TALES FROM THE FRONTLINE OF CECL IMPLEMENTATION - PART 3

LEARNING LESSONS FROM CECL IMPLEMENTATIONS

Perspective of CECL

CECL FOUNDATION

JANUARY 10, 2023

By **Vinayak Shetty**

CECL COUNTDOWN SERIES

marcus.cree@greenpointglobal.com | sanjay@greenpointglobal.com

International Corporate Center, 555 Theodore Fremd Avenue, Suite A102 Rye, NY 10580

INTRODUCTION

Welcome to the third CECL Express e-book!

2022 was a year of systemic design, decision making and testing for America's community banks and credit unions. Now that CECL is finally here, the chosen approaches will be road tested through audits and bank exams.

The context is important. CECL was first mooted as the US based response to a lack of systemic liquidity during the 2008 financial crisis. The details took a number of years to work out, during which, the 'rest of the world' version, IFRS-9, was created and implemented. Ultimately, the roll out has taken as long as the initial design, with the smaller banks and credit unions being the last cohort to go live.

The lengthy implementation period was largely because the experienced roll out in the larger banks showed that there were nuances and complexities that would mean smaller firms would need an additional two years to get it right. This is worth considering. CECL is asking banks to perform reasonably advanced credit risk analysis on their loan books, regardless of experienced losses or knowledge of their borrowers.

At CECL Express, the design principle has always been to provide the tools and systems that are commonplace in large banks, to the wider market of credit unions and community banks. There is more to CECL than just implementing a system, though, and this series of articles looks to explore the range of options and decisions in front of these institutions. This covers model options, stress testing, liquidity needs and system design best practices.

We hope that these discussional pieces are useful in making sense of CECL as a philosophical concept, as much as an accounting principle.

CONTENTS

Page No.

1. CURRENT WRITE-OFF RATES AND Q-FACTORS IN ROLL-RATE METHOD (CHAPTER 21) 04

2. UNDERSTANDING LOAN CLASSIFICATIONS UNDER CECL (CHAPTER 22) 07

3. MAINTAINING VINTAGE LOSS RATE METHODOLOGY (CHAPTER 23) 10

4. IFRS 9 IMPLEMENTATION LESSONS FOR CECL (CHAPTER 24) 14

5. DEEP DIVE INTO THE WARM METHOD AND AVERAGING EFFECTS ON OUTLIERS (CHAPTER 25) 19

6. CAN THE CALL REPORT BE USED ALONE TO GENERATE CECL? (CHAPTER 26) 23

7. IMPLEMENTING CECL QUICKLY (CHAPTER 27) 27

8. DISCOUNT CASHFLOW: WHY IT MAKES SENSE AND WHAT IT NEEDS (CHAPTER 28) 31

9. THE NEED FOR SCENARIOS IN CECL (CHAPTER 29) 35

Chapter 21

CURRENT WRITE-OFF RATES AND Q-FACTORS IN ROLL-RATE METHOD

ORIGINALLY PUBLISHED ON
AUGUST 30, 2022

THE CECL STANDARD

Recognizing the limitations the US Generally Accepted Accounting Principles (GAAP) faced while calculating impairment losses on financial assets, the Financial Accounting Standards Board (FASB) issued the Accounting Standards Updates (ASU) 2016-13 to change its guidance regarding impairment of financial instruments. Also, the ASU introduced the current expected credit loss (CECL) model, which focuses on expected losses rather than incurred losses.

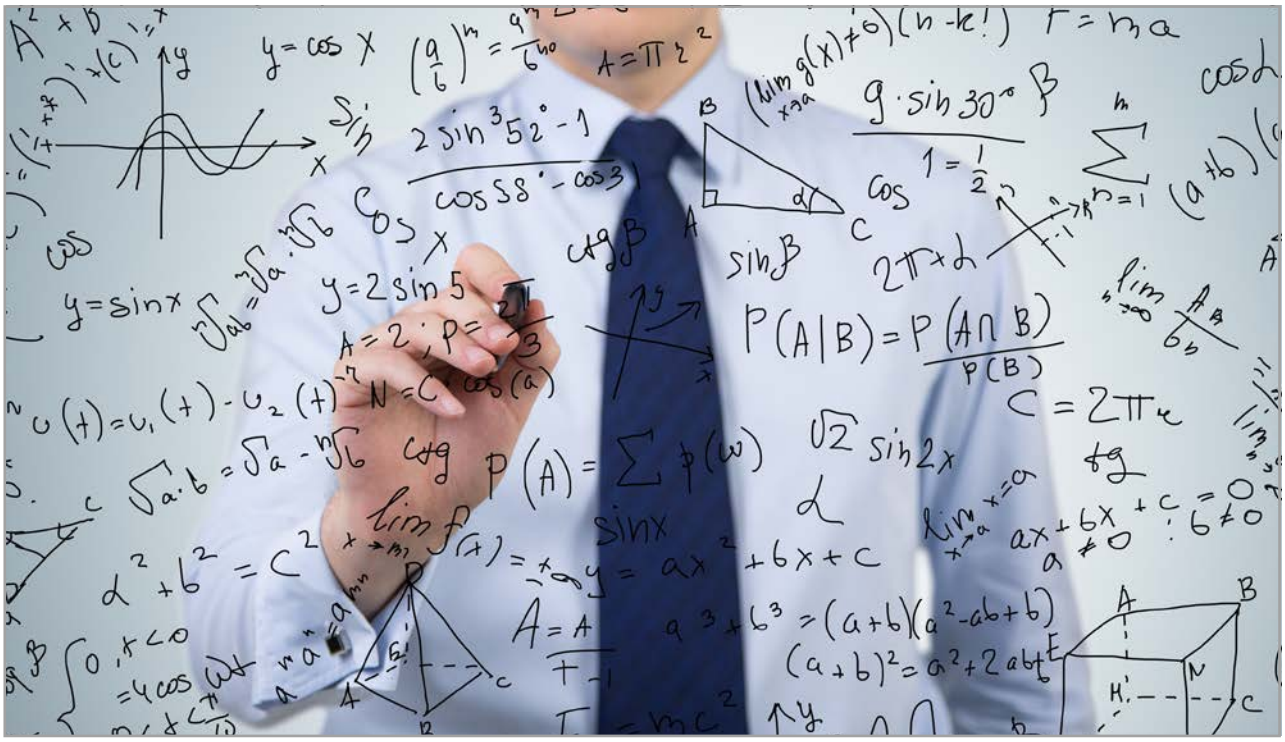
The CECL model aims to:

1. Reduce the number of credit impairment models that financial institutions use
2. Require banks and credit unions to recognize an allowance of lifetime expected credit losses
3. Use an expected loss model instead of an incurred loss model to remove any barriers to timely recognition of credit losses

Roll-rate method: A convenient way to measure expected credit losses

Under the CECL standard, there are several measurement approaches that financial institutions can use to estimate expected credit losses. Popular among these is the Roll-rate method, which uses historical trends in credit write-offs and delinquency. Historical roll rates are used to predict ultimate losses.

Historical experience may not accurately reflect an institution's expectations for the future. Hence, institutions can add qualitative information to historical loss data as needed to reflect the current situation and generate projections that may not be fully captured by historical loss data alone. These qualitative factors are more popularly known as Q-factors. Q-factors are specific local area economic adjustments and reflect local conditions.



Q-factors and their relevance under CECL

Q-factors are almost exclusively local economic drivers that change the expected loss away from national or peer group averages. A few Q-factors that can play an important part in CECL calculations are:

1. Lending policy procedures
2. Credit concentrations
3. Problematic loan trends
4. Collateral value

The Roll-rate method for estimating losses is calculated based on recovery rates and Q-factors. It is popular with banks since the data needed to drive those calculations is readily available at the pool level in the Q-report. This method is also popular because roll rate is basically the recognisable loss rate adjusted for the economic conditions to get the forward rate.

Bank reported rates and their usability

1. Banks can use annualized loss rates and then project forward what one-year losses can be. Usually, annual rates for the last five years are taken, with loss rates for the last quarter factored in to get the annualized rate.
2. Sometimes the call report from a bank or a credit union mentions zero losses. This can derail CECL calculations and their accuracy. We need to start thinking of ways about how the last quarter will not influence the results. That is why it is preferable to average the previous five loss rates.
3. If a bank or credit union chooses, it can use the peer group loss rate published by the National Credit Union Administration (NCUA) and the Federal Financial Institutions Examination Council (FFIEC). If a bank's loss rate is far below the peer group loss rate, the bank examiner may expect it to use the peer group loss rate. If expected loss calculations are very low, it becomes harder to defend them in front of auditors.
4. Banks can also use a default rate at the pool or bank level as it can be better defended during audits. This is typically the case when rates are being revised upwards, following a period of unusually low delinquency.

