CECL Implementation:
The Path to Success

September 19, 2018
Today’s Webinar

Presenters:
▶ Stephen Masterson, Managing Director, U.S. Practice Leader - Financial Institutions’ Advisory Services, BDO
▶ R. Bruce Vest, VP, Financial Reporting, MVB Financial Corp.

Learning Objectives:
▶ Understand CECL requirements and downstream impact
▶ Understand a framework for implementation
▶ Gain insights on pitfalls and lessons learned that others have encountered during implementation
▶ Get lessons learned from a Bank Management team with first-hand implementation experience
Introduction to CECL
Polling Question 1

Who’s here today?

A) Banks with assets < $1 billion
B) Banks with assets between $1+ billion and $2.5 billion
C) Banks with assets between $2.5+ billion and $5 billion
D) Banks with assets in excess of $5+ billion and $10 billion
E) Banks with assets > $10 billion
F) Consultants, CPAs, Professional Advisors
Polling Question 2

How far along are you in your CECL preparations?

A) Zero - have not even thought about it
B) Initial planning and consideration, but no measurable preparation
C) Assembled team, developed steering committee, gotten out of the gate
D) Initial progress: +/- 25% down the path
E) Measurable progress: +/- 51% down the path
F) Significant progress: +/- 90% and into parallel runs
Timelines for CECL Implementation

Public SEC filers will need functioning CECL capabilities well-before the **January 2020** effective date, even without early adoption.

*Source: 2018 AICPA National Conference on Banks and Savings Institutions*
Snapshot of Industry Progress on CECL

The table below presents a thematic snapshot of how the industry is progressing against the changing accounting requirements in the United States. Banking organizations impacted by CECL have been roughly categorized based on Asset Size and footprint into four broad clusters.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Assets</th>
<th>Mobilize</th>
<th>Design</th>
<th>Build</th>
<th>Test &amp; Deploy</th>
<th>Parallel Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large International Banks</td>
<td>&gt;$250b</td>
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<tr>
<td>Large Domestic Banks</td>
<td>&gt;$50b</td>
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<tr>
<td>Regional Banks</td>
<td>$10-50b</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Smaller Institutions</td>
<td>&lt;$10b</td>
<td></td>
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</tr>
</tbody>
</table>

**Legend:**
- Majority of banks
- Initial Stages

1 While this snapshot provides higher-level trends, individual outliers exist that are ahead of the pack.

*Source: 2018 AICPA National Conference on Banks and Savings Institutions*
Current challenges - loans and loss reserves

WHAT WE ARE SEEING

- Inconsistency in the measurement of credit losses from bank to bank
- Loan loss provisions are not justified or properly supported
- Loan loss provisions are being used to influence financial results and position
- Historic losses are the focus without consideration of other forward looking external and internal factors
- Challenges in accurate accounting for purchased impaired credits
The new accounting standard - CECL

The Financial Accounting Standards Board (FASB) issued a new accounting standard to replace the “incurred loss” impairment methodology with the Current Expected Credit Loss (CECL) model. Where the incurred loss methodology recognizes credit losses when such losses are probable or have incurred, CECL requires recognition of credit losses when such losses are expected. This means that an event may not have occurred, but there is some likelihood of the event occurring in the future.

*Allowance for Loan and Lease Losses (ALLL)*
The premise and impact of CECL

- Applies to 99% of financial institutions
- Acknowledges that some loans are more troublesome than others
- Requires a change in the mindset from backward-looking to a forward-looking approach in calculating allowances for credit losses
- Necessitates significant coordination across the organization, both in terms of loss forecasting models and systems and infrastructure
- Effective beginning 2020
- Focuses on the collectability of the contracted agreement
- Loss calculations aligned with life and value of the asset
- May increase reserves by as much 50%
- Acknowledges that some loan segments are riskier than others
- Will require more data, sophisticated models, and reporting
- Companies need data for at least five years and should begin planning now
Background

WHO IS IMPACTED

The new accounting standard applies to all banks, savings associations, credit unions, and financial institution holding companies (hereinafter referred as “institutions”) that file regulatory reports for which the reporting requirements conform to GAAP regardless of size.

