TALES FROM THE FRONTLINE OF CECL IMPLEMENTATION - PART 1

LEARNING LESSONS FROM CECL IMPLEMENTATIONS

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CECL COUNTDOWN SERIES

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INTRODUCTION

CECL is now a reality for all banks and credit unions in the United States. Whether those institutions are designing, building, or testing ECL systems or deciding between competing third-party providers, the January 1 deadline looms large.

Most accounting standards apply equally to banks and credit unions, both in terms of process and economic impact. CECL differs from this paradigm by allowing choices in ECL methodology that require varying levels of complexity in terms of setup and very different outcomes in terms of final loss provision. The net effect is that financial institutions need to decide on the sweat investment now versus the competitive advantage later.

This series of articles and opinions are designed to demystify some of these complexities, covering best practices in methodology selection, pooling, and application of Q-factors. The design and build of the systems themselves are covered, allowing FIs to think about how to approach CECL as a project rather than an accounting standard.

We hope these are useful to you wherever you are on the road to CECL, and we encourage you to visit CECLExpress.com for further insights and resources curated with the express intention of helping firms enjoy an easy transition.

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Chapter 1

WHAT IS CECL AND WHY WAS IT CREATED?

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What is CECL?

Current Expected Credit Losses (CECL), issued by the Financial Accounting Standards Board (FASB), is a new methodology for calculating allowances for credit losses. It came into existence on June 16, 2016, and was formulated primarily to replace the Allowance for Loan and Lease Losses (ALLL) accounting standard.

The need to replace the Allowance for Loan and Lease Losses

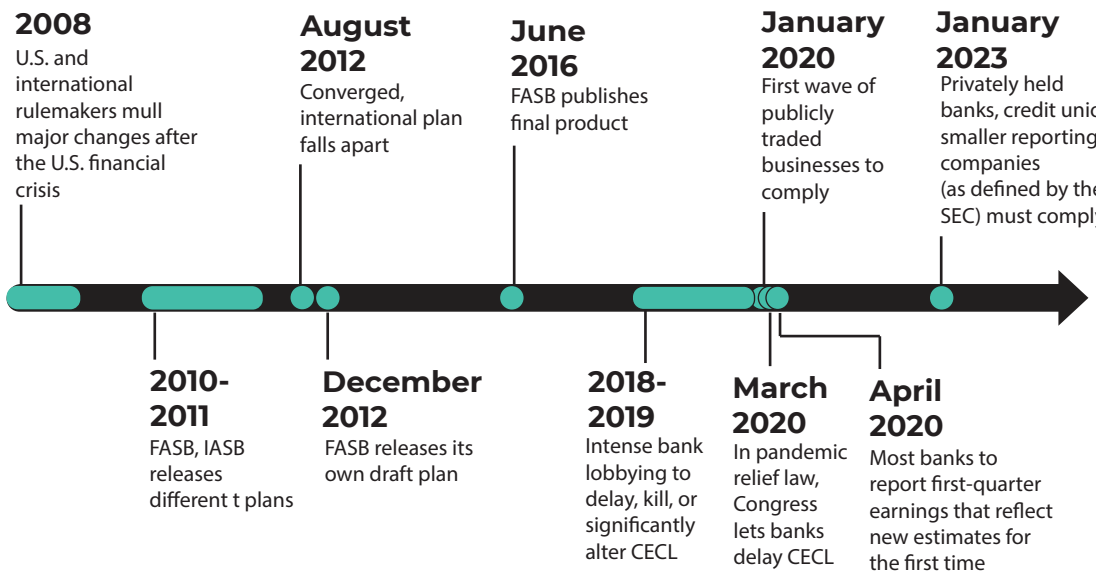
Every financial institution, including banks, encounters credit risk within its assets. In relation to this, ALLL is calculated as a reserve that these institutions need to establish. ALLL estimation posed its own set of challenges for financial institutions, including the significant amount of time taken for the reserve estimation process. Eventually, the FASB announced its plans to modify the manner in which banks account for impairment of assets by introducing the CECL model. CECL requires that companies include predictive, and forward-looking information while calculating their reserve for bad debts. As opposed to incurred losses, CECL requires an estimation of expected losses over the remaining life of loans.

THE 2007-2008 FINANCIAL CRISIS AND CREDIT LOSS ESTIMATION

The financial crisis of 2007-2008 demonstrated the inadequacy of existing methods, for adjustment of reserve levels of financial institutions when considering expectations of future market conditions. ALLL only relied on losses that were already incurred and did not factor in future cash flows that would end up uncollected. This resulted in disastrous errors in the adjustment of reserves for future expected losses. By mandating CECL, FASB hopes to improve the financial reporting of financial institutions through the estimation of future credit losses on various financial instruments and loans held by these institutions.

The Rollout of CECL

The long, winding road to the biggest ever change to bank accounting - the Current Expected Credit Losses (or CECL) standard.



How does CECL impact the banking industry?

Banks need to strategize and prepare for CECL implementation as soon as possible in order to meet critical deadlines. In 2020, at the onset of the pandemic, banks made changes to their financial reporting, specifically on how they account for loan losses. Several aspects of a bank's operations, including risk, accounting and finance, and IT, will be impacted by the CECL standards. Impairment estimates, data management, technology, governance, and capital ratios are other areas where the banking industry would need to consider CECL.

Although early indicators are positive, it remains to be seen if the CECL accounting standard has resulted in a better insight into lending practices within the bank industry. FASB is constantly on the lookout for any changes to the standard that will make it more effective. They want the banking industry to cover future losses by setting aside reserves when these losses become more likely, and not waiting until they are in a cash-strapped situation following a systemic default event. The pandemic saw CECL in action when some of the biggest consumer banks in the US set aside nearly $18 billion in reserves as businesses shut down. These banks saw their net income and earnings per share shrink, despite not having incurred losses yet. In late 2020, as COVID-19 cases stabilized and there were signs of economic recovery, banks released some of their reserves, which stabilized earnings.

However inconvenient the adjustment of reserves maybe for the banking industry, government intervention in the form of CECL has actually proved to be a blessing in disguise. It can be likened to resurfacing from a storm shelter after a hurricane and watching the clouds clear away.

Chapter 2

THE IMPACT OF CECL AND REVISED DATES PROPOSED BY THE FASB FOR SMALL BANKS TO IMPLEMENT IT

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THE FINANCIAL CRISIS AND BIRTH OF CECL

The 2007-2008 financial crisis triggered a cascade of credit losses for banks. It showed just how inadequate the longstanding method of Allowance for Loan and Lease Losses (ALLL) was for the adjustment of reserve levels of financial institutions. Taking note, on June 16, 2016, the Financial Accounting Standards Board (FASB) formulated Current Expected Credit Loss (CECL) to replace the ALLL standard. The CECL standard brought along with it a forward-looking component to anticipate the recognition of losses in a timely manner.

CECL and its impact on the banking industry

The impact CECL will have on the banking industry cannot be stressed enough. Some of these impacts are:

- The way loss modeling is calculated will change with CECL.
- CECL will decrease the profitability of some products and business lines.
- CECL will require financial institutions to make changes across credit risk modeling, capital levels, and risk tolerance.
- These institutions may also need to change their portfolio mix and business strategies.
- Data collection and modeling methodology will be impacted. Loss modeling will now consider a forward-looking component for the life of the loan, along with the current backward-looking component.
- The banking industry will need to pay heed to the impact of CECL during a financial crisis.
- With an increase in allowances, product pricing would change to mirror higher capital costs.

Delay in the effective date for the CECL standard for small banks

- On July 17, 2019, FASB came up with a proposal to push back the effective date of CECL. These new dates will apply to smaller reporting companies.
- The board's objective in offering additional time was to give relief to entities such as small banks that have limited resources and allow them more time to learn from and adapt to the implementation efforts of larger banks.
- Under the proposal, small community banks and credit unions must implement CECL by January 1, 2023.
- FASB also noted that due to their limited capacity to access technology and resources some smaller companies encountered more pronounced challenges and costs as they transitioned to an accounting standard.

