

Integrated Risk Management

Leveraging Existing Practices to Drive
Community Financial Institution Growth

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[Managing risk is at the very core of the business of banking](#) and a fundamental differentiator between financial institutions. In other words, institutions that identify, measure, and manage risk most effectively will outperform their peers in terms of financial performance while also maintaining safety and soundness. This is especially true during economic downturns as institutions may confront increasing credit risk in their loan portfolios as well as liquidity risk, interest rate risk, and pressure to maintain appropriate capital levels.

Concerns about an [economic slowdown](#) and a possible change in the business cycle have again put risk management practices in the banking sector back in the spotlight. However, since many smaller institutions are not required to have a formal enterprise risk management program, these practices are often siloed within institutions and reactionary to regulatory pressure (i.e., quickly trying to patch the holes the examiners poke).

While there are existing best practices to address many of these risks (for example, stress testing to evaluate credit risk, [ALM for liquidity, and interest rate risk](#)), financial institutions must look beyond evaluating each risk type in a vacuum and instead account for ways these risks and best practices used to manage them overlap and interact with each other. Only through a more holistic view of their risk management processes can institutions be confident that they have the right information to inform their capital planning, risk appetite, and overall strategy going forward. Financial institution management and directors armed with this information are better able to respond to future challenges and execute their plans – taking on “enough” risk without absorbing “too much.”

This whitepaper will take a closer look at some

of the existing risk management practices employed by financial institutions today and the areas of overlap and interaction between them. Additionally, it will consider ways to synthesize results across these practices and the case for automation to accelerate that process.

Stress Testing

“FDIC examination findings since mid-2017 noted opportunities for improvement in risk management practices for CRE-concentrated institutions, particularly in the areas of board governance and oversight and portfolio stress testing.” - FDIC 2019 Risk Review

Stress testing is probably the most familiar of risk management practices in the banking industry because it evaluates the risks associated with issuing credit – a central function of financial institutions. Because [stress testing is a long-standing practice](#) in the banking industry and a broadly used term, it can be unclear what specific

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outcomes institutions are working toward in their stress testing efforts. At its core, stress testing is about evaluating and quantifying what-if type questions and alternative scenarios, though this exercise can take different forms. There are, broadly speaking, three different types of stress testing exercises institutions typically employ:

Bottom-up/loan level: Also commonly referred to as concentration testing, this stress testing approach attempts to quantify what happens to specific loans (or groups of loans) when key variables change (such as interest rates, cash flow, cap rates, etc). Most [bottom-up tests](#) use changes in loan to value (LTV) and debt service coverage ratio (DSCR) to measure impact at the loan level and then pull the results downstream to estimate the impact on financials, the ALLL, and capital levels.

This type of testing is typically focused on the CRE portfolio, though it may encompass other parts of the portfolio depending on the institution's concentration mix. This focus is largely due to regulatory interest, specifically the 100/300 capital thresholds for CRE concentrations, but data considerations also play a role. Bottom-up stress testing requires data elements beyond the standard loan level details and includes more credit focused metrics (like NOI, EBITDA, cap rates, etc.). As these details are not usually available or updated for many loan types (i.e. residential mortgages), it often limits the effectiveness of this type of testing.

Top-down: Unlike the CRE focus of bottom up testing, [top-down stress tests](#) are typically portfolio wide. The top down test makes assumptions about cumulative loss rates across portfolio segments and quantifies their impact on financials, reserves,

and capital levels. Institutions sometimes use this approach as part of a "break the bank" exercise to determine what level of losses pushes the financial institution to critical capital levels.

Portfolio simulation: A more statistically based approach using an array of assumptions is to simulate the behavior of the portfolio in response to changing economic conditions. Larger financial institutions have utilized this type of approach as part of DFAST and CCAR submissions, though these requirements have been significantly rolled-back as part of recent regulatory reform. These exercises can provide an environment for institutions to evaluate strategic decisions (like loan growth appetite and funding alternatives) in the context of profitability and capital levels.