WHAT HAS CHANGED

By issuing CECL, FASB made the following key changes:

- Removed the “probable” threshold and the “incurred” notion as triggers for credit loss recognition and instead adopted a standard that states financial instruments carried at amortized cost should reflect the net amount expected to be collected.

- Broadened the range of data that is incorporated into the measurement of credit losses to include forward-looking information, such as reasonable and supportable forecasts, in assessing the collectability of financial assets.

- Introduced a single measurement objective for all financial assets carried at amortized cost, including Hold for Investment (HFI) and Hold to Maturity (HTM) debt securities.
### Changes between ALLL and CECL modeling

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>CURRENT ALLL MODELING</th>
<th>ALLL MODELING WITH CECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Focus</td>
<td>Incurred loss and probable loss</td>
<td>Expected loss</td>
</tr>
<tr>
<td>Segmentation</td>
<td>Loan profile &amp; regulatory requirements</td>
<td>Behavior based</td>
</tr>
<tr>
<td>Prepayment</td>
<td>No impact</td>
<td>Prepayment effects life of portfolio</td>
</tr>
<tr>
<td>Scenarios</td>
<td>Not required</td>
<td>Not required&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Loss Calculation Method</td>
<td>Historical loss method</td>
<td>Forward looking approach</td>
</tr>
</tbody>
</table>

<sup>1</sup> Banks with total assets of more than $10 billion are required to perform stress testing utilizing multiple scenarios. In these situations, banks can utilize those scenarios to project credit losses and meet the CECL requirements.
Polling Question 3

What is a major change between ALLL and CECL?

A) Previously ALLL focused on actual losses, CECL has a focus on expected losses
B) Loan segmentation under CECL has not changed
C) Both ALLL and CECL included multiple scenarios for testing loan portfolios
D) Both ALLL and CECL were forward looking
CECL Execution
The new CECL model

Segments or pools are created based on common loan characteristics. A combination of both internal and external information, including macroeconomic variables, are used to establish a relationship between historical losses and other variables.

To reflect current asset-specific risk characteristics, adjustments to the historical data will need to be considered. These adjustments are usually done through a combination of both qualitative and quantitative factors.

The forecast period to project expected credit losses should be reasonable and supportable. Document the rationale and provide evidence supporting the reliability and accuracy of various economic scenarios and forecasts.

Entities are to revert to unadjusted historical loss information when unable to make reasonable and supportable forecasts. The approach used to determine a "mean reversion level" must be well-documented.

The result should represent the current expected credit loss over the remaining contractual term of the financial asset or group of financial assets.
Understanding end-to-end reserving

- **SOURCE DATA**
  - Automated
  - Uploads
  - People

- **Data Import & Validation**
  - Model A
  - Model B
  - Model C

- **Model Execution / Discounting**
  - Qualitative Adjustments
    - Policy Changes
    - Management & Staff Changes
    - Product Changes

- **Allowance by Segment**

- **Accounting Translation / Journalization**

- **Analytics / Disclosures**

**CONTROLS**
- **SECURE**
- **STORAGE**
- **REPEATABLE**
- **PERSISTENT**
- **SCALABLE**
- **CHANGE MANAGEMENT**

**FINANCIAL REPORTING**
Various CECL approaches: calculating loan losses

The below chart outlines the most common approaches for calculating loan losses. Our approach recommends that these methods be considered, selected, and applied to each unique loan segment.

