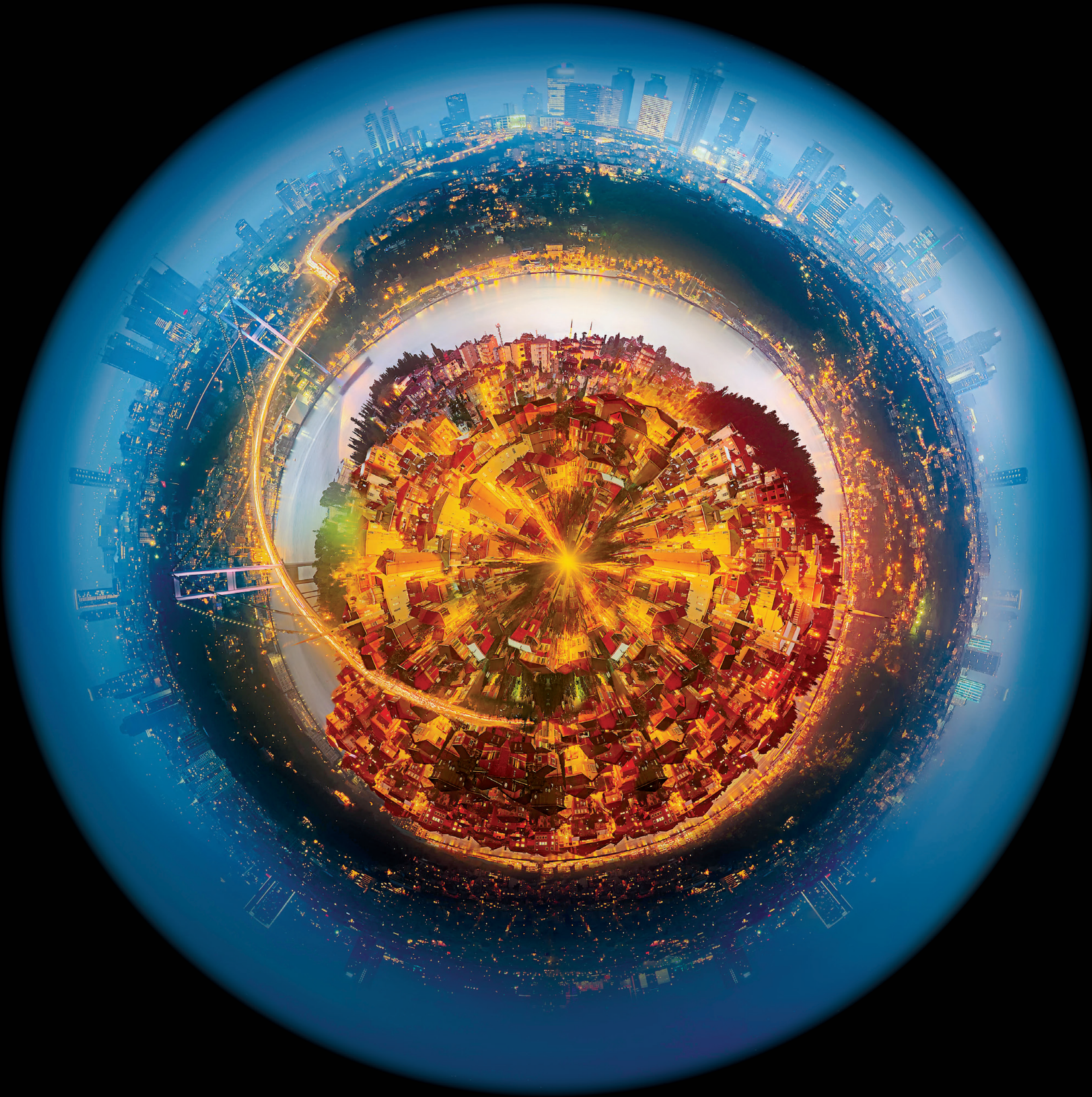


Interest Rate Risk in the Banking Book: 2017 Deloitte Survey

Taking a closer look to the BCBS Standards

Contents

Introduction

In April 2016, the Basel Committee on Banking Supervision (BCBS) issued Final Standards for IRRBB that replace the 2004 Principles for the management and supervision of interest rate risk. The new standards set out the Committee's expectations on the management of IRRBB in terms of identification, measurement, monitoring, control and supervision. The updated IRRBB Principles reflect changes in market and supervisory practices due to the current exceptionally low interest rates and provide methods and models to be used by banks in a wider and enhanced risk management framework.

