Aptivaa

Current Expected Credit Loss (CECL): It's More Than ALLL+

1) Introduction

The Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU), Financial Instruments – Credit Losses in June, 2016. This ASU 2016-13 introduces a new model for recognizing credit losses on financial instruments which is based on an estimate of **C**urrent **E**xpected **C**redit **L**osses **(CECL)**. The ASU will apply to:

- loans, accounts receivable, trade receivables, and other financial assets measured at amortized cost,
- loan commitments and certain other off-balance sheet credit exposures,
- debt securities and other financial assets measured at fair value through other comprehensive income, and
- beneficial interests in securitized financial assets.

The updated standard (based on CECL model) will be effective for public business entities (PBE's) that are SEC filers in fiscal year beginning 1st January 2020, including interim periods within those fiscal years. All other entities will have an additional year to migrate to the CECL based framework. Early application of the guidance is permitted for all entities for fiscal year beginning 1st January 2019, including interim periods within that fiscal year.

The transition from Allowance for Loan and Lease Losses (ALLL) to CECL is important because:

- It requires a change in mindset from a backward-looking to a forward-looking approach in setting allowances for credit losses.
- It may increase allowances for most institutions.
- Significant changes will be required to institutions' loss forecasting methodologies, data requirements, infrastructure and systems, necessitating significant coordination across the organization.

There are significant differences between the new standard (CECL) and the current U.S. GAAP approach for

estimating allowances. Bank risk managers and accountants are at odds over how to deal with this change and migrate to the new accounting standard. Accountants want hard numbers – not estimates – for financial reporting. Accountants are viewing the CECL forecasting problem through the same lens they look at budgeting. But then banks must understand, what may be fit for use for budgeting may not be fit for use in setting reserves. The new accounting standard requires substantial amount of quantitative modelling and risk managers are facing pushback from accountants over the use of model estimates. But both risk managers and accountants agree that Banks will need to change the inputs to their existing allowance estimation framework to appropriately comply with and implement the new standard (based on CECL).

2) Framework for Loss Allowance

The allowance of loan and lease losses (ALLL) is a reserve to estimate the uncollectible amount of a loan or a lease to reduce the loan or leases value to the amount the bank expects to eventually receive. The ALLL, or "the allowance," for a bank has two major components. The primary component consist of loans collectively evaluated for impairment (FAS 5), and the second component where in loans are individually determined to be impaired (FAS 114).

FAS 5: Loss Allowance for Performing Assets

The FAS 5 component, often the largest, is for loans that have not been individually identified as being impaired. These loans are likely performing in accordance with contractual terms (or any non-performance is minor) at the date of the financial statements. Banks have to still file FAS 5 as before, however the framework and the estimation methodology has undergone a significant change as per the Accounting standard update (ASU) 2016-13.

FAS 114: Loss Allowance for Impaired Assets

Under FAS 114, banks are required to estimate the future recovery cash flow for impaired accounts and then discount these cash flows using EIR (effective interest rate) to arrive at the loss allowance. This estimation of Loss Allowance is done at an "Account level". For FAS 114, there is no change in requirement from ALLL to CECL.

3) Why the new guidance?

In the period leading up to the global economic crisis and post the crisis, the financial statement users along with regulatory bodies expressed concern that the current U.S. GAAP approach of estimating allowances restricts the ability of firms to record credit losses that are expected, but that do not yet meet the "probable" threshold. This existing approach for determining the impairment of financial assets, based on a "probable" threshold and an "incurred" notion, delayed the recognition of credit losses on loans and resulted in loan loss allowances that were "too little, too late".