<table>
<thead>
<tr>
<th>CECL Methodology</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss Rate</td>
<td>The average charge-off method is the approach currently used most commonly for evaluating impairment on pools of financial assets under the incurred loss model. This method is used for calculating an estimate of losses based primarily on experience, and the data needs of this method are modest compared to those of other methods. There are two types of Loss Models: Aggregate Look-Back and Vintage Historical Average.</td>
</tr>
<tr>
<td>Discounted Cash Flow</td>
<td>Based on the present value of expected future cashflows discounted at the loans effective interest rate. Expected cash flow assumptions used are based on best estimates of reasonable and supportable assumptions and projections. The effective interest rate includes the accretion or amortization of premiums and discounts and might not be explicitly displayed in the asset accounting or servicing system.</td>
</tr>
</tbody>
</table>
| Probability of Default| The probability-of-default method is used to estimate credit losses by considering three components:  
  - Probability of default (PD) – probability of default over a given time period
  - Loss given default (LGD) – loss amount at the time of default for a particular exposure
  - Exposure at default (EAD) – balance of the relationship at default |
The new CECL model

In evaluating financial assets on a collective (pool) basis an entity should aggregate financial assets on the basis of similar risk characteristics, which may include any one or a combination of the following:

- Internal or external (third-party) credit score or credit ratings
- Financial asset type
- Historical or expected credit loss patterns
- Vintage
- Collateral type
- Size
- Effective interest rate
- Risk ratings or classification
- Industry of the borrower
- Term
- Geographical location
- Reasonable and supportable forecast periods

*This list is not intended to be all inclusive*
People, Tools and Data
Polling Question 4

Who owns CECL within a financial institution?

A) Accountants
B) Credit Administration
C) Finance
D) Treasury
E) All of the Above
Your Team - Your People

CECL implementation will require disciplined change management—not just because it requires an overhaul of accounting processes and IT systems, but because it heralds a new way of thinking. Make sure every member of the CECL engagement team understands their roles and responsibilities. Another critical piece of the people puzzle will be fostering collaboration between functional areas that may have historically operated in silo.

<table>
<thead>
<tr>
<th>Function / Department</th>
<th>Role</th>
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</thead>
<tbody>
<tr>
<td><strong>ALL DEPARTMENTS</strong></td>
<td>✪ Assess, design, implement, document and monitor internal control over all CECL processes and control over financial reporting (SOX 302 and 404)</td>
</tr>
<tr>
<td></td>
<td>✪ Assessment of risk and internal controls</td>
</tr>
<tr>
<td><strong>CEO/CFO</strong></td>
<td>✪ Own the entire CECL process</td>
</tr>
<tr>
<td></td>
<td>✪ Ensure good corporate governance and tone from the top, making regular updates to the Board and Audit Committee</td>
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<tr>
<td></td>
<td>✪ Sign-off on related accounting and financial certifications as required by various laws and regulations</td>
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<tr>
<td></td>
<td>✪ Participate in regular discussions with auditors and regulators on CECL progress and expectations</td>
</tr>
<tr>
<td><strong>Board/Audit Committee</strong></td>
<td>✪ Ensure sufficient training and understanding of CECL by all members/directors</td>
</tr>
<tr>
<td></td>
<td>✪ Ensure solid corporate governance and internal control from the top down</td>
</tr>
<tr>
<td></td>
<td>✪ Meet with external auditors for independent discussions on management's CECL efforts and results</td>
</tr>
<tr>
<td></td>
<td>✪ Provide guidance to the internal audit team and review internal audit testing results</td>
</tr>
<tr>
<td><strong>Internal Audit</strong></td>
<td>✪ Stay involved throughout the entire process to assess management's control of the process</td>
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<tr>
<td></td>
<td>✪ Provide feedback to Audit Committee on overall preparation, risks and progress</td>
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<tr>
<td></td>
<td>✪ Oversee testing of various CECL modelling controls and outputs</td>
</tr>
</tbody>
</table>
## Your Team - Your People

