ECONOMIC CYCLES, REGIONAL DIFFERENCES, AND OTHER CONSIDERATIONS IN IMPLEMENTING CECL

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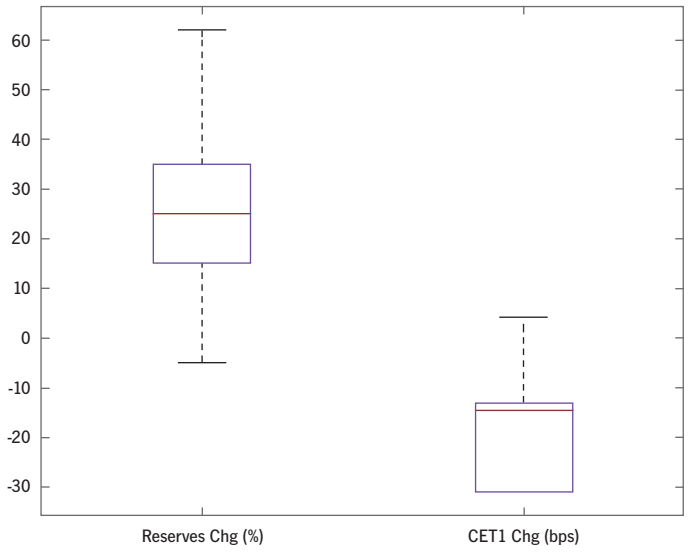
While the dates for the implementation of the Current Expected Credit Losses (CECL) standard have been pushed back for some institutions, the Financial Accounting Standards Board (FASB) recently affirmed two effective dates: January 1 of this year for SEC-filing banks, excluding smaller reporting companies (SRCs), and January 1, 2023, for all other banks.

Meanwhile, the regulatory agencies have proposed a policy statement regarding allowances for credit losses (ACLs) according to CECL[1] that will replace the statement concerning the Allowance for Loan and Lease Losses. In addition, the American Institute of Certified Public Accountants (AICPA) recently issued a practice aid concerning audit considerations for ACLs.[2]

To prepare for the new disclosure requirements, SEC-filing banks have been undertaking parallel runs, performing model validation, and updating their financial reporting. Some big banks and super regionals have disclosed the projected impact on loan loss reserves and Common Equity Tier 1 (CET1) capital ratio in quarterly reports.

BANK DISCLOSED CECL IMPACT ESTIMATES FOR LOAN RESERVES AND CAPITAL



The average increase in loan loss reserve among these larger banks is 26%, varying from a 5% reduction to a 62% increase. The impact on the CET1 capital ratio appears to be manageable, with an expected decline of 17 basis points (bps) on average. The potential impact on capital has been one of the arguments against the adoption of CECL. For this reason, the regulatory agencies issued a final rule in December 2018 that provides financial institutions with "an option to phase in over a period of three years the day-one regulatory capital effects" of the new standard.

The impact of CECL on loss reserves is expected to vary significantly among banks because:

- Banks with heavier consumer exposure and longer-duration portfolios are expected to be impacted more than ones with shorter-duration portfolios, i.e. commercial loans, because of the lifetime loss estimation for provisioning.
- The different choices a bank makes for the implementation of CECL—from data and segmentation to macroeconomic scenarios, reasonable and supportable (R&S) horizon, and forecasting method—may render the loss provisions of the bank less comparable with its peers, even for portfolios with similar durations.

Thus, CECL will add new sources of model risk to existing risk measurement and regulatory compliance models,[3] creating a need for new strategies and techniques to be put in place for the ongoing monitoring and validation of CECL models.

The one-year extension for the non-SEC filing banks gives them an opportunity to investigate how to best deal with some of the implementation challenges.

SOME OF THE CHOICES OF DESIGN COMPONENTS MAY INTRODUCE SIGNIFICANT INACCURACY AND PROCYCLICALITY.

Implementation Challenges

They include data and segmentation, macroeconomic scenarios, forecasting method, and qualitative adjustments. Due to the non-prescriptive nature of the CECL standard, some of the choices of design components may introduce significant inaccuracy in the loss forecast, resulting in procyclicality in the allowance and earnings volatility.[4]

Data and segmentation - It is quite common for banks, particularly smaller ones, to have limited historical data on their portfolios—often not covering an entire credit cycle. Such historical shortcomings can introduce a bias in the lifetime loss estimation that should be corrected either qualitatively or quantitatively through external surrogate data.

A related challenge is insufficient data granularity at the loan level of a portfolio—for example, the net operating income and loan-to-value figures for a commercial real estate (CRE) loan. This may restrict or even prevent segmentation for that portfolio. In fact, the majority of community banks are using call report codes for segmentation because they do not have sufficient granularity in their historical data. Although segmentation can have a significant bearing on the accuracy of the loss forecast, it is considered a judgmental decision under CECL.

