

## Building a Bridge between Risk and Finance to Address IFRS 9 and CECL

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### ABSTRACT

Historically, the risk and finance functions within a bank have operated within different rule sets and structures. Within its function, risk enjoys the freedom needed to properly estimate various types of risk. Finance, on the other hand, operates within the well-defined and structured rules of accounting, which are required for standardized reporting. However, the International Financial Reporting Standards (IFRS) newest standard, IFRS 9, brings these two worlds together: risk, to estimate credit losses, and finance, to determine the right level of provisions on the balance sheet to face credit losses, this implies total alignment between the two functions as the level of provisions should be based on the estimation. To help achieve this integration, SAS® has introduced SAS® Expected Credit Loss. SAS® Expected Credit Loss enables customers to perform risk calculations in a controlled environment and to use those results for financial reporting within the same managed environment. The result is an integrated and scalable risk and finance platform, providing the end-to-end control, auditability, and flexibility needed to meet the IFRS 9 challenge.

### INTRODUCTION

Ostensibly, both the risk and finance departments are charged with the same task: to protect the assets of the institution and ensure its ongoing solvency. How they accomplish this task, however, differs considerably. Within its function, risk enjoys the freedom needed to properly estimate various types of financial risk. Finance, on the other hand, operates within the well-defined and structured rules of accounting needed for standardized reporting.

Although such silos are almost never beneficial, these are especially detrimental in light of new accounting standards issued by the International Accounting Standards Board (IASB) [source: IFRS Project Summary, July 2014]. Known as IFRS 9, the new requirements touch on how financial instruments (for example, loans and credit cards) are valued, reported, and, perhaps most relevant, provisioned. To properly account for potential losses and ensure that the appropriate reserves are held, risk and finance must coordinate their activities: risk to estimate credit losses and finance to determine the right level of provisions on the balance sheet, the IFRS9 standard guidelines state the allowances for credit losses in the Balance Sheet should be based on the estimation of Credit Losses, creating a direct link and dependency between the two functions. To understand the challenges this represents, it is important to understand the function and culture of each group.

### RISK AND FINANCE FUNCTIONS

In most organizations, risk management is charged with identifying, measuring, and mitigating adverse effects of internal and external events on the bank. This mandate can be more readily understood by reviewing a standard taxonomy of the types of risks typically managed:

- Market risk—derived from movements in markets. Common variables are foreign exchange rates, interest rates, and equity and asset prices.
- Credit risk—derived from the non-performance (in other words, default) or deterioration in the credit-worthiness of an obligor.

- Operational risk—derived from failures of internal processes, such as loss of information or rogue trading events.
- Other risk—derived from legal, reputation, or other sources.

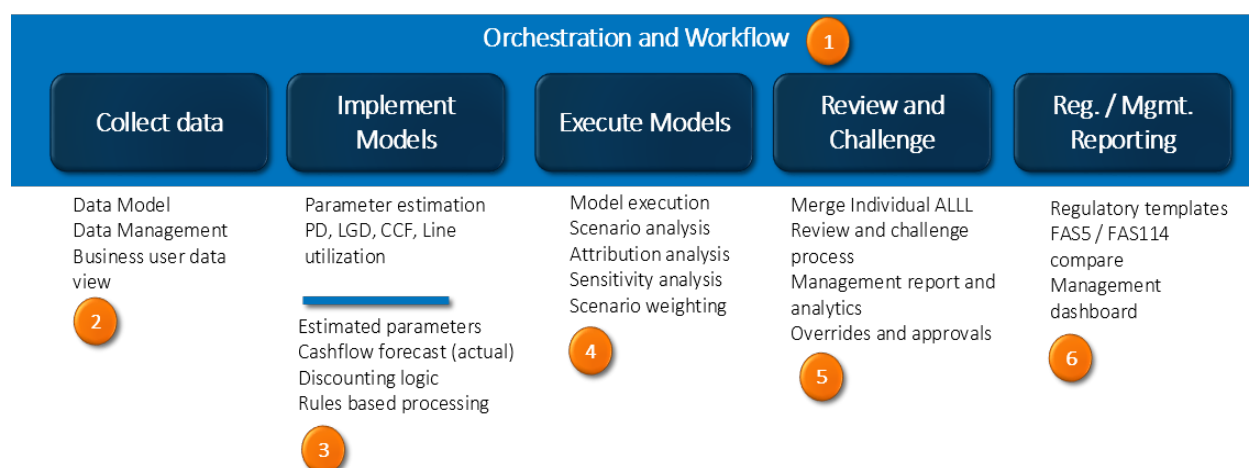
These risks are managed using statistical tools such as models for credit losses and market risk factors—Value at Risk (VaR) and expected shortfall (ES). Accordingly, risk management departments tend to be staffed by employees with high levels of quantitative and technical ability, coupled with business experience and acumen. Importantly, the risk function tends to be forward-looking, applying hypothetical scenarios (both stochastic and deterministic) to outline possible states of the world and the bank's condition in each.

