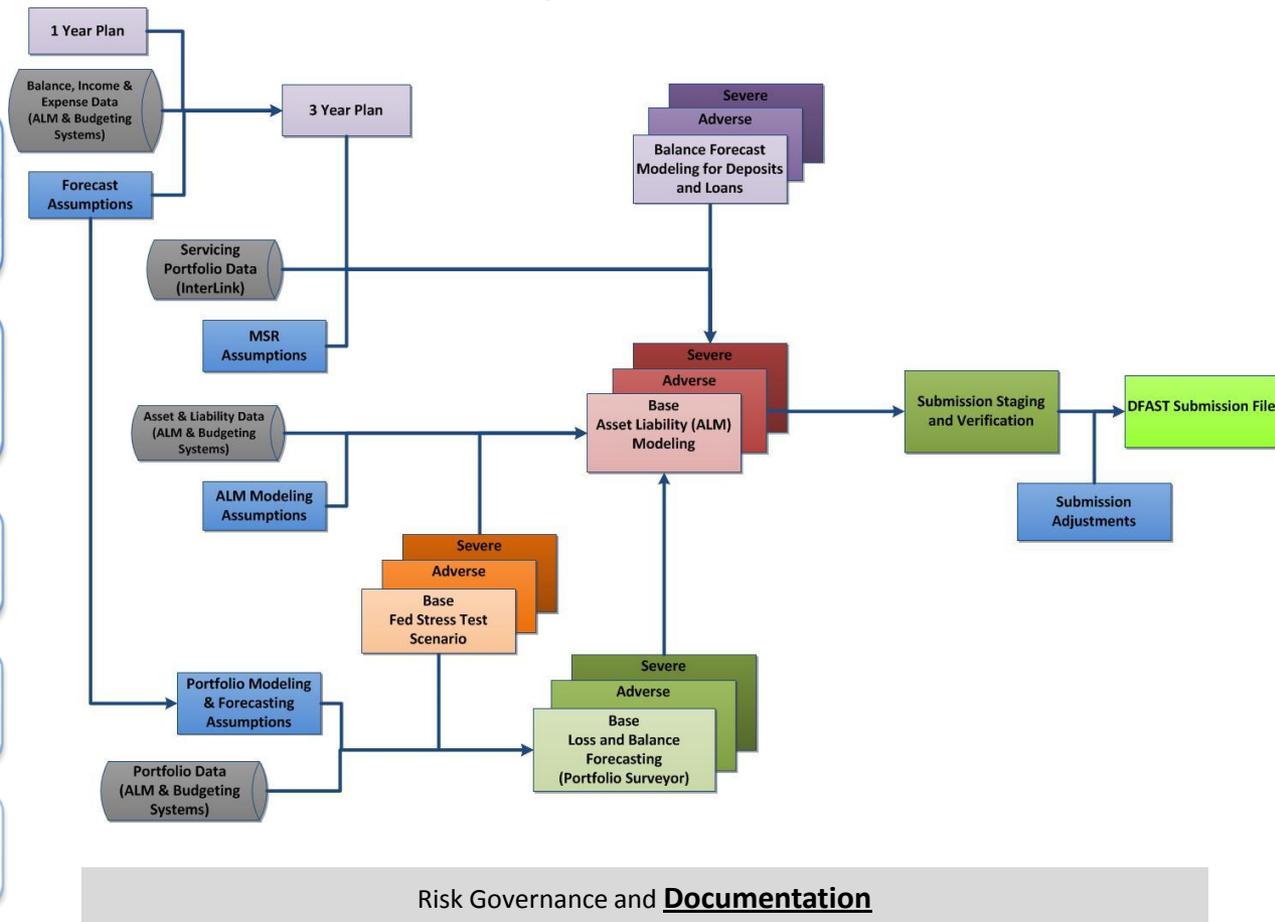
Specific Bank-shock scenarios that focus on specific economic shocks that impact the Bank's specific profile. This may include leveraging regional macro economic drivers.

