The CECL Workshop Series.

Part II: Choosing Your Methodology
Understanding Vintage Analysis

February 18, 2016

PRESENTED BY

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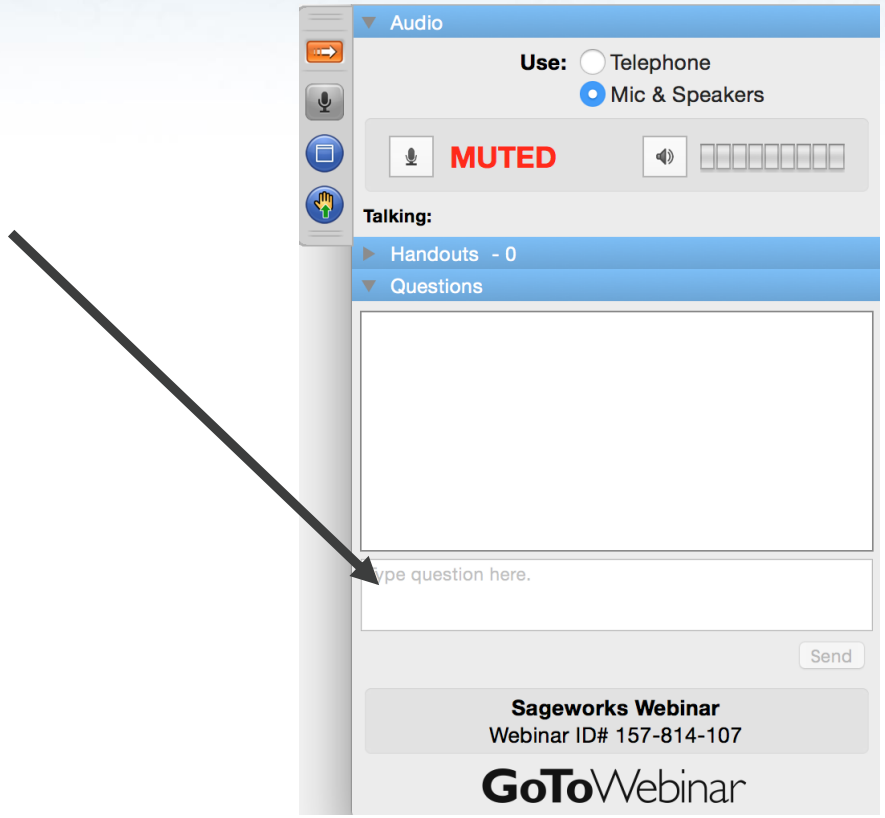
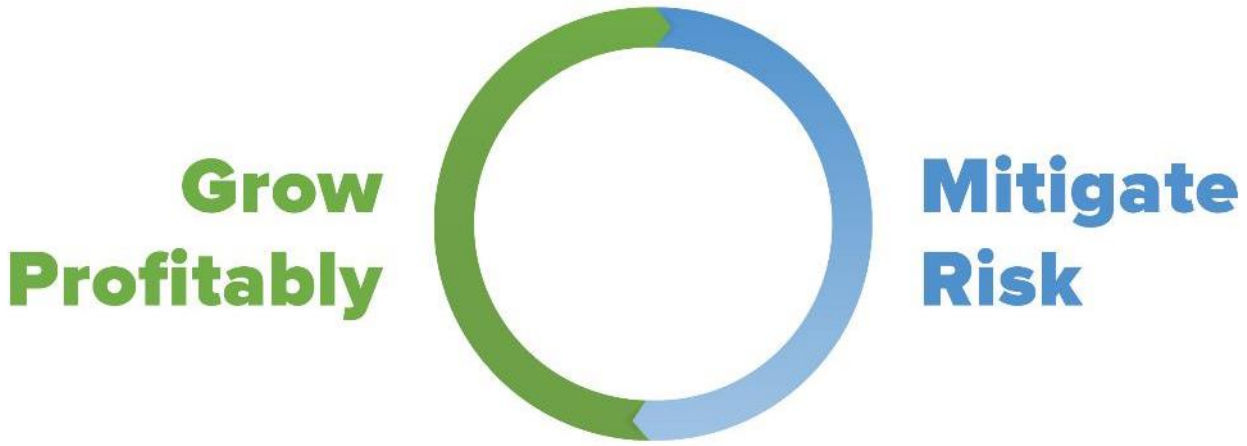
About the Webinar.

- Ask questions throughout the session using the GoToWebinar control panel
- We will answer as many questions as we can at the end of the presentation



About Sageworks.



- Loan portfolio and risk management solutions
- More than 1,000 financial institution clients
- Founded in 1998

- Risk management thought leader for institutions and examiners
- Featured in national and trade media

THE WALL STREET JOURNAL. CNBC AMERICAN BANKER.

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  - » Wealth Advisory
  - » Outsourcing
  - » Audit, Tax, and Consulting
- Nearly 4,000 employees
- Offices coast to coast
- Serve more than 1,450 financial institutions

- Investment advisory services are offered through CliftonLarsonAllen Wealth Advisors, LLC.

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About Today's Presenters.

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Agenda.

PART II: CHOOSING YOUR METHODOLOGY
UNDERSTANDING VINTAGE ANALYSIS

- Brief recap of Part I / Implementation planning
- Quick overview
- Recent developments
- A deeper dive into understanding vintage analysis
- Scenario building
- Auditor concerns
- Next steps and future webinars

What is CECL?

