



AN ALLL METHODOLOGY FOR YOUR FUTURE

Executive Summary:

Under CECL, a bank will need a more sophisticated approach to determining its loan losses than simply analyzing historical losses, one that satisfies CECL's forward-looking requirement. By separating its two components, probability of default/loss given default (PD/LGD) is a methodology that provides better insight – that is, more granularity – into loan losses. Granularity is just one of several reasons to consider moving to such a methodology as the bank prepares for the coming CECL accounting standard.

There are many reasons a bank might want to reconsider the methodology it uses to calculate its allowance for loan and lease losses (ALLL). As we get close to the announcement and subsequent implementation of a new FASB accounting standard, the much-discussed Current Expected Credit Losses or “CECL,” the most likely reason is that the bank will need a more sophisticated methodology than a simple historical loss analysis to estimate an allowance that includes projections of future losses.

Two types of loss methodologies the bank might consider as it looks forward to how it will approach its allowance in coming years:

Loss Migration: Calculating loss rates based on the migration of losses back through the history of a loan in order to assign the losses to risk-stratified segments allows for more granular analysis of loss rates based on risk characteristics.

Probability of default/loss given default (PD/LGD): Also a form of migration analysis, the method combines the calculation of the probability of loans experiencing default events with the losses ultimately associated with the loans experiencing those defaults.

Two types of loss methodologies:



Loss Migration:

Loss rates based on migration of losses back through the history of loan



Probability of Default / Loss Given Default:

Combines probability loans will experience default with losses associated with those defaults

The PD component of the formula represents the probability the loans in a certain risk-stratified segment will default. It is a percentage of loans that have defaulted in that pool

over a look-back period. Some institutions choose to apply the formula by loan count: a pool of 100 loans with six defaults yields a PD of 6 percent. But most community banks prefer a “balance” approach, the percent of the total balance of the portfolio that has defaulted over the look-back period; as such, larger loans have more impact.

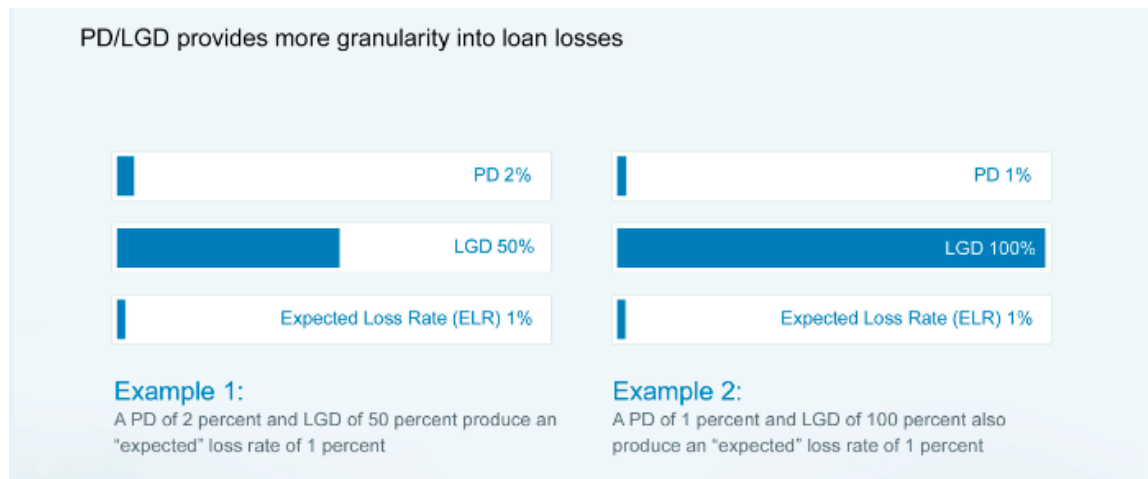
The LGD component is the percentage of defaulted loan balance that is ultimately charged off. Multiplying one by the other gives the bank its loss rate, which is then applied to the loan portfolio balance to determine expected future losses.

The bank can use different look-back periods for each component: longer for the PD to look at default rates throughout the loan cycle, shorter for the LGD to get more current and therefore relevant information about declining collateral values.

Advantages of PD/LGD Methodology

By separating its two components, PD/LGD provides better insight – that is, more granularity – into loan losses. A loss rate expressed as a single variable does not reveal how much of the loss rate might be due to large numbers of loans having small charge-offs or small numbers of loans having large charge-offs. Are a lot of loans defaulting or is the bank losing a lot of money on a handful of loans? Consider these simplified examples:

- Pool 1: A PD of 2 percent and LGD of 50 percent produce an “expected” loss rate of 1 percent. In this pool 2 percent of the loans defaulted and on average the bank had to charge off half the balance of those loans.
- Pool 2: A PD of 1 percent and LGD of 100 percent also produce an “expected” loss rate of 1 percent. However, in this pool only one in a hundred loans went bad but the loss on those loans was total, 100 percent of their “current” loan balance. Such additional information or detail offers insight into what is really driving the bank’s losses and could provide the bank reason to contemplate a variety of considerations, including altering its allowance or even changing its lending or underwriting standards.



As we know, additional granularity will be important to the bank in determining its allowance in coming years, once the new CECL standard is dictated. As well, account level modeling via PD/LGD provides more detailed risk profiling for each borrower.

But there are other reasons for employing a PD/LGD migration methodology. Each component is driven by a separate set of economic factors, which allows for a more dynamic view of the impact of those factors. For example, an increase in unemployment in the bank's service area would be more responsible for increasing the probability of default than the amount of loss given default, whereas a decline in real estate values would show up as more impactful on the LGD than the PD.

As such the methodology provides a more reliable approach to stress testing as each item to be stressed fits into either the probability of default or the value of underlying collateral. The bank can gauge the impact of every stressed item on one or the other variables, then knowing the LGD and PD on every loan, run those through its asset liability model to determine the impact on bank capital and liquidity. In that way, the bank can demonstrate to its board, regulators and auditors what the bank can and cannot withstand for each economic factor: employment rate, real estate values, etc.

The methodology is also largely in line with statistical techniques prevailing in the consumer lending arena and therefore more intuitively adaptable.

Help from MST

MST provides a variety of levels of help to banks transitioning to a migration methodology like PD/LGD. We can implement an automated migration system. We offer consulting services to help a bank in the transition from its current model. And we can validate and back-test existing models based on migration: that is, comparing migration results to your existing historical approach. As such, even without converting fully to migration analysis, the bank can employ the methodology as a "shadow" analysis to validate or challenge its current allowance estimates.

Under the new FASB accounting standard, the bank will be allowed to choose whatever methodology best suits how it estimates its allowance. PD/LGD is likely to suit most banks more than most other methodologies.

*** - The information contained in this and other MST white papers is intended to provide insight and support the bank's efforts to make appropriate ALLL determinations. However, it does not constitute regulatory policy, nor is intended to replace the exercise of appropriate judgement and analysis of actual circumstances by bank management.*