

CECL Calculations and How Life of Loan, Loss Calculation Methodologies and Components Can Impact ACL Amounts for Community Banks

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Background

Ardmore Banking Advisors and its software partner Argus Information Services have been working the past few months with our community bank client's portfolio and loss data, trying different CECL calculation alternatives. We have been testing the calculations, models and components to better understand how changing the different components impact the CECL loss estimation process. In particular we are trying to better establish how the total amount of the Allowance for Credit Loss ("ACL") is impacted by changes in various calculation inputs and parameters within the estimation process.

While there are many white papers and statistical analyses available about the topic of CECL, for most smaller institutions so far there is little "hands on" context to work with. By running actual data through the models and the calculations some best practices appear to be emerging.

The most common community basic bank risk based CECL loss rate calculations use the Vintage or Cohort (also sometimes referred to as the "snapshot") methodologies. Another methodology, "Weighted Average Remaining Maturity" or WARM, is also considered by the Agencies to be a valid starting point for CECL for smaller banks, though it is not actually considered to be risk based. As WARM has not been universally endorsed by the industry, we will not consider that model in this paper.

Pooling & Sub-Pooling by Risk Characteristics

We started with the assumption that most community banks would choose to begin their CECL estimates using the same collective asset pooling structure as they do today in their ALLL. Each of the two CECL models work best when these typical asset-based/call code based collective pools are broken in to "sub-pools" based on like risk characteristics.

For Vintage, we found that sub-pools broken out by tenor bands worked well, as they isolate longest-term loans from other shorter terms in the "Life of Loan" (LOL) calculation process – theoretically making for a more stable calculation.

For the Cohort model we found that breaking down the asset pools into sub-pools by key risk characteristics like internal risk rating worked well to isolate charge off activity to riskier loans within the pools.

The actual number of sub-pool segments per asset pool varied based on the number of loans in the asset pool risk categories. We looked at the distribution of pooled loans considering sub-pooling attributes and made sure that there were enough loans in the smallest sub-pool to be statistically relevant. In some cases, three segments were sufficient (1 – 3 year terms, 3 – 5 and 5+ for Vintage; Superior Risk, Average and Special Mention for Cohort as examples). Institutions with higher volume pools could have more detailed segmentation.

Obviously, the availability and quality of historical portfolio data impacts the ability to perform segmentation, as for example if a smaller community bank doesn't risk rate all of its loans, other risk-based characteristics would have to be used instead (for example "number of times delinquent").

Another consideration that is particularly important for smaller community banks is that the criteria used for the sub-pools categorization should be meaningful and consistent. If 90% of a bank's portfolio is risk rated "3" then it will be difficult to use risk rating as criteria for meaningful sub-pooling.

Taking a step back from CECL, the concept of sub-pooling, or drilling into portfolio concentrations by risk sub-segments is simply a best practice in credit risk management in any case. By being able to see trends in meaningful sub-groups like higher risk rated credits, or those loans about to mature, bank management gets a better understanding of the risk in their portfolios.

Life of Loan Estimation Calculations – Total, Average, and Adjusted

For each sub-pool a life of loan (LOL) period must be calculated. A simple life of loan calculation could be based on the contractual life of the terms of the loans in a sub-pool (from origination date to maturity date). Based on the language of the CECL rule taken literally, the "total LOL" of sub-pool would be the longest tenor of any one loan in each different sub-pool.

This "actual life" would be different from the "average life" of the loans - which could be calculated based on calculating an average of all of the contractual terms of the loans within each of the sub-pools.

An important factor to add to the LOL is the calculation of the impact of prepayments, renewals and charge-offs on the contractual term-based LOL. There are some alternative ways of creating and applying an adjustment for these components. For those banks with closed account information available, one can calculate the "actual LOL" by looking at the origination date and closed date of each loan in the sub-pool verses the origination and contractual maturity date. The difference can be added into the LOL calculation as an adjustment factor.

For those institutions where the closed account data is not available (or not available for a long enough time in history) the ALM "prepayment percentage" if available could possibly be used as an approximation of that adjustment amount. A problem with using an ALM prepayment rate is that it is approximate and may or may not be made on the same asset pools structure used by the institution for their reserve calc.

In our experience so far, regardless of the method used to calculate it the application of this factor makes a large difference in the LOL estimate – both in "total" and "average".

Life of Loan Estimation Calculations – Amount of History to be Considered

What has evolved as another important component of the LOL estimate is the actual number of quarters of historical data considered in the calculation. While it seems obvious that the more historic data you have, the more accurate your LOL estimate will be, the decision on how much data to consider, and what periods in history you use can have a significant impact on the amount of ACL in the final calculation.

Some institutions have many years of historical information and could potentially create LOL's based on 15 or more years of data. This is particularly true in the use of the Vintage model, as all that is needed is

a list of the charged off accounts, amounts, origination dates, original commitment amount and the associated pools to build a life of loan charge off estimate. Many banks keep this type data off-line in workbooks as records for their historical ALLL calculations.

If an institution were to use all of the historical periods where data is available for LOL, historical economic periods with unusually high charge off rates, such as those experienced in 2010 – 2012 will likely be included. Including these “early” historical charge offs in LOL, even on average create a much larger ACL loss estimate by default. So, if an institution chooses to use 7 years of history to base its LOL calculation instead of 10, they may find it reduces the total ACL for the pools significantly.

Another way to look at the historical periods included in the LOL estimate is to consider the periods selected vs. the current and projected economic conditions. If your institution’s management believes that the near term is not like the conditions of 2011, why would you base your CECL loss estimates using 2011 data? Would it make sense to use historical information that is more relevant to your best estimate of the future conditions?