Stress Testing Framework Principles & Needs

Fed Stress Testing Framework Key Principles

- A stress testing framework should include activities and exercises that are **tailored to and sufficiently capture** the banking organization's exposures, activities, and risks.
- An effective stress-testing framework **employs multiple** conceptually sound stress-testing activities and approaches.
- An effective stress testing framework is **forward-looking and flexible**.
- Stress test results should be **clear, actionable, and well supported and inform** decision-making.
- The stress testing framework should include **strong governance and effective internal controls**.

DFAST Submission High Level Flow

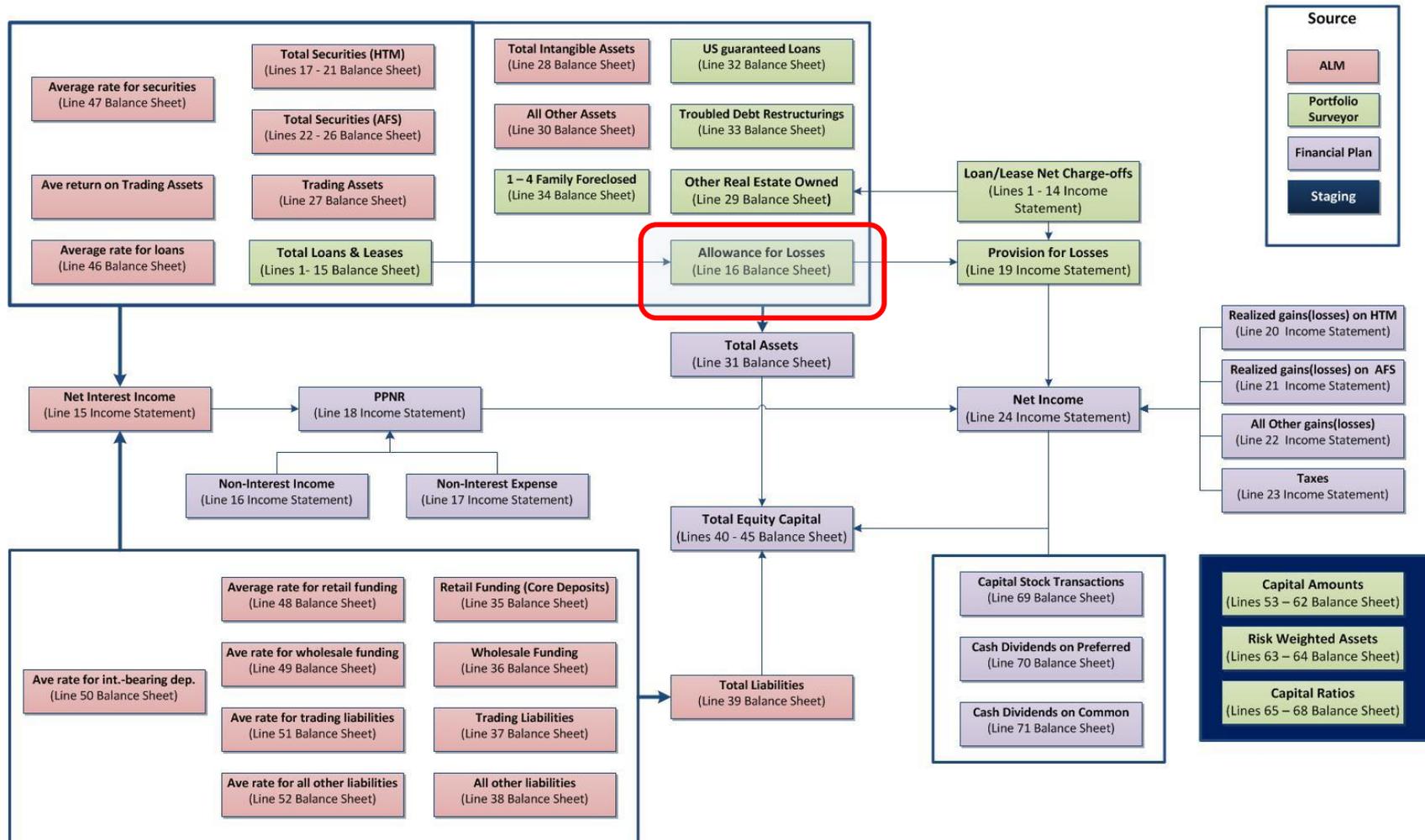


Integrating ALLL and DFAST

- The Many Connections to “Harmonize”
 - Loan and pool loss history data and analysis
 - Loan level and pool profile history and detailed reporting
 - Pooling - Segmentation
 - Modeling approaches
 - Qualitative Factors
- DFAST Challenges Existing ALLL Productions