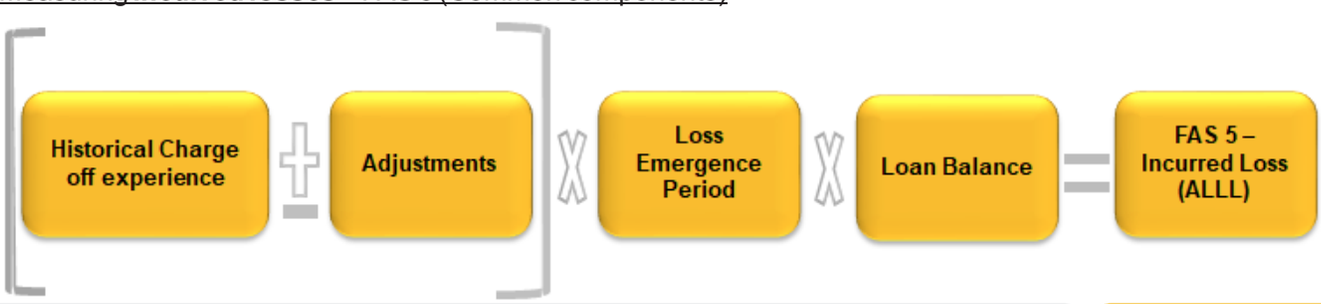
The updated standard provides guidance on a new approach, based on Current Expected Credit Loss (CECL) instead of incurred loss recognition. The new approach is more dynamic and provides for an estimation of the future credit losses in the portfolio enabling accurate estimation of loss allowance as also resulting in better risk management practices for banks and institutions.

4) The new 'Expected credit loss' model

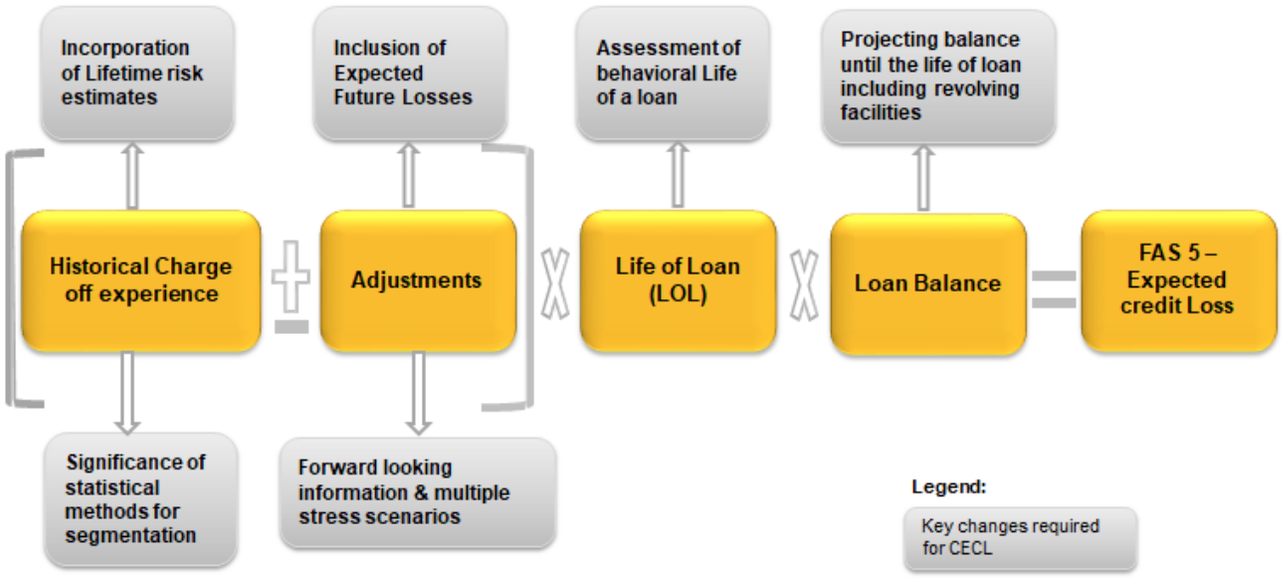
The new standard pronounces that the allowance for expected credit losses is intended to achieve a net asset measurement on the balance sheet that reflects the "net amount expected to be collected." The measurement of credit losses has undergone profound transformation as compared to the existing framework implemented at banks and financial institutions.