Allowance for credit losses calculations and audit considerations

While using the Roll-rate method, if the loss rates are deduced at the bank level, the amount of data needed to defend that rate during audits will be that much higher. Conversely, if the roll rate calculations are done at the peer group level, and we use the averages and macros as they come out, the amount of data to defend the results will be that much lower as the data used is from a reliable third party such as the FFIEC. It is also data that is available and recognized.

Chapter 22

UNDERSTANDING LOAN CLASSIFICATIONS UNDER CECL

ORIGINALLY PUBLISHED ON SEPTEMBER 14, 2022

CECL IS APPROACHING

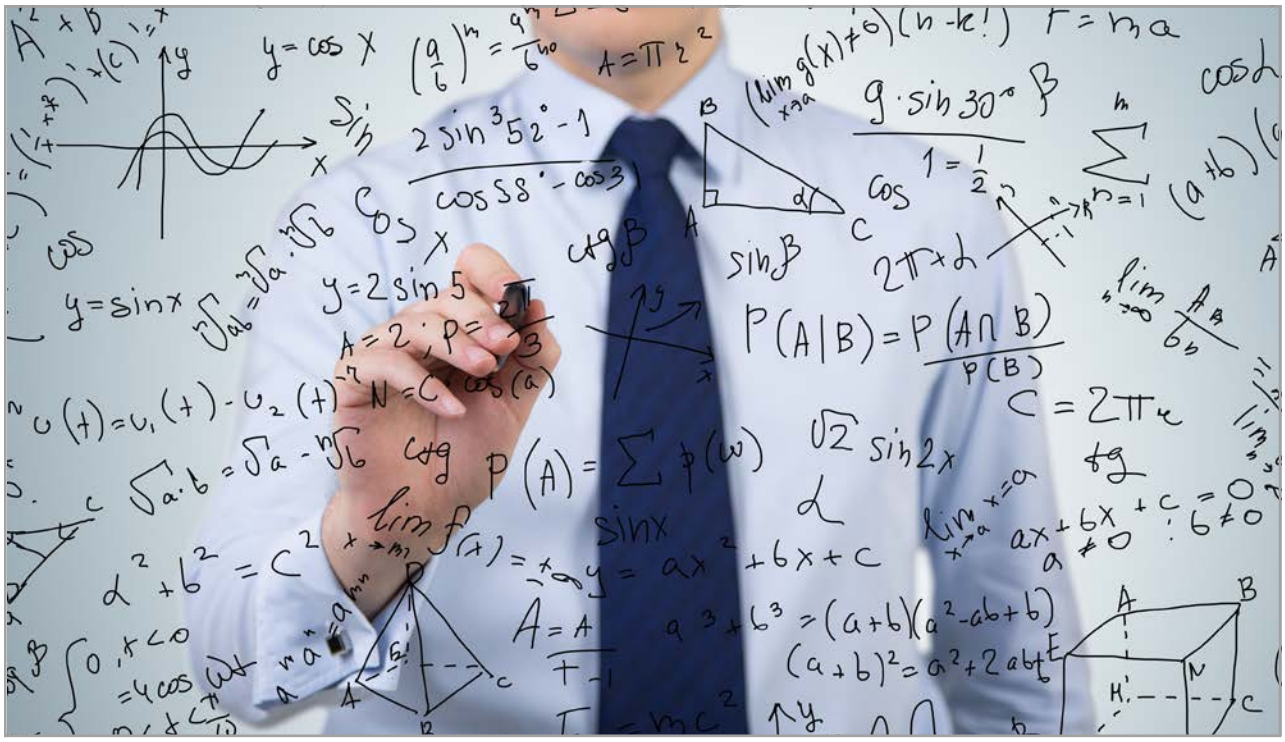
In June 2016, the Financial Accounting Standards Board (FASB) provided us with a new expected credit loss accounting standard. The current expected credit losses methodology (CECL) was introduced by this new accounting standard to estimate allowances for credit losses. The effective date of CECL was pushed back by the FASB to January 2023 from January 2021 for smaller reporting companies. For non-public companies, it has been moved from January 2022 to January 2023. The definition of smaller reporting companies is as per the rules laid out by the Securities and Exchange Commission (SEC).

The FASB, On November 15, 2019, issued the Accounting Standard Update (ASU) 2019-10. This update pushed back the effective date for the CECL standard, ASU 2016-13.

CECL preparation

There are some crucial points to consider when we compute CECL and implement it. Financial institutions are required to factor in the below-listed points during CECL calculations and not focus on historical loss calculations alone.

- Historical Loss rate
- Forecasted Economic Conditions that are reasonable
- Qualitative Factors (Q-factors)/Current Economic Conditions



Historical data and loan classifications

Procuring historical loan data is not always easy for banks, and that data is often limited. Banks usually use previous monthly board reports for loan and delinquency information. They can use this information to forecast loss rate calculations.

Historical loan delinquency data can also be an effective tool to create granular loan classifications, enabling banks to categorize loans into different pools. Classifications, in effect, provide the ability to differentiate between all loans and ensure that loans are correctly and conservatively accounted for.

As an example, let us consider how automobile

loans are classified within banks. The first classification pool would be where the loan is in good standing, and we term that pool as automobile or 'automobile pass'. This pool has a specific set of curves, probabilities, and Q-factors against it.

Banks factor in the externally available FICO Score or the consumer credit risk score to make reliable credit risk decisions while lending money. FICO scores are helpful to CECL as they capture information about the borrower to which the bank may not have access. FICO collects data from multiple sources. If a borrower is stacking debt outside of the bank, even though they are paying down the loan on time each month, the risk should still be reflected if we want a near precise CECL estimate.

If a customer's historical delinquency data and FICO score do not show any cause for concern, banks need not provide any extra and treat this pool normally. This depends on FICO and other factors, if everything is fine with the loan and it is in good standing,

If there are loans that are 30 or 60 days over and the FICO score has gone down to 100, the loans are classified as automobile special mention. This pool has a slightly higher probability of default. Likewise, if the FICO score goes down to around 600 or you are 60 to 90 days late, then at that point, you are down to sub-standard and heading towards default.

Delinquent loans are those that have not been paid past their due date. Delinquency is a range, and the longer a customer does not pay, the likelihood of defaulting increases. If we go even lower to around a FICO 650 and delinquency of 90 to 120 days late, banks put it down as a loss and write the entire notional off, and the whole amount is considered as a provision while estimating CECL.

Significance of Loan classification under CECL

Every CECL calculation pulls in the previous rate, macroeconomics, and Q-factors. Thus, when Q-factors are higher, banks add more provision to impacted pools.

In summary, FICO scores of customers fall when they approach multiple banks for loans. This increases their loan-to-earnings ratio, thereby decreasing their capacity to pay back the loan and decreasing the free cash flow. This also increases the probability of default. The problem with this is that banks do not refresh their FICO score often. Without an updated FICO score, banks rely on information such as delinquencies, which can lead to inaccurate CECL results. Therefore, the calculation of CECL should be a function of the delinquency data available at the bank level and the credit score, which is dependent on activities outside the bank.

Chapter 23

MAINTAINING VINTAGE LOSS RATE METHODOLOGY

ORIGINALLY PUBLISHED ON
SEPTEMBER 29, 2022

CECL IMPLEMENTATION AND EARLY ADOPTERS

The Financial Accounting Standards Board (FASB), in June 2016, issued the Accounting Standards Update (ASU) No. 2016-13, which introduced the Current Expected Credit Loss (CECL) model. The update moves the accounting for credit losses on various financial instruments to the Expected Credit Loss (ECL) model from the existing incurred loss model. This move has impacted financial institutions such as insurance companies, banks, credit unions, and finance companies. Following the 2008 global financial crisis, the Financial Crisis Advisory Group (FCAG) suggested several improvements in financial reporting. It identified the flaws of the historical incurred loss model, which included delayed recognition of losses by financial institutions. This led to the development of CECL, the effective date for which has now been pushed back by the FASB to January 2023.

Institutions that have not been classified as smaller reporting companies have already begun implementing CECL with varying degrees of success. The volatile economic environment and limited data have made forecasting losses a challenging task, especially for smaller institutions. For companies who still have not adopted CECL, there are considerable insights to be gained from these early adopters. Most large institutions have been using complex modeling techniques and relying on multiple models, depending on the pools or portfolios. Small financial institutions can use a single model that is less complex for calculating their ECL. Many early adopters compared their existing credit loss forecasting models with the new guidance and have put into place modifications required to start implementing CECL. One such model is the vintage loss rate methodology, which uses past pools to estimate future losses.