<table>
<thead>
<tr>
<th>Function / Department</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller/Chief Accounting Officer</td>
<td>- Set interpretation of GAAP</td>
</tr>
<tr>
<td></td>
<td>- Develop and implement CECL accounting policy</td>
</tr>
<tr>
<td></td>
<td>- Operationalize accounting processes that impact CECL calculations/data/reporting from each department into the general ledger and ultimately into financial reporting</td>
</tr>
<tr>
<td></td>
<td>- Update financial statement presentation and disclosure on both a quarterly and annual basis</td>
</tr>
<tr>
<td></td>
<td>- Facilitate accumulation of historical data</td>
</tr>
<tr>
<td></td>
<td>- Weigh in on system/software selection for data analysis and modelling</td>
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<td></td>
<td>- Coordinate with external auditors and solicit input and feedback</td>
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<td></td>
<td>- Factor in SOX 302/404 considerations</td>
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<tr>
<td></td>
<td>- Provide input on and document the accounting impact of various CECL modelling activities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Finance/Treasury/CFO</th>
<th>Own CECL system/software selection process</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- Facilitate the accumulation of various economic data points required for CECL</td>
</tr>
<tr>
<td></td>
<td>- Develop assumptions and projections to be used in CECL modeling related to prepayment and default rates</td>
</tr>
<tr>
<td></td>
<td>- Oversee administration of CECL modelling and interpret results</td>
</tr>
<tr>
<td></td>
<td>- Consider analyst/investor needs and disclosures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chief Credit Officer</th>
<th>Facilitate the accumulation of various data points and historical data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Collaborate on the analysis of CECL output for adequacy of reserves</td>
</tr>
<tr>
<td></td>
<td>- Analyze CECL results for continuous improvement in lending risk management—focusing on leveraging insights gleaned from predictive analytics to improve prospective loan underwriting policies and procedures.</td>
</tr>
</tbody>
</table>
#### Your Team - Your People

<table>
<thead>
<tr>
<th>Function / Department</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Management/Chief Risk</td>
<td>▶ Ensure the Board and Audit Committee are well versed and educated on risks associated with CECL</td>
</tr>
<tr>
<td>Officer</td>
<td>▶ Ensure the integrity of the entire CECL process</td>
</tr>
<tr>
<td></td>
<td>▶ Ensure that appropriate corporate governance and Sarbanes-Oxley controls are being considered and put into place by management in respective departments</td>
</tr>
<tr>
<td></td>
<td>▶ Ensure relevant committee charters are enhanced to consider CECL</td>
</tr>
<tr>
<td></td>
<td>▶ Review and ensure adequate &quot;credible challenge&quot; documentation</td>
</tr>
<tr>
<td></td>
<td>▶ Ensure all inter-departmental dependencies are considered</td>
</tr>
<tr>
<td>Legal</td>
<td>▶ Set interpretation of various guidance and position papers put forth by regulatory bodies</td>
</tr>
<tr>
<td></td>
<td>▶ Review and provide input on financial statement disclosures</td>
</tr>
<tr>
<td></td>
<td>▶ Involvement with risk management on various committee charters and overall corporate governance</td>
</tr>
<tr>
<td>Information Technology</td>
<td>▶ Weigh in on system/software selection for data analysis and modeling</td>
</tr>
<tr>
<td></td>
<td>▶ System/software installation, control and oversight</td>
</tr>
<tr>
<td></td>
<td>▶ Data back-up, maintenance, integrity</td>
</tr>
<tr>
<td></td>
<td>▶ Provide ongoing user support as needed</td>
</tr>
<tr>
<td>Investor Relations/CFO</td>
<td>▶ Prepare for discussions and presentations with analysts and investors</td>
</tr>
<tr>
<td></td>
<td>▶ Consider the messaging for explaining CECL results to the marketplace</td>
</tr>
</tbody>
</table>

Don't forget your auditors and examiners. While not a formal member of your team, you should consider meeting with them regularly to discuss your progress and solicit their feedback and advice.
Getting started with data and technology

For CECL to succeed, financial institutions need to understand how the new standard affects systems, technology and processes and where interdependencies exist. The new standard calls for an iterative approach where the cross-functional impacts are monitored closely. All departments throughout the institution must be aligned with the approach and collaborate to ensure stringent compliance with project plans and timelines.

- **Accounting**
  - Which CECL accounting methodology is right for your business? What is the financial statement impact?