CECL Effective Dates	Proposed	Current
SEC filers (except Smaller Reporting Cos)	2020	2020
Smaller Reporting Companies*	2023	2020
All Other Public Business Entities	2023	2021
Private Banks, Credit Unions	2023	2022

*as defined by SEC:

-A public float of less than $250 million or

-Annual revenue less than $100 million and: no public float or public float of less than $700 million

Source: FASB

The US Federal Reserve's Scaled CECL Allowance for Losses Estimator (SCALE)

- The Scaled CECL Allowance for Losses Estimator (SCALE) was released by the US Federal Reserve in July 2021, to help small community banks implement CECL. These are banks whose total assets are under $1 billion.

- Publicly available regulatory and industry peer data is used by this spreadsheet-based tool to help small banks calculate allowances for credit losses that are CECL compliant.

- Starting with this tool, the bank management will need to adjust the amount to show their loss history and credit risk.

Chapter 3

AN OVERVIEW OF THE 5 MAIN MODELS THAT ARE RECOMMENDED FOR CECL

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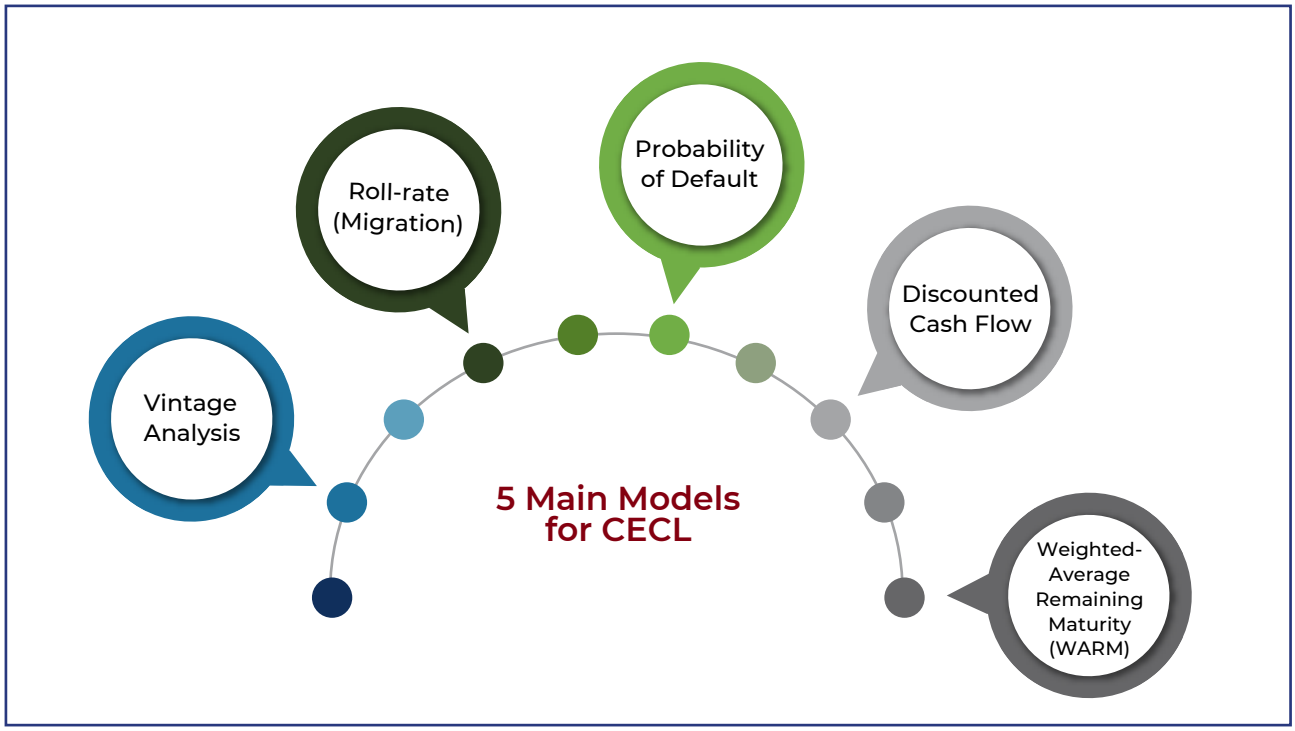
THE CECL METHODOLOGIES

The Current Expected Credit Losses (CECL) methodologyfor estimating allowances for credit losses came into existence on June 16, 2016, and was issued by the Financial Accounting Standards Board (FASB). CECL replaced the Allowance for Loan and Lease Losses (ALLL) accounting standard. ALLL relied on losses that were incurred but did not factor in future cash flows that would end up uncollected. The 2007-2008 financial crisis demonstrated the inadequacy of existing methods for setting reserve levels that reflected expectations of future market conditions.

The CECL standard will incorporate a change to the allowance methodology by asking financial institutions to move to an expected credit loss model, which is a lifetime estimate. Financial institutions such as banks will have to make this shift from the longstanding incurred loss model. This shift will force these institutions to develop estimates that are forward-looking in nature.

Entities will also need to consider being subject to internal control audits as they plan their shift to CECL. FASB did not include absolute limitations on the methods and models institutions could use when implementing CECL. Several models have risen in popularity within financial institutions, to estimate expected credit losses. Different models can be used for different asset types. The data collection and storage processes, needed to implement CECL, will undergo fundamental changes.

Below, we provide an overview of some of the main models that are used as part of CECL



Source: FASB

- **Discounted Cash Flow Analysis:**

Under CECL, there is a change to the Discounted Cash Flow Analysis method with a requirement to consider at least some risk of loss and removal of the best estimate notion. This method now incorporates relevant external factors that indicate a credit loss that is expected. Consequently, new data may have to be sourced, especially for individual assets, to support the cash flow expectations.

- **Vintage Analysis:**

Vintage analysis draws its data from loss curves. Loss curves incorporate expectations of losses at every point in the life of a financial asset. The main change to the vintage analysis method under CECL is that the allowance will be reflected in the remaining area under the loss curve (which is the expected credit losses on the remaining life of an asset) instead of being reflected by a single point on the loss curve.

- **Roll-rate Method (Migration Analysis):**

Roll-rate models based on risk ratings require regular and timely updates to credit risk ratings for all assets. As part of the roll-rate method, a financial institution will have to ascertain the primary attributes that predict loss most appropriately. Various economic cycles are reflected by assembling default or loss migrations. To improve precision, limitations on time series length, population sizes, and data integrity may need to be combined with judgments, and additionally calibrated over time.

- **Probability-of-default method:**

Institutions opting for a probability-of-default will have to check the reliability and accessibility of historical data sets. These data sets may be used to build the cumulative default probabilities and loss given default. A standard definition of default and paths to default that could occur within a product line will need to be assessed by the institution. To supplement the institution's own experience, various industry sources of data could be utilized to evaluate the probabilities of default over different economic cycles.

- **Weighted-Average Remaining Maturity method:**

One of the newest methods, the Weighted-Average Remaining Maturity (WARM) method, is a practical methodology to implement CECL. For institutions with less loan-level data, the WARM method is a good option. Institutions are able to use aggregated data from call reports since the WARM method uses an average annual charge-off rate.

Financial institutions can choose from these methods to comply with the CECL model. With adequate planning, they can develop their sources of data and subject their planned approach to relevant tests. This will ensure they calculate their losses and plan in advance to mitigate them.

Chapter 4

A DEEP DIVE ON VINTAGE AND ROLL-RATE METHODS

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ESTIMATING CECL USING VINTAGE AND ROLL-RATE METHODS

Post the 2007-2008 financial crisis, the Allowance for Loan and Lease Losses (ALLL) method proved inadequate for the adjustment of reserve levels of financial institutions. It caused a massive wave of credit losses for banks. To rectify this situation, on June 16, 2016, the Financial Accounting Standards Board (FASB) formulated the Current Expected Credit Loss (CECL) to replace the ALLL standard. The CECL standard was designed to anticipate, and reserve against losses in a timely manner.