If risk is about what can happen, the finance department is more focused on what happened already. Traditionally, this function provides reports to both management and regulators outlining the current status of the bank as determined by various metrics. These would include comprehensive reports on incoming and outgoing cash flows, expenses and performance metrics. With its focus on providing clear and concise information about the state of the organization, finance requires expertise in accounting and managerial accounting.

Two groups that are alike in purpose, but often different in culture and process. Risk, perhaps more academically minded, with an ethos of experimentation, and finance, with an innate need for precision and control. Both are fundamental to the operation of the bank, and both have key inputs into the process for IFRS 9 (and its US analog CECL).

## IFRS 9 AND CECL

As mentioned above, IFRS 9 and CECL are accounting standards, which prescribe acceptable accounting standards globally. A key element of both regimes is the calculation of a loan-level impairment value. That is, for every loan or account, a bank must hold in reserve a certain amount of cash in case that counterparty fails to meet his or her obligations and defaults. While simple in concept, an IFRS 9 or CECL process such as the one illustrated in Figure 1 comprises many steps.



**Figure 1. Generic CECL Process**

For its part, the risk function must provide models and methodology to estimate values such as probability of default (PD), cash flows, and loss given default (LGD) over time and subject to multiple economic scenarios (steps 3 and 4). Finance, on the other hand, must process those model-based results into useful financial information, populating a variety of managerial and regulatory reports, while maintaining the required level of governance and control demanded by both the internal and external

audit functions (steps 5 and 6). For even a moderately sized institution, an IFRS 9 process could be slow and cumbersome, with multiple points of inconsistency and failure.

## SAS EXPECTED CREDIT LOSS SOLUTION

To maximize the efficiency of the IFRS 9 process, SAS Expected Credit Loss combines all the tools required to calculate and manage an IFRS 9 program into a single platform. The SAS approach provides dedicated tools for the risk and finance functions, while preserving the security and data integrity required.

### SAS® MODEL IMPLEMENTATION PLATFORM

For risk calculations, SAS Expected Credit Loss uses the SAS Model Implementation Platform, a powerful and flexible tool for quickly implementing a variety of risk models. Traditionally, risk groups create and validate models. They then implement the model for production. This process entails substantial effort, and it is often plagued by significant rework, as the development technology frequently differs from the implementation technology. SAS Model Implementation Platform avoids this rework by providing a data-driven approach to model implementation using a GUI and a control framework to enable quick and accurate model implementation. In addition, SAS Model Implementation Platform is supported by SAS® High-Performance Risk, which supports a wide range of sophisticated analytical methodologies, processed in-memory, parallelized, and highly scalable. By leveraging SAS Model Implementation Platform, the risk function can fulfill its obligations quickly and with maximum flexibility, while maintaining the necessary controls.