As with other judgmental decisions, management must provide justification for choosing a particular segmentation. Selecting the number of segments based on business practices may not be sufficient, and does not guarantee the resulting pools are homogeneous in terms of credit risk. The bank is also expected to re-evaluate the segmentation on a regular basis.

Estimating the expected life of a loan and adjusting for prepayments is at the core of the CECL standard. Prepayments are sensitive to the interest rate and economic cycles, and can materially affect the lifetime loss estimation. Banks without historical data for when loans were terminated early are not able to develop a forecast for prepayment rates. Banks with this challenge should use external data.

Scenarios and R&S period - Macroeconomic forecasts are a key driver of CECL reserves due to the non-linear effects of macro factors on losses. The regulatory agencies point out banks should be using "economic variables and other factors relevant to the collectability of an institution's portfolios."[5] For example, a bank could use consensus estimates that are available for some macro factors at the national level. The challenge is more with regional and community banks due to their relatively local geographical footprint. They would need to justify that such national scenarios are relevant to the collectability of each pool and asset class in their portfolios. A scenario that is not relevant to the asset class and geography of a bank may inject significant inaccuracy and, therefore, procyclicality to the CECL allowance simply because it will not reasonably forecast the cycle of that asset.

Related to the above is the selection of the reasonable and supportable (R&S) period. The duration of the R&S period is a judgmental decision reflecting management's confidence in the forecast of economic conditions that drive the estimate of expected credit loss (ECL). On one hand, a shorter R&S period—for example, 12 months—may make the ECL forecast less dependent on the forecast about the economy and its uncertainty. On the other hand, a shorter R&S period may not capture higher losses if the economic cycle turns following the R&S period—for example, if that were to happen in the first quarter of 2021. The longer the R&S period, the less procyclical the ECL may be. A more effective way to deal with the forecast uncertainty may be to use more than one scenario. Although it is not required by the standard, FASB and the regulators consider it an option.[6]

Forecasting method - FASB and the regulators have provided a non-exhaustive list of methods that would be considered compliant, including loss rate, roll rate, vintage analysis, discounted cash flow, and probability of default (PD)/loss given default (LGD) methods.[7] Although adopting any would tag an implementation as CECL compliant, they yield materially different ECL estimates because each incorporates different assumptions and complexity/accuracy trade-offs.

For example, the methods of static-pool loss rate and weighted average remaining maturity (WARM) have gained a lot of interest because of their simplicity and low complexity in implementation. However, they cannot capture changes in loan origination, effects from aging and maturity, and future macroeconomic impact on the collateral—to say nothing of the recent phenomenon of banks experiencing an increase in loan payoffs.[8] If a bank uses a method such as the WARM, which does not forecast the prepayment-adjusted life of a loan and losses as a function of the economic and market environment, it may incur significant inaccuracy in the ECL estimate.

How do banks navigate through these options and choose the proper method for their portfolios? Of course, data availability can dictate the choice of the method, since each method poses different data requirements. Given the data, a bank should understand the complexity/accuracy trade-offs of the alternative methods and select the one with the best forecasting performance (see the next section for an example).

Scenario Development

As of this writing, no bank with a disclosed impact from the transition has made any reference to the scenarios of the economic cycle used for estimating the ECL. An entity is expected to disclose information that enables users of its financial statements to understand management's method for developing the information used in determining expected credit losses and the circumstances that caused changes to the ECLs. Banks will have to decide how to disclose information about models, scenarios, significant assumptions, and sensitivities.[9] Therefore, it is important for a CECL implementation to support loss attribution at sufficient granularity, at least at the vintage level, so the bank can explain any rise in ECLs in anticipation of a turn in the economic cycle.

Speaking of the economic cycle, the odds of a U.S. recession in the next 12 months has dropped of late. Figure 1 shows the probability of a recession dropped to 29% from 35% in October. The New York Fed estimates the probability using the Treasury spread. Similarly, economists surveyed by *The Wall Street Journal* put the recession probability over the same period at 30% in November, down from 34% the previous month.

At the same time, key macroeconomic measurements at the national level, including unemployment, GDP, and housing prices have not shown signs the present cycle is about to turn. However, these are lagging rather than leading indicators of the economic cycle.

The key considerations for scenario selection for regional and community banks are the current and future conditions within the states the banks service. Applying the National Bureau of Economic Research definition for a recession—two consecutive quarters of inflation-adjusted negative growth—to state-level real GDP from the Bureau of Economic Analysis shows that since June 2009, Missouri has had four

recessions, Connecticut three, New York three, Illinois two, and Texas none (Figure 2).