The General FAS 5 framework for estimating losses under the existing and the new (CECL) approach is depicted below:

Measuring ***incurred losses*** – FAS 5 (Common components)



Measuring ***Expected Credit Losses (CECL)*** – FAS 5 (Common components)



The updated standard replaces the existing "incurred loss" model with an "expected loss" model that requires consideration of a broader range of information to estimate expected credit losses over the lifetime of the asset. The estimation of allowances as per the CECL model requires incorporation of components not present in the existing incurred loss framework. The interpretation that CECL can be complied by mere tweaking of existing components of the incurred loss model may lead to unsuccessful implementation for banks / institutions. Institutions would need to take a series of steps to ensure effective implementation of the new standard. This should include establishing a formal CECL program including conducting a comprehensive gap assessment of loss forecasting methodologies, assessment of the existing qualitative framework and its relevance, data requirements for incorporation of CECL components and system overhauls.

Banks will have to use appropriate estimation/forecasting/modelling techniques that are relevant to their portfolios, and which can be applied consistently over time to estimate expected credit losses to reflect and comply with the new standard. The standard does not prescribe approaches for estimating the allowance for expected credit losses. Rather, banks have to develop an approach that faithfully reflects expected credit losses for its financial assets. However, the standard lists, several common credit loss methods that should continue to be acceptable under the new guidance, including:

- Discounted cash flow (DCF) methods
- Loss-rate methods
- Roll-rate methods
- Probability-of-default (PD) and loss-given-default (LGD) methods
- Methods that use an aging schedule

Although the above methods are acceptable under the new guidance, these methods will need to be adjusted to account for the differences between the incurred loss model and the CECL model. The adjustments will be required to provide an estimate of expected credit losses over the remaining contractual life of an asset and should be able to incorporate forecasts about future economic conditions and the effect of those conditions on historical loss information.

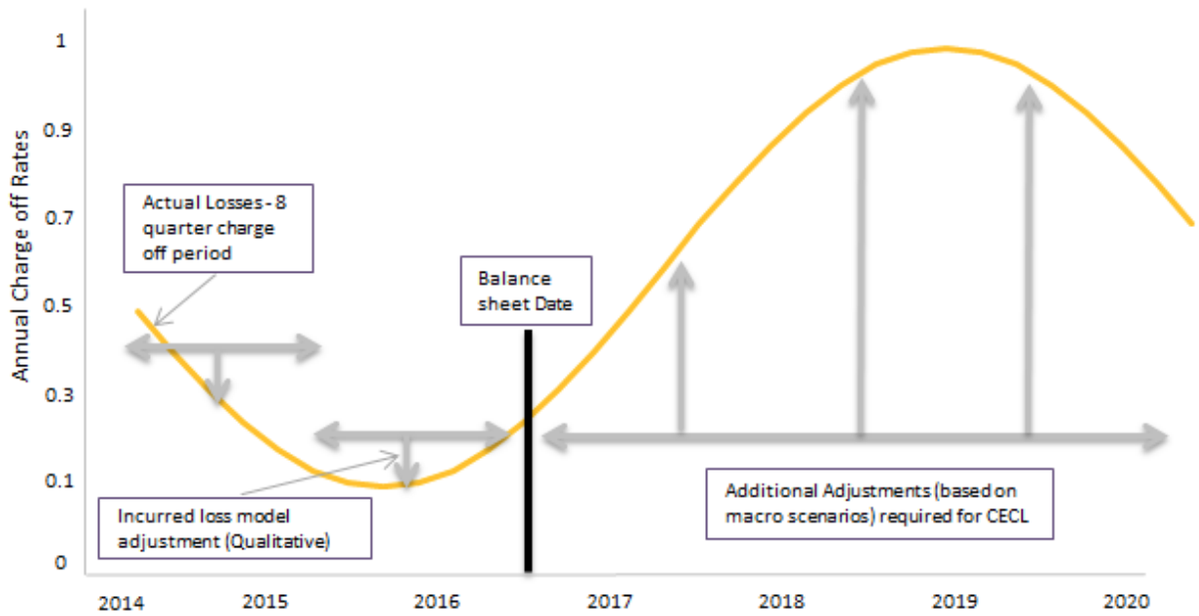
Incorporation of future economic conditions in CECL estimate basis only the qualitative adjustment factor (Q- factor) may not be an optimal route