In light of the significant changes introduced by the Basel Committee standards on IRRBB, Deloitte EMEA invited European and South African banks to participate in an online survey in order to check the readiness of firms to manage the new context of interest rates and evolve their IRRBB practice, moving towards an enhanced framework of interest rates risk governance, models and systems.

The survey, which was undertaken between September and December 2016 across 9 European countries and in South Africa, involved **37 leading banking groups** of different sizes (with balance sheets ranging from € 30bn to € 500bn) and types (retail, cooperative, private, investment, commercial and universal banks). The survey focused on the assessment of the banks' current state practices against the new IRRBB framework provided by the BCBS with **six detailed sections** and **more than 80 specific questions** on ALM and IRRBB practices.

Interest Rate Risk in the Banking Book (IRRBB) is the risk to earnings or value (and in turn to capital) arising from movements of interest rates that affect a bank's banking book positions.

Key updates to IRR principles

The key enhancements to the 2004 Principles include:

Enhanced disclosure requirements, including the impact of interest rate shocks on the change in economic value of equity (ΔEVE) and net interest income (ΔNII) based on prescribed scenarios, in order to promote greater consistency, transparency and comparability in the measurement and management of IRRBB.

More extensive guidance on expectations for a bank's IRRBB management framework such as: development of interest rate shock scenarios, consideration of behavioural and modelling assumptions, credit spread risk measurement, IRRBB Risk Appetite setting for both economic value and earnings, IRRBB inclusion in the ICAAP by taking account of changes in the economic value of equity and in net interest income.

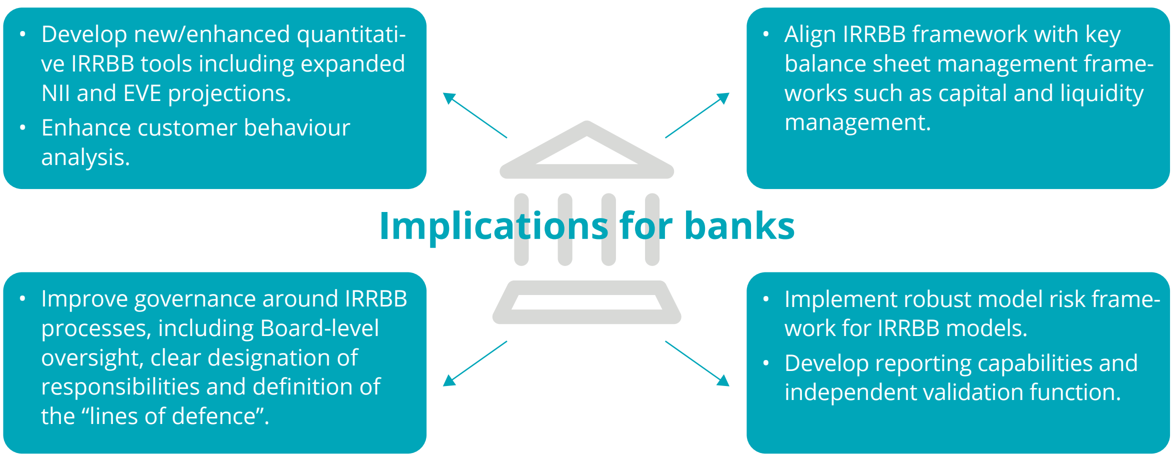
Definition of a standardised framework to enhance risk capture and promote the use of common concepts: supervisors can require banks to implement the standardised approach as a fall-back (e.g. if they find that a bank does not adequately capture IRRBB). Alternatively, banks can adopt it voluntarily.

Updated supervisory process in terms of factors which supervisors should consider when assessing a bank's level and management of IRRBB exposures.

Stricter threshold for identifying outlier banks which has been reduced from 20% of a bank's total capital to 15% of a bank's Tier 1 capital. Supervisors may implement additional tests and must publish criteria for identifying outlier banks.

Tighter standards, market changes and increased regulatory scrutiny will require many banks to improve their IRRBB measurement tools and to enhance the risk management and governance arrangements. The main challenges are expected to come with respect to the risk management framework, the governance model and the level of skills/expertise.

Fig. 1 – Implications for Banks regarding their IRRBB improvement



The Final Standards do not specify how sophisticated the IRRBB measurement quantitative techniques should be. However, application of the principles will require banks to demonstrate that the measurement approaches they choose are sufficiently sophisticated to capture and measure all material sources of IRRBB and regulators will expect banks to adopt an approach that is proportionate to the nature, scale and complexity of their activities and risks.