The vintage loss rate methodology

The data required to implement the vintage loss rate methodology is collected by most financial institutions in some form. Collecting data is just one aspect of it. The real challenge lies in utilizing this historical data in the right manner to accurately predict future losses. The vintage method is especially efficient when it comes to this aspect of data utilization and analysis and comes up with allowance figures for financial institutions under CECL. Many institutions looking for the best method to use to be CECL compliant are turning towards this vintage method. There are several features, advantages, and disadvantages of this method that institutions need to be aware of before they formalize the vintage loss rate methodology to estimate their Allowance for Loan and Lease Losses (ALLL). We will subsequently discuss where this methodology fits into CECL's overall scheme of things.

The vintage method seeks to address the FASB's concern regarding institutions maintaining inadequate reserves due to a delay in recognition of credit losses. It seeks to factor in the below-listed information in its calculations:

1. Current conditions
2. Past events
3. Reasonable forecasts
4. Economic environment
5. Quantitative and qualitative factors

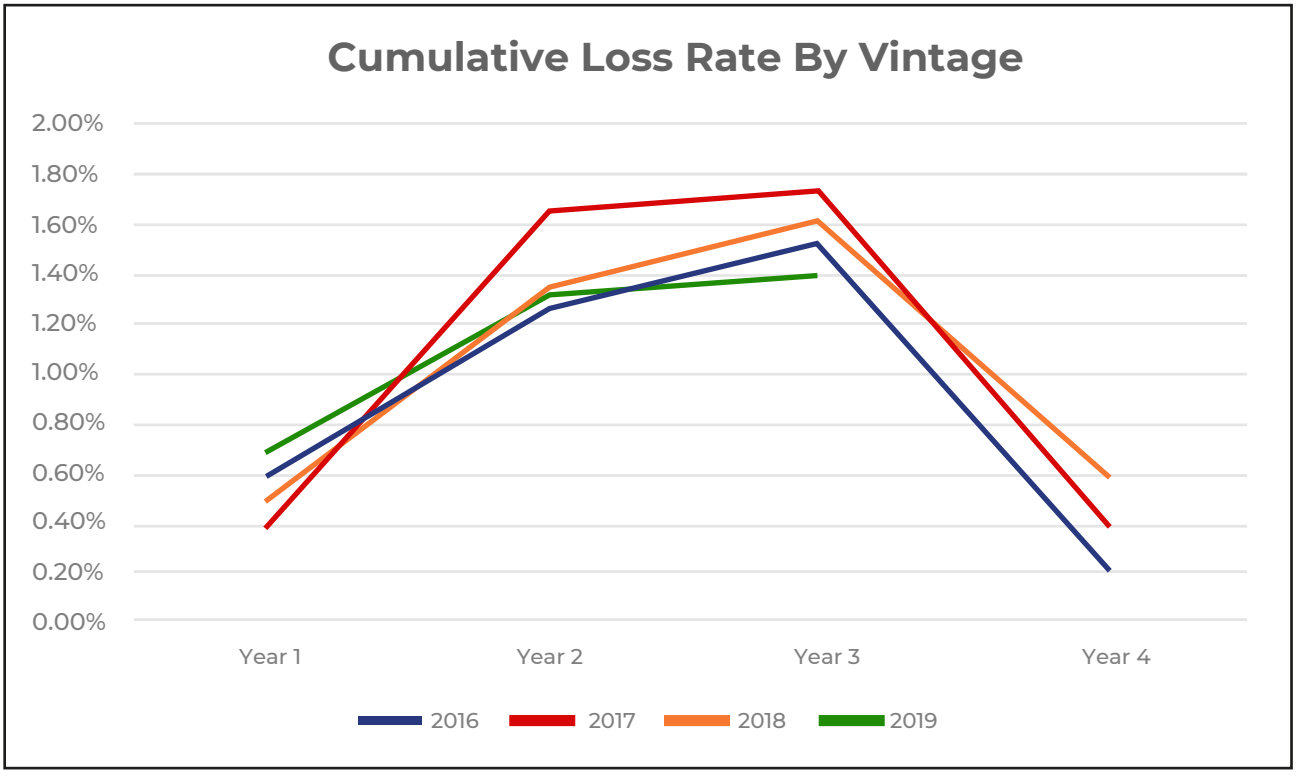
Under CECL, the impetus is not so much on capturing remote and unexpected events as it is on capturing expected losses. For a given loan pool, vintage analysis calculates the cumulative loss rates to find out the pool's lifetime expected loss. This method merges historical gross charge-off information with qualitative and environmental factors to approximate an institution's probable and estimable future losses.

Vintage analysis in detail

The concept of a "vintage" is central to how this method works. In vintage analysis, "vintage" is a pool of loans with the same origination period. Stratification of a given loan pool using origination periods gives a more realistic estimate of the historical lifetime loss experience. This method scores over some other CECL methods as it considers the entire life of the loan pool for its analysis and not just limited periods of time.

Let us consider the example given in the table below. It consists of four-year loan pools segmented into vintages. It calculates the life of loan loss experience and, thereby, the cumulative loss rate for each vintage. This is achieved by dividing each year's net charge-offs by the principal balance at the time of origination. Post its origination year, the loss experience is tracked annually for the original balance for each subsequent year. This gives us the cumulative loan loss over the life of the loan. And, it is based on historical averages. The objective of vintage analysis is to forecast future loss rates by using existing data. This methodology is illustrated in the table below, where the 4th year loss rates for the 2019 vintage will be predicted based on historical loss rate trends of previous vintages with similar profiles and duration.

Vintage or the origination year	1st-year loss rate	2nd-year loss rate	3rd-year loss rate	4th-year loss rate	Life of loan loss experience/Cumulative loss rate
2016	0.60%	1.25%	1.56%	0.20%	3.61%
2017	0.40%	1.65%	1.75%	0.40%	4.20%
2018	0.50%	1.35%	1.60%	0.60%	4.05%
2019	0.70%	1.32%	1.40%		



Qualitative factors (Q-factors) and vintage analysis

Expected loss calculations using vintage analysis also factors in macroeconomic indicators of qualitative factors. This ensures that both quantitative and qualitative data factors have been accounted for during calculations.

For example, unemployment rates frequently affect the Q-factors nationally, internationally, and at the local level. If a trend is observed wherein a shift in unemployment rates leads to an increase in charge-offs four months later, then the forward-looking loss projections are adjusted proportionately. Observing such trends in the loss history of loan pools is the basis of vintage loss rate methodology. These trends are then applied to active loan pools to predict the direction the loss rate curve may take and then set up reserves accordingly. In the example given above, it is clear that external and internal factors play a crucial role in affecting the life of loan loss experience towards the middle part (second and third year), and not so much towards the maturity period, which is the fourth year. Gathering historical data and trends is the key to expected loss rate calculations using the vintage method.

Limitations of the vintage loss rate methodology

When we set up a vintage pool, there are a few elements to consider that need to be taken care of. The setting up of this vintage pool has to properly reflect the risk profile of the loans in that pool, which we are using to do the risk assessment. Also, both pools need to have loans that go on for the same duration. Hereon, every time we report, we have to check if all factors in the pool that is being assessed are correct as this process is not automated. For example, if 1/3rd of the loans go from 0 to 30 and 30 to 60 days delinquency, all of a sudden, we have a vintage that is no longer reflective of the pool being assessed. Therefore, we have to check these pools and compare them every single time to make sure that we have got loans in both pools whose risk profiles are still the same for each reporting period. If the risk profile changes, then the bank has to go and check if there is another vintage pool available in its historical data with loans having the same life cycle and risk profile. It is clear from the example that vintage cannot be automated, and maintenance from report period to report period can be onerous. It is not always possible to create vintage pools for the purpose, as historical data or experience may not be available.

If we do not have a vintage pool to use anymore, it means that in the middle of a CECL reporting, we have to add in another methodology. A fallback method needs to be on standby, realistically, when a vintage analysis is being used. The dynamic nature of the vintage analysis needs to be kept in mind while adopting this method for CECL calculations.

Chapter 24

IFRS 9 IMPLEMENTATION LESSONS FOR CECL

ORIGINALLY PUBLISHED ON
OCTOBER 11, 2022

CECL AND IFRS 9 ACCOUNTING STANDARDS

The Financial Accounting Standards Board's (FASB) Current Expected Credit Loss (CECL) model requires financial institutions to estimate lifetime expected credit losses for their assets and hold capital accordingly. The International Accounting Standards Board (IASB), under its International Financial Reporting Standards 9 (IFRS 9), made significant changes to its accounting models for credit impairment. The internationally used and recognized IFRS 9 standard differs from CECL (Used primarily in the US) in a few significant areas. Both these standards are explained below.

Source: garp.org

Getting familiar with IFRS 9

In accordance with the new standard, which introduces the idea of expected credit loss accounting, banks must estimate the potential loss of assets at the time they are created or purchased. These banks have to then set aside funds to cover that loss. Banks only made provisions for assets under the prior system, IAS 39, at the point of impairment.