The existing loss estimation approach under FAS 5 (ASC 450) includes both a quantitative and a qualitative (Q-factor) component. The quantitative component is based on historical observed losses. The roll rate based method is a commonly used quantitative approach to calculate the losses. However, the quantitative component arrived do not accommodate for current and future market outlook. Under FAS 5, banks make qualitative adjustment to reflect differences between historical observed conditions and the current market conditions. This adjustment is typically determined manually and is termed as qualitative adjustment.

The new CECL standard requires the allowance to reflect reasonable and supportable forecasts of future. Incorporation of current and future market conditions may be based on qualitative adjustment or basis predictive models to generate the estimate. The non-modeled approach (qualitative adjustment) requires

significant judgment and documentation on a recurring basis. In addition, different fractions of a firm may have diverse view on the economic forecasts which may pose a challenge in building a consensus around the qualitative adjustment. In contrast, a modeled approach (predictive/statistical approach) requires limited subjective judgment during the model development phase. This disparity is the fundamental issue that needs to be addressed when determining whether one should use a modeled approach or a qualitative judgment based approach.

Contrary to the belief of a few financial institutions, the non-modeled (qualitative adjustment) approach is likely to be more challenging under CECL regime. The following graph illustrates the additional future estimation that banks will have to incorporate as part of the new standard. As evident, in case the life of loan is five years from the reporting date (balance sheet date) then banks will have to accordingly incorporate the same in their estimates which will be a challenge in case only Q-factor adjustment is adopted.



Source : 'Documentation of Qualitative Factors for ALLL', Grand Thorton LLP

Advantages of a modeled approach:

- *Consistent outcome*
- *'What if' answered easily*
- *Repeatable*
- *Production is relatively easy*

Given that CECL adds the additional complexity of forecasted conditions, it can be established that if the estimate is not determined using predictive models, the qualitative adjustment process will be more arduous and ineffective. Say, for instance, a bank only uses qualitative adjustment (Q-factor) on the historical charge off rates or observed defaults. In this case the Q-factor needs to reflect the adjustments for the loan (product) type, current macro-economic conditions, future macro trends and probable scenarios. It is a big challenge to arrive at an appropriate Q-factor based on management judgement which is reflective of various additional components required under CECL. Rather, development over time of quantified correlations between economic and other conditions and the resulting historical charge off (or default) experience is the best empirical, objective, and documentable means available to compute a reasonable estimate of credit losses (under CECL models).

5) Modelling and system considerations

In comparison to current guidance, the largest change that CECL brings is the shift to accounting for expected losses over the entire life of the loan (LOL). In order to perform more robust, forward-looking calculations, bankers and firms will need access to loan-level data. The ALLL estimates under the existing approach are not based on "Life of Loan (LOL)" loss concept. In other words, current charge-off ratios, probabilities of default, loss given default, and rates based on past due status are based on yearly (12 month) charge-offs. These methodologies based on activity during specific periods (such as one year) do not satisfy the LOL loss expectation requirement. Therefore, banks and institutions will have to give due considerations to their existing methodologies and systems to adhere to this requirement.