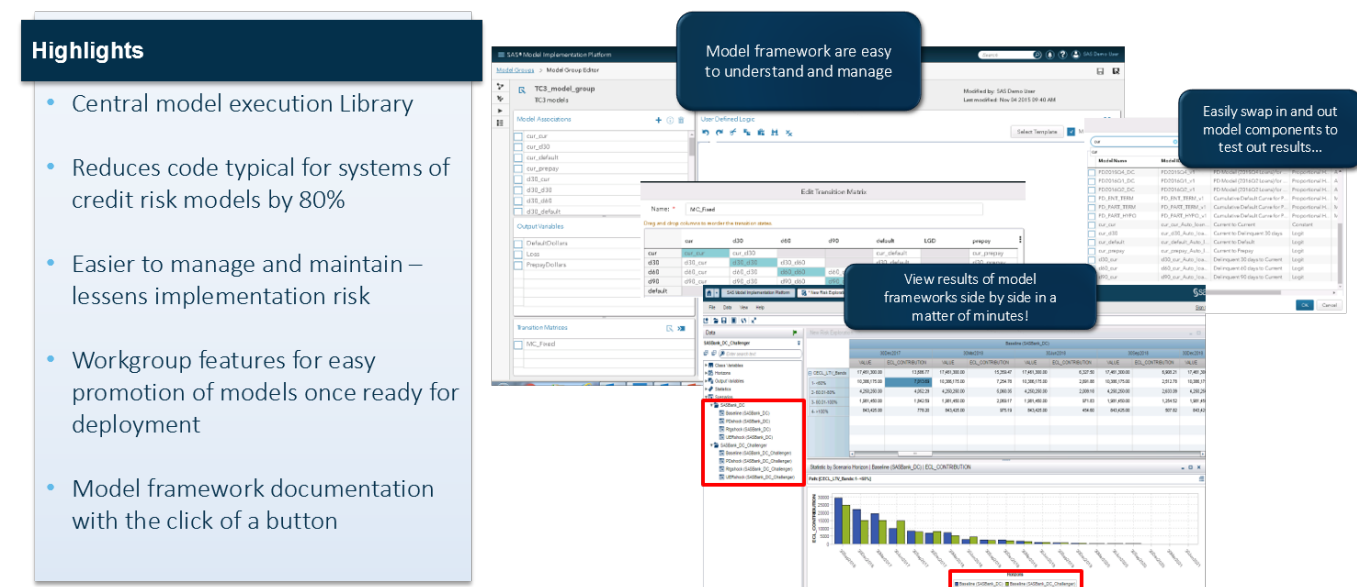


Figure 2. SAS Model Implementation Platform

### SAS RISK AND FINANCE WORKBENCH

For the finance team, the primary tool in SAS Expected Credit Loss is SAS® Risk and Finance Workbench. After SAS Model Implementation Platform has completed its calculations, the resulting loss numbers populate a set of reports available in SAS Risk and Finance Workbench for review. Balance sheets, income statements as well as other reports more focused on the loss estimates allow management to see the impact of the loss-provisioning across lines of business, geographies, and so on. Process flows can be easily built and easily customized to orchestrate and manage the whole IFRS 9 process within SAS

Risk and Finance Workbench. This provides a controlled environment and enables full auditability and traceability.

## Workflow

- Workflow to orchestrate the end to end process
- Controls and security
- Tasks execution
- Track and monitor the process
- Data collection (IA process)
- Governance and audit

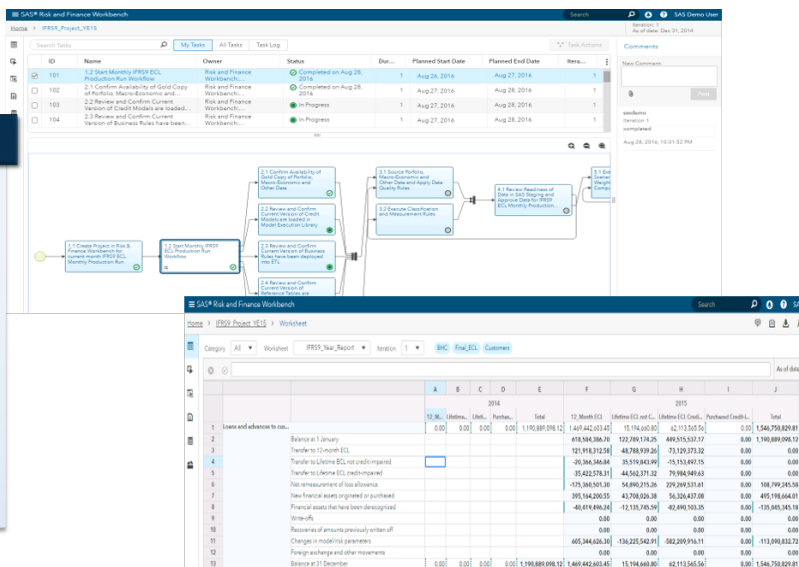


Figure 3. SAS Risk and Finance Workbench Process and Reporting

In addition, the SAS Risk and Finance Workbench interface allows authorized users to adjust reported values in a familiar spreadsheet-style environment, complete with comments and logging for traceability.

## Review and Challenge

- Workflow capturing sign offs
- Overlays captured
- Pre-defined regulatory worksheets for review and challenge
- Business hierarchies supported for review and challenge
- Allocation down hierarchies and back to loan level data
- Comment capture enable for any data modifications
- Governance and audit