Under the CECL umbrella, the Vintage and the Roll-rate methods give us some of the best estimates when determining the expected credit loss model. Both these methods are detailed below:

Vintage Analysis: Vintage analysis draws its data from loss curves. Loss curves incorporate expectations of losses at every point in the life of a financial asset. The main change to the vintage analysis method under CECL is that the allowance will be reflected by the remaining area under the loss curve (which is the expected credit losses on the remaining life of the asset) instead of being reflected by a point on the loss curve.

The Vintage Methodology measures the expected loss calculation for future periods based on historical performance of loans with similar risk characteristics and life cycles. For this methodology, it is preferable to consider similar loans that follow comparable loss curves.

Under CECL, the Vintage Methodology measures the expected loss calculation for future periods. This is based on historical performance by the origination period of loans with similar life cycles and risk characteristics. It is advantageous to pool similar loans. These loans create loss experience curves that can be seen predictive for future periods. To execute Vintage Methodology, some data elements must be included. Some of them are loan balance, loan number, maturity date, balance at origination, and renewal date. Implementation would include:

- Beginning with historical loss rates for each vintage.
- Analyzing the trends in recent vintage loss rates.
- Filling in the loss rates for future periods based upon historical trends.
- Considering changes to present conditions, and reasonable and supportable forecast periods.
- Separating adjustment factors that may be required for each vintage depending on the differences in their makeup.
- Depending on forecasted conditions, these adjustments could either be negative or positive.

When it is noticed that future years are no longer forecastable, it is advised to go back to adjusted historical averages. Adjustment or Qualitative (Q) factors need to be re-evaluated as economic landscapes shift.

Isolate and then apply the expected loss rates determined from the historical loss rates to the balance of each vintage pool as of the reporting date, to determine the Allowance for Credit Losses (ACL). The totals for each vintage are added to find out the current expected loss.

Credit portfolios, indirect auto loans, and other consumer loans work well with the Vintage model.

	Vintage	Roll Rate
Historical Calculations	Simple	Complex
Data Requirements	Limited	Robust
Use of Advanced Statistical Methods	Optional	No
Management Adjustments	Detail-level, Transparent	Detail-level, Lengthy
Insight & Control	Moderate	Moderate-High
Early Model Performance Indicators	Delayed	Yes
Loan-level Factors Considered	Segment-level forecasts can consider credit mix	Beginning loan status
Macroeconomic Factors Considered	Optionally yes	Optionally yes

Source: Riskspan

Roll-rate Method (Migration Analysis): Roll-rate models based on risk ratings require regular and timely updates to credit risk ratings for all assets. Consequently, this model might not be the best predictive measure. With this method a financial institution will need to ascertain the primary attributes that predict loss most appropriately.

Various economic cycles are reflected by assembling default or loss migrations. These default migrations are tested through those cycles to assess the reliability of the model. To improve precision, limitations on time series length, population sizes, and data integrity may need to be combined with judgments and additionally calibrated over time.

Institutions will take time to make these final determinations before opting to implement such a methodology. Below are the several pros and cons to be considered before banks and financial institutions consider the Roll-rate method for implementing CECL.

Pros:

- Estimation based on this method is more accurate. This is done through granular analysis since an individual account's loan tracking is done over a period of time to assess its performance.

- Roll-rate method considers macroeconomic conditions or defaults while accommodating expected changes to transition rates.

- When used with a separate probability of default method, the roll rate method generates a joint probability of loan migration from one bucket to another.

Cons:

- Since the movement of segments over time is modelled at a granular level, a large quantity of data is required.

- The Roll-rate method's performance is vastly impacted by the starting point of analysis.

- Beyond the near term, it is found that this method has weak predictive power.

Chapter 5

DEEP DIVE INTO WARM AND DISCOUNTED CASHFLOW METHODS

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CECL THROUGH WEIGHTED-AVERAGE REMAINING MATURITY METHOD AND DISCOUNTED CASH FLOW ANALYSIS

The Current Expected Credit Losses (CECL) standard was issued by the Financial Accounting Standards Board (FASB) on June 16, 2016. The CECL methodology replaced the longstanding Allowance for Loan and Lease Losses (ALLL) accounting standard for computing allowances for credit losses on a timely basis. In this article, we focus on the two CECL methods - the Weighted-Average Remaining Maturity method and the Discounted Cash Flow Analysis. We evaluate their unique strengths and limitations and the financial institutions they are best suited to.

Weighted Average Remaining Maturity method: One of the newest methods, the Weighted-Average Remaining Maturity (WARM) method, is best suited for institutions with less loan-level data. Institutions are able to use aggregated data from call reports since the WARM method uses an average annual charge-off rate. The WARM method is forward-looking. It requires less data when compared to other methodologies. This benefits institutions that use pool-level data as they lack the availability of granular loan-level data.

As mentioned, in order to estimate the allowance for credit losses (ACL), the WARM method uses average annual charge-off rates along with remaining asset lives. Institutions have to estimate an annual charge-off rate for every pool of assets that have a similar risk. This calculation can be compared to the historical loss calculations being utilized currently by many institutions. The historical loss period that is used needs to be representative of the financial institution's most-suited business cycle for every pool of assets.

The WARM method then calculates the unadjusted historical charge-off rate, by multiplying the historical loss rate with the weighted average remaining life of the assets. After adjusting the unadjusted historical charge-off rate for the remaining balance with qualitative factors, the result is applied to the period ending balance to arrive at the required ACL.

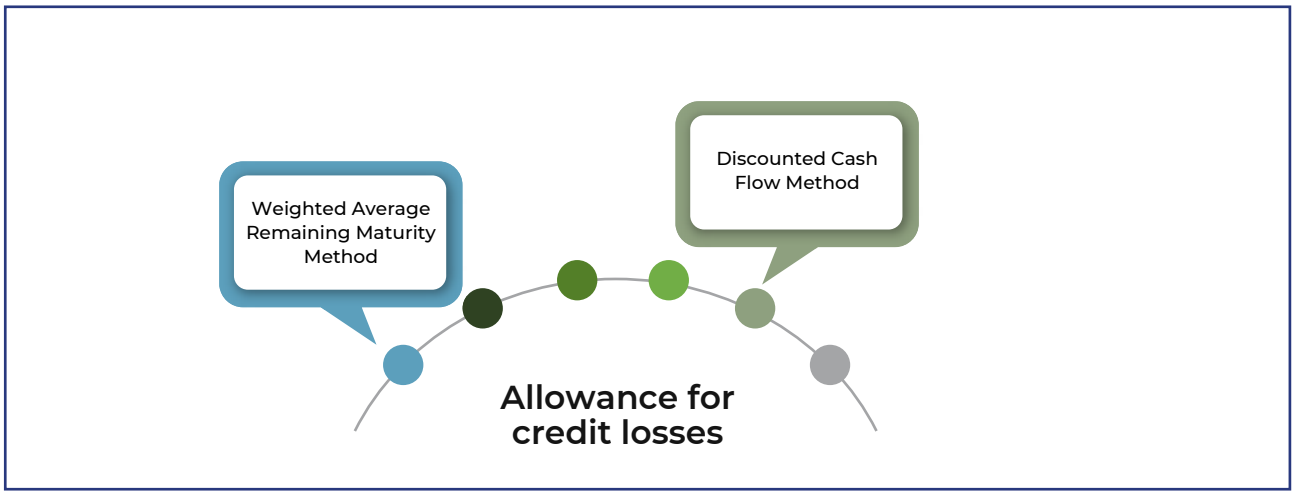
This model takes into account projected prepayments to incorporate the expected average life of each pool of loans. This is the primary difference between the WARM method and the traditional ALLL model. The institutions have been advised by regulators to calculate estimated pay down rates after looking at their asset/liability management programs and external data.

Institutions with evenly distributed loss rates may find this method ideal. In order to support the WARM method, institutions with complex portfolios would need to be more reliant on qualitative factors and forecasts. They also need to ensure that all qualitative adjustments and forecasts are reasonable and can be supported. Regulators, though, opine that the WARM model, though practical, is not essentially the preferred methodology for institutions.

