

CECL Model Updates “After” COVID-19

What to keep in mind when making sense of pandemic data pivots

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Irregularities in macroeconomic data were hardly the headline of the COVID-19 pandemic. But with some sense of normalcy – or “new normalcy” – having returned in 2022, it makes sense to look back on some of the wild statistical swings that unfolded in 2020. And as the industry looks ahead, we can consider what they might mean for an institution’s CECL model with an approaching validation.

As one might imagine, there was a significant disconnect between macroeconomically modeled credit stress and the reality of the pandemic. Amid sustained and unprecedented government intervention, for example, much potential default was offset through loans to businesses, direct payments to consumers, and deferrals for many affected borrowers. While these issues were not directly considered in credit stress models, management teams quickly learned, by necessity, how to reduce loss forecasts due to prevailing conditions.

But now that the most turbulent swings of that COVID-related period have passed, model updates are being challenged with troublesome new in-sample data. Those wildly changing macroeconomic factors driving forecast volatility during the recession are now outside-the-norm actual values. Consequently, model owners now need to consider how to account for the counterintuitive relationship between their existing predictors and actual losses as they roll their models forward to incorporate new data. And many institutions that favored a wait-and-see approach to this exercise are now on the clock to make a determination of exactly when and how to act.

Model Updates “After” COVID-19

- Understanding and analysis
- Implementing model updates
- Moving forward

Understanding and Analysis

The first step is to decide how to incorporate pandemic-era macroeconomic forecasts into a CECL model. A direct method involves input to the quantitative model, while an indirect approach includes consideration for a qualitative adjustment.

In either case, an institution should **start by identifying outliers**, which are observations that do not fit the pattern of the data. In the case of the pandemic, a common outlier might be the relationship between unemployment – which spiked in the early months of the lockdowns as millions of businesses were forced to close their doors – and loan charge-offs, which would normally also be expected to jump when out-of-work borrowers couldn't meet their payments. With the benefit of hindsight, however, we know that a corresponding spike in charge-offs never really materialized, as myriad government programs enabled companies to keep their lights on and bring workers back on the payroll.

The resulting wayward data points turned out to be outliers – easily detected but still able to influence the sensitivity of a CECL model. And because correlation does not equal causation, the question then becomes how to handle such outliers so that the model can be explained going forward. An institution seeking an answer will likely undertake one four approaches.

Four Approaches to COVID-19 Data Outliers:

- 1. Leave it.** An institution that chooses to leave such outlying data “as-is” may reason that there is a lot of data being processed in its CECL model, and the best choice is to let all of it inform the model's sensitivity. Leaving the outliers in place allows the model to tell the story of the data on its own, without interference. This course of action is more likely to be chosen by those institutions with longer histories informing their models, as outliers are more easily understood within the context of a wider data field.
- 2. Remove it.** The argument for striking an outlier from the data comes down to the notion that if an institution knows why a particular point is askew – and further knows that it doesn't need the model to take it into account because it was a one-time phenomenon, there's really no reason to keep it in.

3. **Smooth it.** In this scenario, the outlier is left in the data field, but averaging is employed to make the aberration less extreme. In other words, that outlier is still part of the story, but its effect on the bigger picture is muted.
4. **Override it.** Like the previous option, the determination here is that the underlying information is good to include, but its impact on model sensitivity shouldn't be quite so severe. The decision, then, is to make a qualitative adjustment to a quantitative input, which, of course, should be fully documented.

Implementing Model Updates

Determining which course of action to take involves several factors. But regardless of a chosen path, the key to successful implementation depends on the strength of an institution's model governance, which should include:

- Thorough preparation
- Well-documented procedures
- Effective challenge from management

The key to getting governance right is organization. Model updates involve a balance of **research** (testing available alternatives and understanding the impacts of each) and **rationale** (making meaningful evaluations that vary by circumstance and clearly documenting all applicable costs/benefits). Both must be fully understood and supportable. Ideally, this step should be addressed as part of regular and ongoing sensitivity testing of the CECL model.

And when it comes to the crucial component of effective challenge, institutions must beware the common pitfalls of:

- Relying too heavily on vendor-supplied input or assumptions (which can have their own shortcomings)
- Falling back on accepted (but possibly outdated) institutional knowledge
- Undermining sound decisions with poor documentation

Moving Forward

With the darkest days of the COVID-19 pandemic hopefully in the rearview mirror, many businesses can now focus on brighter days ahead. But for banks and credit unions, the troubles of the recent past may continue to haunt their CECL models in the form of lingering data outliers. It's just another challenge in the ongoing CECL journey, but one that institutions can overcome by carefully executing a multi-step process of solving for their forecast volatility, evaluating their exposure, analyzing the impacts, utilizing effective governance, and ensuring ongoing testing.

For More Information

To learn more about how emerging quantitative implications may be affecting CECL models – and practical strategies to address them – [contact Chase Ogden, Quantitative Consultant](#).

For more insights from Chase, click to hear the replay of his recent webinar, [CECL Model Updates “After” COVID-19](#).

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As a consultant with DCG's Quantitative Risk Analysis and Strategy team, Chase brings over a decade of programming and modeling expertise. He provides a unique perspective of the entire analytics lifecycle, having served in a variety of roles from model developer to senior leader of enterprise-wide, cross functional analytics implementations.

As a practitioner at large and mid-sized financial institutions, Chase has experience in a wide array of modeling approaches, applications, and techniques, including: asset-liability models, pricing and profitability, capital models, credit risk and allowance models, operational risk models, deposit studies, prepayment models, branch site analytics, associate goals and incentives, customer attrition models, householding algorithms, and next-most-likely product association.

Chase is a graduate of the University of Mississippi and holds Master's degrees in International Commerce Policy and Applied Statistics from George Mason University and the University of Alabama, respectively. A teacher at heart, Chase frequents as an adjunct instructor of mathematics and statistics.