There are three phases of impairment as part of IFRS 9:

Phase 1

When no significant deterioration is observed for assets, then they need to have provisions for losses that are predicted over the next 12 months.

Phase 2

When assets undergo significant deterioration, they should have lifetime provisions.

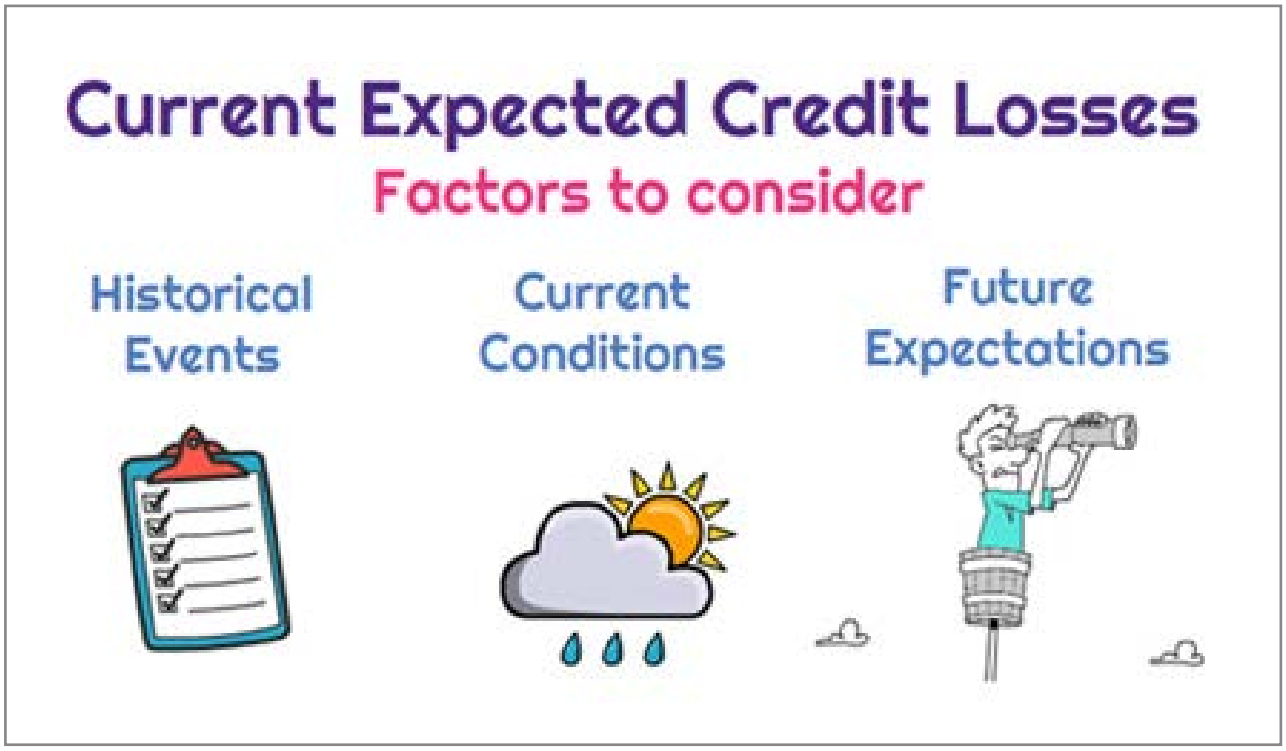
Phase 3

Impaired assets would be highlighted by two factors. They would display a reduction in

expected interest payments and also have lifetime provisions.

IFRS 9 aims to align global standards and is part of a broader set of accounting rules. The Current Expected Credit Loss (CECL) standard is the US version of IFRS 9.

Understanding CECL



Source: universalcpareview.com

The Financial Accounting Standards Board (FASB) issued the new accounting standard, the current expected credit losses methodology (CECL). This expected credit loss accounting standard for estimating allowances for credit losses was issued in June 2016. CECL substituted the Allowance for Loan and Lease Losses (ALLL) accounting standard. ALLL focused on actual losses suffered. However, it did not account for potential future financial flows that would be unpaid. The 2007–2008 financial crisis served as a warning about the shortcomings of existing approaches for setting up capital reserves. The CECL standard makes a move to the expected credit loss model. Banks and other financial organizations will have to abandon the previous incurred loss model and will be compelled to create estimates that are forward-looking as a result of this change.

As they prepare for the transition to CECL, financial institutions must also take internal control audits into account. When it came to the techniques and models that institutions could employ to execute CECL, FASB made no absolute restrictions. Within financial institutions, a number of models have gained favor for calculating anticipated credit losses, and some of them are explained below.

1. Discounted Cash Flow Analysis (DCF): As part of CECL, there is a change to the Discounted Cash Flow Analysis method with a need to consider at least some risk of loss and the removal of the best estimate notion. This method now involves relevant external factors that show a credit loss that is expected. As a result, new data will have to be sourced. This is especially true for individual assets to be in line with the cash flow expectations.

2. Weighted-Average Remaining Maturity (WARM) method: This is a relatively new method. When it comes to implementing

CECL, the WARM method is more practical in its approach. For institutions faced with a scarcity of loan-level data, the WARM method is a good option. These financial Institutions are able to use aggregated data from call reports. This is because the WARM methodology uses an average annual charge-off rate.

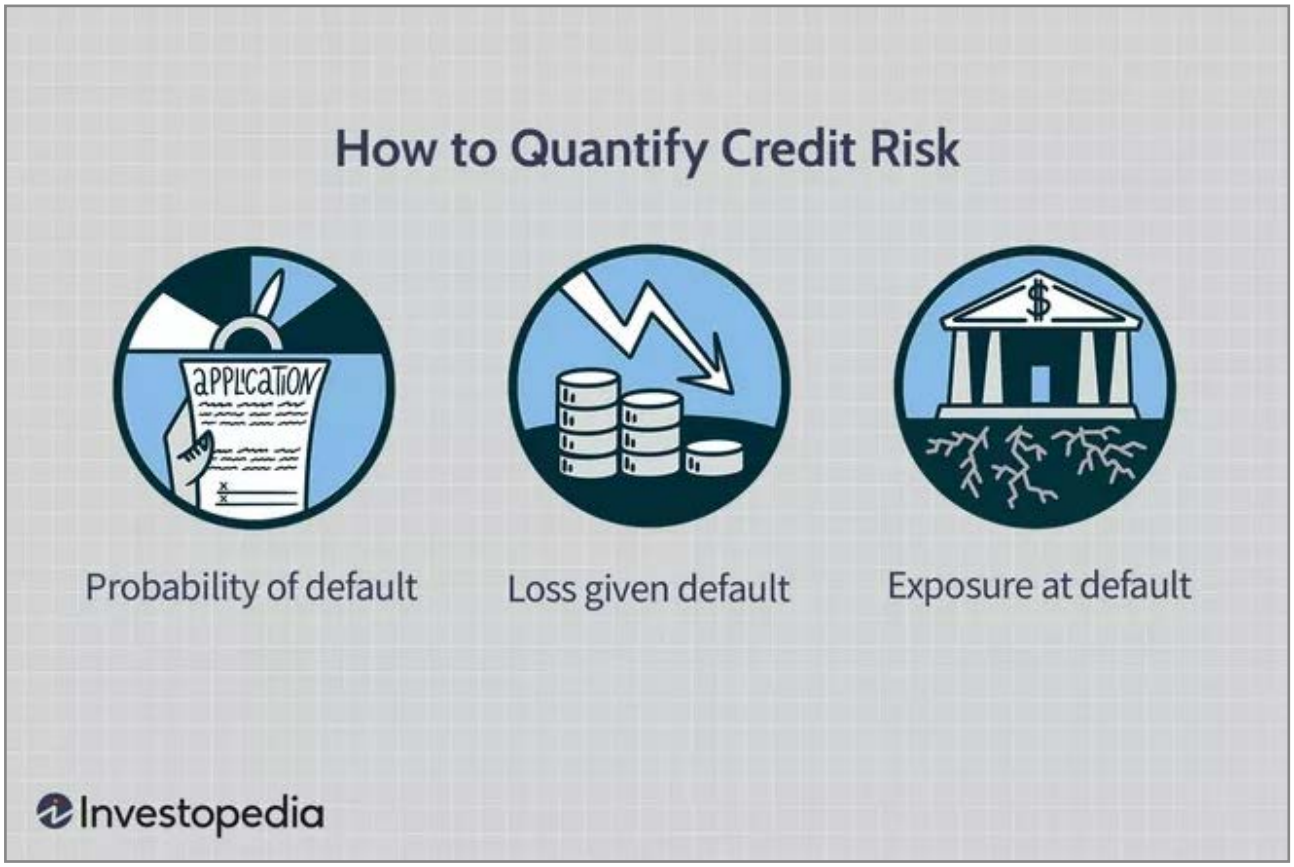
3. Vintage Analysis (VA): Vintage analysis pulls its data from loss curves. Loss curves involve expectations of losses at each point in the life of a financial asset. The primary change to the vintage analysis method as part of CECL is that the allowance will be mirrored by the remaining area under the loss curve and will not be shown as a single point on the loss curve.