The institutions and segments best-placed to take advantage of the WARM method are:

- Portfolio segments, which have data limitations that are both operational and numerical in nature

- Complex portfolios or segments that find the WARM method more applicable to them
- A financial institution with a new line of business that finds the WARM method more applicable



Source: PCBB

Discounted Cash Flow Analysis: Under CECL, there is a change to the Discounted Cash Flow Analysis method with a requirement to consider at least some risk of loss and removal of the best estimate notion. This method now incorporates relevant external factors that indicate a credit loss that is expected. Consequently, new data might have to be developed, especially for individual assets, to support the cash flow expectations.

A financial institution, while following a discounted cash flow calculation, must estimate the cash flows to be received over the life of a loan in a pool. Expected forecasts and historical data are part of the inputs required for discounted cash flow calculation. The variables required for this calculation include:

1. Payment amount
2. Maturity date or remaining term to maturity
3. Prepayment speed
4. Internal Interest Rate (IRR)
5. Loss given default rate
6. Discount rate

Considerations of the Discounted Cash Flow Analysis:

Considerable historical data and analysis may be required while trying to obtain these variables from an institution's loan system. To calculate current and forecasted changes, a financial institution can input this data directly into the model.

More computing power would be needed for institutions that want to use this methodology. This is because of the calculations that are needed to schedule out each loan's estimated cash flows and discounting those cash flows. The discounted cash flow methodology uses a number of quantitative inputs, making it one of the most precise CECL methodologies. These variables can be adjusted for current as well as forecasted conditions. Estimated future losses are discounted to present value using this method, resulting only in the smallest estimate of credit losses.

Chapter 6

AN IN-DEPTH EXAMINATION OF THE PROBABILITY-OF-DEFAULT/LOSS GIVEN DEFAULT METHOD

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OVERVIEW OF THE PROBABILITY-OF-DEFAULT/ LOSS GIVEN DEFAULT METHOD

The Financial Accounting Standards Board (FASB) is flexible when it comes to choosing the applicable methodology for implementing the Current Expected Credit Losses (CECL) standard. It can be a challenge for financial institutions to choose the right method to determine their allowances for credit losses as some of these seem overly simple and some are too complex. The Probability-of-default/ Loss Given Default (PD/LGD) method is one of the simpler methods to understand, and is explained in detail below.

How does the PD/LGD method works?

In concept, the PD/LGD methodology is relatively simple. The challenge financial institutions will face when using this PD/LGD methodology is the calculation of the three inputs needed to estimate lifetime losses.

The three variables needed to calculate the PD/LGD methodology are discussed below:

1. **Probability-of-default (PD):** After defining a default, a financial institution must calculate the likelihood of a loan in the pool defaulting. They can do this in the beginning, based on the historical performance of the pool. The Probability-of-default can then be adjusted for forecasted and/or current changes in the economic environment.

2. **Exposure (E):** The exposure at default is the value of the balance of the loan that will be due when it defaults.

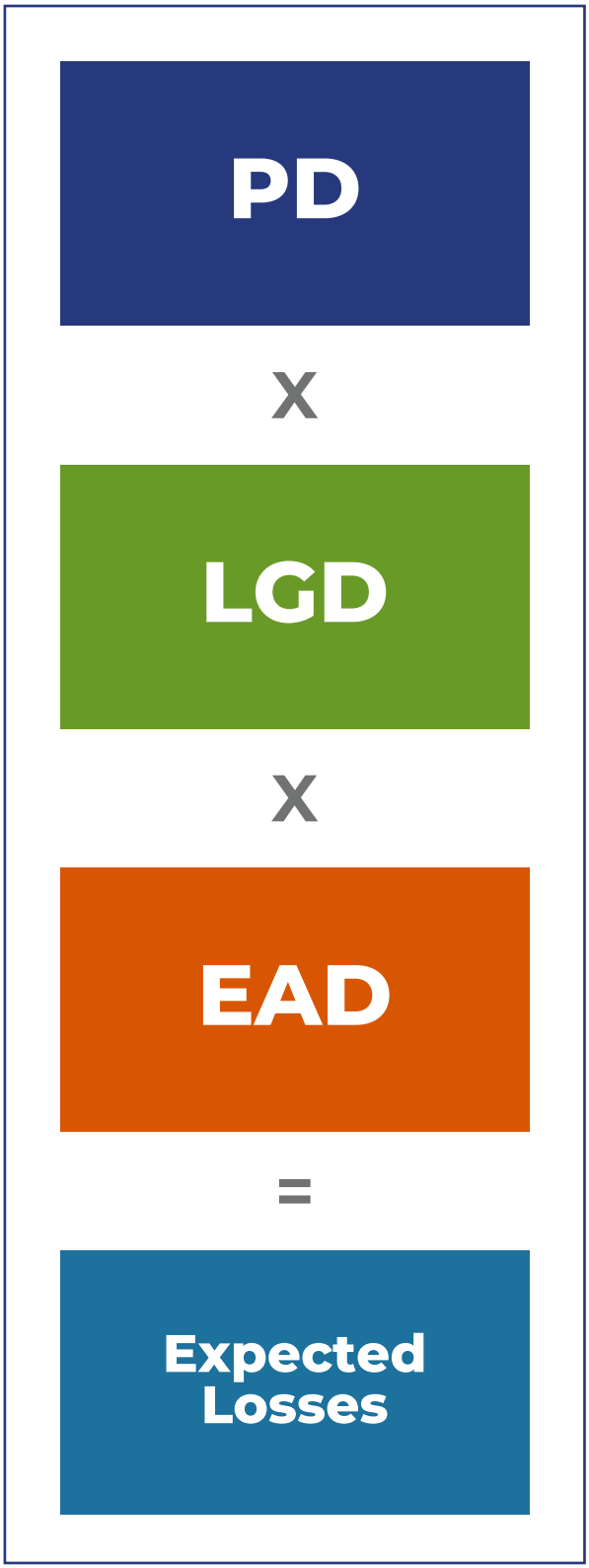
3. **Loss Given Default rate (LGD):** The LGD is depicted as a percentage of total exposure at the time of default and is the money a bank or similar financial institution loses whenever a borrower defaults on a loan. A financial institution uses cumulative losses and exposure after a review of all outstanding loans, to calculate its total LGD. The institution's loss given default rate can be adjusted for current and/or economic changes.

Financial institutions will need to perform some statistical analysis of historical information to estimate the above variables. The expected lifetime loss is then determined by multiplying these variables together: LGD x PD x E. These three variables will be adjusted for forecasted and current changes individually.

Example:

If the LGD = 20%, PD = 7% and E = $1 million

The expected lifetime loss under the PD/LGD method is 20% x 7% x $1 million = $14,000.



Advantages of the PD/LGD method: The fact that the Probability-of-default method relies on more quantitative information makes it accurate and gives it an intuitive edge over other methods. Qualitative factors, based on historical data, can be reflected in the model instead of being added to the quantitative part, as is the case with other methods.

Disadvantages of the PD/LGD method: To accurately determine the three inputs to the model, an institution will need more data, which will result in additional work. More data will be needed to understand how economic factors affect the variables. Only then can these variables be adjusted for current and forecasted changes. There will be a need for specialized software to perform statistical analysis for these calculations.

Conclusion- As discussed, the PD/LGD method uses more quantitative information and relies less on subjective analysis. This allows the methodology to provide a CECL compliance allowance for credit losses.

