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## The IFRS 9 Impairment Model and its Interaction with the Basel Framework

BY JULIEN TEMIM

The impending implementation of the IFRS 9 impairment standard offers unique challenges and opportunities in integrating the new allowance calculation process with existing capital calculation and reporting requirements under Basel III. This article explores the growing interaction between risk management and accounting in relation to credit risk modeling approaches, capital ratios, and provisions calculations, as well as data management and governance in preparation for IFRS 9.

### Introduction

In the wake of the 2008 financial crisis, the International Accounting Standards Board (IASB) in cooperation with the Financial Accounting Standards Board (FASB) launched a project to address the weaknesses of both International Accounting Standard (IAS) 39 and the US generally accepted accounting principles (GAAP), which had been the international standards for determining financial assets and liabilities accounting in financial statements since 2001.

By July 2014, the IASB finalized and published its new International Financial Reporting Standard (IFRS) 9 methodology, to be implemented by January 1, 2018 (with the standard available for early adoption). IFRS 9 will cover financial organizations across Europe, the Middle East, Asia, Africa, Oceania, and the Americas (excluding the US).

For financial assets that fall within the scope of the IFRS 9 impairment approach, the impairment accounting expresses a financial asset's expected credit loss as the projected present value of the estimated cash shortfalls over the expected life of the asset. Expected losses may be considered on either a 12-month or lifetime basis, depending on the level of credit risk associated with the asset, and should be reassessed at each reporting date. The projected value is then recognized in the profit and loss (P&L) statement.

Most banks subject to IFRS 9 are also subject to Basel III Accord capital requirements and, to calculate credit risk-weighted assets, use either standardized or internal ratings-based approaches. The new IFRS 9 provisions will impact the P&L that in turn needs to be reflected in the calculation for impairment provisions for regulatory capital. The infrastructure to calculate and report on expected loss drivers of capital adequacy is already in place. The data, models, and processes used today in the Basel framework can in some instances be used for IFRS 9 provision modeling, albeit with significant adjustments. Not surprisingly, a Moody's Analytics survey

conducted with 28 banks found that more than 40% of respondents planned to integrate IFRS 9 requirements into their Basel infrastructure.<sup>1</sup>

Arguably the biggest change brought by IFRS 9 is incorporation of credit risk data into an accounting and therefore financial reporting process. Essentially, a new kind of interaction between finance and risk functions at the organization level is needed, and these functions will in turn impact data management processes. The implementation of the IFRS 9 impairment model challenges the way risk and finance data analytics are defined, used, and governed throughout an institution. IFRS 9 is not the only driver of this change. Basel Committee recommendations,<sup>2</sup> European Banking Authority (EBA) guidelines and consultation papers,<sup>3</sup> and specific supervisory exercises, such as stress testing and Internal Capital Adequacy Assessment Process (ICAAP), are forcing firms to consider a more data-driven and forward-looking approach in risk management and financial reporting.

#### Accounting and Risk Management: An Organization and Cultural Perspective

The implementation of IFRS 9 processes that touch on both finance and risk functions creates the need to take into account differences in culture, as well as often different understandings of the concept of loss in the two functions.

The finance function is focused on product (i.e., internal reporting based on internal data) and is driven by accounting standards. The risk function, however, is focused on the counterparty (i.e., probability of default) and is driven by a different set of regulations and guidelines. This difference in focus leads the two functions to adopt these differing approaches when dealing with impairment:

- » The risk function uses a stochastic approach to model losses, and a database to store data and run the calculations.
- » Finance uses arithmetical operations to report the expected/incurred losses on the P&L, and uses decentralized data to populate reporting templates.

In other words, finance is driven by economics, and risk by statistical analysis. Thus, the concept of loss differs between teams or groups: A finance team views it as part of a process and analyzes

loss in isolation from other variables, while the risk team sees loss as absolute and objectively observable with an aggregated view.

IFRS 9 requires a cross-functional approach, highlighting the need to reconcile risk and finance methodologies. The data from finance in combination with the credit risk models from risk should drive the process. The risk function runs the impairment calculation, whilst providing objective, independent, and challenger views (risk has no P&L or bonus-driven incentive) to the business assumptions. Finance supports the process by providing data and qualitative overlay.

#### Credit Risk Modeling and IFRS 9 Impairment Model

Considering concurrent requirements across a range of regulatory guidelines, such as stress testing, and reporting requirements, such as common reporting (COREP) and financial reporting (FINREP), the challenge around the IFRS 9 impairment model is two-fold:

- » **Models:** How to harness the current Basel-prescribed credit risk models to make them compliant with the IFRS 9 impairment model.
- » **Data:** How (and whether) the data captured for Basel capital calculation can be used to model expected credit losses under IFRS 9.

Figure 1 outlines the key differences between the Basel credit risk models and the IFRS 9 impairment model.