4. Probability-of-default/Loss Given Default (PD-LGD) method: Institutions that choose the probability-of-default methodology will have to verify the reliability of historical data sets. The cumulative default probabilities and loss given default are built by these data sets. Various industry sources of data can be used to verify the probabilities of default over various economic cycles. This is done to add on to the institution's own experience.

Implementation of IFRS 9 and its lessons for CECL implementation:

The implementation of IFRS 9 outside the US has been mandatory only since 2018. Still, there are several lessons that can be learned and then implemented with CECL, in the US.

As compared to the IFRS 9 implementation, it is observed that credit impairments are initially higher when CECL is being implemented. The ECL estimates are, therefore higher, and financial institutions may suffer initial stress during CECL implementation. But in later stages of the loan, IFRS 9 does catch up with CECL when it comes to the estimation and maintenance of reserve levels. This leads to increased financial stability during periods of financial stress, thereby creating a resilient financial system.



Source: investopedia.com

Also, CECL regulators vary across different states in the US. The differences lie in staging and timing, and IFRS 9 is based on less applicable methods. Over time CECL aims to triangulate the result. This means that the Discount Cashflow (DCF) method and PD-LGD method are likely to be the preferable ones because they triangulate best with loan pricing. We can look at the loan price, and we should be able to compare the DCF and the PD-LGD as they are both based on the Probability of Default (PD). That PD should be reflected on day one of the loan for its spread. As the loan deteriorates in credit value, it should be visible in those two methods. We should be able to track them in a way that is different from other methods, such as Vintage method and Warm method, which are based on historical averages. Therefore, if we think of loan pricing as a function of credit and credit deterioration, then CECL should be reflected best in DCF and PD-LGD methods.

One of the differences between IFRS 9 and CECL is that CECL has multiple approaches. Those approaches are likely to converge. It will not be immediately evident to bank examiners. Ultimately, since PD-oriented methods are preferred in IFRS 9, it is likely that they will be preferred in CECL as well.

The PD should determine the spread on the loan. In theory, we should always make the same risk-adjusted profit. Thus, the reason we will pay more is that, on average, we will default more quicker. The bank recovers the amount because of the higher interest rate that covers the quicker risk of default. Hence, we should be able to work out the PD from the spread on a loan in a way that we should be able to work out the spread of a loan from the default, and the discount cash flow should be locked together of those two things on day 1. As we move forward, if the PD stays the same, then they should stay together. If the PD moves, then we should be able to see the PD, LGD, and DCF move away from the current CECL amount. Therefore, triangulation should exist. If it does not exist, it is because we are using Vintage or WARM method because of the averaging effect. And it does not exist because that can get skewed depending on how we do our loss averages and our forward projection of the economics. DCF and PD-LGD are more in line with the loan pricing.

We are not necessarily checking the accuracy of ECL (Expected Credit Loss), but we are checking if the PD was right in the first place, and that is how we should price the loan so it should all work together. FICO scores change according to experience, and the banks then price loans according to the best available knowledge. If we are pricing a loan against the PD, the capital should also be in line with it. So, we are charging the appropriate spread and holding the appropriate capital. That should be locked together, and the two methods most related to that are DCF and PD/LGD. This is exactly the reason why we need to think about CECL methods. DCF and PD/LGD methods are much more in spirit of why CECL exists, and that is backed up by IFRS 9, which exists for the same reason and has come to the same conclusion.

Chapter 25

DEEP DIVE INTO THE WARM METHOD AND AVERAGING EFFECTS ON OUTLIERS

ORIGINALLY PUBLISHED ON
OCTOBER 25, 2022

CECL AND THE WARM METHOD

The Financial Accounting Standards Board (FASB) recommended the Current Expected Credit Loss (CECL) accounting standard for more timely recognition of credit losses to avoid any financial crisis-like situation in the banking industry. The CECL model is now based on expected losses and not on incurred losses. The FASB does not mandate any specific method when measuring credit losses under the CECL standard. One of the methods allowed is the Weighted-Average Remaining Maturity (WARM) method. In this article, we are going to dive deeper into the WARM method, explore its pros and cons, and why it is important to consider the granularity of portfolios when calculating CECL results.

Understanding WARM method

It has been observed that the WARM method is one of the more preferred methods of small US financial institutions as they work towards becoming CECL compliant. The WARM methodology lets financial institutions use the same average annual loss rate unlike most other CECL methodologies that calculate a specific lifetime loss rate.

WARM method features

- Calculation of the average annual loss rate
- Based on estimated prepayments and contractual maturities, estimating future outstanding balances
- Multiplication of the estimated outstanding balance by the average annual loss rate during future reporting periods
- Aggregating the estimated losses for each of these periods

WARM method example

There is a loan portfolio with 150,000 dollars outstanding at the end of 2021 in this example as shown in the table below. The average annual loss rate for this loan pool has been calculated at 30 basis points. Under CECL, it has been forecasted that the entire loan portfolio will be paid down by 2024. To calculate lifetime losses, we sum them at the end of each year.

Example table

Year end	Paydown estimates	Balance projected	Annual loss rate	Loss estimate under CECL
2021		1,50,000	0.30%	45,000
2022	65000	85000	0.30%	25,500
2023	45000	40,000	0.30%	12,000
2024	40000	0	0.30%	0
				82,500

The historical lifetime loss rate = 82,500 / 1,50,000 = 0.55%

Primary challenges under the WARM method

1. Qualitative factors (Q-Factors) need to be considered while using the WARM method. The historical loss rate will be adjusted for current and forecasted economic conditions.

2. Forecasting adjustments can be challenging for some entities as it involves key economic indicators such as the consumer confidence index, unemployment data, and housing price index.

3. The WARM method does not use loan-level information in the same constructive way as other methods do and does not allow banks to utilize the full potential of their data and analytics capabilities as they implement CECL.

Importance of loan portfolio granularity under CECL

Loan pools or segmentations should possess the same risk characteristics and should be as granular as possible. As the pools shrink in size based on their granularity, they might lose their size and statistical significance.

We can have a generic default loss rate number for the pool, or we can split the loan pool into:

- Pass
- Special mention
- Sub-standard
- Doubtful

This split ensures we have a different default for each one of them. The loss rate is different for each of them as the chance of default is higher for a sub-standard loan than a passing loan, and so on. If we do not separate these loans and just allow them to average into the WARM method, and if we take the bigger loss numbers that exist in the lower ratings and put them into one bucket, we lose the outliers and those outlying loss values.

There are institutions that, by just using the call reports, try to arrive at a CECL number. But, there are drivers within the WARM method, which is the loss rate factor that goes into it, plus the average maturities that will change that method. We have to be able to understand the difference in riskiness. We can do the weighted average using the portfolio, but we also need to split by the delinquency level of the loan as this will give us a different value. Hence, we get a matrix of values of different risk ratings of the loan and different maturities. We can do that by the default or we can do it with Q-Factors. However, if we do that with Q-Factors, we still have to be able to differentiate between passing loans, sub-standard loans, etc. We want to put different Q-Factors in to adjust for the higher riskiness. We can put a different default loss rating to drive it, or we can adjust it with Q-Factors. We have to do one or the other. We cannot simply take the

number of the call report and do the WARM method as, while we do that, we do not change its driving influences.

Trade-offs institutions face while opting for the WARM method

1. The WARM method cuts the computation time down as it does the averaging on the way in. But, we do not want to cut the computation time down to the point of losing the granularity of the portfolio.

2. What is the purpose of using the WARM method in that case? The reason the WARM method is used, especially by smaller institutions, is the lower computing power required to execute it.

3. If the constraint of computing power is removed, would small financial institutions still use the WARM method? Are they aware of the granularity and the accuracy they are losing in the process? Firstly, the portfolio has got to be split based on riskiness because otherwise, there is a chance of averaging away the risk that should otherwise be captured. Secondly, if the WARM method is only being used because of its computing power requirements, then is that really the right choice?

4. If banks and other financial institutions are going to choose the WARM method, they still have to subdivide their pools into riskiness since the pools will have different driving factors, whether they are default losses or Q-Factors.

5. The question then arises, why are these institutions doing WARM at all? There are methods that are arguably more accurate when it comes to calculating CECL estimates, such as Roll Rate, Discount Cash Flow, and PD/LGD. Roll Rate and Discount Cash Flow are computationally more expensive than WARM, but they are also more targeted. If institutions still want to opt for WARM after understanding all the pros and cons, then they have to subdivide the portfolio by riskiness to average the right pools.