Chapter 7

CECL IMPLEMENTATION CHECKLIST FOR SUCCESS

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CECL IMPLEMENTATION DURING THE PANDEMIC

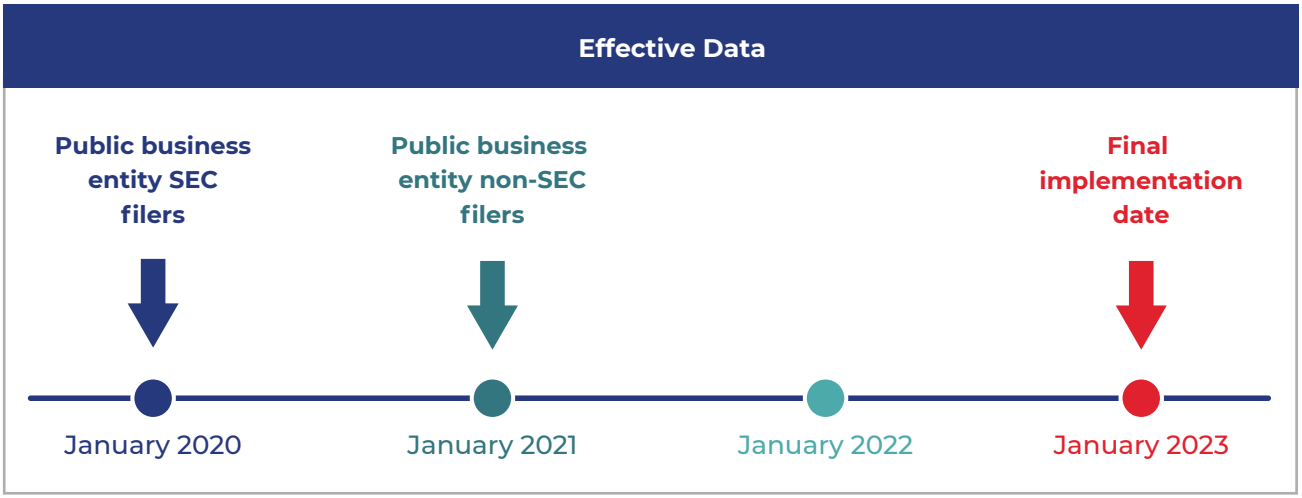
The Financial Accounting Standards Board's (FASB) accounting standard, Current Expected Credit Losses (CECL), is one of the more challenging accounting change projects that financial institutions, such as banks, may have witnessed in the past decade. Recent events such as the COVID-19 pandemic have added another layer of challenge to an already stressful economic scenario. Using the new CECL standard to calculate and forecast expected credit losses during a pandemic is not an easy task. Selecting the best CECL model to determine expected losses over the life cycle of loans and cash flow projections are just a few challenges institutions will face as they look to implement CECL.

As the Allowance for Loan and Lease Losses (ALLL) accounting standard gets replaced by CECL, financial institutions will have to put methods and systems in place to ascertain the expected losses over the life of loans and will have to abandon the ALLL method, which relies on incurred losses. The financial crisis of 2007-2008 highlighted shortcomings of the ALLL accounting standard, and the present pandemic shows us exactly why the FASB wants most financial entities dealing in credit issuance to come onboard the CECL methodology as early as possible.

CECL's journey and timelines since June 2016

Since introducing the CECL in June 2016, the FASB has published its Accounting Standards Update (ASU). The FASB has laid out a flexible timeline for financial institutions to comply with the new accounting standard and effective dates for CECL change with the institution type. For example, January 2020 was the start date for the accounting standard for public business entities that are US SEC filers. It will come into effect for credit unions and all other lenders by January 2023. Although the US CECL standards differ from the International Financial Reporting Standard - IFRS 9, introduced two years earlier, they do align fundamentally in their requirement to calculate expected credit loss over the life cycle of a loan. The older method's limitations, when it came to the calculation of potential future losses and underrepresenting impairments, seem to have been rectified with CECL.

CECL implementation dates



Source: deloitte

The significance and impact of CECL

Initial filers of FASB's CECL standards have disclosed higher loss reserve levels, with variations existing across reporting banks. The increased credit loss provisions will invariably impact these banks' balance sheets and will have a domino effect through future stress tests.

CECL will also affect how institutions handle their ALLL and organizational processes for risk and finance management. A deeper level of loss modeling and analysis is needed to implement CECL. The complexity of a balance sheet will determine how substantial these changes will be. Financial institutions will need to become more efficient while sharing information between departments and managing risk and financial data as they look to comply with CECL.

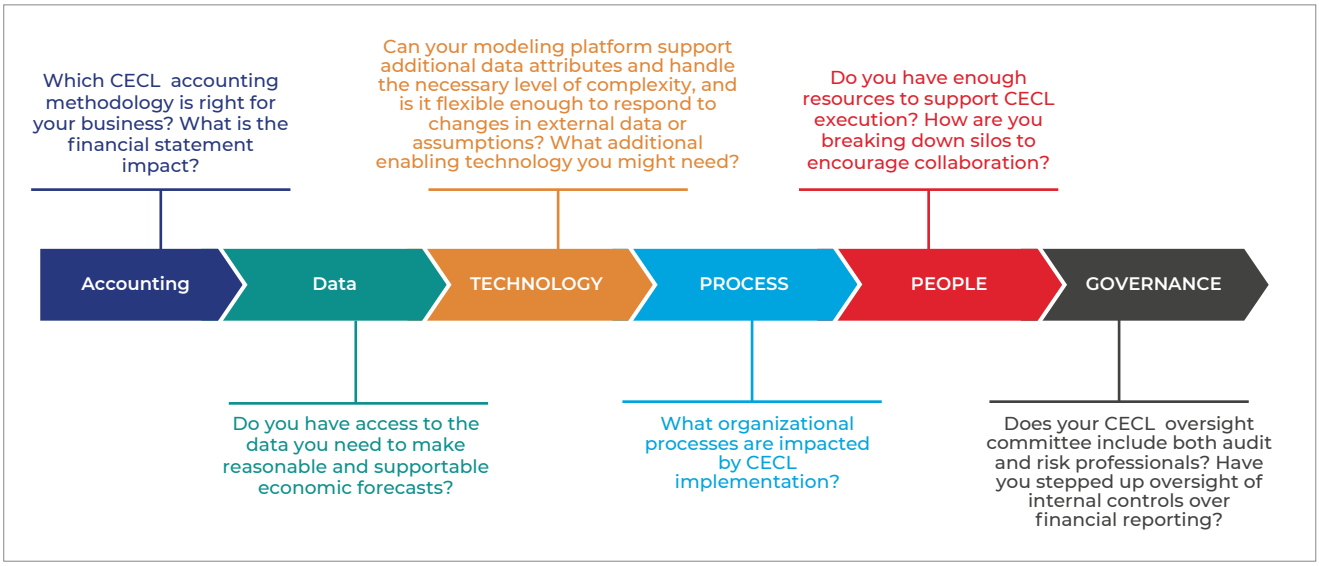
CECL and its associated challenges

The CECL stipulation to move to an expected credit loss accounting framework from that of an incurred loss one comes with its own unique set of challenges.

- The previous standard required an allowance for credit losses that were expected to be incurred over the next 12 months. CECL now requires a lifetime credit loss allowance to be set right at the beginning of each exposure. It also changes the way purchased credits and assets held for sale are treated.
- CECL needs more complete and detailed data to complement its expected credit loss models, which are more complex. It adds granularity to the process of maintaining historical data on credit losses. It also works out the impact of various scenarios on credit losses by analyzing macro-level data and risk factors.
- The level of disclosures has increased substantially under CECL. This means more transparency around the overall process that led to specific levels of loss reserves. Disclosures that allocate reserves by origination date will also increase. An efficient system that captures and governs the process from start to finish becomes important given the need to constantly defend assumptions and choose a methodology.

CECL and the banking industry

CECL will have several operational implications for the banking industry, including operations such as accounting/finance, risk, and IT. It will also have a financial impact on capital ratios and impairment estimates. The banking industry can avoid the pitfalls of falling behind on resource planning and critical deadlines by planning for CECL strategically. Selecting the right CECL methods and focusing on areas such as business impact, data management, risk, and technology will help banks to stay on top of the CECL implementation curve.



Final thoughts on how to get CECL to work for you

- Institutions should focus on designing systems and processes that do not overwhelm their existing manpower.

