The Changing Landscape for Credit Risk Management
From silos to convergence with enterprise risk
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Introduction

Historically credit risk portfolios have been managed within separate lines of business, creating silos of activity separate from market and operational risk. Credit risk models supported the management of loans and workflow - from origination and scoring, to risk grading, price optimisation and underwriting. Loss reserves were primarily monitored and managed using internal ratings and factors linked to loan covenants, or otherwise managed through hedging and securitisation.

This siloed approach, however, can lead to consequences - as we learned during the financial crisis of 2008. In a 2010 report published by the Chartered Institute of Management Accountants (CIMA), it was noted that compartmentalisation of credit, market and operational risk within silos “negated the benefits of a structure designed to cascade risk management down through different divisions.” This created a blind spot for risks developing across the firm, and it encouraged credit portfolio managers to increase their risk appetite without consideration of the broader, group-level implications, such as correlation risk across geographies.

Recognising that this blind spot resulted in overexposure, supervisory authorities introduced a spate of new regulations and accounting rules. The greatest impact has been on capital and liquidity, with increasing costs and pressure on margins; these drivers, in turn, have acted as a catalyst for the integration of credit portfolio strategies with other lines of business that affect market, liquidity and operational risk.

Regulatory and Accounting Rules Driving Convergence With Enterprise Risk

Key drivers of change in credit risk management include regulatory requirements, accounting rules changes and the changing economic environment.

Basel II attempted to increase liquidity coverage through the use of blended internal ratings and standard models to calculate capital requirements. Basel III, for which implementation is now extended as far out as 2019, adds capital buffers to offset variable results, with additional liquidity requirements for significantly important financial institutions (SIFI banks). Basel IV is already under development and will require that banks meet even higher capital leverage ratios. However, many of the world’s top 150 banks by assets have not managed to significantly increase their capital buffers since the global financial crisis. The most recent IMF report on global bank capital as a percent of assets shows improvement, but only by 1.4 percent - from 8.9 percent at the height of the financial crisis to 10.3 percent at the beginning of 2015.
Banks are likely to face a capital shortfall as the new regulations, such as Basel IV, kick in, along with the internal ratings-based approach and new standardised models with capital floors.

Additional pressure on capital comes from recently introduced accounting rules for expected credit loss. Prior incurred loss models recognise expected credit losses when they reach a “probable threshold.” Many analysts have suggested this approach failed dramatically during the 2008 financial crisis when potential future losses were recognised and provisioned for when it was already too late in the loss cycle.

Therefore, in June 2016 the Financial Accounting Standards Board released its Accounting Standards Update Financial Instruments – Credit Losses (Topic 326). This was the second leg of a global accounting standards change that began when the International Accounting Standards Board published its new standard, known as IFRS 9 Financial Instruments (a replacement for IAS 39), to the rest of the world in 2014. The updated guidance, relating to the measurement of credit losses using a current expected credit loss estimation for the life of each loan, represents a significant change from the previous incurred loss model. This change affects total impairment over the firm’s credit portfolio, resulting in higher provisioning expenses, with a negative impact on capital.

Another source of regulatory pressure banks are grappling with are the requirements, questions and challenges related to conducting stress tests as the regulatory tools of choice to evaluate overall safety and soundness. While stress testing programs differ in scope and requirements from region to region, interdependence of adverse macroeconomic scenarios and the potential impact of these scenarios on credit losses, liquidity...
and capital reserves places a premium on understanding how changing rules might affect regulatory and financial reporting. It is also forcing banks to integrate their credit risk modeling scenarios with other measures of firmwide risk.

Under the new standards for IFRS 9 and CECL, exposures affected by credit impairment move from a one-year loss to a lifetime expected loss reserve. At the tail end of adverse economic conditions, we may expect credit deterioration to intensify across the portfolio. This leads to greater economic sensitivity relative to current accounting rules, with greater volatility in forecasted loss provisions. Given the impact on capital, development of credit risk models that provide defendable reserve estimates will be critical.

The bottom line for this confluence of regulatory and accounting changes is the impact on reserves. Estimates for the impact of IFRS 9 and CECL alone range from 35 percent to 50 percent.3

In a 2015 survey of credit portfolio managers, 85 percent of institutions surveyed said that regulations relating to the levels of capital and liquidity that banks must hold – and the prospect of even tighter regulation ahead – were the main reason institutions need to identify new approaches to optimise both the use of capital and profitability.4

With multiple regulatory and accounting rules in different jurisdictions, credit portfolio managers will be challenged to measure return on capital without taking an integrated view of the firmwide balance sheet.

Economic and Business Factors

A primary goal of the regulators is to ensure the banking system has sufficient capital to withstand a range of potential local or systemic economic shocks. For this reason it is now required to include macroeconomic factors within credit risk models.

Brexit is an excellent recent example of an unexpected, systemic economic shock. The British referendum to leave the EU reduced the value of the pound to a 30-year low in days, increased the value of the dollar against most currencies, and delayed US Federal Reserve plans to increase rates - not to mention market uncertainty and volatility linked to the political fallout. While the full impact is still unfolding, it would appear that, on the positive side, the international banking system has shown greater resilience than in the past, and the impact in the markets was temporary due to higher levels of liquidity.