If institutions are able to export the computing power cost associated with CECL calculations, then they should also be looking at a provider that offers more optionality in the methods. This way, they can choose a method that is actually right for their portfolio rather than choosing a method that has lower computational requirements.

Chapter 26

CAN THE CALL REPORT BE USED ALONE TO GENERATE CECL?

ORIGINALLY PUBLISHED ON NOVEMBER 8, 2022

CECL AND CALL REPORTS

The Financial Accounting Standards Board (FASB) issued the Current Expected Credit Losses methodology (CECL), a new accounting standard for estimating allowances for credit losses. This new accounting standard applies to all banks, credit unions, and savings associations that file regulatory reports, which conform to the Generally Accepted Accounting Principles (GAAP) of the US. The FASB introduced CECL so that financial institutions are better equipped to tackle any situation similar to the global financial crisis. CECL replaces the incurred loss methodology and instead relies on estimating expected credit losses using various methods. These methods need historical and other data to process CECL estimates so that banks can maintain enough allowance to account for any expected credit losses. The data that is required for CECL can come from the one maintained by banks internally and also through call reports.

What are call reports?

A call report is a regulatory document that American banks are required to submit to the Federal Deposit Insurance Corporation (FDIC) on a quarterly basis. By comparing several call reports, it is possible to gather information about the health of the US banking system. A call report comprises information about the bank's financial health.

- Call reports are quarterly financial condition reports sent to the FDIC by the US banks.
- The bank's management must approve and verify the report's contents.
- The size of the bank, and the capital standards applicable to it, decide its specific reporting requirements.

The call report contains several data, which are an indicator of the reporting bank’s viability. Items within the call report include:

- Bank's income statement
- Loan information
- Deposit information
- Balance sheet investment information
- Asset sale information
- Changes in the bank's capital

Call report submission

Financial institutions file their call reports with the Federal Financial Institutions Examination Council (FFIEC). The public can access these reports on the Federal Insurance Deposit Commission website. Call reports are used by the banking industry to find out loss information for historical periods. Future expected credit losses are then predicted using this information.

Call report limitations

But is the data contained in the call report sufficient to arrive at accurate CECL results? Several other factors influence CECL calculations that institutions need to consider to arrive at precise CECL results. These aspects are as under:

1. Historical pattern in lifetime losses derived from call reports is not sufficient to arrive at accurate CECL results. We need the right economic indicator data to predict CECL allowances.

2. As compared to public data sources such as call reports, the vintage or year of origination is an important data source for calculating credit losses. This vintage information, which is part of a bank's internal data, is used as part of the Vintage Analysis Methodology to estimate losses.

3. The Weighted-Average Remaining Maturity Method (WARM) calculates an average quarterly loss rate while estimating reserves under CECL. The WARM method uses the average quarterly loss rate to calculate the lifetime loss rate. Institutions that choose the WARM method should also use their internal data to subdivide portfolios by riskiness. This will help them come up with more accurate CECL results.

4. While call report data may be an important source for benchmark information, the calculation of historical loss rates should involve systematic analytical capabilities that compare various approaches. This result is then considered against qualitative adjustments and economic factors to estimate future reserve levels.

5. Besides historical information, CECL should consider reasonable forecasts of future events and current information along with prepayment estimates. Institutions can use various methods for estimating CECL, including probability of default/loss given default, historical loss rates, discounted cash flows, and roll-rates.

6. The analysis of how historical data measures against peer experiences and industry benchmarks is important and should be given due diligence in CECL.

7. Banks and other financial institutions should know the duration of their loans. They should factor in the categorization of these loans to estimate CECL and try not to be too dependent on call report data alone.

8. The vintage loss rate methodology for calculating CECL allowance has to ensure that the vintage pool must reflect the risk profile of loans in the pool. This is something that call reports do not address. We will have to resort to another methodology in the middle of a CECL reporting if we do not have a vintage pool to use anymore.

9. While using the WARM method, the portfolio has to be split based on riskiness. This is done so that we do not average away the risk and granularity that is supposed to be captured. Institutions, in their haste to arrive at quick and affordable CECL results, will end up using call report data, which fails to acknowledge portfolio-related factors such as granularity and riskiness. The inaccuracy of such CECL results will have severe and far-reaching consequences on institutional health.

Measuring CECL allowance accurately is a challenge for most financial institutions, and this is especially true for smaller establishments. To estimate lifetime losses, a number of different factors need to be considered. Qualitative adjustments can be made by comparing related economic indicators with historical periods of loss data. Banks must use both external and internal data for their model-based approaches while calculating CECL.

Chapter 27

IMPLEMENTING CECL QUICKLY

ORIGINALLY PUBLISHED ON
NOVEMBER 23, 2022

CECL IMPLEMENTATION

After the financial crisis of 2008, it was widely agreed that it had been aggravated by the incurred loss methodology existing then, which delayed the recognition of credit losses. The Financial Accounting Standards Board (FASB) worked along with the International Accounting Standards Board (IASB) to come up with a forward-looking way of measuring credit losses. The FASB announced an Accounting Standards Update (ASU), now known as the Current Expected Credit Losses (CECL), to calculate expected credit losses, which are part of an institution's financial assets. CECL facilitates the measurement and reporting of credit risk. Institutions will have to consider past events, prevailing conditions, and supportable and reasonable forecasts while estimating credit losses.

The deadline for implementing CECL is not far away. Some financial institutions have already implemented CECL, many are in the process of implementing it, and yet more are yet to start with their implementation process, and are currently looking at the best alternatives available to do it. There are a few basics that institutions have to keep in mind as they plan a road map for implementation. Some of these basics are explained below.

a) Model selection

The FASB has recommended several models under CECL to calculate reserves that would be needed to cover any future expected credit losses. Some of these models are listed below.

1. Discounted cash flow analysis
2. Loss-rate method
3. Vintage analysis
4. Probability-of-default method
5. Roll-rate method

Financial institutions, according to their size, can scale CECL and apply it. Small institutions, in fact, are not required to apply any complex modeling techniques. While choosing a model, banks will need to use their judgment, keeping in mind the complexity and data capabilities of their organizations. It is necessary to use different models for different loan pools depending on the composition of a loan portfolio. A sophisticated model may occasionally be needed to predict upcoming losses. The institution's existing strategy will work in other situations. The size of each loan pool, risk profile, and level of concentration, are just some factors that have to be considered before selecting the right approach. Each selection should be well-supported and documented, as this helps the organization explain its procedures during audits.

b) Data validation

Each CECL model requires data at every level of its operation, some of which are listed below:

1. CECL requires advanced data validation, assessments, and interpretation, and it is imperative for organizations to ensure that they have the correct data for a successful implementation.
2. Institutions need to determine and organize all available internal data that is required to successfully run their CECL models and come up with accurate reserve figures.
3. In case of any shortage in internal data, historical or otherwise, banks can look at external data resources to bridge the gap.
4. Data on the level of segmentation for loans that possess similar risk characteristics is needed.
5. Data to support an institution's forecasts and asset segmentation is required.

c) Solution design

The next step is to design the solution to suit models and data that is made available from institutions. Some firms have the requisite resources to build a CECL implementation solution themselves, while others must purchase it. Institutions need to be aware of the functions of the technology and software that are needed to support the model they select.

Banks can select solutions and options that range from sophisticated modeling software to internally developed spreadsheets. Larger and more complex institutions may find a third-party software product beneficial, while smaller institutions that choose simpler models may find a spreadsheet more suited to their needs.

d) Trial runs

After the solution design, institutions can commence the trial run. It is a stage when it is still possible to change anything if needed. Institutions should evaluate their internal capabilities to collect the required data and then run the CECL model to estimate future losses. This exercise helps them determine additional resources needed to fill any gaps in the system. One way to perform trial runs would be to develop certain model CECL scenarios and then run historical data through this model. The next step would be to compare the results to the expected performance.

e) Tweaking

After analyzing the results of the trial run, institutions can then tweak the solution and processes and tighten up everything to ensure it works seamlessly. Post this, the solution and models are locked into place.

f) Parallel run and going live

Once institutions have identified their models, performed trial runs, and made the necessary tweaks, they can move to parallel runs by testing and comparing the results of their tests to those of their current model. Depending on this analysis, they can adjust variables for the new model. As long as the parallel run is successful, the CECL implementation can go live.

Steps banks or credit unions can take when left with too little time to implement CECL.

When institutions are left with very little time to put a CECL solution into place, it will be very ¬difficult to build something up themselves at the last moment. The steps involved in building and checking a solution and the requisite platform are time intensive. In this situation, institutions will need to think about taking some shortcuts.

The shortcut is that banks and credit unions use the solution from a third-party provider that has already got solutions up and running live. Why do they do that? Because it means that at least the important steps have been checked and verified by the provider. Hence, even though banks don't have the time to get systems into place, at least they can say that multiple people have checked it, therefore it is likely to work. Institutions will still need to do some checking but it is much more feasible than building a solution from the bottom up.