As Figure 1 highlights, the Basel III models can be used for IFRS 9 under the condition that significant adjustments are made, such as:

- » Removal of the regulatory-driven components (e.g., regulator floors and observation periods)
- » Correction for the point in the economic cycle for the TTC measures
- » Adjustment of the model to the expected life of the financial instruments

The modeling approach for the key risk parameters will be affected by the incorporation of forward-looking, credible, and robust economic scenarios into accounting models. Additionally, banks will need to compensate for a lack of historical data by using expert overlays, vendor models, or external data pools.

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<sup>1</sup> Gea-Carrasco, 2015.

<sup>2</sup> See BCBS (2013) and BCBS (2015).

<sup>3</sup> See CEBS (2010) and EBA (2015).

**Figure 1** Key model parameter differences of Basel and IFRS 9 models

	Key risk parameter	Basel III	IFRS 9
Probability of Default (PD)	Measurement standard	Average of default within the next 12 months	Depending on the asset, the PD measures either for the next 12 months (stage 1) or for the remaining life of the financial instrument (stages 2 and 3)
	Period of measurement (look-back period)	Estimates based on long-run average default rate, ranging from "point-in-time" (PIT) to "through-the-cycle" (TTC)	Estimates based on PIT measures, at the reporting date, of current and expected future conditions reflecting future economic cycles
Loss Given Default (LGD)	Intention of estimate	"Downturn" LGD to reflect adverse economic scenarios	"Current" or "forward-looking" LGD to reflect impact of economic scenarios
	Collection cost	Considers both direct and indirect cost associated with collection of the exposure	Only considers cost directly attributable to the collection of recoveries
	Discount rate	Based on weighted average cost of capital or risk-free rate	Depends on the type of financial instrument but is broadly based on effective interest rate
	Period of observation	Minimum five years for retail exposures, seven years for sovereign, corporate, and bank exposures	No specific requirements about observation period or collection of historical data used
Exposure at Default (EAD)	Intention of estimate	"Downturn" EAD to reflect what would be expected during a period of economic downturn	Considers all the contractual terms over the lifetime of the instrument
	Period of observation	Minimum five years for retail exposures, seven years for sovereign, corporate, and bank exposures	No specific requirements about observation period or collection of historical data used
Expected Loss/ Expected Credit Loss (ECL)	Calculation	PD × LGD (loss rate) is applied to EAD	PD × PV of cash shortfalls represents a probability-weighted estimate of credit losses
	Economic assumptions	Reflects downturn LGD and EAD (factoring in macroeconomic stress conditions)	Reflects an unbiased probability-weighted amount, determined by evaluating a range of possible outcome

Sources: BCBS, IASB

Overcoming the challenge of insufficient historical data, common in small and medium banks, increases the cost of implementing an IFRS 9 solution.

Under the current Basel framework, the following two approaches can be used for credit measurement to calculate regulatory capital:<sup>4</sup>

- » The standardized approach (SA) allows the bank to measure credit risk in a standardized manner, assigning risk weights supported by external credit assessments.
- » The internal ratings-based approach (IRB), which is subject to the explicit approval of the bank's supervisor, would allow banks to use internal rating systems for risk-weighted asset (RWA) calculation for credit risk. This includes measures for PD, LGD, EAD, and effective maturity (M). In some cases, banks

may be required to use a supervisory value as opposed to an internal estimate for one or more of the risk parameters.

Depending on whether the standardized or advanced Basel approach is used, the bank will be able to leverage some of the data used by the Basel models to model IFRS 9 expected credit loss and encourage easier reconciliation of inputs for capital requirement and impairment calculations. Figure 2 presents some clarification.

For banks using the standardized and foundation IRB approaches, the challenge revolves around the level of data granularity and associated ratings, systems, and modeling capabilities. Overcoming these challenges will require investments for system upgrades, data gap modeling, model development, and human resources.

4 BCBS, 2006.

**Figure 2** Usability of the Basel modeling data for IFRS 9 purposes

	Mode of credit risk computation	IFRS 9 usability
Standardized Approach	Measurement of credit risk in a standardized manner, supported by external credit assessment informing asset's risk weights for regulatory capital calculation	Data is not complete or substantial enough to meet IFRS 9 modeling requirements
Foundation IRB	Own PD estimation and rely on supervisory estimates for other risk components for regulatory capital calculations	Data can be leveraged, under the condition that significant adjustments are made
Advanced IRB	Own PD, LGD, EAD estimates, and calculation of maturity (M) for regulatory capital calculations	Data can be leveraged, under the condition that significant adjustments are made

Sources: Tata Consultancy Services, Moody's Analytics

According to a Moody's Analytics survey, more than 63% (consolidating the views from 28 banks) are planning to leverage existing IRB models for the credit loss impairment calculation.<sup>5</sup> Although significant adjustments need to be made, the impairment model proposed by the IASB brings accounting and regulatory standards closer.

The use of either of the two approaches influences the way regulatory capital is calculated, the treatment of provisions and expected credit losses, and the setting and composition of capital ratios.

