CECL Sleepless Nights: Why You Don't Pick Your Model First

By Michael Umscheid, President and CEO of ARCSys

As I speak to institutions across the country, one key question is always asked: "What model should I use?"

While this is a good question, it is not the first question to ask. Before I give them my long-winded answer (below), I generally ask what others have told them. Many times, I hear the answer they have received from consultants, CPAs and other vendors is a probability of default or a reversion model or even worse, just one model. For the vast majority, (really 99.9%) of institutions, the use of different models for different pools of loans will be necessary.

Your goal should be to pick a model for each segment of loans that best estimates the CECL loss and provides the lowest volatility over time.

So, why is this the right answer?

First let me reference the fact that the objective of CECL is to estimate the total future losses on all loans within a pool. Under CECL, you want to get this estimate as close as possible because the standard also requires that you adjust your allowance account up and down through the income statement to the amount estimated. Therefore, you cannot build cushion as some do today. Cushion will only cause more volatility within the income statement and cause auditors and examiners to question your allowance estimation models.

CECL Models

The model you pick is extremely dependent upon the level and quality of data an institution has.

What is needed to support CECL models?

- Data is the most important element. Different models need different levels of data to be effective. Important data elements are as follows:
  - Data through one economic cycle (at least 2007 or 2008 to today) 11 years of data as of today. Data elements below are needed for all these historical periods if possible.
  - Basic loan data (origination date, maturity date, payment amount, interest rate, original balance, current balance, loan type codes).
  - Deferred fees and costs, premiums and discounts and accrued interest.
  - Credit limits or unused loan commitments.
  - Life cycle loss data – Loan level charge offs and recoveries

- Life cycle prepayment data – you cannot use prepayments over the past several years.
- Credit quality indicators:
    - Original and current FICO (credit score)
    - Risk rating underlying data sets (not the risk rating)
    - Original and current appraisal amounts
    - Original and current appraisal dates
    - Other credit quality indicators such as Debt Service Coverage

- Models
    - A Discounted Cash Flow (DCF) model needs the least amount of data. DCF models rely primarily on basic loan data (interest rate, maturity date, payment amount), charge offs and recoveries over the life cycle of the pool. However, life cycle losses are extremely important to this model, as are life cycle prepayments. ***The standard specifically discusses this model and this author believes DCF models are the best models when tied to life cycle losses.***

    - A Probability of Default (PD) model requires the most significant amounts of data including credit quality indicators to be predictive. First let me be clear, for most institutions, risk ratings done at origination of a loan and updated annually generally are not good credit quality indicators to forecast with under CECL. This is because risk ratings by loan do not change much over time and therefore provide little correlation. Without numerous credit quality elements, PD models will utilize external factors and assumptions as part of the forecast process. Without several updated internal credit quality indicators in your loan data, your PD models will be more volatile in changing economic environments. **PD models require many years of data through an economic cycle and data that has frequently updated credit quality indicators!**

    - A Full Regression model can be run on high-quality and low-quality data sets. High-quality data sets such as those required for PD models utilize both internal and external data to forecast estimates. Low-quality data sets generally use external data to forecast estimates. For these data sets to be predictive, you need lots of history through an economic cycle or you end of making many assumptions that will cause increase in volatility.

    - A Reversion model requires the same historical loss data periods (2007 forward) but will probably utilize less internal credit quality data and mainly external data sets such as unemployment rate. Life cycle losses are extremely important to these models to be predictive.

Other Model Questions

- What if you do not have data through at least one economic cycle (2007 forward)? You will need to make a lot of assumptions as part of your forecast and use third party data to fill in the blanks in history. Using third-party data will require continuous assumptions and will limit your ability to use data migration techniques.
- Do you have to forecast with all of the models? Yes, however, how you aggregate your loss history (risk migration and static pools) can allow you to have significant more control over your allowance calculation.
- Can you use historical credit quality averages? Yes, however, using historical averages instead of actual data elements at the loan level will make models less predictive and more volatile over time.
- Do you have to include prepayments in these models? Yes, prepayments are required to be considered as either a separate input (as in a DCF model) or embedded in the credit loss information (as adjusted in the LGD in a PD model). ***Note: you cannot average terms!***

Conclusion: Focus on your data and quit worrying about models. If you want CECL model options, get your data! Once you have your data, deciding which models for each pool will be easier and more effective and predictive.

The Solution – ACL Calculator

At ARCSys, our vision is to provide the best, most flexible CECL software and consulting. Our innovative software, The ACL Calculator, was developed as Software as a Service (SaaS) with CECL in mind to effortlessly automate the entire allowance calculation process from applying historical losses, qualitative and quantitative factors and preparing disclosures – rendering spreadsheets obsolete.

Experience ARCSys software yourself during a personal, highly informational demonstration. To arrange, please contact us at sales@arcsysonline.com.

Author
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