In modeling credit losses under the current guidance, most banks pool financial assets without regard to **remaining term to maturity**. This is because the current guidance doesn't require an estimate of credit losses over the remaining life of a loan unless the loan's credit quality has deteriorated to the point where the loan is considered credit impaired. Currently, banks have a practice of pooling financial assets irrespective of their

remaining maturity. However, under the updated CECL approach, banks have to consider the remaining term to maturity for loss computation and hence may have to take tweak their existing pools / segments to segregate based on the remaining term to maturity. This would be a key parameter for banks to consider since **probability of default (PD) that corresponds to the remaining life of the loan** shall be applied for computing expected credit losses as per the updated standard. In practice, the life-of-loan concept is widely viewed as replacing the current Loss Emergence Period (LEP). LEP represents a bank's estimate of the average amount of time from the point at which the loss is incurred to the point at which the loss is confirmed. While the starting point of LEP is often hard to determine, banks often use a proxy for commercial loans like downgrade or a technical default. In many ways, depending on the bank's assessment, the LEP may be more or less than 12 months. Thus, the life of loan has the potential of being longer than the LEP. The complexity of determining the Life of Loan is enhanced by the requirement to consider expected prepayments and all contractual cash flows over the life of the related financial assets. **Determining the LOL is critical since too short LOL will results in reserves being understated and a longer LOL will overstate the reserves.** The LEP concept has been replaced by the LOL concept under the new standard and thus it is important for banks not to overlook and assume that tuning the existing LEP for respective products will lead to accurate estimation of LOL. The following illustration summarizes the LOL concept as required under the CECL regime:

Life of Loan (LOL): Credit Card Illustration:

The illustrations depicted below are simplified and are meant to contrast the differences in estimating the life of a credit card receivable as estimated under ALLL and that would be required under the CECL model. In practice, credit card receivables may be evaluated for credit losses on a pooled basis, not on an individual loan basis. However, for illustration purposes, it is helpful to consider examples which isolate an individual account balance. In addition, the audience should not assume the specific amounts allocated to each year are representative of what an entity would determine the actual amounts to be under either scenario as part of its credit loss assessment process.

For illustration purpose, consider a Bank has credit receivables measured at amortized cost. As of month 0 (M0), one receivable balance has the following components:

- Balance transfer at 0% APR amounting to $300
- Purchase at 20% APR amounting to $700
- Cash advance at 25% APR amounting to $0.

It has been assumed that at the end of each month, the entire cardholder payment is allocated first to the component bearing the highest rate of interest, and then to each successive component bearing the next highest rate of interest; until the payment is exhausted.

Illustration 1: Current approach (ALLL) with 12 months Loss Emergence Period (LEP):

Under the ALLL regime, the bank determines that the loss emergence period (the time from a loss-triggering event until charge-off) associated with this credit card receivables is 12 months. Thus, the entity estimates the incurred loss associated as of M0 considering a LEP of 12 months. The table below illustrates the forecasted collections for the subsequent 12 months.

	Projections as of Month 0												
Projections	M0	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Estimated total payments		70	70	70	70	70	70	70	70	70	70	70	70
Interest payments		12	11	11	10	10	10	9	9	8	7	7	6
Principal payments		58	59	59	60	60	60	61	61	62	63	63	64
Reporting date (M0)													
Balance transfer (0% APR)	300	300	300	300	300	300	300	300	300	300	300	300	269
Purchase (20% APR)	700	642	582	523	463	403	343	282	221	159	96	33	0
Cash advance (25% APR)	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Balance	1000	942	882	823	763	703	643	582	521	459	396	333	269

Illustration 2: CECL with Life of Loan concept (LOL):

Under the CECL regime, the bank has to determine the life of loan associated with the credit card receivables. Under this approach the bank has to determine the net amount balance (i.e., the Month 0 balance) expected to

be collected by applying each future month's forecasted payment to the initial month date balance only, until that balance is fully repaid or until payments cease. For the illustration it has been assumed that the entity does not consider projected future draws when evaluating the expected loss on the Month 0 balance. The table below illustrates the forecasted collections of the Month 0 balance.