In addition, statewide downturns during a nationwide recession or economic event can be more severe. For example, in the 2001 recession, states with more exposure to manufacturing were hit harder.

The Chicago Fed produces a Midwest Economy Index (MEI) that measures growth in non-farm business activity in the Midwest, and an index that measures Midwest growth conditions relative to those of the nation.[9] Positive values of the relative index are associated with above-average growth and negative values with below-average growth. In September 2019, the MEI fell to its lowest level since the Great Recession, at negative 0.43. The relative index also fell, to a negative 0.44.

Figure 3 depicts the year-over-year change in the Leading Index of States generated by the Philadelphia Fed as of third-quarter 2019. Most states are now exhibiting worse readings than the 0.09 year-over-year change in the U.S. Leading Index. The bluer the color, the higher the deterioration. The Midwest states are also exhibiting deterioration in future conditions, according to the Leading Index.

So, how can a bank develop relevant scenarios that account for the

FIGURE 1: PROBABILITY OF US RECESSION PREDICTED BY TREASURY SPREAD (N.Y. FED)

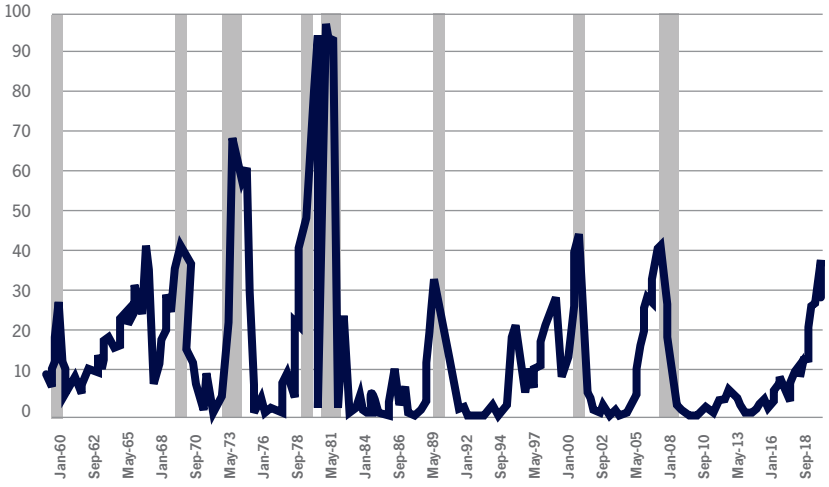


FIGURE 2: RECESSIONS (RED BARS) SINCE THE GREAT RECESSION FOR A SAMPLE OF STATES

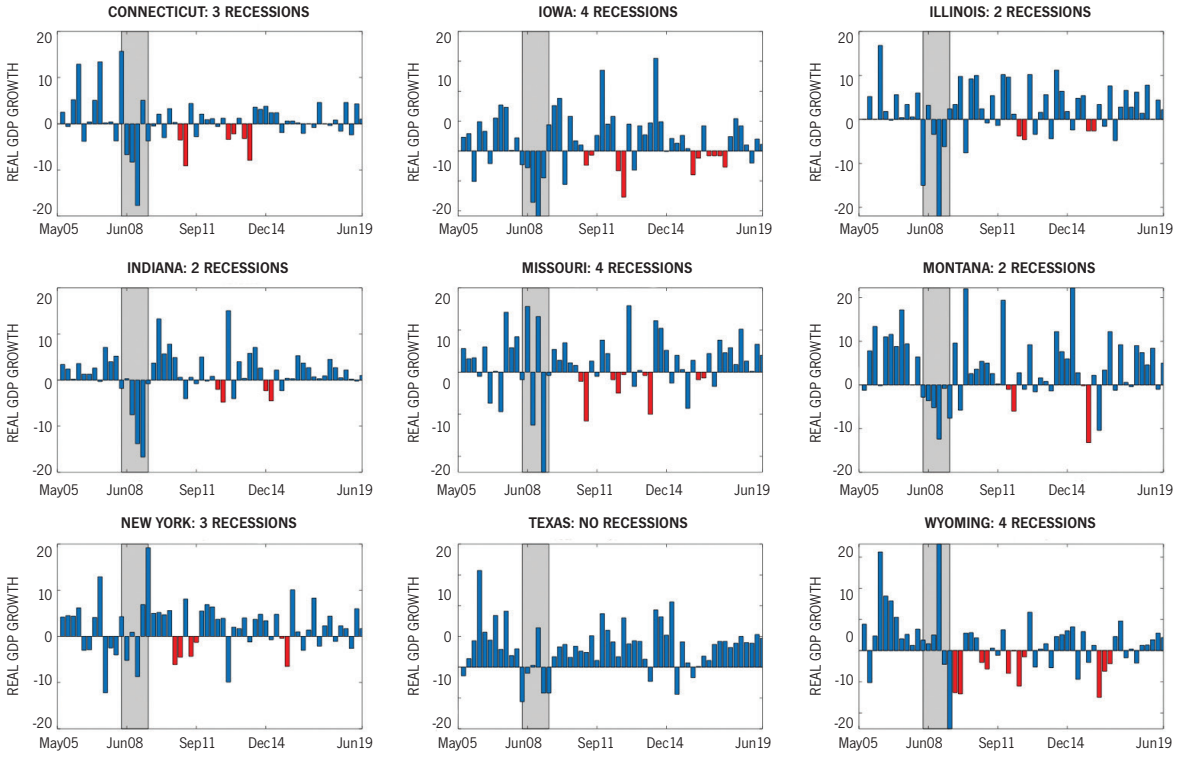
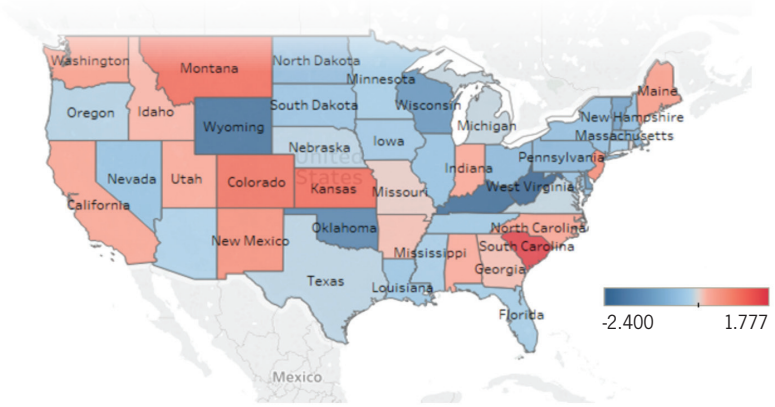


FIGURE 3: YEAR-OVER-YEAR CHANGE IN STATES LEADING INDEX – 2019Q3



likelihood of a recession in the local economy based on leading financial and non-financial indicators, while adjusting for the uncertainty in the scenarios?

And what if a regional/community bank uses national macroeconomic factors instead of local ones for R&S forecasts of ECLs?

