

RISKQUEST

IFRS9 and credit risk models

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IFRS 9 will take effect from 2018 and replaces the current IAS 39 framework. It fundamentally changes the classification and measurement of financial instruments. Under IAS 39, a financial institution was allowed to recognise a credit loss on a financial asset, only once there was objective evidence that an impaired event had occurred. This method underestimates the required provisioning levels of banks, since it delays the recognition of credit losses. Arguably, this was one of the contributing factors of the credit crisis. The purpose of IFRS9 is to increase financial instability by introducing a forward looking expected loss impairment model which allows banks to provision when a financial asset is recognised.

IFRS 9 will have a significant impact on the risk modelling landscape of banks. RiskQuest believes that banks that are already Advanced Internal Rating Based (AIRB) compliant will have an easier task at hand. However, IFRS9 requirements and definitions differ significantly and a considerable effort is required. Likewise, for banks that are not yet AIRB compliant, implementing IFRS9 could be a springboard to AIRB compliance.

In this whitepaper, based on their experience in implementing both IFRS 9 and AIRB frameworks, RiskQuest in cooperation with FiGoRi Consulting, compares the requirements and considers potential synergies and caveats.

Main takeaways:

- IFRS 9 enables banks to provision based on the expected loss concept.
- IFRS 9 requires models for the calculation of 12 months Expected Credit Risk Losses and Life Time Expected Losses.
- There is considerable amount of synergy between IFRS 9 and AIRB. Although the roadmap may differ, the end stage for both standardized banks and AIRB banks may look similar.
- There are differences in concepts and definitions that may require adjustments to the use of Probability of default (PD) and Loss Given Default (LGD) estimates.
- Since limited implementation guidance is provided, it is important to involve all stakeholders, including CFO, supervisors, model validators and auditors at an early stage of the process
- The bank has to convince external auditors and most likely regulators of the IFRS 9 methodology it adopts.
- There are substantial benefits to opt for AIRB compliancy. Due to synergies, once IFRS 9 compliancy has been achieved, the additional effort needed for AIRB compliancy will be limited.



Provisioning under IFRS 9

An important difference between IAS 39 and IFRS 9 relates to provisioning. Under the IAS 39 framework, banks were only allowed to provision loans for incurred losses, i.e. only when there was objective evidence that an impairment event had already occurred. Under the IFRS 9 framework, a bank is required to develop models to estimate expected losses. The so-called Expected Credit Loss (ECL) models enable banks to trace financial assets after initial recognition until their final maturity. Three different stages are recognized:

- **Stage 1:** Starting from the initial recognition of the asset; a provisioning level is measured or estimated as the ECL using a 12-month horizon;
- **Stage 2:** This stage includes financial instruments which have had a significant increase of credit risk since initial recognition. For these assets, the life time expected credit losses are estimated;
- **Stage 3:** Financial assets in this stage have objective evidence of impairment, i.e. classified as doubtful or default, at the reporting date and life time expected credit losses are estimated.

The table below shows the general approach for recognising expected credit losses in the three different stages:

	Stage 1	Stage 2	Stage 3
Loss Allowance	Expected credit losses (12 months)	Life Time Expected Loss	Life Time Expected Loss
Effective interest rate applicable to	Gross carrying amount	Gross carrying amount	Net carrying amount

Table 1: The three stages under IFRS 9 for loss allowance

As the table indicates, the provision calculation differs per stage. In Stage 1, the expected credit loss is calculated over a period of 12 months while in Stage 2 and 3, the expected loss is based on the estimated life time. Moreover, in Stage 1 and 2 banks are allowed to include future interest income in their calculations while in Stage 3 this is prohibited.

Case study: IFRS 9 for fictitious bank

To illustrate the idea, consider a bank that is AIRB compliant and thus uses internally developed credit risk models for its RWA calculation. This bank originates mortgage loans, which are reported at amortised costs and are thus in scope of the IFRS 9 expected loss model. The bank therefore has to compare credit risk – measured by the Probability of Default (PD) – on the reporting date with the credit risk at initial recognition. IFRS 9 reasons that the credit risk at origination is included in the pricing of the financial asset, but any increase in credit risk is not. An increase should thus be recognised using the three stages with loss allowance in accordance with Table 1.

The challenge is how to define objective criteria that define the boundaries between the different stages. For instance, IFRS provides a non-exhaustive list of triggers that signify a significant increase of credit risk (stage 2), but the bank has to translate this to its internal processes and PD measures. Similarly, IFRS 9 does not provide an explicit definition of an impairment (stage 3). At most it provides examples, such as financial difficulty, breach of contract, concessions and bankruptcy. Thus, the bank has to set its own policy for how it (de)recognises transfers between the three stages. The bank must also consider the relationship between a default (RWA calculation) and an impairment (IFRS 9).

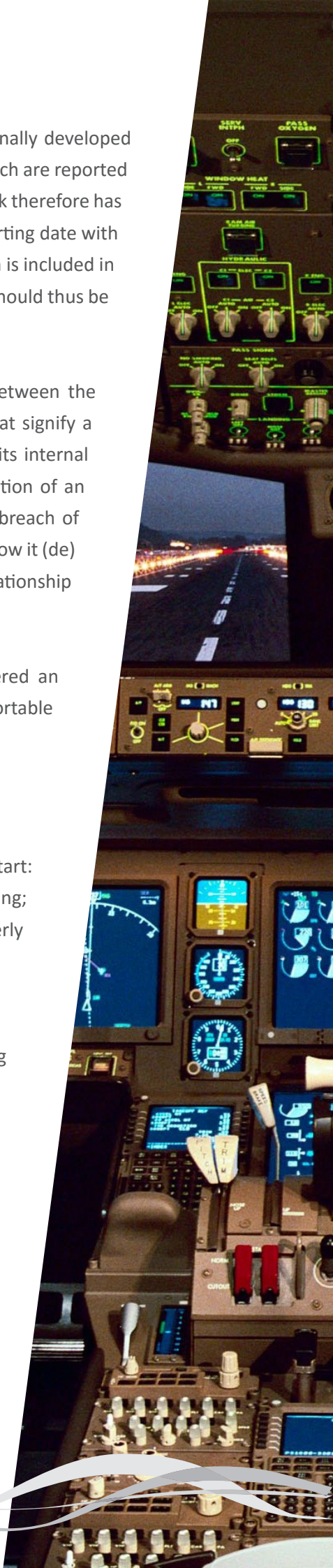
A further aspect to consider is that, although the current PD may be considered an important indicator, IFRS 9 requires the bank to consider all reasonable and supportable information, including forward-looking measures.