		Projections as of Month 0																
Projections	M0	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17
Estimated total payments		70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Interest payments		12	11	11	10	10	10	9	9	8	7	7	6	6	5	4	3	2
Principal payments		58	59	59	60	60	60	61	61	62	63	63	64	64	65	66	67	68
Reporting date (M0)																		
Balance transfer (0% APR)	300	300	300	300	300	300	300	300	300	300	300	300	269	205	140	74	7	0
Purchase (20% APR)	700	642	582	523	463	403	343	282	221	159	96	33	0	0	0	0	0	0
Cash advance (25% APR)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Balance	1000	942	882	823	763	703	643	582	521	459	396	333	269	205	140	74	7	0

Source: 'CECL Memo 5.a', Financial Accounting Standards Board and Transition Resource Group discussion papers

Based on the forecasted collections it is clearly evident that the life of loan is 17 months as compared to LEP of 12 months.

Life of Loan (LOL):

Contrary to the perception of some entities, the LOL concept is different from LEP as depicted in the above illustration. The above illustration assumes no additional future drawdowns, however in practice banks may take into consideration the potential future drawdowns for computation purpose which would again aid in determining precise life of the credit card receivable.

Recording of expected credit losses over the life of the loan is considered as the biggest challenge of implementing CECL. However, the "Life of Loan" concept will enhance the internal control requirements of the loan origination function in a bank. At the same time historical data requirements and number of parameters will increase from an estimation perspective. Banks 'data' will be at the center of overall transition. The data complexity will increase by factors such as need to include risk grading at individual loan level, improved data collection on loan characteristics for better segmentation, improved data collection from loan origination systems, importance of duration of loan and need to extensive information of charge-offs and recoveries data. The overall impact will be an increase in complexity in terms of data requirements, data processing and applied methodology.

Apart from the LOL concept, in a significant change from the current practice, the new standard requires banks and institutions to estimate expected credit losses basis information about past events, **current conditions and forecasts about the future.** This may include information which is internal / external and related to the specific borrower or the broader macroeconomic environment for respective portfolios. For this banks should collect data to support estimates of expected credit losses. Depending on the method selected, institutions may need to capture additional data in their systems. In addition they may also need to retain data longer than they have in the past for the purpose of loss estimation. From a compliance perspective, usage of only historical data or completely judgmental based forward looking estimates may not be acceptable under the new standard. Banks will have to adjust the historical data to reflect the current conditions and the forecasts. To assess and adjust the historical loss information for current conditions and forecasts, banks will have to consider the following process:

- Identify macro-economic factors that affect the respective portfolio or industry or specific borrowers
- Assess the current and forecasted state of these factors
- Develop correlations and quantify the impact of these macro-economic factors on loss estimation

As part of the transition process to the new standard, banks may develop new model or leverage their existing approaches / methodology (e.g., historical loss rate, roll-rate, discounted cash flow, and probability of default/loss given default methods) for credit loss estimation. In cases wherein banks intend to leverage their existing framework, substantial inputs into these methods will need to change to achieve an estimate of lifetime credit losses. For example, the input to a loss rate method would need to represent remaining lifetime losses, rather than the annual loss rates commonly used under incurred loss methodology. In addition, banks would need to consider how to adjust historical loss experience not only for current conditions, but also for forecasts that affect the loss estimation of financial assets. Given the flexibility provided by the standard in terms of the methodology, **banks need to be cautious in determining whether certain modelling approaches are too simple to satisfy the concerned authorities / regulators.**

Going ahead, due to increased risk reporting and regulatory supervision, banks / institutions may have to produce more regular loss forecasts (as frequently as daily). This puts greater emphasis on banks to review their current systems and process from a longer term perspective. Each bank internally will have to deliberate whether their existing systems are capable of handling substantial amount of historical and current data to produce the loss forecasts on a daily basis. More so, bank systems should be able to produce and analyze the requisite outcome within the stipulated time with utmost ease. In addition, considering the significant changes (LOL concept, forward looking adjustment, macro-economic adjustments, loss estimation on loan origination etc.) to the loss estimation process that the new standard proposes, it's time for banks to take the next step to address the modelling changes along with system considerations to address multiple concurrent runs and reduced cycle time.