- FASB released proposal December 2012
- Current expected credit losses (CECL)
- What's changed from Incurred Loss Model?
  - » Forward-looking requirements
  - » "Probable loss" threshold removed
    - "No triggers, no thresholds" ("Fed Perspectives," 2015)
  - » Need for accessible, loan-level data
  - » Longer loss horizon
  - » Makes ALLL more institution-wide calculation
- Purpose: Quicker recognition of losses. Changes in ALLL reserve balances will reflect changes in credit quality and flow through bank earnings ("Fed Perspectives," 2015)

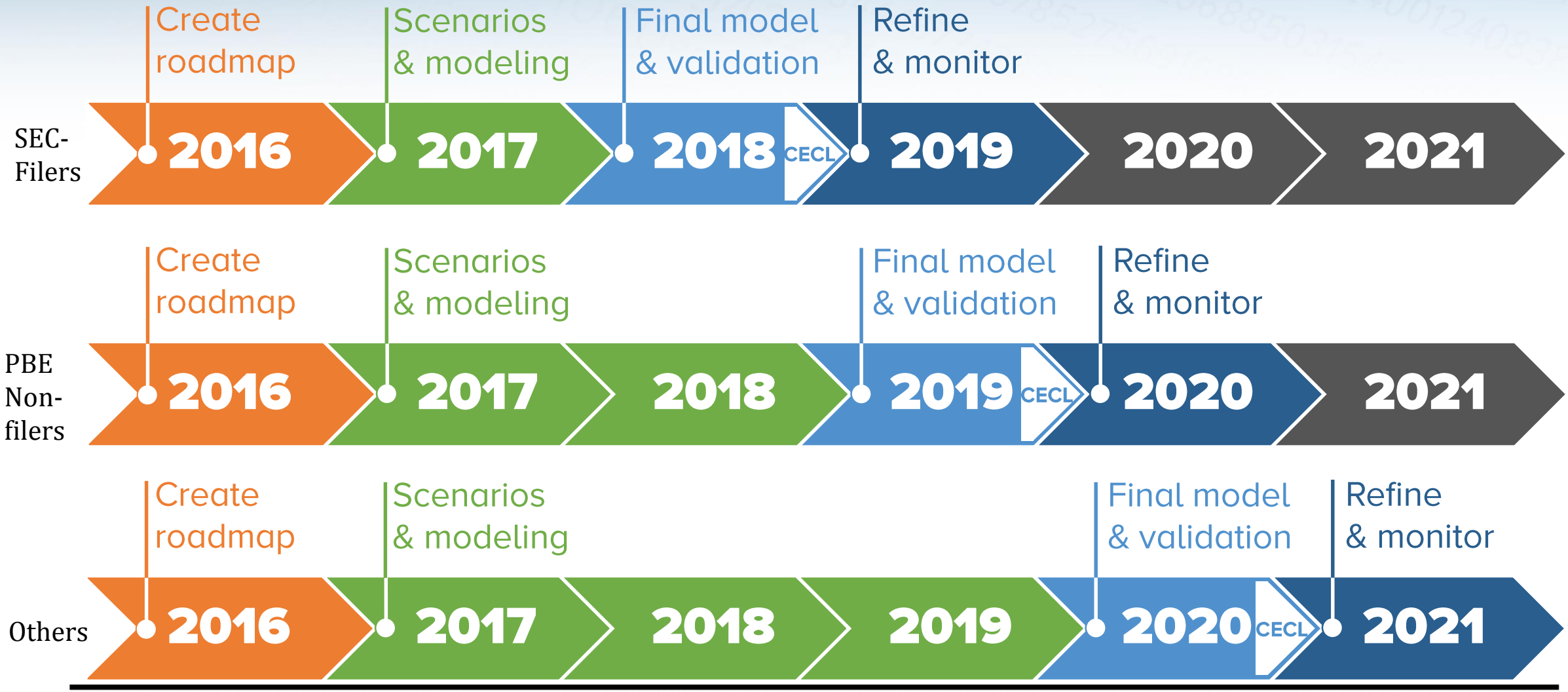
Update: Feb. 4 FASB Industry Roundtable.

- ABA participants were critical of the “life of loan” concept
- FASB Board members emphasized ability of bankers to use their judgment, and bankers expressed concern over the documentation to support those judgments that auditors and regulators will be looking for
- Participants voiced a need for more definitions and better examples

Forming Your Implementation Committee.

- Forming your committee:
  - » Look at how the allowance calculation flows through your institution and how many business areas touch it
  - » Strive for senior level representation across all departments
- Define the roles of the committee
  - » Set initial objectives and timelines
  - » Determine responsibilities and scope out resource requirements
  - » Provide regular updates to senior management and board
- Create project plan
  - » Document your roadmap as well as possible
  - » Meet regularly, as defined by the plan

CECL Implementation Example Timelines.

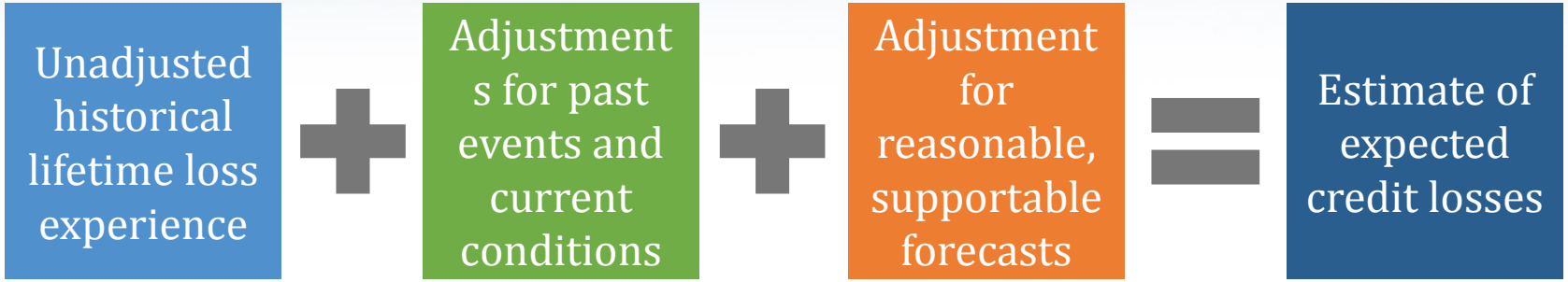


CECL Example Timelines
Addition to Current ALLL.