The IRRBB survey: Framework and key insights

The IRRBB survey framework

The survey has been split into the following key areas:

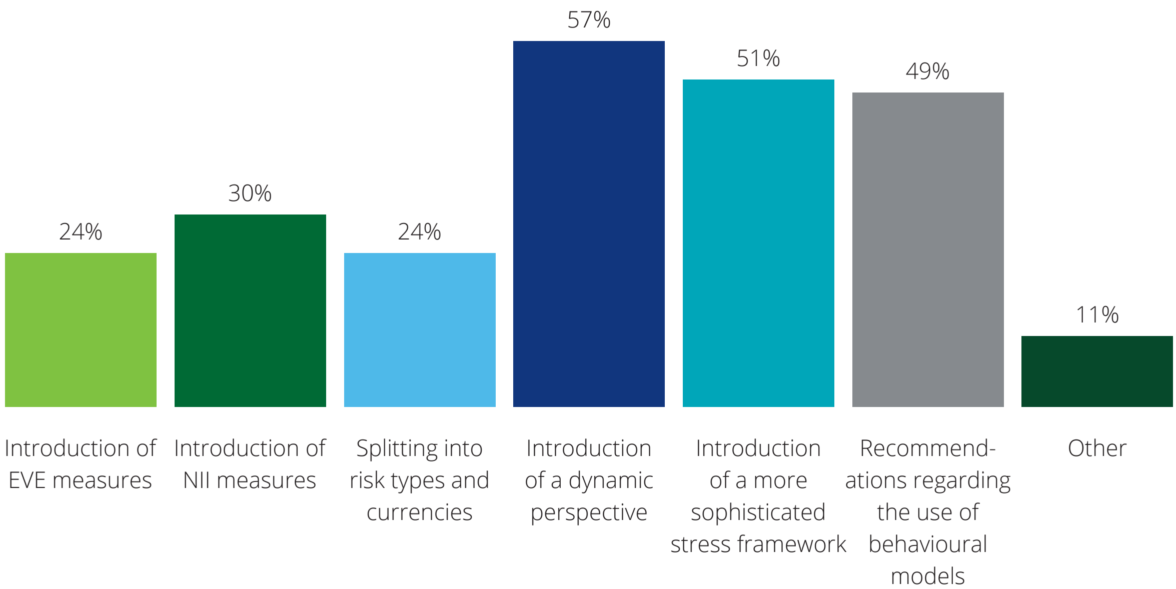
- **Models**: framework of model risk management and typologies of behavioural models
- **IRRBB Indicators**: key measures and indicators (EVE, NII) and related approaches in terms of stress scenarios and dynamic analysis
- **Limit Framework and Internal Capital**: framework of operational limits on IRRBB and related approach for IRRBB internal capital quantification
- **Governance**: governance of IRRBB practices, key stakeholders (ALCO, Board) and related roles and responsibilities
- Reporting: internal reporting practice and new expected Pillar 3 disclosure requirements
- **IRRBB systems and processes**: main functionalities and expected evolution on IRRBB systems and processes.

Key insights and results of the survey

1. the **introduction of a dynamic** perspective in terms of integration with planning & forecasting departments (57% of the banks),
2. the institution of a more sophisticated **stress testing framework** with respect to the implementation and management of enhanced shock scenarios and more flexible system solutions (51% of the banks),
3. the **use of the behavioural models** both on methodological and modelling sides (49% of the banks).

Most relevant impacts on IRRBB framework

Fig. 2 – Key questions on expected impacts
Which regulatory recommendations will have the most relevant impacts on the IRRBB methodological framework of your bank? (Multiple answers allowed in the limit of 3)



The survey results highlight very interesting and relevant insights related to different topics:

Dynamic Analysis & Stress Scenarios for Models and Methods are among the top priorities

Dynamic balance sheet projections and stress test scenarios required by the new IRRBB framework are a very relevant topic to be addressed and enhanced by banks within their methodological framework. 51% of the participating banks stated that the introduction of a dynamic approach on NII and EVE sensitivity analysis will have a significant impact on their structure, while only 5% of banks said that they will not adopt a dynamic approach. Banks confirmed that IRRBB management with a dynamic perspective will require a greater cooperation among Risk Management, ALM and Planning & Forecasting departments on both the definition of a coherent operating model and the implementation of an IT integrated solution.

A move towards heightened scrutiny of behavioural models and of IRRBB Indicators

Behavioural models (e.g. non-maturing deposits, prepayment models, renegotiations) and their integration with IRRBB indicators and with the related framework are expected to significantly evolve both on the methodological and modelling side and on the related internal validation approach. For 60% of banks only, the risk department is already actively involved in all the validation tasks related to the IRRBB framework. Moreover, some enhancements are expected in the risk management validation process with particular focus on behavioural models (67,1%) and the definition and calibration of IRRBB indicators used in the monitoring process (61,3%).