Let us assume the case of a community bank that operates in Texas and has a C&I and a residential mortgage (1-4 family, first lien) portfolio. Due to inadequate internal data history, the bank uses the time series of quarterly net charge-off (NCO) rates for the two portfolios from the FDIC Call Report data of Texas community banks since 2001, as depicted in Figure 4.

Assume further that the bank builds two quantitative models for the R&S forecasts of each portfolio: (i) a model that considers national macroeconomic factors only; and (ii) a model that considers a mix of national and local economic factors for Texas. The latter includes real GDP, unemployment rate, manufacturing activity, and housing prices for Texas. The first model is denoted as Model_N and the second as Model_LN.

For the purpose of this example the models are estimated as linear regressions of the NCO and economic factors with lags. The models are fitted using 80% of the data, whereas the most recent 20% (14 quarters) are used for out-of-sample testing. The lifetime ECL factor is calculated by assuming an average life of three years for the C&I portfolio and five years for the residential mortgage portfolio, and using a baseline scenario of national and local economic factors over an R&S period of three years, with instantaneous reversion to the long-run average after the R&S period. The baseline scenario is generated from a multi-factor model of national and local economies at 50% likelihood.

The table compares the two models of each portfolio in terms of out-of-sample accuracy—measured by the normalized mean-squared error (NMSE) of NCO—and the resulting lifetime ECL factor. Model_LN, the model with the mix of local and national economic factors, has higher accuracy (in other words, a lower NMSE) than Model_N for both portfolios: 24% higher for the C&I portfolio and 56% for the mortgage portfolio. Model_LN also produces lower ECL factor estimates under the baseline scenario used in this example, namely -14bps (9%) for the C&I portfolio and -4bps (13%) for the mortgage portfolio.