Does the bank benefit from its AIRB compliancy?

Compared to standardized banks, the AIRB compliant bank has a significant head start:

- It already has time series available for PD and Loss Given Default (LGD) modelling;
- It has shown to be capable of building sophisticated, validated and properly documented models;
- It has procedures in place to monitor models performance;
- It already has a default definitions in place;
- its model governance meets the minimal standards of the European Banking Authority (EBA);
- It already uses these models to manage its risk and is able to challenge and interpret model outcomes;

Nevertheless, there is still work to be done. For example, the bank has to adapt their models to ensure it uses the accounting definition of gross exposures that reconciles with the general ledger, rather than Exposure At Default (EAD). It also has to adapt their PD model calibration to ensure these models provide point-in-time estimates (i.e. estimates that take into account the economic





cycle), rather than the through-the-cycle (TTC) estimates required under AIRB. Next to this, AIRB requires some prudence at portfolio level such as PD floors or downturn LGD estimates. In contrast, IFRS 9 does not allow for the use of floors, but requires the use of best estimate. However, since AIRB only uses a 12-month horizon, the bank is to come up with forward-looking data for assets assigned to Stage 2 or 3 in order to calculate the life-time expected loss. Summarizing, AIRB banks have an advantage, but there is still a considerable effort required.

What if a bank had adopted the standardized approach?

Suppose that the bank had not been AIRB compliant and had opted for the standardized approach. It would still need to develop an ECL model for IFRS 9 purposes. Once such ECL model has been developed, AIRB compliancy can be strived for as a next step.

Conclusion

There is considerable amount of synergy between IFRS 9 and AIRB. Banks can re-use models, development standards, risk governance and data infrastructure. The end stage for both standardized banks and AIRB banks may look very similar: AIRB compliant banks have a head start when developing ECL models for IFRS 9, but likewise, standardised banks have an easier task of becoming AIRB compliant once IFRS 9 models have been implemented. Nevertheless, the road is bumpy: in contrast to AIRB where a lot of guidelines have been provided and a best practice has evolved, IFRS 9 introduces new concepts in the area of credit risk modelling, for which no exact implementation guidance is provided. This may lead to extensive discussions with stakeholders (e.g. CFOs, supervisors, model validators, internal and external auditors). Nevertheless, for cost and efficiency reasons all stakeholders may support the re-use of the AIRB Approach to the extent possible.

Some more detailed guidance is provided in the initial roadmap below.

Initial roadmap

- **Sound provisioning processes per January 1st 2018:**

- Setting triggers (e.g. Stage 2) can be quite challenging. This is important since changes in expected credit risk losses may lead to (unintended) swings and affect the level of provisioning. RiskQuest strongly recommends to test and fine-tune the IFRS 9 models during 2017.
- Although convergence between capital requirement regulation and IFRS requirements can be observed, it is also required that roles and responsibilities of risk and finance departments need to be redefined. E.g. For finance staff it is important to understand the setup of the credit risk models and the risk drivers which determine the level of expected losses.
- IFRS 9 requires forward-looking expected loss estimation, which can be challenging both from a methodological and governance perspective. RiskQuest strongly recommends to align the use of forward-looking information with other initiatives bankwide e.g. stress testing.

- **Data requirements:**

- IFRS 9 requires a long data history. If there is a lack of sufficient or missing data, this may lead to data issues and as a consequence to documented business assumptions

- **Timelines:**

- RiskQuest has been involved in many AIRB and IFRS 9 implementation projects. From their experience RiskQuest recommends not to underestimate the time needed for:
 - The changes to be made to systems, models, processes,
 - Training the Finance Staff & Auditors (internal/external),
 - The dry run to understand, calibrate and validate the ECL models.

- **ECB and EBA involvement**

- During 2016 EBA and ECB have announced their specific interest in the IFRS 9 readiness of Banks including the potential impact on the capital as well as the swings in the level of provisioning.





- **Model awareness**
 - Modelling for IFRS is relatively new to finance staff, external auditors as well as competent authorities.
 - For this reason, it is advised to on-board the CFO and the external auditor in an early stage since these stakeholders have to have a thoroughly understanding of the IFRS 9 loan provisioning methodology.
- **Independent validation**
 - Although IFRS does require an independent validation of the IFRS 9 models, such independent opinion may provide the required level of assurance.

RiskQuest is an Amsterdam based consultancy firm specialised in risk models for the financial sector. The importance of these models in measuring risk has strongly increased, supported by external regulations such as Basel II/III and Solvency II.

Advanced risk models form the basis of our service offer. These models may be employed in a frontoffice environment (acceptance, valuation & pricing) or in a mid-office context (risk management and measurement).

The business areas that we cover are lending, financial markets and insurance. In relation to the models, we provide advice on: Strategic issues; Model development; Model validation; Model use.

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