As this approach relies on establishing correlations between measureable economic variables (i.e., GDP, unemployment rates, etc.) and default/loss experience, smaller portfolios and/or portfolios with little recent loss experience can present challenges in finding meaningful relationships to drive simulations.

ALM:

Asset/Liability Management (ALM) at its core is a process to manage the risks posed by mismatches between an institution's assets and liabilities. Along with the CFO, [the asset/liability committee](#) (ALCO) within each financial institution is responsible for managing these risks and aligning decisions with their overall strategic plan.

These risks take two primary forms: interest rate risk and liquidity risk.

Interest rate risk is defined by the OCC Comptroller's Handbook as "the risk to earnings or capital arising from movement of interest rates". These risks can be driven by many factors, including the timing of interest rate changes relative to cash flows, changes in the overall term structure of interest rates (the yield curve), and structural elements within the institution's balance sheet (i.e., the mix of fixed vs. variable rate loans).

Liquidity Risk refers to the essential need for financial institutions to meet their cash and collateral needs in their day-to-day operations. While this is easy for many to take for granted, the last recession showed clearly how market shocks can squeeze liquidity to the point of crisis, or even failure.

It is incumbent upon management to make lending, funding, investment, and pricing decisions not only to appropriately manage interest rate risk and liquidity needs, but to optimize their balance sheet and achieve their strategic objectives. Much like portfolio stress testing, a robust ALM process should allow for the generation of scenarios to provide management a clear view of the financial institution's risk profile under a variety of conditions. When executed thoughtfully, CECL models may be leveraged to produce a variety of detailed information about interest timing, credit adjusted rates of return, and lost interest due to defaults. As discussed further, by aligning inputs and assumptions in ALM modeling with other risk management processes, financial institutions can build a more holistic view of their risk profile and plan for the future.

The ALLL & CECL:

WHERE DOES THE ALLL FIT IN?

While the estimation of loan loss reserves is an accounting exercise in that reserve balances and related provision expense are financial statement inputs (and subject to GAAP standards), they are also critical parts of risk modeling for financial institutions. The ALLL is the first line of defense in absorbing credit losses (followed, of course, by capital), and there is a financial impact both through required provisions to and from the reserve and through deteriorating credit conditions in the loan portfolio (evidenced through downward risk rating migration).

As stress test scenarios may detail both possible charge-offs and downgrades, it is critical for financial institutions to understand and model how reserve levels may change under different conditions and the associated financial impact. As with the ALM process, the ALLL is a necessary modeling component in forecasts that will have an impact of earnings and capital levels.

WHAT ABOUT CECL?

Overall, the move to the Current Expected Credit Loss accounting standard (CECL) should improve consistency across risk management processes. Specifically, [the "reasonable and supportable" forecasting element](#) of the standard will require financial institutions to incorporate expectations of future conditions into reserve estimates. This is not the case under today's accounting standard (the Incurred Loss Model), which prohibits financial institutions from adjusting reserve levels based on forward looking elements.

More specifically, CECL should bring more [alignment between ALM and the ALLL](#) as both will require detailed expectations about future conditions. Though similar alignment with stress testing programs is likely (particularly with a portfolio simulation approach), it will be important for financial institutions to clearly distinguish between their expectations of what will happen (forecasts) versus evaluating outcomes that could happen (scenarios) and ensure they are used appropriately and documented as such.

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Overlap between the silos

In today's competitive environment, management needs to have strong analytical tools based on reliable and consistent data in order to make key decisions on issues such as acquisitions, funding and credit concentrations, and term structures. Although connecting processes does not happen frequently, it should, as leveraging a single source of data for the various metrics and analysis helps ensure consistency. For a more holistic risk management effort with consistency across processes, it will be critical for institutions to identify and utilize the common ground. These areas of overlap include underlying data elements, modeling assumptions, and inputs.

UNDERLYING DATA ELEMENTS

Across all of these processes and best practices for risk management, the starting point is an accurate underlying data set. That data set typically begins with point in time, loan level extracts containing detailed term, structure, status, and coding information for all loans in the portfolio as well as detailed deposit information.