Others - (Dec. 15, 2020 Implementation)

Measurement of ECL.

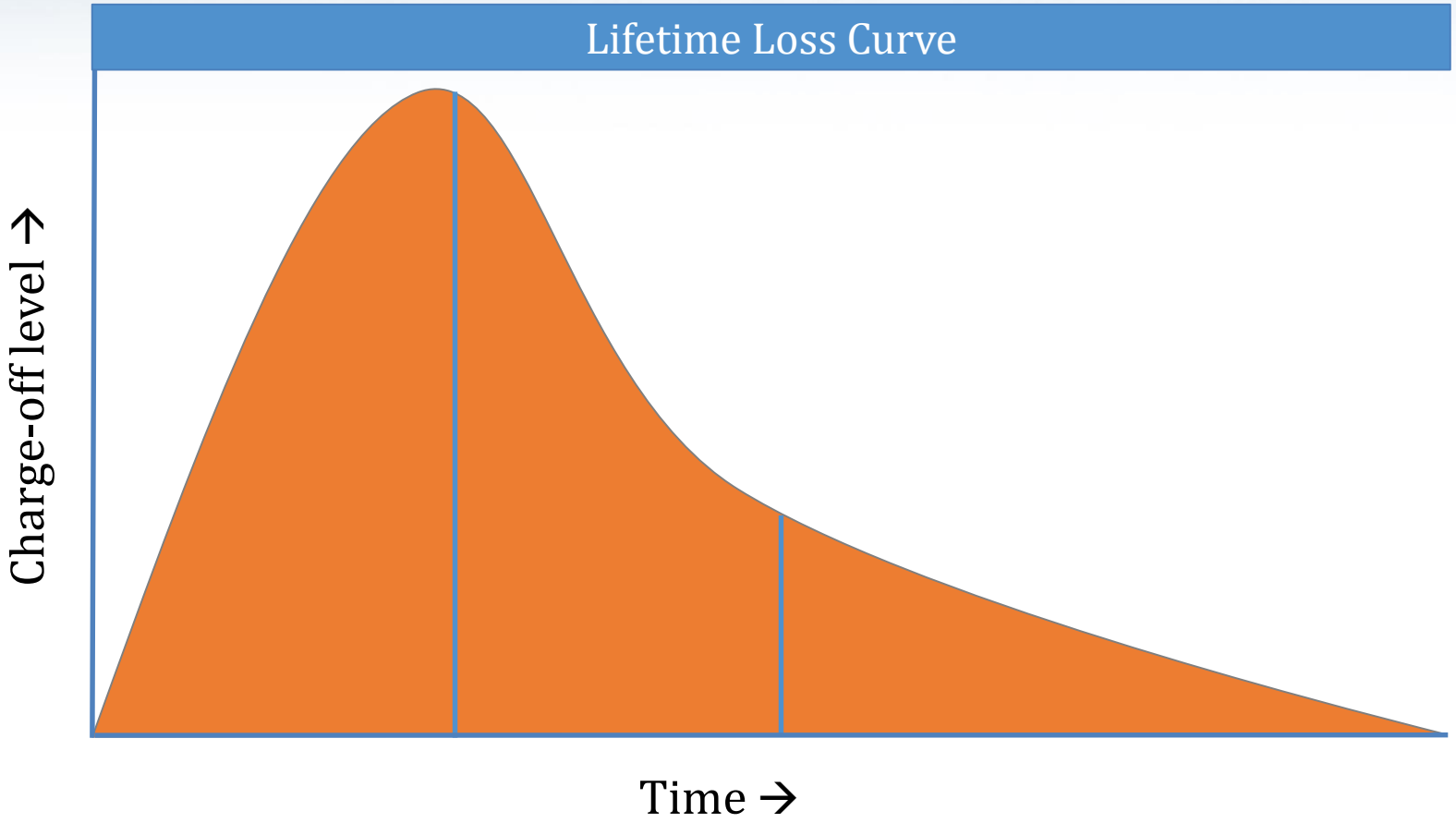
As outlined by the Federal Reserve in their October webinar on CECL.