 - New Volume Forecasts integrated into ALLL forecast (pool and loan level)
 - For Multiple Scenarios and 9 Quarter Horizons: Forecasting future loan level details and migrating the forecasted portfolio ratings
 - Stressing loss given default in forecasts across various portfolios and scenarios
 - Modeling the forecasted dependent and dynamic linkages of ALLL to credit loss forecasts, non-accruals, OREO forecasts

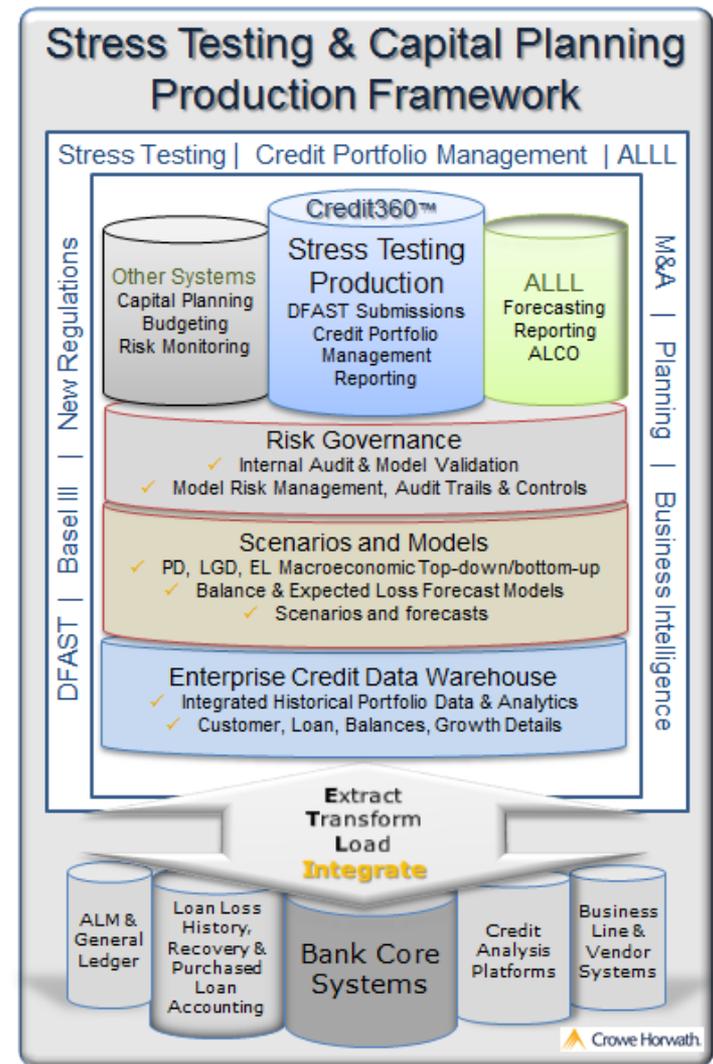
ALLL and It's Impact on Stress Tests

Required Information High Level Flow



Stress Testing and ALLL Framework

- Supports the Integration ALLL and Stress Test production including:
 - Data
 - Inputs-Outputs
 - Models
 - Analytics
 - Processes and Controls
 - Risk Governance and Model Risk Management
 - Departmental Systems
 - Methodologies
- Two-Way Integration :
 - ALLL provides step off point data-ALLL details
 - DFAST provides a “shocked” ALLL data set for future quarters including new volume forecasts
 - ALLL provides computation for future forecast quarters using stressed forecast data