### Capital Ratio and Provisions

IFRS 9 requires an institution to immediately recognize a 12-month ECL from a financial asset at the first reporting date after origination, and create an allowance to cover such loss.<sup>6</sup>

The expected credit loss is to be covered by provisions, and unexpected loss is to be covered by capital. As a consequence, loss provisions will significantly increase under IFRS 9, thus reducing the equity and retained earnings available for Tier 1 capital, which in turn may reduce the Tier 1 capital ratio.

As outlined in the BCBS revised framework for the International Convergence of Capital Measurement and Capital Standards, the treatment of impairment provisions differs based on the credit measurement approach used by the institution:<sup>7</sup>

- » The standardized approach will see a 1:1 impact on Core Tier 1 capital in case a loss has occurred, as the impact on retained earnings to cover the losses affects the availability of Tier 1 capital resources. However, in some circumstances, provisions can be included in Tier 2 capital subject to the limit of 1.25% of risk-weighted assets.
- » Under the IRB approach, banks must compare the total amount of total eligible provisions (defined as the sum of all provisions that are attributed to exposures treated under the IRB approach) with the total expected loss amount as calculated within the IRB approach. There are then the following two scenarios:
  - If the expected loss is greater than the total eligible provisions, the surplus of expected loss over provision is reduced from the capital. The reduction is on the basis of 50% from Tier 1 and 50% from Tier 2.
  - If the expected loss is smaller than the total eligible provisions, the difference is recognized in Tier 2 capital up to a maximum of 0.6% (limit subject to national discretion) of credit risk-weighted assets.

As of August 2016, the Basel Committee and prudential regulators are assessing the impact of IFRS 9 whilst banks are calling for a change in credit risk rules to account for the mismatch.<sup>8</sup> Figure 3 lists some options that could be considered by local regulators, depending on the situation.

<sup>5</sup> Gea-Carrasco, 2015.

<sup>6</sup> Levy, et al, 2016.

<sup>7</sup> BCBS, 2006.

<sup>8</sup> Hegarty, 2016.

**Figure 3** Potential prudential response

	Expected loss is smaller than the total eligible provisions	Expected loss is greater than the total eligible provisions
No change to regulatory capital treatment	No adjustment to Tier 1 capital; addition to Tier 2 capital, up to the limit	Additional Tier 1 capital to cover the allowance deficit
Symmetrical treatment	The excess amount of allowance is added back to Core Tier 1 capital	Additional Tier 1 capital to cover the allowance deficit
Accept accounting allowance	No adjustment to Core Tier 1 Capital	No adjustment to Core Tier 2 Capital

Sources: IFRS Foundation, Moody's Analytics

### Data Management and Governance

Moody's Analytics IFRS 9 survey, cited earlier, found that availability of granular data ranks highest when it comes to the difficulty of designing and implementing an IFRS 9 solution. For many institutions, this means that new data systems must be designed and implemented with the requisite governance, controls, and reconciliation capabilities to cope with IFRS 9 data granularity requirements.

BCBS 239 provides another example of how an existing framework may be used to facilitate risk and accounting reconciliation. Similar to data requirements for stress testing, the IFRS 9 impairment model calls for a robust and well-defined data governance framework, with the data infrastructure providing enough granularity, risk control standards, and transparency across the management of the data life cycle.

Those requirements will impact IFRS 9 qualitative disclosures, such as:

- » Inputs, assumptions, and estimation techniques for estimating ECL
- » Inputs, assumptions, and estimation techniques to determine significant increases in credit risk and default
- » Input, assumptions, and techniques to determine credit impairment

An IFRS 9 implementation will involve a shift from often siloed-function data with no coordination, a lack of organizational oversight, and a fragmented IT structure, to a cross-functional approach to data with clearly defined data ownership and segmentation across the bank.

### Conclusion

IFRS 9 implementation offers opportunities and challenges. Banks must centralize data from numerous sources, coordinate and manage a wide variety of models, evaluate changes in credit risk, and calculate expected credit losses and provisions accordingly. Banks also need to prepare and export data required by external accounting systems.

The IFRS 9 solution and its associated infrastructure should be able to integrate with other systems or stand alone to support the implementation of credit loss impairment calculations. It should have the following features:

- » Transparency, control, auditability, traceability, and repeatability
- » Comprehensive data management capabilities to reduce reconciliation burden
- » Ability to automate the identification of higher-than-expected ECL amounts so they can be analyzed in more detail
- » Industry-leading models for expected credit loss calculation and cash flow generation
- » Model governance including a centralized EAD, PD, LGD
- » Enterprise-wide software that integrates data, models, and reports, enabling institutions to scale while maintaining performance
- » Seamless integration with accounting systems
- » Reporting for business intelligence and financial disclosures with automated analysis of allowance volatility over multiple reporting dates

In the short term, the IFRS 9 impairment model puts extra pressure on institutions, might prompt a shift from the standardized approach to the more challenging IRB one, and encourages banks to address their data governance shortcomings and break internal silos. In the long term, the convergence

between IFRS 9 and Basel III will improve risk management and bring greater integration with accounting practices. It will also provide stronger foundations for a more secured industry and improve confidence and transparency for all stakeholders in the market.

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