A significant number of banks will implement the standardized framework

Even though it is not strictly required by the BCBS standards on IRRBB, a significant part of the participating banks (38%) will implement the standardized approach proposed by the Regulator. For a large part of them, the standardized framework will be adopted with a view of benchmarking their internal models for IRRBB. According to a large majority of banks planning to implement the standardized framework for that purpose (71%), the standardized approach is seen as an opportunity to better explain the outcomes of their internal models to their supervisors and also to anticipate potential future changes of the IRRBB requirements.

Increasing needs for more integration & synergies on systems

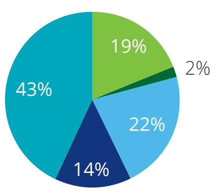
The majority of participating banks highlighted the importance of integrating their IRRBB systems into a unique platform able to manage and use input data both from other risk areas (e.g. combined stressed scenarios) and planning & control department (e.g. forecasts and projections for dynamic simulation).

Get ready for much more reporting

The Pillar 3 disclosure requirements provided in the new BCBS standards on IRRBB will require banks to enhance their reporting framework with more granular views. Under the current Pillar 3 framework, a large majority of the participating banks (72%) already provide quantitative and qualitative disclosures on their IRRBB on annual, semi-annual or quarterly basis but, with the new BCBS standards, the amount of quantitative and qualitative disclosures is expected to significantly increase.

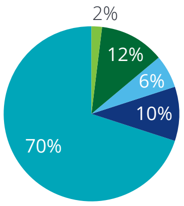
Overall positioning from IRRBB survey

Models



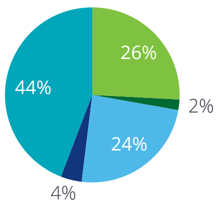
- Behavioural models are a key area for future evolutions especially for the related validation framework
- Banks also expect to enhance the integration and coherence of IRRBB models shared with other risks

Governance



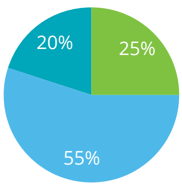
- The IRRBB governance framework is consistent with the new IRRBB principles in most the cases (70%).
- Only minor areas of improvements are expected with respect to business steer through a more active ALCO.

IRRBB indicators



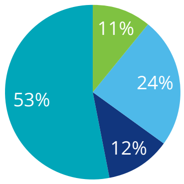
- Granularity of indicators and measures (IRR types, subgroup levels, currencies) is a key issue for banks.
- Some evolutions are also expected on methodology (new stress test scenarios and dynamic approach).

Reporting



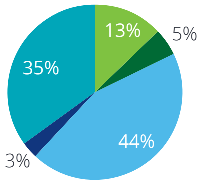
- Pillar 3 disclosure requirements will require banks to enhance their reporting framework, in particular for quantitative disclosures.

Limit Framework & Internal Capital



- The limits monitoring framework is expected to be moderately impacted and may be refined.
- Some evolutions are instead expected on the internal capital framework in order to comply with the new IRRBB principles.

IRRBB systems and processes



- Two key areas of improvements are foreseen with respect to systems
  1. Integration with planning for dynamic B/S projection
  2. Flexibility and granularity of IRR data and measures

Relevant gaps | Some gaps | Partial mis-alignment | Partial alignment | Consistent situation

Proposed actions and recommendations

Both the new BCBS standards on IRRBB and the banking industry's view emphasize some interesting paths for the future of Asset and Liability Management and Interest Rates Risk management practices.

Given the short time frame for the alignment of the IRRBB practices with the BCBS revised principles and the underlying challenges, banks are expected to give high priority to this topic in order to be compliant with the BCBS standards by 2018.

The changes required to the IRRBB framework will encompass all the main aspects of the IRRBB framework: the introduction of new methodologies will require more granular data of quality and also more flexible systems; the IRRBB governance and the target operating model will be the key junction point between the IRRBB and ALM specialists, the bank's top management and its key stakeholders.

1. A revised Target Operating Model to better support the needed changes

Overall, the surveyed banks' view is that somewhat minor impacts are expected on governance and on processes, since they consider that their level of compliance with the revised BCBS IRRBB standards is already high. Nevertheless, the survey highlights that some strategic interventions are still required in order to more effectively implement and oversee the changes required by the new standards to the methodologies and to the systems.