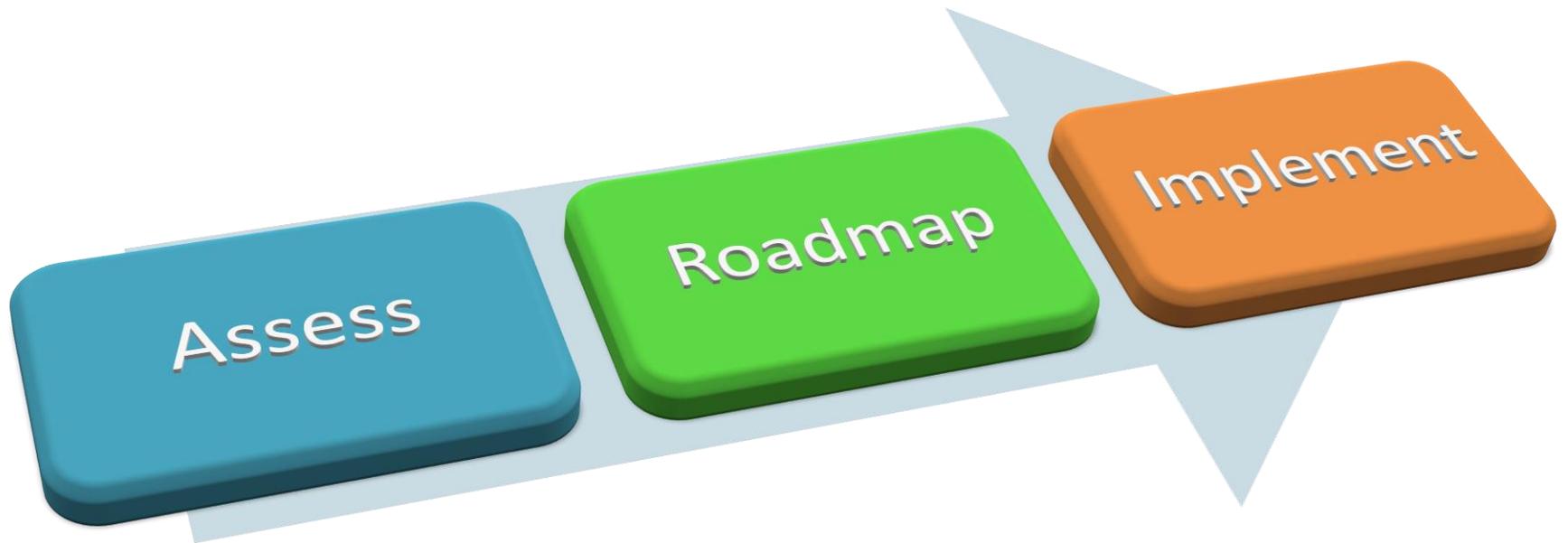
Topics

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Addressing the Future of ALLL



Assessing ALLL

Categories for Consideration

- Methodology
- Data Sources
- Documentation
- Platform
- Process
- Analytics
- Model Risk Management

Self-Assessment

| Category | Considerations |
|--------------------|--|
| Methodology | |
| Compliance | Are we adequately meeting Accounting Standards? Are we sufficiently addressing Regulator expectations? |
| Depth | Do our pools effectively segment our particular portfolio risks? Do we specifically analyze the right number of our impaired loans? |
| Defensibility | Does our rationale for pool segmentation make sense? Do we base our assumptions on sound enough analysis? |
| Alignment | How much do we incorporate economic factors into our analysis? How well does our approach support stress testing? Does our methodology support a forward looking analysis? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

➤ How would you Assess your Bank on
Methodology?