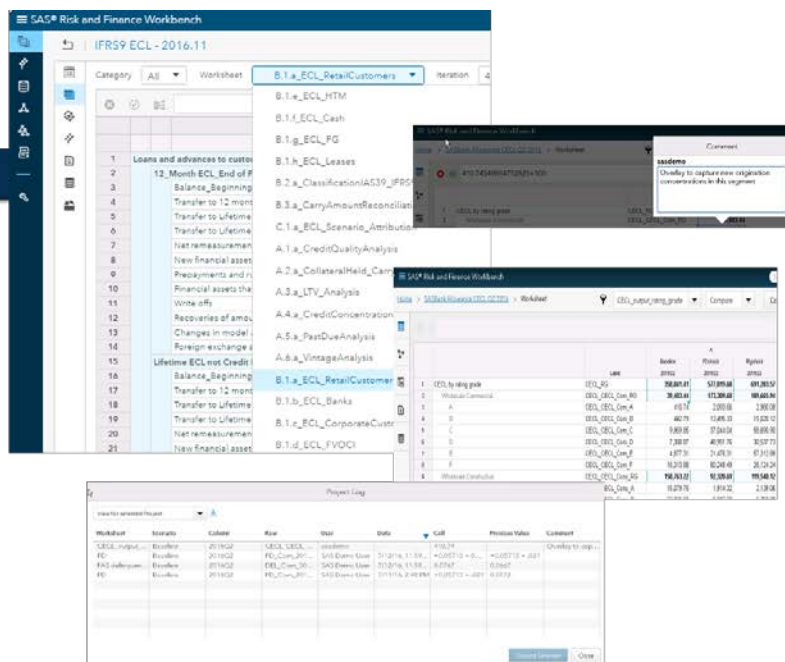
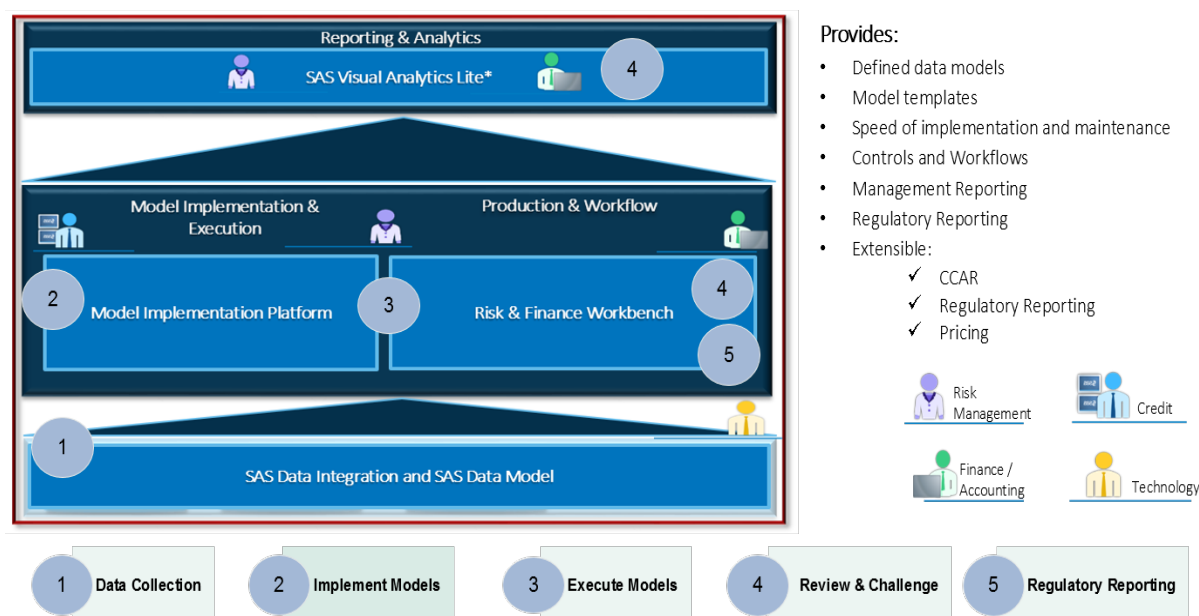


Figure 4. SAS Risk and Finance Workbench Adjustments

## ONE INTEGRATED ENVIRONMENT

Although useful as individual tools, SAS Model Implementation Platform and SAS Risk and Finance Workbench provide even more utility as elements of the SAS Expected Credit Loss solution. Within this paradigm, the process workflow in SAS Risk and Finance Workbench becomes a true integration tool for

monitoring and orchestrating the entire IFRS 9 process. Using other SAS data processing solutions, like SAS® Infrastructure Risk Management and corresponding data models, data can be readily acquired from source systems and consumed by downstream processes. All data movements within the solution can be handled efficiently and securely.



**Figure 5. SAS Expected Credit Loss Components and User Roles**

The key differentiator is that the two teams can perform sensitivity analysis (for example, due to different scenarios, type of SAS Expected Credit Loss models, and business assumption or rules, and so on) on SAS Expected Credit Loss and promptly see the impact on the balance sheet and income statement. Thanks to SAS Expected Credit Loss, this type of valuable business insight can be obtained much faster and more robustly than before.

## CONCLUSION

Traditionally, the risk and finance groups within a bank operate separately with limited interaction. The challenge of the new IFRS 9 and CECL regulation, however, requires the two groups to collaborate much more closely. Following the operating model, risk and finance traditionally use separate and dedicated IT applications, in order to efficiently manage the IFRS9 and CECL process both functions should share the same IT application. The SAS Expected Credit Loss solution provides an integrated, scalable, and controlled risk and finance platform to enable those collaborations.

SAS Model Implementation Platform enables fast model implementation, which makes it much easier for risk groups to calculate expected credit loss. SAS Risk and Finance Workbench then leverages those models and enables both risk and finance groups to view expected credit loss results from different perspectives and anticipate their impact on the balance sheet and income statement. Even more, these two groups can work together easily to see how different business assumptions might affect a bank's financials and create the best strategy for the bank.

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