- Choice of methods include:
  - Loss-rate methods
  - PD/LGD
  - Migration analysis
  - Vintage analysis
- **Any reasonable approach or approaches may be used – guidance is not prescriptive.**

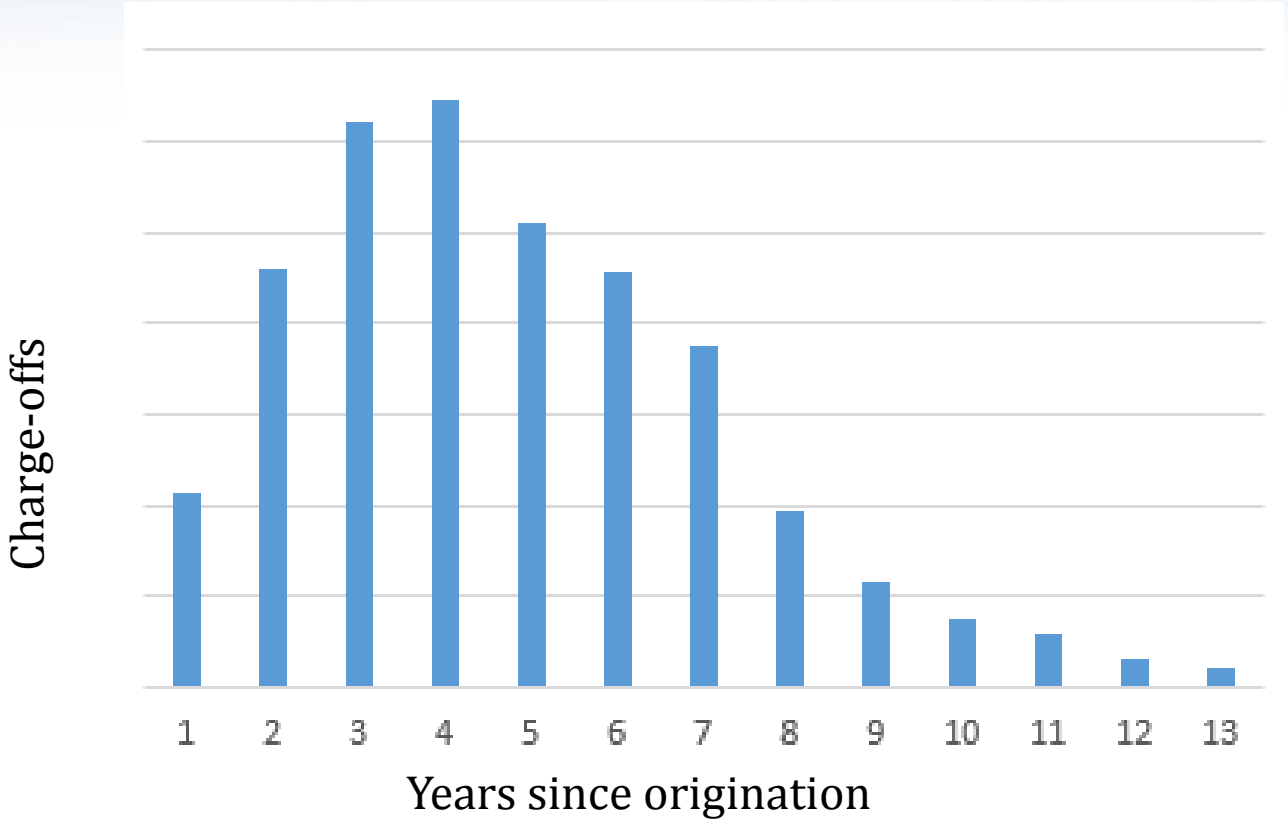
Source: "Loss Data, Data Analysis, and the Current Expected Credit Loss (CECL) Model", Fed Perspectives Webinar, 10/30/15

Forecasting Expected Credit Losses.



Note: for this presentation, we are focusing on amortizing loans.

Importance of Planning and Scenario Building.



Based on Sageworks financial institution data

Poll.

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Vintage Analysis Example #1.

Installment loans

Please note that the following examples are a work in progress and are for illustrative purposes only.

Vintage Example #1: Installment Loans.

- Assumptions
  - » $1 million in new-loan originations per year
  - » 5-year principal payback, equal amounts per year
  - » 5-year life of loans
  - » No prepayments
  - » 1% life of loan losses expected
  - » Predictable loss curve
  - » It takes six months for an impaired loan to be resolved
  - » For simplicity sake, loans are made on the first day of the year and payments happen on December 31

Loan Portfolio Overview.

- Loan portfolio stabilizes at $2 million in 2018 when collections and charge-offs match originations

Origination Year	Expected Loss Rate	Originations	Principal Collections									
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2015	1.00%	$1,000,000	198,667	196,000	197,333	198,667	199,333	-	-	-	-	-
2016	1.00%	$1,000,000	-	198,667	196,000	197,333	198,667	199,333	-	-	-	-
2017	1.00%	$1,000,000	-	-	198,667	196,000	197,333	198,667	199,333	-	-	-
2018	1.00%	$1,000,000	-	-	-	198,667	196,000	197,333	198,667	199,333	-	-
2019	1.00%	$1,000,000	-	-	-	-	198,667	196,000	197,333	198,667	199,333	-
2020	1.00%	$1,000,000	-	-	-	-	-	198,667	196,000	197,333	198,667	199,333
2021	1.00%	$1,000,000	-	-	-	-	-	-	198,667	196,000	197,333	198,667
2022	1.00%	$1,000,000	-	-	-	-	-	-	-	198,667	196,000	197,333
2023	1.00%	$1,000,000	-	-	-	-	-	-	-	-	198,667	196,000
2024	1.00%	$1,000,000	-	-	-	-	-	-	-	-	-	198,667
2025	1.00%	$1,000,000	-	-	-	-	-	-	-	-	-	-
2026	1.00%	$1,000,000	-	-	-	-	-	-	-	-	-	-
Totals		$12,000,000	$198,667	$394,667	$592,000	$790,667	$990,000	$990,000	$990,000	$990,000	$990,000	$990,000
Loan Balance		$ -	$ 800,000	$1,400,000	$1,800,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000

Charge-Offs by Year.