- Financial institutions will have to work around and modify their current allowance and other regulatory and business processes to deliver a more integrated solution capable of implementing CECL. This follows a realization that several aspects of the allowance process are already in use for stress testing and capital planning functions.

- Financial institutions need to account for the contribution of losses from all loans under the CECL standard as against contribution from only a subset of loans in the previous standard. This makes CECL a more computationally intensive process than the current incurred credit loss method. This means that institutions will have to ramp up efficiency of their model execution platforms.

- Lenders who seek the maximum application of CECL for their firms need to focus on the right architecture and adaptable framework, solutions that are modular with an open design approach, and also systems and processes that support iterative development cycles.

By now, most financial institutions should be well along on the path to implementing CECL. Firms that are aiming to be CECL compliant by 2023 will want to design and implement internal controls, run use-case scenarios, and start drafting disclosures. These steps will ensure a smoother and more timely transition to CECL.

Chapter 8

PREPARING FOR THE CECL AUDIT - DATA TRANSPARENCY

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CECL UPDATES GUIDANCE ON THE MEASUREMENT OF CREDIT LOSSES

The Financial Accounting Standards Board (FASB) released a new accounting standard, the Current Expected Credit Losses (CECL) model in June 2016, updating the guidance on the measurement of credit losses for financial assets. The FASB has allowed a staggered adoption date for big and small Public Business Entities (PBE). The FASB has replaced the long-standing incurred loss model with the CECL model. The current estimate of cash flow that is not expected to be collected will decide the allowance for credit losses.

The FASB has allowed financial institutions the liberty to choose the model they want to estimate and measure expected credit losses as long as the method stays true to CECL principles. A significant change to policies and technology is expected to comply with the CECL standard.

Audit implications with CECL

As the effective date for CECL implementation approaches, financial regulators are developing data and documentation requirements that will facilitate a smooth transition. Entities such as a bank's internal audit's risk assessments and audit approach will be changed by CECL. This accounting standard is likely to give rise to one or more significant risks of material misstatement due to factors such as estimation uncertainty and level of judgment on key data and assumptions.

CECL implementation is an institutional effort that includes internal audit, accounting, external audit, and other departments that have a stake. Internal audit should involve itself more in a monitoring role rather than be responsible for CECL implementation. The audit committee should hold management accountable as it goes about the CECL implementation process.

Governance of data in CECL

Life of loan and forward-looking CECL calculations need more data, thereby prompting banks to focus on developing strengthened processes for data gathering and retention. Data used in the credit loss estimate should be accurate, timely, and secure. Banks should decide where to source data from, the quantity, and how to use this data for a forecast methodology that will provide results that are auditable and relevant. Banks, while calculating the life of loan credit loss, will need to store additional data on a regular basis. Data ownership must be clearly established, with data requirements being auditable and well-documented. The FASB has directed historical loss information to be used to estimate expected credit losses for financial assets of a similar type and credit risk. Loan details that are expected to be saved every quarter include interest rate, book balance, and risk ratings. Greater quantitative support will be needed by examiners and auditors for qualitative factor adjustments.

When using forward-looking data and assumptions, management and internal audit will have to consider some implications. Small differences in assumptions can lead to a significant range of loss estimates. In fact, some new data may be sourced from external data sources and internal loan systems that were previously not subject to audit procedures and are not a part of traditional accounting systems. Auditors should also be mindful of potential management bias.

Portfolio segments

When loans are evaluated on a collective basis, similar risk characteristics should form the basis for their aggregation. These similar risk characteristics should be supported by accurate data for regulators and auditors. Strong internal controls are needed for these management judgments that are high-risk areas. To correctly forecast expected credit losses, credit exposures would need to be grouped by the management into portfolio segments with enough granularity. Also, if a loan's risk characteristics are no longer similar to other loans in the pool, the banks must remove the loan from that pool.

CECL and loan origination

CECL would expand internal control requirements over loan origination. Within CECL, the loan origination could be considered a new process within the financial audit as it will create a loss expectation. Banks will have to identify and track factors underlying loss expectations. For example, appraisals underlying loan-to-value ratios on collateral.

Economic cycles and forecast period

Financial institutions such as banks will have to come up with the right forecast period. The nature of economic cycles is such that short periods of high charge offs follow several years of low levels of charge offs. To arrive at an actual loss expectation, management will need to make large adjustments. The FASB observes that life of loan loss expectations cannot be correctly estimated by recent history. As a matter of fact, several years of data would be needed by banks to support forward-looking calculations.

In conclusion, we can say that significant time and cross-functional resources will be required to successfully implement the new credit impairment standard. For a smooth transition, planning for data collection and documentation and developing new internal controls around the additional information will be required.

Final thoughts on how to get CECL to work for you

- Institutions should focus on designing systems and processes that do not overwhelm their existing manpower.

- Financial institutions will have to work around and modify their current allowance and other regulatory and business processes to deliver a more integrated solution capable of implementing CECL. This follows a realization that several aspects of the allowance process are already in use for stress testing and capital planning functions.

- Financial institutions need to account for the contribution of losses from all loans under the CECL standard as against contribution from only a subset of loans in the previous standard. This makes CECL a more computationally intensive process than the current incurred credit loss method. This means that institutions will have to ramp up efficiency of their model execution platforms.

- Lenders who seek the maximum application of CECL for their firms need to focus on the right architecture and adaptable framework, solutions that are modular with an open design approach, and also systems and processes that support iterative development cycles.

By now, most financial institutions should be well along on the path to implementing CECL. Firms that are aiming to be CECL compliant by 2023 will want to design and implement internal controls, run use-case scenarios, and start drafting disclosures. These steps will ensure a smoother and more timely transition to CECL.

Chapter 9

CECL DATA SOURCES OVERVIEW FOR SMALL BANKS - FFIEC, FRED, AND FED

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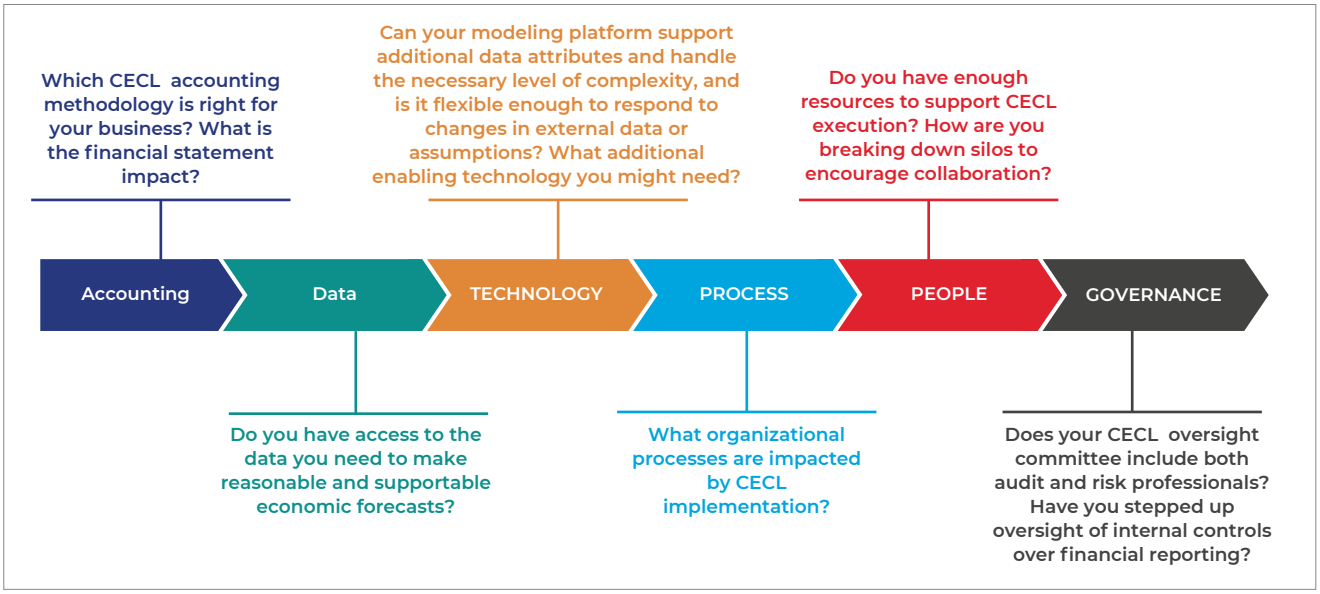
CECL STANDARD AND THE BANKING INDUSTRY

Small community banks have until 2023 to implement Current Expected Credit Losses (CECL) accounting standards after the Financial Accounting Standards Board (FASB) decided to delay CECL implementation for private and small public companies in 2019. CECL implementation began for large Security and Exchange Commission (SEC) filers in January 2020. Preparing for CECL has been a challenge for even big banks with huge resources. Small community banks should utilize this additional time to prepare for CECL by accumulating the required data, infrastructure, and resources.