For many FIs, the core accounting system is the source of record for this data. However, in many cases the core may not contain all the information required for a particular process. For example, a bottom-up type stress test typically requires additional, "non-core" data such as credit-focused metrics like NOI, EBITDA, cap rates, and/or collateral values to be useful. This type of information may live in a financial institution's credit spreading system, a data-warehouse, or may need to be collected manually from credit files. Additionally, externally serviced loan portfolios can create challenges in compiling a complete data set.

Institutions should first look to leverage any existing data extracts they may have created elsewhere in the institution to ensure consistency across these processes and then attempt to supplement process specific data needs. Loan level extracts for the ALLL are often a good starting point due to the controls and governance required for using the data for financial statement purposes. Additionally, robust coding across loans and deposits enables more consistent application of assumptions across categories and eases some burdens of financial reporting.

MODELING ASSUMPTIONS & INPUTS

As previously noted, alignment of critical assumptions and inputs is fundamental to a holistic view of risk management for financial institutions. Regulators have also been clear that they expect consistency across these various processes and may require explanations when they deviate. Assumptions should be institution-specific, if possible. When institution-specific information otherwise strains credulity, question the strength of the assumption and the weight of the evidence leading to it. The key thing is to evaluate this at an input-by-input level, and if an institution has a weak input without a weight of belief behind it, they can leverage market or peer based information. However, some of the critical institution-specific assumptions that should be analyzed first include:

Prepayments and early withdrawals:

Expectations of deviations from contractual terms for both loans and deposits are critical for ALM modelling but are also needed in any discounted cash flow (DCF) based modelling (CECL or portfolio simulation type stress tests).

Average life expectations: How long do we expect different loan types to stay on the books relative to their contractual term? It may reflect prepayment expectations as noted above, but in some cases might it be used as an input for non-DCF based models (particularly for ALLL/CECL).

Credit risk assumptions: These can be expressed in different ways (i.e., loss rates vs PD/LGD), but assumptions for credit losses across various loan types are fundamental to virtually all risk management models. Again, institution specific assumptions are typically preferable to market or peer based measures; however many financial institutions may need to look outside

their institution due to the low loss environment of recent years.

Regardless of how they are derived, credit risk assumptions should be consistent throughout the entire risk management process. For example, an institution may leverage sets of PDs/LGDs in estimating their allowance under CECL while also using them to quantify the impact of changing conditions and the costs related to downgraded credits under various stress testing scenarios.

Forecasts: These include both economic forecasts (such as outlooks for GDP and unemployment) as well as institution specific forecasts (such as loan growth and funding costs). As these forecasts will be used across multiple processes, consistency is again critical. Support and documentation for how these forecasts are sourced and how they specifically, or in some cases statistically, relate to changes in the balance sheet is also important.

As noted above, it is important in some cases to distinguish between forecasts (expectations about what will happen) and scenarios (examples of what could happen). For example, using the DFAST scenarios of economic conditions (baseline, adverse, severely adverse) makes sense in a stress test/portfolio simulations but likely would not be appropriate as part of a reserve estimate under CECL as the scenarios do not represent the institution's expectation of future conditions.

Synthesizing results

Alignment of these different risk management practices will not only please regulators and examiners, but can also provide a more holistic view to management to inform:

Risk appetite: Financial institutions are required to have a formal risk appetite statement detailing the amount and types of risk a financial institution is willing to take. A holistic risk management program should provide actionable results to inform this statement.

Pricing and terms: Community banks are often “price takers” instead of “price makers” (both for loans and deposits), meaning that they too often make pricing and term decisions based on market and competitive conditions. Instead, financial institutions should look to utilize the data they have at their disposal to set prices proactively rather than reactively. By leveraging ALM, ALLL, and stress testing scenarios, financial institutions can get a better picture of their true risk profile across different asset types and in varying economic conditions. This will help FIs to ensure pricing and terms cover costs, profit needs, and risk.