This example illustrates that using only national economic factors may result in significant inaccuracy in ECL, with implications for pricing and profitability. In addition, national economic factors may mask local

FIGURE 4: NET CHARGE-OFF RATE (NCO) FOR TEXAS COMMUNITY BANKS – FDIC CALL REPORTS

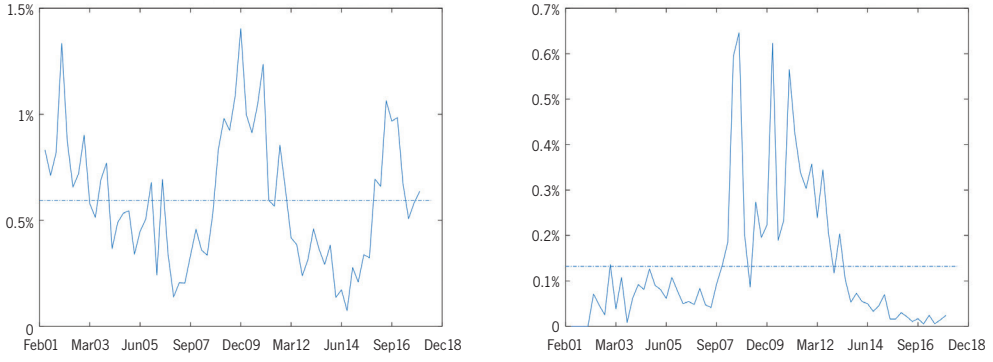


TABLE: NCO MODELS WITH AND WITHOUT LOCAL ECONOMIC FACTORS				
	C&I		ResMORTGAGES (FIRST LIEN)	
	MODEL_N	MODEL_LN	MODEL_N	MODEL_LN
NMSE	0.88	0.71	0.53	0.34
ECL Factor	1.79%	1.65%	0.34%	0.30%

recessions, resulting in procyclical ACLs and hence earnings volatility.

Scenarios have become the driving input in various regulatory risk measurement standards as well as best practice for running a bank. CECL scenarios must be consistent with other scenarios used by a bank for strategic planning, pricing, asset liability management, and stress testing, albeit at different likelihoods. Since expected and unexpected loss estimations are used for determining the loss absorption capacity of a bank, the consistency of scenarios across use cases is of paramount importance.

Why a Bank Should Integrate CECL with Other Aspects of Management – and How.

The importance of integrating scenarios across use cases was noted earlier. As expected loss is one of the factors affecting loan pricing, the accuracy of expected loss estimations has direct implications for the pricing, lending decisions, and profitability of a bank—particularly regional and community banks. The more accurate the expected loss estimate, the better the pricing and lending decision a bank can make for that loan, subject to its risk appetite.

The challenge from the increased loan payoffs banks are currently facing[11] underlines the importance of having a loss estimation method that can forecast the expected life of a loan and prepayments as a function of the economic and market environment. Of course, a bank could opt to account for this effect through a Q-factor adjustment. However, this would come at the expense of potential inaccuracy in the expected loss estimate and with consequences on earnings volatility and profitability.

Declining interest rates bring another challenge to the banks that are now asset sensitive: compression of net interest margins (NIMs). The impact on community banks is bigger in a declining rate environment because they rely less on non-interest income to offset lower spread income than commercial banks do. Moreover, increased competition has forced community banks to hold off on reducing deposit rates—even as they reduce loan rates—resulting in margin compression. CECL models that can estimate ECL with better accuracy can enhance the competitive advantage of a bank in the management of margin compression and profitability.

Conclusion

This article has demonstrated the interconnection between the new loss allowance standard and risk measurement, not only for credit but interest rate risk as well, along the cycle and across regions. Effective credit risk management, therefore, needs to incorporate a framework that is integrated with the overall asset and liability management process. This is critical for financial institutions as they trade off interest rate risk for credit risk. This is where the asset/liability committee (ALCO) plays a key role. A bank's ALCO should therefore have the authority to monitor and approve all operational aspects that impact the balance sheet of the bank, including loan loss reserving and capital.

Becoming compliant to CECL may be relatively easy given the non-prescriptive nature of the standard. The main challenge of CECL for banks is being able to evaluate the various implementation trade-offs, and integrating the resulting ECL forecast with business decisions, from pricing and lending to planning.

At the FASB meeting last summer, Hal Schroeder, a member of the FASB, supported the deadline extension saying, "The message from smaller financial institutions is that they need more time to integrate and use data to make good business decisions." In other words, view CECL as an opportunity to increase profitability rather as just a compliance exercise. Ⓡ

Notes

1. Interagency Policy Statement on Allowances for Credit Losses, Proposed Rule, 2019. https://www.occ.gov/news-issuances/federal-register/84fr55510.pdf
2. Allowance for Credit Losses – Audit Considerations, AICPA, 2019. https://www.aicpa.org/content/dam/aicpa/interestareas/frc/accountingfinancialreporting/downloadabledocuments/cecl-audit-practice-aid.pdf
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