- Not Meeting Needs
- Meeting Current Needs, but not anticipated future needs
- Prepared for Future Needs

Self-Assessment

| Category | Considerations |
|---------------------|--|
| Data Sources | |
| Availability | How readily available are the types of data we need? How automated are our extracts of data? What types of current or future data needs are not readily available? |
| Completeness | How often is loan level data missing? What types of data are typically missing? |
| Reliability | How much confidence do we have that our data is accurate? |
| Governance | How clear are accountabilities for data accuracy and completeness? How informed and/or involved are all users of data in changes to data definitions and gathering methods? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

➤ How would you Assess your Bank on

Data Sources?

- Not Meeting Needs
- Meeting Current Needs, but not anticipated future needs
- Prepared for Future Needs

Self-Assessment

| Category | Considerations |
|-----------------------|--|
| Documentation | |
| Completeness | Are we providing enough relevant information in our reports? How well do we meet the needs of auditors and examiners? |
| Ease of Understanding | How easily can directors quickly understand our ALLL situation? How well are summaries, tables, charts and other communication techniques used to present the analysis? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

➤ How would you Assess your Bank on

Documentation?

- Not Meeting Needs
- Meeting Current Needs, but not anticipated future needs
- Prepared for Future Needs

Self-Assessment

| Category | Considerations |
|----------------|---|
| Process | |
| Efficiency | How labor intensive is our process for front line staff? How labor intensive is our process for back office staff? Is it taking too long to complete our quarterly analyses and reports? |
| Consistency | How consistently do our lenders analyze impaired loans? Are the assumptions we use applied consistently? How confident are we that our analysis is prepared consistently form quarter to quarter? How often are errors or omissions found? |
| Sustainability | How much reliance do we place on a few key individuals to prepare our analyses? How easily can our analysis be upgraded and enhanced? How prepared are we for stressed and forward looking analyses? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

➤ How would you Assess your Bank on
Process?

- Not Meeting Needs
- Meeting Current Needs, but not anticipated future needs
- Prepared for Future Needs

Self-Assessment

| Category | Considerations |
|-----------------|--|
| Platform | |
| Reliability | How auditable are our tools for analysis and report preparation? How well are we able to avoid errors or omissions? How well-controlled is the preparation of the analysis? How automated is our data accumulation? How automated are our calculations and analysis? |
| Flexibility | How easily can we change methodology? How readily can we analyze stressed scenarios? How readily can forward looking analyses be handled? |
| Ease of Use | How much do tools rely upon experts to use? How quickly can the tools be learned? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

➤ How would you Assess your Bank on
Platform?

- Not Meeting Needs
- Meeting Current Needs, but not anticipated future needs
- Prepared for Future Needs

Self-Assessment

| Category | Considerations |
|------------------|---|
| Analytics | |
| Capabilities | To what extent do we use analytical techniques and tools to better understand the performance and risk of our portfolios? How robust are our data and tools for use in analysis? |
| Historical | How readily can we analyze historical trends? How far beyond the basic ALLL requirements do our analytics of the portfolios go? How much are we incorporating concepts like PD, LGD or Economic Capital into our analysis? |
| Forecast | How prepared are we to use forecast and stressed ALLL analytics? How well do we use economic factors and forecasts in our analysis? How extensively is forecasting be used in our analysis of portfolio risk and performance? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

➤ How would you Assess your Bank on
Analytics?