Origination Year	*Charge-Offs by Origination Year ($)*										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
2015	1,333	4,000	2,667	1,333	667	-	-	-	-	-	10,000
2016		1,333	4,000	2,667	1,333	667	-	-	-	-	10,000
2017			1,333	4,000	2,667	1,333	667	-	-	-	10,000
2018				1,333	4,000	2,667	1,333	667	-	-	10,000
2019					1,333	4,000	2,667	1,333	667	-	10,000
2020						1,333	4,000	2,667	1,333	667	10,000
2021							1,333	4,000	2,667	1,333	10,000
2022								1,333	4,000	2,667	10,000
2023									1,333	4,000	10,000
2024										1,333	10,000
2025											10,000
2026											10,000
Totals	$1,333	$5,333	$8,000	$9,333	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$120,000

Computing the ALLL Using Vintage Analysis.

- The ALLL equals the expected total losses, less losses recognized to date
- The ALLL stabilizes at 0.8% in 2018
- Notice there are no extra reserves for impaired loans

Year	Cumulative Expected Losses	Cumulative Losses To Date	Remaining Losses (ALLL)	Remaining Loan Balance	Reserve %
2015	10,000	1,333	8,667	800,000	1.08%
2016	20,000	6,667	13,333	1,400,000	0.95%
2017	30,000	14,667	15,333	1,800,000	0.85%
2018	40,000	24,000	16,000	2,000,000	0.80%
2019	50,000	34,000	16,000	2,000,000	0.80%
2020	60,000	44,000	16,000	2,000,000	0.80%
2021	70,000	54,000	16,000	2,000,000	0.80%
2022	80,000	64,000	16,000	2,000,000	0.80%
2023	90,000	74,000	16,000	2,000,000	0.80%
2024	100,000	84,000	16,000	2,000,000	0.80%
2025	110,000	94,000	16,000	2,000,000	0.80%
2026	120,000	104,000	16,000	2,000,000	0.80%

ALLL Calculation Using Current Methods: Installment Loans.

- Start by computing annual historical charge-off rates
- Assume the financial institution is using a 3-year rolling average for the ALLL computation
- Again the historical loss rates stabilize in 2018 at about 0.4%
- Under CECL, ALLL stabilized at 0.8% in 2018
- At first glance, we might conclude that CECL requires a 100% increase in reserves
- Too many discussions stop here and ignore the necessary reserves for impaired loans

	2015	2016	2017	2018	2019
Loan Balance at Year End	$ 800,000	$1,400,000	$1,800,000	$2,000,000	$2,000,000
Charge-off's	$ 1,333	$ 5,333	$ 8,000	$ 9,333	$ 10,000
Historical Loss Rate	0.15%	0.33%	0.38%	0.39%	0.40%

Impaired Loans: The Rest of the Story.

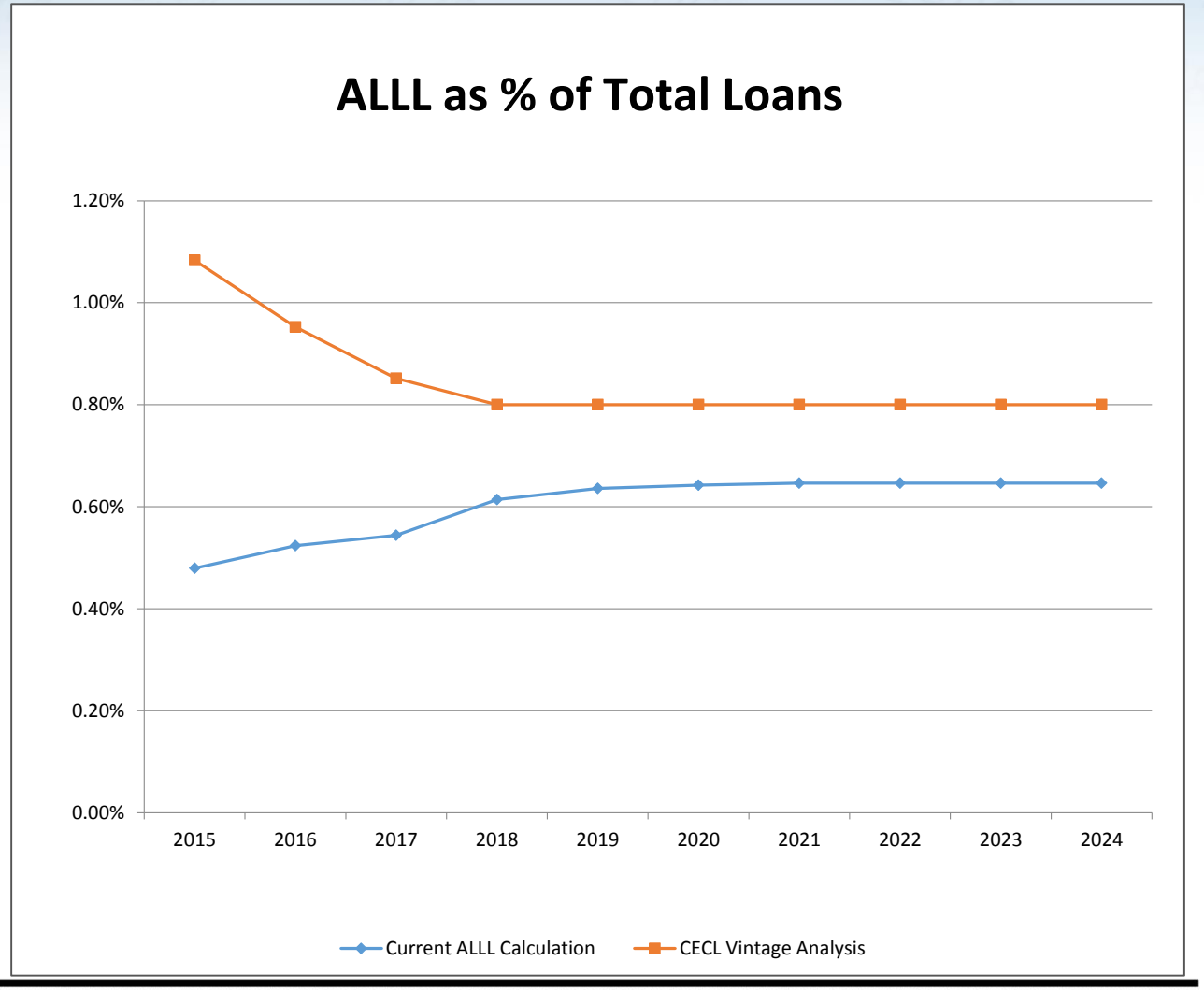
- We are assuming that bad loans take 6 months to resolve
- Therefore, at year-end, the financial institution needs reserves for impaired loans equal to 50% of next year's charge-offs
- We are assuming that the loss rate for impaired loans is 25%
- The additional reserves under CECL are 15 basis points higher than under the current method