- **Governance**
  - Does your CECL oversight team include both audit and risk professionals? Have you stepped up oversight of internal controls over financial reporting?

- **People**
  - Do you have enough resources to support CECL execution? How are you breaking down silos to encourage collaboration?

- **Data**
  - Do you have access to the data you need to make reasonable and supportable economic forecasts?

- **Technology**
  - Can your modeling platform support additional data attributes and handle the necessary level of complexity, and is it flexible enough to respond to changes in external data or assumptions? What additional enabling technology might you need?

- **Process**
  - What organizational processes are impacted by CECL implementation?
## Technology

<table>
<thead>
<tr>
<th>DATA MANAGEMENT</th>
<th>MODELING</th>
<th>SOFTWARE</th>
<th>DEVELOPMENT</th>
<th>ANALYTICS</th>
<th>AUTOMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>Statistical models</td>
<td>Use existing model?</td>
<td>Develop data pulls</td>
<td>Drive value through analysis</td>
<td>Extract and clean data from systems</td>
</tr>
<tr>
<td>Transparency</td>
<td>Model validation</td>
<td>Build or add on to current tools?</td>
<td>Customize software</td>
<td>Compare and contrast results</td>
<td>Feed data from bank system into model/software</td>
</tr>
<tr>
<td>Correct detail level</td>
<td>Model automation</td>
<td>Buy new tool?</td>
<td>Automation</td>
<td>Identify anomalies</td>
<td>Report on exceptions and insights</td>
</tr>
<tr>
<td>Data completion</td>
<td></td>
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</table>
Data due diligence

Data integrity and auditability will be more important than ever before!
Preliminary data needs

An effective IT-enabled solution must be able to evaluate the unique attributes and characteristics of each loan pool, as well as impactful external (economic) factors. As such, our gap assessment prescribes the following data points, at a minimum, be taken into consideration and used to support the configuration of the CECL quantitative models.

### INTERNAL
- Asset Segmentation
- Collateral Type
- Maturity Date
- Original Balance
- Current Balance
- Rate
- Rate Type
- Peer Data
- Payment Type
- Payment Frequency
- Cost Centers
- Original LTV
- Current LTV
- Loan Review Results
- Call Reports
- FICO Credit Rating
- Region
- Non-Performing
- Charge-Off Amount
- Recovery Amounts
- Days Delinquent
- Disposal/Recovery Expenses

### EXTERNAL
- Gross Domestic Product
- Purchase Price Index
- Home Price Index
- Money Supply
- Consumer Confidence Survey
- Unemployment Rate
- Consumer Price Index
- Housing Starts
Implementation Approach
OCC’s view?

Takeaways from the OCC’s Spring 2018 Semiannual Risk Perspective

Source: 2018 AICPA National Conference on Banks and Savings Institutions
Implementation Approach

PHASE 1: Assessment

Current State & Gap Analysis
- Asset Segmentation
- Systems & Data Review
- Calculation Methodology Evaluation
- CECL Model Design & Execution
- Accounting Impact Assessment
- Risk & Controls Assessment

PHASE 2: Planning & Design

Gap Remediation & Steady-State Strategy
- Model Stress Testing
- Change Management & Communication
- Data Security Management
- Process Design & Automation
- Disclosure Reporting
- Risk & Control Analysis

PHASE 3: Implementation

Program Implementation
- Technology Selection & Configuration
- Systems Conversion & Data Integration
- Business Process Reengineering
- Resource Training

PHASE 4: Ongoing Support

Governance & Ongoing Support Services
- Training & Development
- Predictive Analytics & Model Validation
- Risk Assessment & Control Testing
- Outsourced & Co-Sourced Program Execution
Implementation Approach

PHASE 1: ASSESSMENT

**Asset Segmentation**
- Ensure loan groupings are granular enough to support CECL analysis
- Ensure loans are grouped on similar characteristics that most impact credit performance (1st liens, 2nd lien, direct, indirect, new, used, etc.)