Being proactive with timely sourcing of data under CECL

CECL requires community banks to calculate their allowance for Loan and Lease Losses (ALLL) by adding a forward-looking component and projecting future losses into the future, adjusting for historical loss experience. To implement CECL, banks will have to source the relevant data, build and test models, and then include the data in financial statement disclosures.

Small community banks—especially those with straightforward business models, limited loan loss experience, and less than $1 billion in assets—can, in all probability, depend on existing loss estimation techniques. They can demonstrate their readiness for the accounting change by using the additional time to prepare for forward loss estimation and also run parallel systems. The FASB hopes this additional time will offer relief to small banks with limited resources and give them time to learn from the implementation efforts of their larger peers. Since most small banks already have a good process in place, they should focus on improving that calculation for both quantitative and qualitative forward-looking factors. This involves gathering data for analysis and disclosure.

To estimate their allowance for credit losses, small community banks will need to attune their models to local conditions. For example, an agricultural bank will care more about crop prices than banks that serve suburban communities.

Community bankers will need to coordinate with their core providers regarding ways to pull data out of the system and test the results. One hurdle that community banks can face is that their core systems are not able to store a lot of data. This can limit the availability of historic data. There are some pertinent questions that small banks can face regarding the purchase and utilization of peer data. Questions that need to be answered include questions on what Q factors are applicable to specific loan portfolios and how some banks can deal with historically low loan losses.

Lessons from early adopters of CECL

Following the CECL implementation extension, community banks have had a chance to learn from the disclosures of big banks that were required to implement CECL in 2020. What is accepted as footnote disclosures under CECL is just one example of it. An increase in reserves has been observed among big banks that have implemented CECL. Some small community bankers have been pleasantly surprised to learn that much smaller adjustments to loss reserves are required using the CECL standard than what was previously anticipated. Regulators themselves are being proactive by asking community banks to be either ready with their CECL documentation or outline their plans on how they will adopt these changes, including asking them to reveal which method they plan to use to calculate reserves.

Data and CECL: Importance of reviewing data

- **Segmentation:** Consider what risk profiles are in your portfolio and then review your data to see if it can capture those risk profiles adequately. Also, review the frequency of missing values in important variables, their consistency in values, and their definitional consistency.

- **Selection of Methodology:** Review the historical data by checking if there is sufficient data to capture the behavior for a given risk profile, if the historical data is of good quality, and if there are gaps in the history.

- **Granularity of Model:** The granularity level a financial institution can use depends on the data. Review variables that are account specific, such as loan-to-value and credit score, and ensure that these variables are reliable. Check if these variables capture changes in customer or macroeconomic environment behavior.

The US Federal Reserve (FED) facilitates data and regulations for CECL implementation and calculations and also drafts changes that aid transition to the CECL standard. The roles of a couple of these federal entities are outlined below.

1) **Federal Financial Institutions Examination Council (FFIEC)**

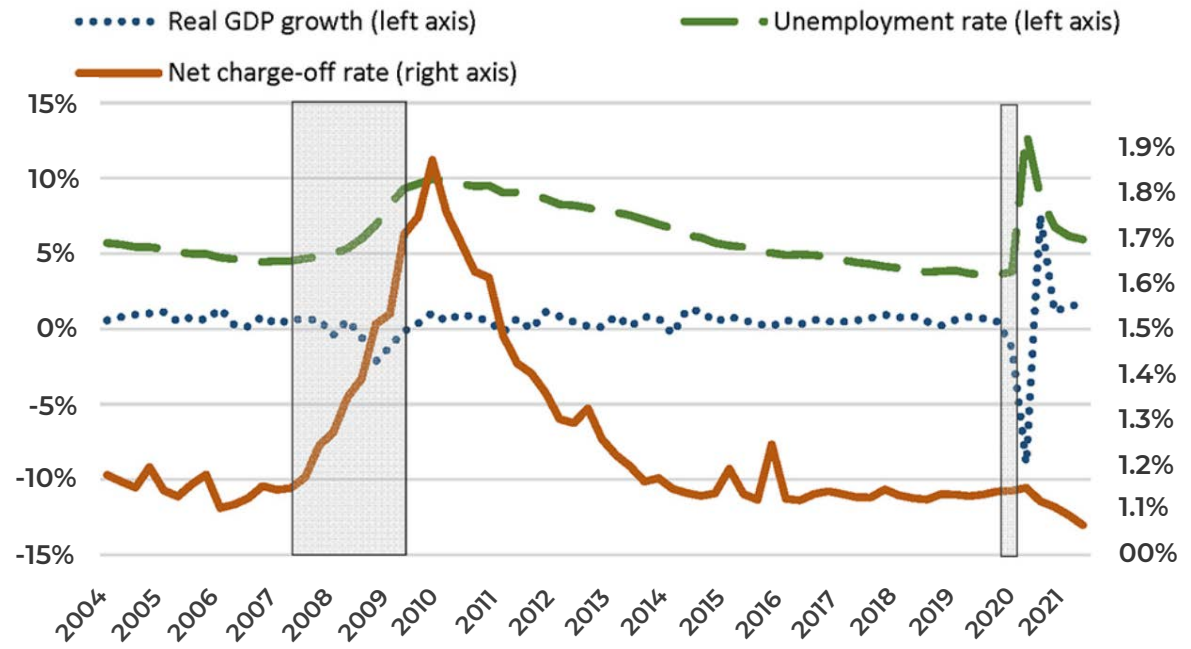
   The interagency body of the U.S. government, the Federal Financial Institutions Examination Council (FFIEC) is made up of several U.S. financial regulatory agencies and was created on March 10, 1979. The objective of the FFIEC is to promote consistent and uniform standards for financial institutions. At the federal level, the FFIEC maintains uniformity in how financial institutions are regulated and develops standardized reporting systems. The FFIEC is the peer group data for all of the community banks. It provides a useful benchmark loss rate that can be substituted when the bank has too little data as a sample. When it comes to CECL implementation, reporting changes have been proposed to several Federal Financial Institutions Examination Council (FFIEC) report forms, including the Call Report. These instructions are available on the FFIEC Reporting Forms webpage.

2) **Federal Reserve Economic Data (FRED)**

   The Federal Reserve Economic Data (FRED) is a database that has almost 816,000 economic time series from several sources. It is maintained by the research division of the Federal Reserve Bank of St. Louis. It covers

topics such as U.S. financial data, and U.S. trade and international transactions. This time series is compiled by the Federal Reserve, with data contributed by government agencies. The FRED is the macroeconomics source that drives scenarios used to calculate capital needed under the CECL standards. It was found that when unemployment increases and Gross Domestic Product (GDP) slows, there is an increase in loan losses (net charge-offs) as was evident during the 2007–09 financial crisis. Following the adoption of CECL, the US economy fell into a sharp decline due to disruption caused by the COVID-19 pandemic. This economic downturn was a test of the CECL methodology.

Figure 1. Banking System Quarterly Net Charge-off Rate with Economic Indicators



Source: federalreserve

Data and regulations provided by federal entities such as the FRED and FFIEC are instrumental in helping banks implement CECL and thereby change their lending practices. CECL adopters' allowances responded more quickly to fluctuations in the economic outlook than those of non-adopters.