Current ALLL Calculation

	2015	2016	2017	2018	2019	2020	2021
Loan Balance at Year End	$ 800,000	$1,400,000	$1,800,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Less: Impaired Loans (ASC 310 Loans)	(10,667)	(16,000)	(18,667)	(20,000)	(20,000)	(20,000)	(20,000)
Performing Loan Portfolio (ASC 450 Loans)	$ 789,333	$1,384,000	$1,781,333	$1,980,000	$1,980,000	$1,980,000	$1,980,000
3 Year Average Historical Loss Rate	0.15%	0.24%	0.29%	0.37%	0.39%	0.40%	0.40%
ASC 450 (FAS 5) Reserves	$ 1,169	$ 3,332	$ 5,121	$ 7,281	$ 7,721	$ 7,847	$ 7,920
Reserves on Impaired Loans	2,667	4,000	4,667	5,000	5,000	5,000	5,000
Total Reserves	$ 3,836	$ 7,332	$ 9,788	$ 12,281	$ 12,721	$ 12,847	$ 12,920
ALLL as % of Total Loans	**0.48%**	**0.52%**	**0.54%**	**0.61%**	**0.64%**	**0.64%**	**0.65%**

Impact of CECL – Installment Loans Example.

- On this $2 million installment loan portfolio, the impact to capital is approximately $4,000 when CECL is implemented



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Please select an option

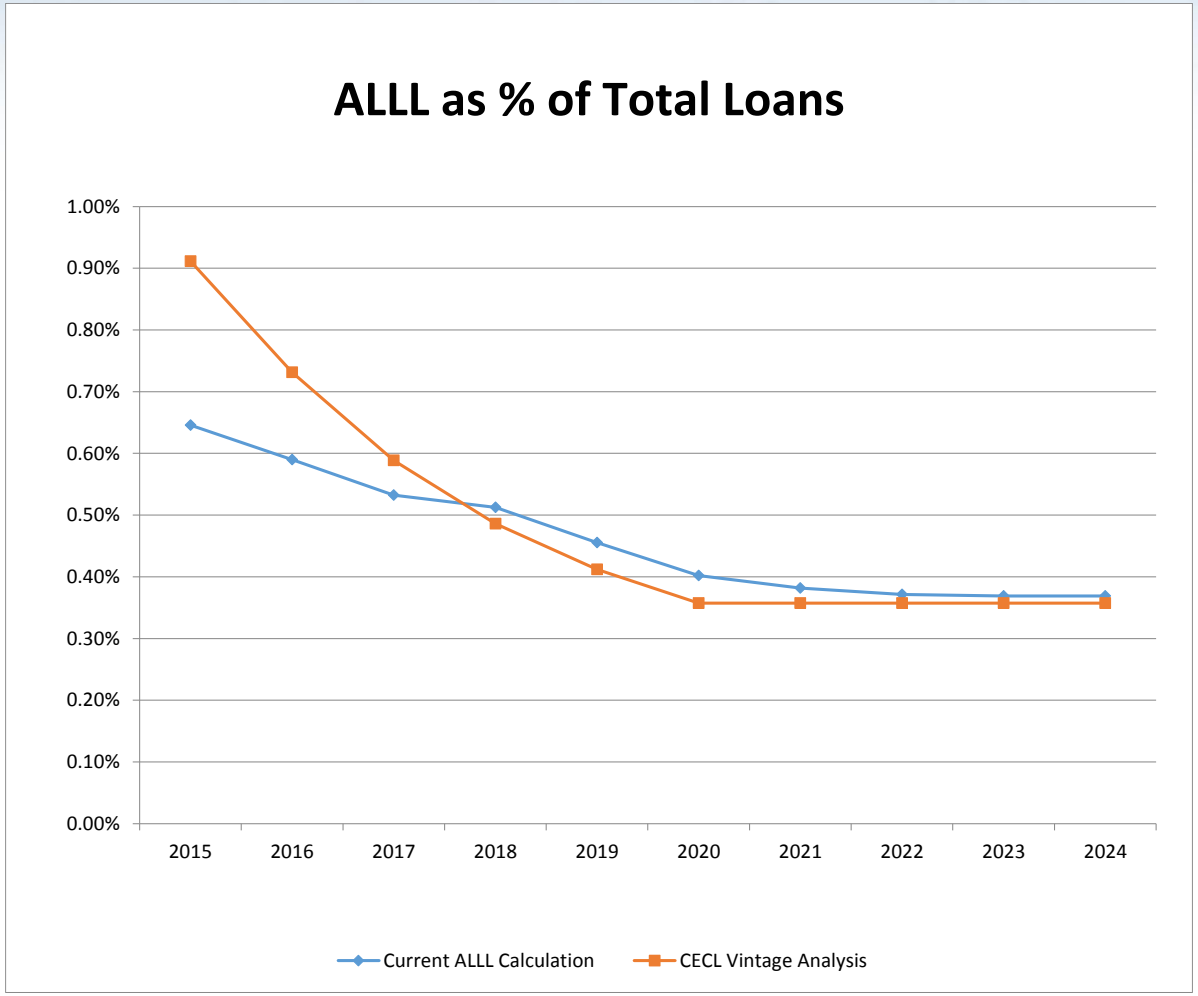
Vintage Analysis Example #2.