In addition to macroeconomic factors that must now be included in credit risk models, the business landscape itself has changed for credit portfolio managers - in particular a steep drop in the securitisation market. According to the AFME Securitisation Data Report issued Q1 2016, new issuance has dropped by nearly 75 percent in Europe from its level of EUR 818 billion in 2008 to EUR 213 billion for the full year ending in 2015.5

The implications for credit portfolio managers are that with larger credit positions on their own books alongside a decrease in capital, they will need to find new ways of mitigating risk, optimising returns and allocating balance sheet assets.
Implications for Credit Risk Modeling, Data and Technology

There is little disagreement that credit portfolio managers need more powerful, automated tools to address the challenges they face. Developing and executing credit risk models as they become increasingly integrated with firmwide risk, balance sheet targets and limits will require new software and technology, from more sophisticated models to enhanced data management and high-performance computing.

Credit risk modeling

The factors outlined here, from macroeconomics to microprudential regulations and business challenges, have significant implications for the way credit risk models need to be managed. New accounting rules, such as IFRS 9 and CECL, require an end-to-end technology solution that includes model governance; the flexibility to develop, test and deploy new models; and the ability to integrate credit risk models within firmwide analytics – from stress testing to analysing enterprise risk. The requirements to combine risk and finance data for capital optimisation and implement enhanced pricing mechanisms also demand an automated, scalable approach to modeling.

Firms with dozens or hundreds of models will simply not be able to scale their operations with costly manual processes and spreadsheets. Long lead times for the development of new credit risk models with complex interdependencies and workflows that need to be investigated manually for each change may no longer be tolerated. Furthermore, model risk inherent in an unautomated, ungoverned approach leads to poor decisions and can be disastrous.

Therefore modernising and automating a bank’s model risk management capabilities and ensuring the entire process is transparent for internal and external stakeholders becomes a core competency. This approach will be required for meaningful credit risk intelligence to be understood within the context of strategic firmwide decisions.

Enhanced data management

The central challenge for credit risk modelers is to obtain and analyse an enormously increased amount of detailed data. In the past, data was collected at the line-of-business and regional level, then summarised for corporate reporting. New regulations and accounting rules require that clean data be made available across all lines of business and geographies at the firmwide level.

For instance, to comply with IFRS 9 alone, banks must look at millions of customers with hundreds of data points, as described by Christine Wong, blogger for expertIP.

Lifetime loss models and the way they now need to be integrated with stress testing is one example. As revealed in a recent report, Stress Testing: A View From the Trenches, only 17 percent of banks surveyed had a unified stress testing data repository. This suggests many banks are not prepared for the ever-increasing integration of finance and risk data required for IFRS 9, CECL or stress testing.
Clean, reliable data is therefore the fundamental starting point for credit risk modeling, from analytics and visualisation for management decisions to financial and regulatory reporting. For this reason the financial services industry has moved toward embracing as best practices the principles for managing data outlined in BCBS 239. These principles include data governance, risk data aggregation and risk reporting.

High-performance computing

When performing analytics on a large data set, the underlying technology needs to be scalable and produce intraday results. Weeks or months may be lost when model developers need to wait overnight for results, only to find an error stopped the process. These delays cascade and result in regulatory fines when deadlines are missed. Furthermore, firms that are now able to produce timely credit risk and stress testing results have found they are able to use the data to support strategic business decisions in addition to simply meeting regulatory requirements.

The cost of parallel computing has come down dramatically to the point where it is now a commodity. More recently, in-memory computing based on solid-state technology has become affordable as well. The advantage of data and analytics co-residing in-memory is the reduction of network latency from disparate information sources.

Therefore, while the cost of parallelising software applications needs to be considered, the ability to design credit risk models and workflow to take advantage of high-performance computing is a key requirement for automation, timely results and cost reduction.

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Conclusion

Current forces of change, from regulatory and financial mandates to economic factors, are requiring credit portfolio managers to face a broader range of challenges. Beyond the evolution of their own origination workflow and analytics, they must now collaborate with financial and risk stakeholders across the firm. As a result of required collaboration across risk and finance, credit risk models must support risk management and capital allocation decisions at a firmwide level.

In their June 2016 McKinsey/IACPM survey, a solid majority of credit portfolio managers saw their independent silos of the past evolving into a collaborative model, giving them a strategic seat at the corporate table. Their newly expanded responsibilities span a broad range of enterprise activities— from stress testing to regulatory management, enhancing risk management strategies and capital optimisation.

In measures of firmwide exposure, credit risk data has always been part of the picture. The fundamental change we see now is the strategic involvement of credit portfolio managers and the convergence of their credit risk models with enterprise risk.

For more information, visit sas.com/au-risk.

Endnotes


5 AFME Securitisation Data Report, First Quarter 2016, SIFMA. sifma.org/research/item.aspx?id=8589960740

6 Christine Wong quoting Darryl Ivan, “Using analytics to prevent another credit crisis,” expertIP blog, July 6, 2016. blog.allstream.com/using-analytics-to-prevent-another-credit-crisis/


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