- Not Meeting Needs
- Meeting Current Needs, but not anticipated future needs
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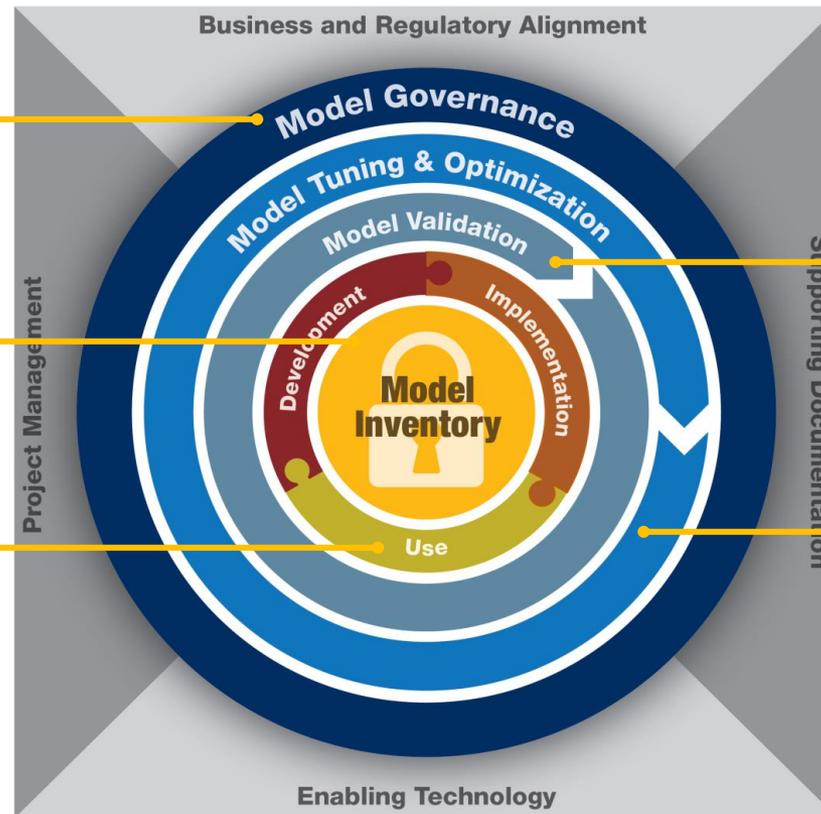
Crowe's Model Risk Management Framework

The rings of the Crowe Model Risk Management Framework capture the core requirements of the supervisory guidance and expand on key principles.

Appropriate management oversight, policies and procedures, and approval processes are necessary for managing model risk.

Models relied upon for compliance should be identified and categorized by risk level.

As new models are developed and implemented, the appropriate documentation around requirements, design, planning, etc. must be captured.



Models must be validated to verify accuracy and effectiveness and confirm the model was designed and implemented in accordance with its requirements.

Targeted exam teams and examiner focus on tuning is driving a lot of pressure on financial institutions.

Self-Assessment

| Category | Considerations |
|------------------------------|--|
| Model Risk Management | |
| Validation | How satisfactory has the validation of the conceptual design, system, processes and data of our ALLL model been? |
| Governance | How well established are our governance practices for ALLL? How prepared are we for future ALLL uses? |
| Optimization | How effectively have we optimized our methodology, process and platform for efficient, reliable, compliant and informative analysis? |
| Overall Rating | <input type="checkbox"/> Not Meeting Needs <input type="checkbox"/> Meeting Current Needs, but not anticipated future needs <input type="checkbox"/> Prepared for Future Needs |