6) Major Implications for banks

- ***Modelling methodology -*** Development of statistical CECL models is considered to be the most challenging for banks apart from implementing the methodologies in their existing systems.
- ***Functional requirements -*** Banks need to update their analytical methodologies to accommodate for Life of loan concept, forward-looking and lifetime loan loss forecasts
- ***Data requirements -*** The primary challenge would be the availability of data to gauge the credit cycle of a financial instrument and the need to collect data with granular information for longer periods of time. CECL would require multiple datasets as inputs, including historical performance, macroeconomic, market and credit rating related information. Sourcing, identifying suitable proxies, ensuring completeness and accuracy of data are some of the key management challenges.
- ***Systems and Processes -*** Need to update / redesign the systems and processes.
- ***Disclosures -*** CECL will require increased transparency in the application of assumptions and in the disclosures around the allowance estimate. Under the expected credit loss approach, any justifications will have to be more quantitative in nature. Management's selection of forecasts or model outcomes will need quantitative backing to justify their selection.

7) Recommendations

Banks and other financial institutions are recognizing that many of the credit loss estimation components under CECL are also used in other functions, such as CCAR stress testing. However, the transition to CECL is a long-entrenched process for many institutions. For effective implementation of CECL it is more than just an added layer of overlay on the existing incurred loss framework and would require significant time commitment and dedicated cross-functional team work. Thus, institutions need to acknowledge this fact and capitalize on a more integrated solution.

Development of quantified framework between economic and other conditions and the resulting historical charge-off (or default) experience is the best empirical, objective, and documentable means to estimate credit losses. In ALLL the Q factor adjustment traditionally was a subjective process. Besides, the Q factor adjustment was done for the entire loss emergence period in ALLL, hence it doesn't capture the intermediate swing of the economy. As auditors are putting more emphasis on justifying Q factor adjustments, it is important to create a framework to quantitatively find the adjustment rather than judgmentally. However, bank's might need to still perform the qualitative adjustment (Q factor) for cases like geopolitical scenarios etc. which doesn't get captured in the macro-economic scenarios. Hence it's imperative for the banks to perform a thorough assessment of the existing framework and take this opportunity to upgrade their existing methodologies, systems and processes.

Clearly, the CECL model is more computationally intensive than the current incurred credit loss method. Under the current standard, only a subset of loans was modeled, while under the CECL standard, institutions will need to account for losses from all loans requiring additional capacity of their model execution platforms. Banks need to focus on solutions with a modular, open design approach that are adaptable to the changing interpretations of the new standards. Systems and processes that support iterative development cycles with the ability to revise and upgrade individual model components as new models are tested and reviewed.

For the various reasons identified above, implementing CECL will be more complex than many Banks / institutions realize, in terms of modelling methodology, data consideration and systems. In addition, CECL computation process is expected to be more time consuming as compared to the existing process due to consideration of broad range of data. Hence, for banks who haven't taken the initial step, its high time they establish a CECL program internally and scale up the existing processes, methodologies and systems to have a smooth transition to the new standard.

Feel free to send your queries to:

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About Aptivaa

Aptivaa is a vertically focused finance and risk management consulting and analytics firm with world-class competencies in Credit Risk, Market Risk, Operational Risk, ALM & Liquidity Risk, Basel III, IFRS-9, CECL, Risk Analytics, COSO, Model Risk Management, ICAAP, Stress Testing, Risk Data and Reporting across global markets. Aptivaa has emerged as a leading risk management solutions firm having served over 100 clients across 22 countries comprising of highly respected names in the financial services industry.

Aptivaa has a suite of proprietary tools & framework that are designed to accelerate CECL implementation in areas such as Life of loan estimation, PIT-PD Calibration, Lifetime-PD, LGD, Lifetime EAD, Lifetime ECL estimation, Q factor adjustments and disclosures.

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