Real estate loans

Vintage Example #2: Real Estate Loans.

- Assumptions
  - » $1 million in new loan originations per year
  - » 25-year amortization
  - » 7-year life of loans
  - » 1% losses expected over the life of the loan
  - » Similar loss curve to installment loans
  - » It takes one year for an impaired loan to be resolved

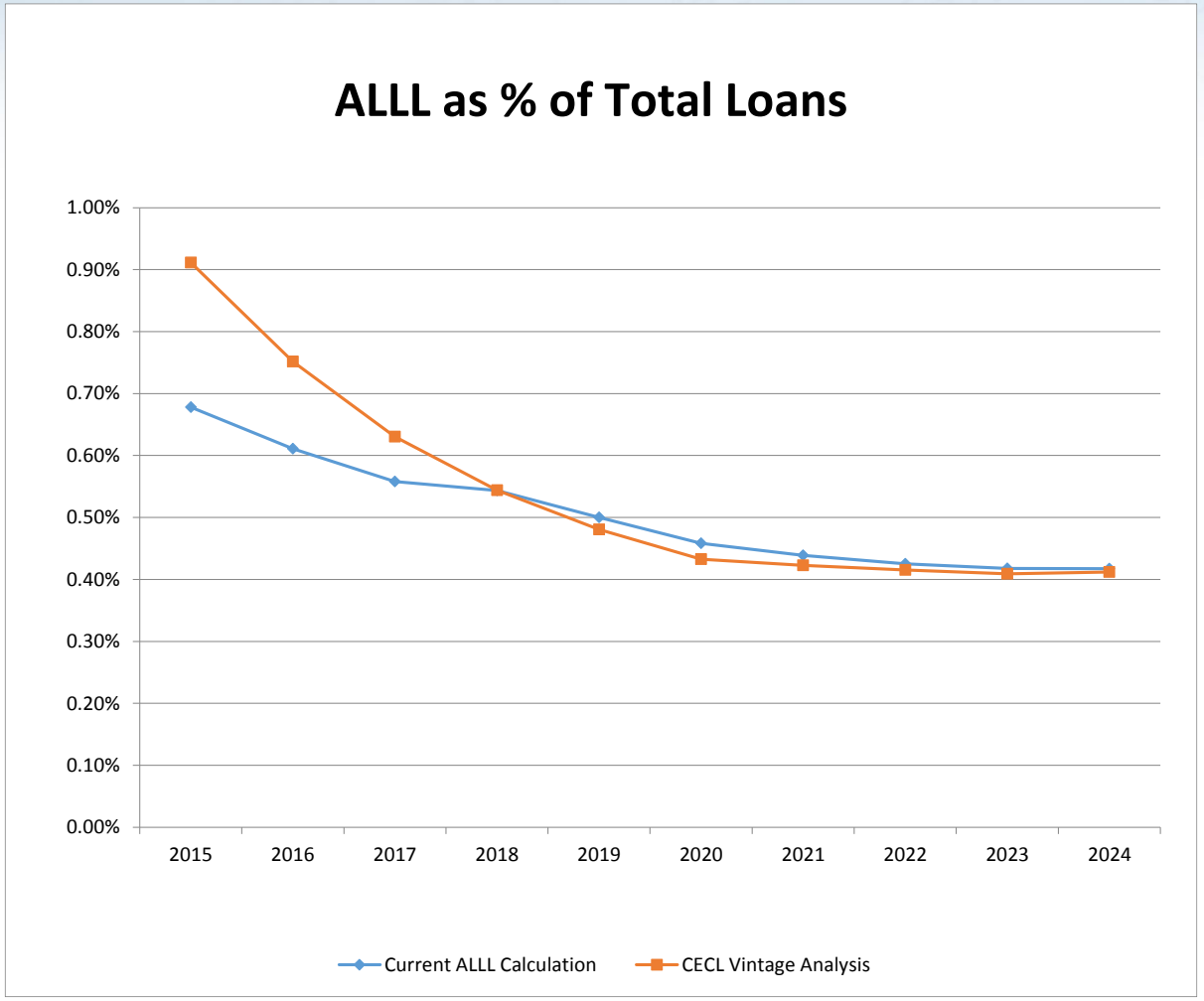
Little Difference Once Portfolios Are Stable.



Vintage Analysis Example #3.