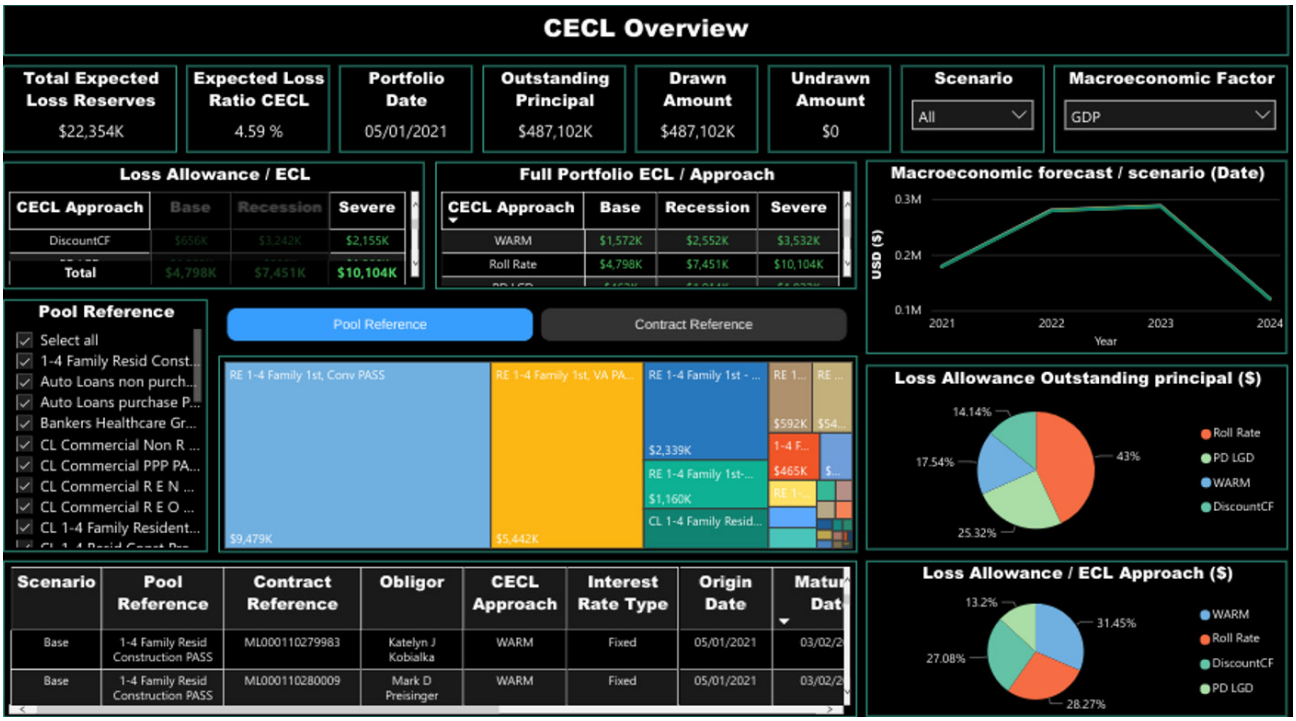
CECL Express can help...

CECL Express is a turnkey solution that fully satisfies all elements of the new CECL accounting standard. The system provides all non-loan data, including:

- Yield curves and Fed data
- Linked reports on losses from the FFIEC and NCUA
- PD and LGD curves
- Macroeconomic data

Banks and credit unions need to only provide the underlying loan details for the system to provide fully auditable ECL results for multiple calculation methods, including:

- Vintage
- Roll Rate
- Discounted Cashflow
- WARM
- PD/LGD



CECL Express provides more than valid ECL results. The system computes results for all methods and all loan pools, allowing the bank to optimize its CECL configuration and avoid the worst impacts of the new standard.

Visit ceclexpress.com for more information about the most efficient route to optimal CECL compliance.

CECL COUNTDOWN SERIES

ABOUT
CECL EXPRESS

- CECL Express is a turnkey, cloud-based solution, designed to provide banks and credit unions with optimized results and reporting that fully meet the 'Current Expected Credit Loss' accounting standards.
- CECL represents a major change in what is expected from financial institutions in their reporting of, and provisioning against potential credit losses.
- Smaller financial institutions are expected to implement forward-looking credit models to estimate losses they may experience.
- Selecting inappropriate 'Expected Credit Loss' (ECL) models will create a need to hold far more capital than is required, directly causing a loss of Profit and Loss (P&L). Data used within these models must also be reported for audit purposes.
- January 2023 will see the first official reporting period for the beginning of CECL. Banks and credit unions must have a framework in place, which is fully tested and reports results based on that data. In practice, this means selecting, implementing, and testing the system in the first half of 2022.
- For Finastra core systems, the integration has already been built. For customers with these systems, their CECL results are ready to be calculated and reported.

GreenPoint> Financial

ABOUT
GREENPOINT FINANCIAL

- GreenPoint Financial is a division of GreenPoint Global, which provides software-enabled services, content, process and technology services, to financial institutions and related industry segments.
- GreenPoint is partnering with Finastra across multiple technology and services platforms.
- Founded in 2006, GreenPoint has grown to over 500 employees with a global footprint. Our production and management teams are in the US, India, and Israel with access to subject matter experts.
- GreenPoint has a stable client base that ranges from small and medium-sized organizations to Fortune 1000 companies worldwide. We serve our clients through our deep resource pool of subject matter experts and process specialists across several domains.
- As an ISO certified company by TÜV Nord, GreenPoint rigorously complies with ISO 9001:2015, ISO 27001:2013, and ISO 27701:2019 standards.

Marcus Cree

MANAGING DIRECTOR AND
CO-HEAD OF FINANCIAL TECHNOLOGY AND SERVICES

Marcus has spent 25 years in financial risk management, working on both the buy and sell side of the industry. He has also worked on risk management projects in over 50 countries, gaining a unique perspective on the nuances and differences across regulatory regimes around the world.

As Managing Director, Marcus co-heads GreenPoint Financial Technology and Services and has been central in the initial design of GreenPoint products in the loan book risk area, including CECL and sustainability risk. This follows his extensive experience in the Finastra Risk Practice and as US Head of Risk Solutions for FIS. Marcus has also been a prolific conference speaker and writer on risk management, principally market, credit and liquidity risk. More recently, he has written and published papers on sustainability and green finance.

Marcus graduated from Leicester University in the UK, after studing Pure Mathematics, Phycology and Astronomy. Since graduation, Marcus has continually gained risk specific qualifications including the FRM (GARP's Financial Risk Manager) and the SCR(GARP's Sustainability and Climate Risk). Marcus's latest academic initiative is creating and teaching a course on Green Finance and Risk Management at NYU Tandon School of Engineering.

Sanjay Sharma, PhD

FOUNDER AND CHAIRMAN

Sanjay provides strategic and tactical guidance to GreenPoint senior management and serves as client ombudsman. His career in the financial services industry spans three decades during which he has held investment banking and C-level risk management positions at Royal Bank of Canada (RBC) Goldman Sachs, Merrill Lynch, Citigroup, Moody's, and Natixis. Sanjay is the author of "Risk Transparency" (Risk Books, 2013), Data Privacy and GDPR Handbook (Wiley, 2019), and co-author of "The Fundamental Review of Trading Book (or FRTB) - Impact and Implementation" (Risk Books, 2018).

Sanjay was the Founding Director of the RBC/Hass Fellowship Program at the University of California at Berkeley and has served as an advisor and a member of the Board of Directors of UPS Capital (a Division of UPS). He has also served on the Global Board of Directors for Professional Risk International Association (PRMIA).

Sanjay holds a PhD in Finance and International Business from New York University and an MBA from the Wharton School of Business and has undergraduate degrees in Physics and Marine Engineering. As well as being a regular speaker at conferences, Sanjay actively teaches postgraduate level courses in business and quantitative finance at EDHEC (NICE, France), Fordham, and Columbia Universities.