Capital planning and budgeting: Efficient and productive allocation of capital (i.e., making good loans) is critical to providing a competitive return to shareholders, yet too little capital brings regulatory scrutiny and risks to safety and soundness. Optimizing the balance between growth, risk, and return to shareholders is management’s primary job. A holistic risk management program, along with a clear strategic plan and risk appetite statement, provides the framework and data to do so.

Financial Reporting: Consistent loan coding across the portfolio will not only enable meaningful disaggregation for risk management processes, but may also ease many of the burdens of financial reporting. The more granular the available coding is, the more flexibility available both in terms of internal management reporting as well as external financial reporting and disclosures. Additionally, many of the assumptions and inputs noted above (such as credit risk and prepayment assumptions) may also inform other accounting requirements, such as exit price disclosures for SEC filing institutions.

The case for automation

As noted above, there is a host of data required for the various risk management processes (with significant overlap). Automation can provide significant benefits around data governance and management and reduce the amount of “data duplication” seen with many community financial institutions.

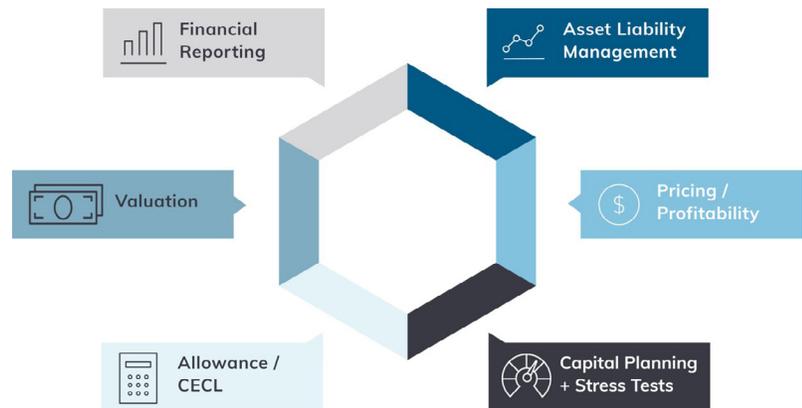
Effective stress testing and ALM programs employ a range of scenarios which management can then evaluate and compare. Automated systems can enable easier and faster scenario generation while limiting the manual (and error prone) nature of spread sheet modeling.

Different risk management processes living in a connected, automated environment can leverage common data sources, ensure consistency across various model inputs and assumptions, and provide powerful reporting capabilities

Summary:

Community financial institutions play a vital role in our economy by providing credit and services to small businesses and consumers in their local markets. In order to continue effectively serving their communities, it will be critical for them to take measured risks and manage them throughout changing economic conditions.

By utilizing the broad-based approach to risk management outlined in this paper, institutions can leverage common, overlapping data sources combined with consistent modeling inputs and assumptions to gain a more holistic view of their risk management processes. Armed with this, management can develop a cohesive strategy pairing their risk appetite with appropriate pricing and terms and their overall capital planning. Additionally, the institutions that effectively leverage technology and automation will be able to accelerate this processes and maximize return on their capital.



Additional Resources

Whitepaper: [The 7-Step Guide to an Effective, Dynamic ALCO](#)

Webinar: [Subjective CECL: Qualitative Adjustments and Forecasts Under the CECL Model](#)

Webinar: [CECL and Your ALM Model](#)

ABOUT THE EXPERT



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Tim McPeak is an Executive Risk Management consultant at Abrigo, where he advises on risk and portfolio management with financial institutions nationwide. Previous to his current position, Tim led Abrigo's strategic partnership program, through which the company partners with consulting, loan review, accounting, and other professional services firms. Before joining Abrigo in 2011, Tim spent several years as an associate with investment banking firm Babcock & Brown, focusing on commercial real estate and infrastructure finance. Tim began his career in retail and business banking with Key Bank of New York. He received his bachelor's degree from Wake Forest University.

ABOUT ABRIGO

Abrigo is a leading technology provider of compliance, credit risk, lending, and asset/liability management solutions that community financial institutions use to manage risk and drive growth. Our software automates key processes—from anti-money laundering to asset liability management to fraud detection to lending solutions—empowering our customers by addressing their Enterprise Risk Management needs.

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