So, with little time left, institutions need to find a third-party provider that can, first of all, make sure that it can map their portfolio. Financial institutions must have some idea in mind about the result they are expecting. Broadly speaking, it should be within 25 percent of their current result.

A third-party provider is someone who has gone through all the steps that are part of preparing for CECL implementation and has done it for several of its clients. Institutions should have an idea of their CECL results, and most importantly, they have to check if their CECL results can be audited. If they approached the entire process like an auditor rather than as an implementer, they would have ticked all the boxes that a bank examiner would be looking for while auditing their CECL results and systems.

Things financial institutions should avoid as they implement CECL

1. Banks should not go with a solution that limits their model choices. It might seem like the quickest and easiest way with the time crunch on, but they might end up stuck with an inefficient model and possibly even a model that is not fit for their portfolio. They need to remember that in the future, their model requirement can change. This is particularly true if a vintage approach is selected because the correct vintage pools might not exist at some point in the future.
2. Institutions should not get trapped into a contract that will cost them more in the future when it comes to adding additional models. It will be an open-ended spend at that point and will tax their resources. For banks, selecting a particular CECL solution might seem like a quick and easy fix, but if, to stay within the contract that they signed, they have to pay more to get what they need, it will end up being potentially expensive in the long run. Banks need to realize that they might not have much time at the moment, but they still have got a budget, and they need to know how that budget will play out in the next three years.
3. Banks need to do their best to get a system that tells them more about their portfolio than just the CECL result. There are things within CECL, like stress testing, that also need to be considered. Institutions should think beyond the result as long as their chosen solutions give them options in the long run. In conclusion, banks need to try and get something that gives them more insights into their portfolio, more stress testing, and more capabilities in and around the possible scenarios.

Chapter 28

DISCOUNT CASHFLOW: WHY IT MAKES SENSE AND WHAT IT NEEDS

ORIGINALLY PUBLISHED ON DECEMBER 14, 2022

IFRS 9 AND THE DCF METHODOLOGY

The accounting models for credit impairment have received a big boost from the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB). The FASB has proposed the current expected credit loss (CECL) accounting standard to calculate expected credit losses in the US. The International Financial Reporting Standards (IFRS) 9 is IASB's standard to estimate credit losses internationally. There are a few key differences between the CECL and IFRS 9 standards regarding their approach to calculating Estimated Credit Losses (ECL). One of the areas of difference is the model selection criteria. While CECL allows financial institutions to select the right measurement model to calculate the impairment allowance, the IFRS 9 standard prefers to use the Discounted Cash Flow (DCF) methodology. With the deadline for adoption of the CECL standard is inching closer for all financial institutions, US institutions need to pay special attention to the DCF methodology following an ever-increasing push towards harmonization between the CECL and IFRS 9 standards globally.

IFRS 9 offers few choices to institutions outside the US that are seeking to implement this accounting standard. Therefore, the accounting standard board, after thorough consideration, has decided that the DCF approach for calculating ECL is best suited for their needs and those institutions that fall under their jurisdiction.

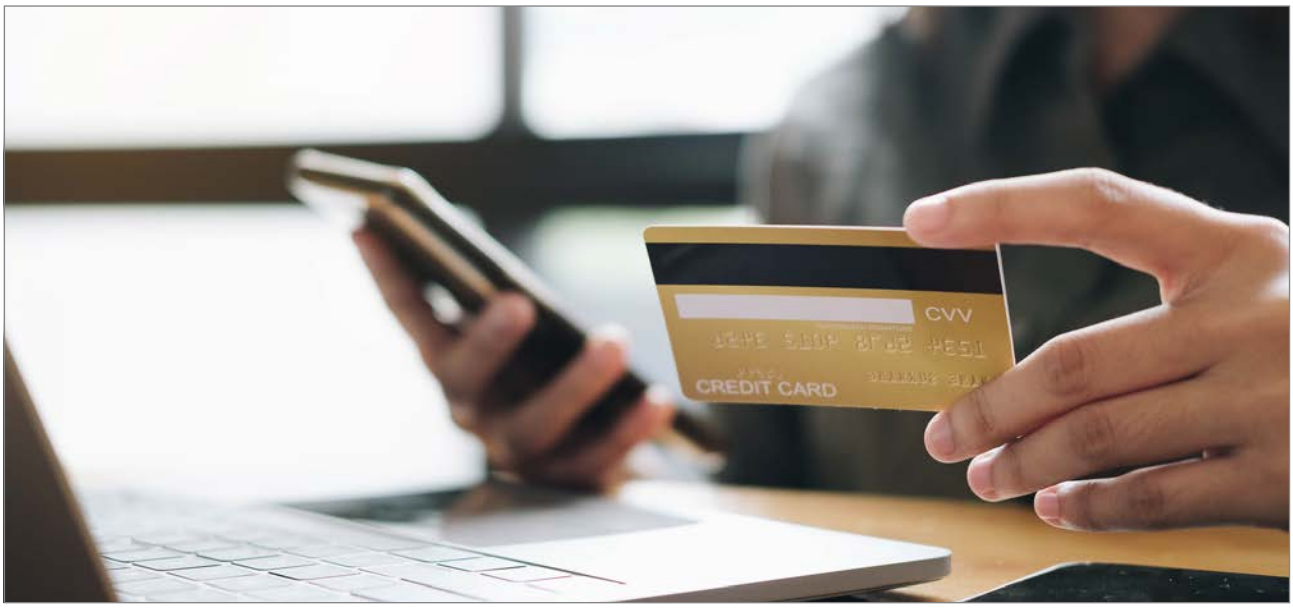
Why the IFRS 9 prefers the DCF method

For IFRS 9, the ECL for a financial instrument is the difference between cash flows that are expected to be received and the contractual cash flows that are due. Given that the discounted cash flows approach to calculate ECL is preferred under IFRS 9. This calculation is shown below, and it uses discounted losses to provide the ECL value.

$$ECL = \sum_{t} \frac{PD(t)LGD(t)EAD(t)}{(1+EIR)^{t}}$$

In the above calculation, future losses at time "t" are estimated using values such as:

1. Probability of Default (PD)
2. Exposure at default (EAD)
3. Loss Given Default (LGD)
4. Effective Interest Rate (EIR)



Understanding EIR

The interest the bank charges on a borrowed sum is known as the advertised interest rate or nominal interest rate. The effective interest rate reflects the actual cost of borrowing to the consumer and is normally higher than the advertised interest rate. The EIR includes amortization effects as well as components such as administrative charges or service fees for processing and approval of a loan. EIR is the effective interest rate for banks. It is also the value that they are really testing the risk on.

Core principles for using the DCF method:

1. Loans are priced according to their Probability of Default (PD), so the profit banks make offsets the funding of any capital that they have to hold. Now, if banks have to hold capital, they effectively lose money through opportunity cost, because it is not in the market working for them. If they price the loan correctly and the system is working, then it triangulates properly.

2. Not all banks refresh their PD all the time. If they do not, it does not work because one of the things they are supposed to capture is the deterioration of the PD itself. Therefore, if PD slips down and institutions do not capture it, they are constantly going to calculate the wrong number. Thus, it is important that institutions refresh their PDs.

3. The other thing that is needed for the DCF calculation is the EIR. It is not the most complicated value to be calculated, but it needs to be done because of the methodology used within this calculation, which calls for banks to discount using the EIR. Therefore, they need to calculate the EIR.

Points to consider while using vendor services to implement CECL

1. While selecting a vendor, institutions such as banks and credit unions need to ensure that vendors calculate the EIR. The only data they should ask for from financial institutions is the credit score. Vendors should also supply the curve that the credit score goes against, enabling them to determine the correct PD. If this can be managed, then the DCF method would probably be the best one to use because institutions will get the most accurate result. This approach will be the most accurate in keeping with the international version of this standard.

2. Data such as the EIR and PD curves can be calculated or obtained from external sources, and therefore the vendor should supply it. The credit score belonging to clients of financial institutions is not accessible from the outside. Consequently, it is the institutions that need to refresh those credit scores and provide the data. The DCF method, if implemented

correctly, can turn out to be the gold standard and bring the US banks in line with the international thinking for estimating credit loss reserves.

3. When we see the formula for ECL, we can observe the losses and the EAD, but we are discounting that by the EIR because we are discounting that by what the bank actually charges. Their CECL solutions provider has to translate the credit score into a PD and calculate the EIR. Once the vendors calculate these values, they can provide them to financial institutions that have enlisted their services. If implemented successfully, the DCF method can be considered one of the most accurate ones. It is also an approach that every country will accept. This means that as standards harmonize over the years, which is a stated aim, we can rest assured that there is very little chance of this method being rejected. Alternate methods risk being ruled out during any such harmonization efforts.