These are some of the questions that the industry is trying to come to grips with – can institutions choose historical data for their CECL calculations based on their subjective rationale? Should community banks “peg” their loss history to where they are in the economic cycle? That is something that we would assume Auditors should have some thoughts about.

Impact of Vintage and Cohort Methodologies on Sporadic Losses

Including sporadic early losses in a Vintage calculation can inflate pending losses for those loan sub-pools that have not seen their full life yet. For example, one method of calculating pending losses at the end of the Vintage LOL is to “mirror” loss patterns early in the sub-pool’s LOL. Obviously, that method would inflate the LOL amounts even further, as early historical losses would be mirrored in the future pending loss estimates as well.

Under the cohort model considering longer life of loan history incorporates more losses in the LOL based on the amount of time the cohort collects charge offs during its LOL lifespan. The cohort model picks up all losses in the sub pool’s life regardless of when the loan was originated, so can easily pick up more losses from the 2010-2012 economic downturn period – as these losses would include loans originated in 2006 period or before.

It appears that this situation is not as acute at larger institutions in which there are more scattered losses per sub-pool, which are more evenly distributed over time. Institutions with more losses spread in a more even pattern would not see the volatility and outlier effect as strongly as most community banks.

Impact of Recoveries on LOL Loss Rates

Many community banks retain charge off and loss information in their core systems, and a few also maintain their recoveries there as well. The majority maintain the actual detailed loss and recovery data off line in workbooks and spreadsheets, sometimes managed by Special Assets departments or Finance.

Some institutions choose only to record recoveries within their GL’s and don’t track their recovery events as transactions with the associated detail.

As CECL technically considers “net charge offs”, including detailed recovery information along with the losses can be important and can have an impact on the overall loss rates for each sub-pool. Considering the sporadic/outlier condition of many losses for community banks, being able to mitigate those loss amounts with recoveries is useful and can reduce the total ACL.

Under a Cohort calculation all recoveries in the sub-pools during their LOL lifespan would be added back to the loss calculation. Under Vintage, only the recoveries linked to charge offs for loans within the base vintage sub-pool would be considered.

Q Factors – The Real Frontier?

As our team worked with our banks, it became clear that in 2019 the vast majority of ALLL reserves come from Qualitative Adjustment Factors (“Q-Factors”). Due to the fact that for most community banks the majority of historical charge offs have rolled off their ALLL look back periods, reserves calculated based on historical charge offs are low. Bankers have been forced to create a number of Q-Factors to keep reserves up to a level that they, their regulators and auditors feel is prudent. For some banks the Q-factors can account for up to 90% of their total ALLL.

From comments at recent “Ask the Regulators” webinars targeted at community banks, it appears that there is less concern about creating a precise LOL and loss projection based on actual portfolio risk characteristics and the economy. It appears that the calculations are treated more like “guard rails” and the real risk impact and projections will be shown by using and justifying Q-factors instead.

Just how community banks are to create “reasonable and supportable” adjustments to their ACL under CECL using Q-factors is another important consideration for the auditors and regulators to address and community bankers to learn about.

Some Resulting Emerging “Best Practices” to Consider

Based on early testing, some concepts would appear to be emerging as “Community Bank CECL Best Practices”. Please note that these are our observations only and are not approved or endorsed by any regulatory agency, accounting firm or audit firm.

Any specific modification to approved CECL calculation methods or components as described in the ASU and its examples will need to be fully explained and properly justified by the institution to their auditors and regulators at the time it is used.

Ardmore and Argus would suggest that as each institution test out their specific CECL calculations and associated adjustments, and that internal and external authorities be consulted for actual compliance considerations before these methods and practices are finalized for financial reporting:

- If you are using “asset-based” or call code based collective impairment pools, use risk based sub-pools to further segment the pools. Consider the number of loans in each sub-pool and attempt to make the distribution somewhat even, with no one sub-pool having too few loans to be relevant for a loss model.

- If possible, calculate the “actual life of loan” for sub-pools using the loans origination date and closed date and then compare the results with the “contractual life of loan” using the contractual origination and maturity dates. If closed loan date data is not available, consider the use of ALM “Prepayment Rates” as a proxy.
- Consider utilizing an aggregate “average actual life of loan” calculation if possible per sub-pool to shorten the LOL lifespan period.
- Limit the amount of historical data included in the methodology modeling effort. If possible, consider limiting the historical data period to 5 – 7 years at maximum.
- If at all possible, incorporate recoveries into the CECL sub-pool loss information to create “net losses”.
- If using the Vintage Model and “early losses” are included in longer tenor sub-pools, use the mean reversion method when create future pending loss rates, not “mirroring”.
- If you have longer lifespan sub-pools with significant losses just prior to the base period for your calculation, consider using the Vintage methodology to avoiding picking up losses on loans originated prior to the base period.
- Consider using specific historical periods for loss history that fit with bank management’s view of where the bank is in the economic cycle.
- Due to the lack of meaningful loss data for many community banks, Q-factors may be the only way to adjust LOL loss estimates to reflect the institution’s view of future losses. Consider risk sub-drivers to create justifiable Q-factors.

Ardmore and Argus hope that this paper serves as a basis for continued discussion about the evolving best practices in CECL compliance solutions for community banks. We welcome comments, criticisms and ideas from the industry, and an on-going healthy dialogue.

Sanyam Garg and Ani Deshpande of Argus Information Systems also contributed to this paper.