Poll

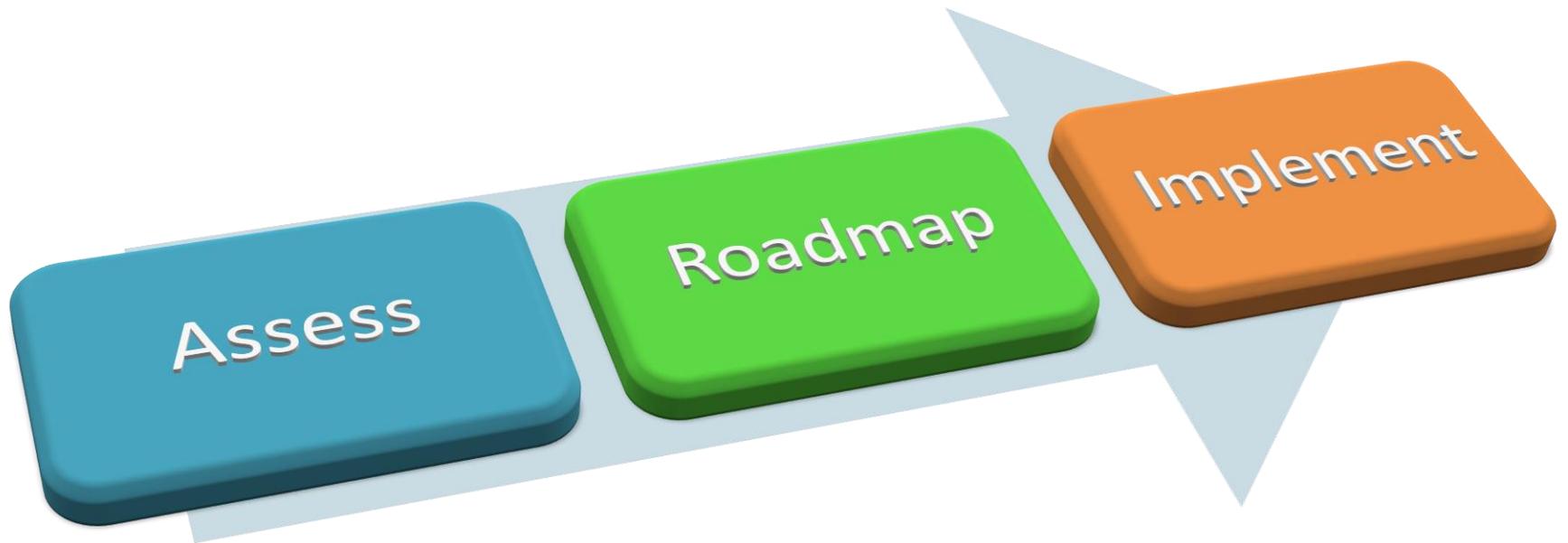
➤ How would you Assess your Bank on
Model Risk Management?

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Assessment Summary

| Category | Rating |
|-----------------------|--------|
| Methodology | |
| Data Sources | |
| Documentation | |
| Process | |
| Platform | |
| Analytics | |
| Model Risk Management | |

Addressing the Future of ALLL



Roadmap Issues

| Category | Key Issues |
|-----------------------|--|
| Methodology | <ul style="list-style-type: none">• Refinement of Pools• Consistent Analysis of Impaired• Preparation for Basel and CECL |
| Data Sources | <ul style="list-style-type: none">• Collateral Data• Borrower Financial Data |
| Documentation | <ul style="list-style-type: none">• Enhanced Presentation of Analytics |
| Process | <ul style="list-style-type: none">• Streamlined Process• Support for Stress Testing |
| Platform | <ul style="list-style-type: none">• Excel Replacement• Stressed Scenarios• Forecast Capabilities |
| Analytics | <ul style="list-style-type: none">• PD and LGD |
| Model Risk Management | <ul style="list-style-type: none">• Validation |

Roadmap Timeline

➤ Possible Timeline for addressing key issues

| Category | Initiative | 2014 | 2015 | 2016 | 2017 | |
|-----------------------|------------------------------------|------|------|------|------|--|
| Methodology | Refinement of Pools | ■ | | | | |
| | Consistent Analysis of Impaired | ■ | | | | |
| | Preparation for Basel and CECL | | ■ | | | |
| Data Sources | Collateral Data | ■ | | | | |
| | Borrower Financial Data | | ■ | | | |
| Documentation | Enhanced Presentation of Analytics | ■ | | | | |
| Process | Streamlined Process | | ■ | | | |
| | Support for Stress Testing | | ■ | | | |
| Platform | Excel Replacement | ■ | | | | |
| | Stressed Scenarios | | | ■ | | |
| | Forecast Capabilities | | | ■ | | |
| Analytics | PD and LGD | | | ■ | | |
| Model Risk Management | Validation | ■ | | | ■ | |

Questions?

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