Chapter 29

THE NEED FOR SCENARIOS IN CECL

ORIGINALLY PUBLISHED ON DECEMBER 27, 2022

LIQUIDITY AND CECL

The Financial Accounting Standards Board (FASB) considers a few parameters as necessary for calculating expected credit losses for banks and other financial institutions while implementing the Current Expected Credit Losses (CECL) accounting standard. These parameters are listed below:

1. Current conditions
2. Historical experience and information about past events
3. Reasonable and supportable forecasts

CECL measures expected losses related to financial assets, but because it measures how much capital to hold as a bank, it can also be seen as a liquidity measure. Therefore, it can influence if financial institutions are going to be short of capital after estimating their reserves and if that could lead to a capital problem and a liquidity problem. Once institutions consider this liquidity aspect that accompanies CECL implementation, they can prepare for any adverse situations that may arise in the future.

Constructing scenarios while planning CECL

The collectability of financial assets will depend on the adjustments of reasonable and supportable forecasts along with the historical loss rates. This can be achieved by modeling elements such as stress scenarios and economic shocks. Historical loss information should be adjusted, as necessary, to reflect the reasonable and supportable forecasts that are not already reflected in the historical loss information. Qualitative and quantitative factors will have to be incorporated when estimating CECL allowances.

Although no specific estimation methods are prescribed under CECL. The allowances for credit losses can be determined using several reasonably accurate methods. Some of these methods include:

1. Probability of default/loss given default method
2. Loss rate method

3. Vintage analysis
4. Roll-rate method
5. Discounted cash flow analysis

Any of the above estimation methods can be applied to different financial asset groups, provided the bank's credit loss estimates are well supported. Banks can develop several defensible scenarios based on the right economic theory to become CECL compliant. These scenarios help them assess lifetime credit losses using various assumptions. In a recession, several macroeconomic factors can work against the recovery of credit in banks. As a result, default probabilities increase, and losses in the event of a default worsen. Not only do the Gross Domestic Product (GDP) and other economic variables come down, but also, more people default on the same credit score.

For example, if 0.1 percent of people default on a credit score of 800 or 750 during a regular time, 0.2 percent of people default in a recession because they are being impacted by all the negative economic factors that follow a recession. It is difficult for banks to predict exactly who will get affected the most from this until it actually happens. Such data is generally easy to pick from historical losses as opposed to predicting it.

Credit loss data lags recessions

Losses that drive expected loss calculations by their very nature lag recessions and potentially leave banks unprepared for the impact. All the indicators in terms of how people default lag the market. For example, right now, someone with a credit score of 750 has a historical 0.1 average of defaulting. But if we went through a 6-month depression, we would see that default percentage go up considerably. But this default probability will not be recorded in the numbers until much later. Therefore, what can we do about that? As mentioned earlier, banks can build scenarios that actually facilitate the estimation of losses. They have to factor in what happens when GDP falls. What happens if the default ratios increase? What happens if the loss-given defaults go up? When house prices fall, even when the asset is recovered, it sells for less than what is expected. All of this data needs to be factored into the system.

Liquidity and the benefits of constructing scenarios

Liquidity basically means how much cash banks have ready in their system to use for any contingencies and investment purposes. If their CECL provision goes up, they will have less cash. A

bank makes money by having cash in the market. Some of the factors that can influence liquidity within banks and, consequently, CECL provisioning include:

1. Disposable incomes
2. Size and complexity of portfolios in institutions
3. Unemployment
4. Inflation
5. Market volatility

How do banks know if their provision is going to go up? If the markets deteriorate and they have to increase their provision, how do they do that? One of the measures they can use is to sell their assets, such as loans, to another bank. Banks in contingent cases such as recessions have to get their assets off their balance sheets and turn them back into cash to get the CECL provision where it has to be. That is called a contingent liquidity plan which involves liquidity stress testing based on various scenarios.

Constructing scenarios for internal uses allows banks to do two things

1. Monitor liquidity buffers
2. Select CECL methods that are least sensitive to deteriorating conditions

Therefore financial institutions have to be able to build in scenarios as part of their initial CECL calculations. It should tell institutions such as banks something more interesting about their liquidity position so that they can use the system to monitor this liquidity position to know what they might need in a recession-like situation. By having a Liquidity contingency plan in place, banks won't need to have the cash ready for a massive economic fallout immediately. Still, they will have a plan prepared on how to access this cash should the need arise.

A bank's liquidity contingency plans include the following:

1. Identifying contingent liquidity events
2. Assess funding needs by judging the severity of these events
3. Identify potential sources of funds, such as loans that could be sold off
4. Establish a mechanism to monitor and manage events

Under a liquidity contingency plan, a bank needs to decide if it wants to sell assets or if it wants to sell loans to increase liquidity. There has to be a way to get back to a liquid position. Banks can increase liquidity within their system and be prepared for any contingencies by using the below-listed measures.

1. Sale of assets
2. Reduction in cash consumption activities
3. Bond issuances
4. Setting up crisis management committees
5. Conducting dry runs of liquidity stress tests periodically

Planning for future liquidity scenarios can change the CECL methods banks choose. CECL provisions need to be compared between different methods for various scenarios, such as a recession or maybe a severe recession. Accordingly, a CECL method with the right sensitivity needs to be chosen.

CECL is all about planning

To conclude, there is more to CECL than just reporting. There is actual planning. There is the planning of CECL itself, which impacts the model, and there is the planning of liquidity. Liquidity contingency plans can be managed effectively through proper supervision and regulation. So, whenever we choose or design a CECL solution, we should think about the additional liquidity requirements that can be incorporated by that solution. This will kill two birds with one stone. Therefore, it becomes even more crucial for financial institutions to choose their CECL solutions provider carefully, considering we are in the final month leading up to CECL implementation in the new year.

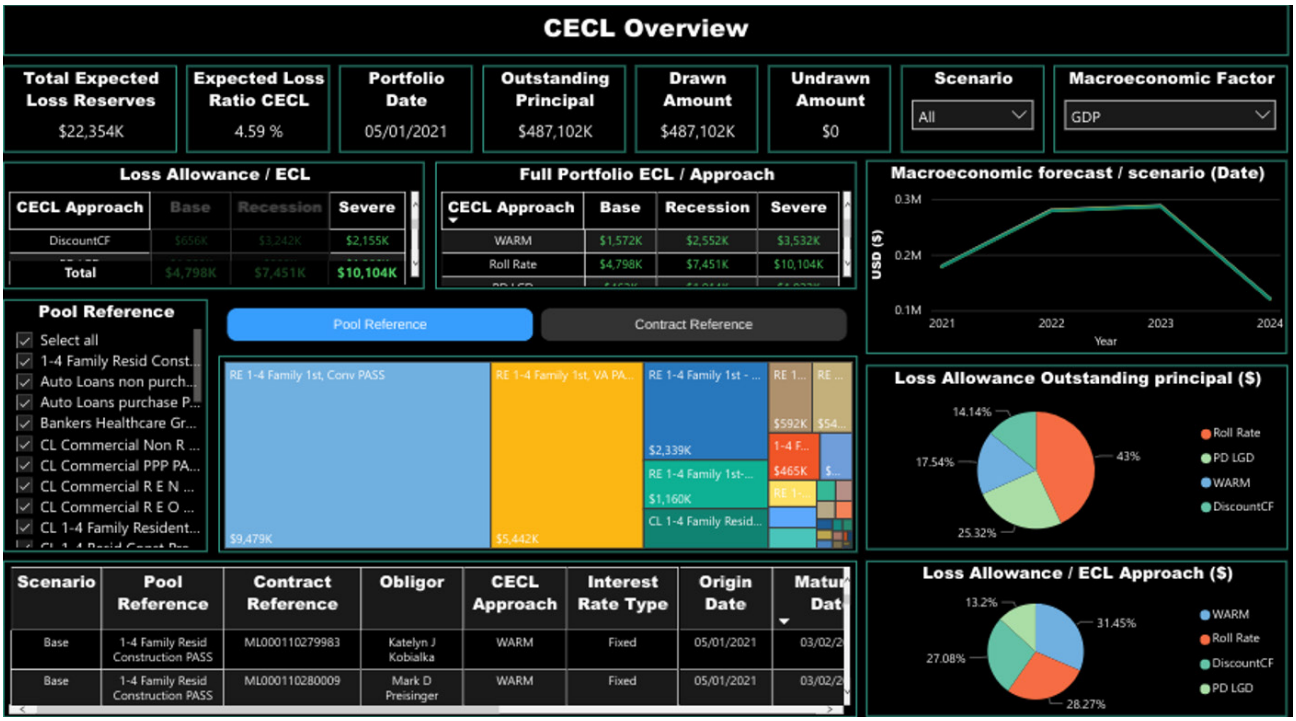
CECL Express can help...

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 studying 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.