**System & Data Review**
- Evaluate ongoing data security and storage requirements
- Ensure CECL models are subject to model validation programs

**Model Execution**
- Identify the required CECL models for each segment or segment grouping
- Evaluate model validation attributes, including input, configuration, and output
- Examine how existing models (ALLL) may be leveraged
- Review model execution protocol

**Calculation & Methodology**
- Evaluate all loan reserve calculation options
- Assign a primary and secondary calculation method for each asset segment

**CECL Models**
- Evaluate cost benefit of modifying existing ALLL model
- Evaluate cost benefit of developing a new tool
- Evaluate cost benefit of purchasing a new tool

**Accounting**
- Examine potential financial statement impact of CECL compliance
- Review projected model results
- Determine qualitative and quantitative adjustment parameters and protocols
- Determine requirements for review and approval of allowance provisions
Implementation Approach

PHASE 2: PLANNING & DESIGN

Governance & Oversight
- Identify key governance stakeholders and committees
- Confirm strategic and operational oversight activities
- Confirm communication protocols and mediums
- Review ongoing budgeting requirements
- Establish period to period, period over period, forecast and budget variance analysis

Data Security & Storage
- Identify all source systems
- Generate inventory of required data
- Consider transmission types, including manual uploads, automated interfaces, and external sources
- Confirm data risks and validation controls

Change Management
- Understand protocols for socializing quarterly changes
- Determine flexibility to adapt to new requirements, policy updates, etc.

Process Execution
- Evaluate the standard operating procedures supporting CECL operation and compliance
- Determine number of resources required for steady state

Disclosure Reporting
- Define quantitative disclosure requirements
- Define qualitative disclosure requirements

Risk & Control Analysis
- Identify compliance, operational, and IT risks
- Identify mitigating controls noting gaps (unmitigated risks)
Implementation Approach

PHASE 3: IMPLEMENTATION ROADMAP

1. PROGRAM MANAGEMENT
   - Timeline for implementation and steady state
   - Gap remediation
   - Governance and communication model

2. PEOPLE
   - Skill set assessment for existing employees (experience with loss forecasting?)
   - CECL training requirements and curriculum design
   - Determine additional resource needs

3. TECHNOLOGY
   - Identify the technology required to integrate credit/risk data with accounting information
   - Deploy data integration tools
   - Confirm all automation points
   - Rationalize manual processes

4. PROCESSES
   - Outline a strategy for conversion of systems and accounting method
   - Decommission obsolete processes and controls
   - Onboard new processes and controls
Implementation Approach

PHASE 4: ONGOING SUPPORT

1. TRAINING & DEVELOPMENT
   - Technical accounting
   - Executing analytics
   - Loan review
   - Leading and innovative practices

2. CO-SOURCING
   - Offer supplemental staff
   - PMO support

3. RISK ASSESSMENT & CONTROL TESTING
   - Independent testing
   - Control design
   - Management reporting

4. PREDICTIVE ANALYTICS & MODEL VALIDATION
   - Confirm the design and operating effectiveness of CECL models
   - Outsource the execution of data analysis
   - Design and implement data automation tools
Polling Question 5

Yes / No / Maybe: CECL will change the way that financial institutions calculate it’s allowance for loan and lease losses, and may change the way that loans are underwritten?

A) Yes
B) No
C) Maybe
Success Story and Lessons Learned
MVB Bank
MVB’s Success Story
Lessons Learned

1. Buy In
2. Resources
3. Planning & Risk Assessment
4. Communication
5. Timing
6. Data, Data, Data and more Data
MVB’s Success Story
CECL Project Team Members

1. Credit
2. Finance & Accounting
3. Loan Operations
4. IT
5. Project Management
6. SOX / Internal Controls
7. Executive Management
8. Advisory & Audit
MVB’s Success Story
Guidance Links

Ask the Fed (www.askthefed.org)

American Bankers Association Resources

AICPA Resources

FDIC Resources

OCC Resources
Questions?