Real estate loan originations: $250,000 growth per year

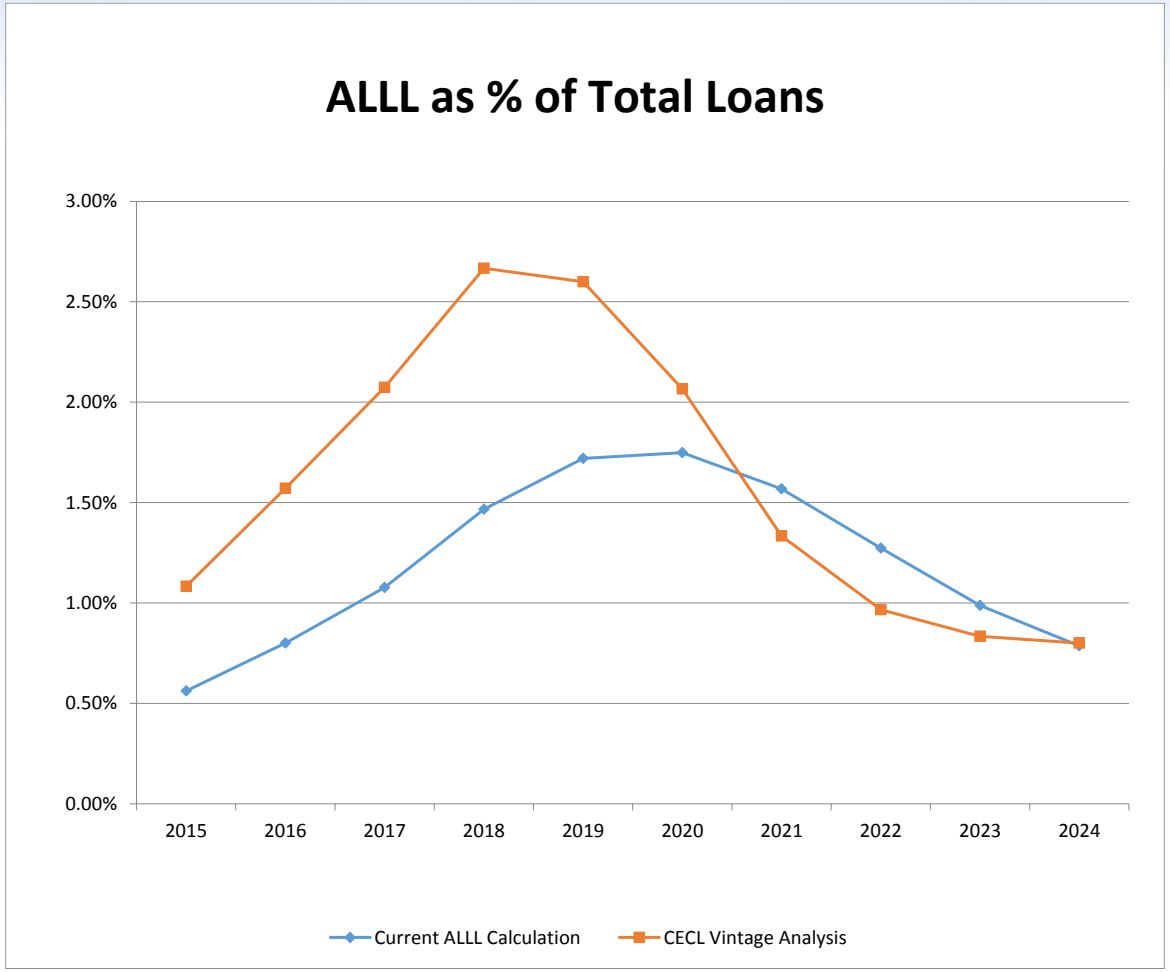
In Growth Scenario, CECL has Little Impact.



Vintage Analysis Example #4.

Deteriorating credit quality

Deteriorating Credit Quality Scenario Example.



Auditor Concerns.

- Reasonable and supportable forecast
  - » Time period the forecast covers
  - » Documenting forecast assumptions
- Documenting the economic cycle
  - » Cycle term
  - » Current point on the cycle
- Evaluating assumptions
  - » What is the definition of a default?
  - » Is the financial institution's probability of default reasonable?
  - » Is the financial institution's loss given default assumption reasonable?
- Proper use of industry data (when allowed)
  - » Everyone thinks they are above average
  - » Applying national data to a regional/local portfolio

Poll.

Please select an option

2016 Risk Management Summit.

- Topics include:
  - » CECL
  - » Current ALLL best practices
  - » Stress Testing

- Speakers from CliftonLarsonAllen, Grant Thornton, Sageworks and more

- sageworks.com/summit

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Q&A, Contact Information.

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Additional Resources.

- CLAconnect.com – Learn more about CliftonLarsonAllen
- Sageworksanalyst.com – Learn about Sageworks risk management suite
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- ALLL Forum for Bankers – LinkedIn group for ALLL news & discussion
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  - » CECL Prep: Data – A Summary of potential data requirements and info for evaluating for data adequacy
- Interested in seeing how Sageworks ALLL can help?
  - » Email us: sales@sageworks.com

Endnotes.

- Federal Reserve Bank of St Louis, (2015). Current Expected Credit Loss (CECL) Model: Answers to Your Questions. *Quarterly Conversations, Live from Eagle Bank and Trust Little Rock, AR.* Retrieved from: https://bsr.stlouisfed.org/conversations/includes/resources/November%202015%20Quarterly%20Conversations%20(CECL)_FINAL.pdf
- Merriett, S., Wakim, J., Satwah, S., (2015). An overview of the current Expected Credit Loss Model (CECL) and Supervisory Expectations. *Fed Perspectives.* Retrieved from: https://bsr.stlouisfed.org/perspectives/
- Stackhouse, J., Sherrer, L., Ciluffo, S., (2015). Current Expected Credit Loss (CECL) Model: Answers to Your Questions. *Fed Quarterly Conversations.* Retrieved from: https://bsr.stlouisfed.org/conversations/

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