The key expected actions are to integrate the bank's target operating model and the related processes with the new roles and enhanced responsibilities. For example, where this is not yet the case, **relevant functions and the appropriate related governance framework will need to be implemented** for the definition of the relevant IRRBB scenarios, for enhanced internal validation of IRRBB models, for projection analyses and, more broadly, for simulation activities. **In a number of cases, the current practices and internal documentations on risk strategy, risk appetite, internal controls, hedging practices, model risk management and model calibration, as well as risk reporting, will need to be improved.**

2. IRRBB Methodology – The integration of new perspectives into the IRRBB framework

Dynamic and stressed scenario analyses are expected to be the two most significant areas where changes are needed.

Dynamic analyses will require forecasting the future production but also the commercial margin targets, in coherence with the bank's strategic and business planning. In order to properly analyze all effects of the changes in interest rates and of balance-sheet structure, the granularity of forecasts should be consistent with that of modelling (generally, at product level).

A review of the behavioural models will also be required to ensure their compliance with the prescriptions of the new BCBS IRRBB standards and also to properly capture behaviours in specific market conditions (i.e. low/negative interest rates).

The more mature banks are moving towards the **enhancement of their methodological framework by enhancing their approaches to interest-rate risk scenarios** (e.g. use of forwards rates and of bespoke scenarios) and by **defining more robust methods to allocate their balance-sheet planning forecasts to IRRBB product granularity and aligning behavioural models assumptions with the IRRBB prescriptions.**

3. IT systems – Evolution will come from technological opportunities and systems integration

While considering that their IT systems are adequate to manage the changes required in the IRRBB management practices, a majority of banks (62%) confirm the need for some improvements. In addition, 32% of respondents have stated that their IT systems will need to be upgraded since they will not be able to cope with the required functionalities under the new BCBS standards.

Even though, in many cases, the IRRBB analyses and monitoring are performed through a unified platform, the IRRBB IT systems are not yet properly integrated or interconnected, as appropriate, with the other relevant ones (e.g. liquidity risk management systems, ALM systems). Moreover, reconciliations remain a key issue since only 46% of banks are able to comprehensively reconcile their IRRBB data with those of other relevant functions (e.g. accounting, other risks).

The Deloitte IRRBB survey highlights a clear direction, insisting on the implementation of a common and integrated risk data model to reduce reconciliation costs (e.g. IRRBB, liquidity and possibly accounting and credit risk), **the deployment of new technologies and systems** (e.g. powerful engines and more flexible solutions for scenarios analyses, enabling the handling of more granular data) and the introduction of a **complete and sound data quality and data governance framework.**

Some banks have also underlined the launch of **dedicated transformation programmes that interact with other key initiatives**, such as BCBS 239 on risk data aggregation and reporting, Big Data, EBA Stress Tests and FRTB (Fundamental Review of the Trading-Book), in order to benefit from synergies and allow more integration of some key processes.

For more details on the survey

Additional insights and detailed reports related to the Deloitte 2017 ALM & IRRBB survey are available upon request.

The Deloitte's EMEA ALM & IRRBB group consists of senior professionals and consultants with substantial experience consulting on a variety of ALM and IRRBB issues. This group draws on the Deloitte's global network of partners and industry and management experts.

How Deloitte can help

Deloitte's ALM & IRRBB Management solutions evolves along with the concurrent financial markets' and regulatory challenges for improving interest rates risk identification, measurement, valuation, reporting and monitoring, hedging strategies and management governance.
We can help your perform the following interest rate risk management solutions in the banking book activities:

IRRBB Identification

- Define banking book boundaries in coherence with the Final Basel Standards on IRRBB and on the Fundamental Review of the Trading Book (FRTB).
- Identify on- and off-balance sheet interest rate risk exposures
- Establish IRRBB rate and risk repositories

IRRBB Measurement and Mitigation

- Design IRRBB measurement methodologies (e.g. economic value, maturity gap, duration gap, earning at risk, net interest income and Value at Risk)
- Establish behavioural assumption mechanism and conduct behavioural model validations
- Assess the impacts of interest rates strategy
- Design and implement IRRBB stress testing methodologies (e.g. parallel yield curve shifts, non-parallel flattened and steepened yield curve shifts, and firm-wide enterprise scenario stress tests)
- Identify hedging strategies to mitigate interest rate risk by identifying appropriate debt and derivative instruments and strategies considering risk appetite, hedging costs and benefits, and liquidity constraints
- Design and validate interest rate derivative valuation and modelling assumptions to help building and assessing interest rate risk or valuation assumptions (considering defined peer results, industry-accepted ranges, or independent projections)

IRRBB Governance

- Define IRRBB strategy and design IRRBB risk appetite framework
- Establish, embed and monitor IRRBB risk appetite and tolerance metrics
- Design and consolidate IRRBB reporting and documentation to streamline the oversight of interest rate risk
- Provide accounting assistance in relation to interest rate risk to address derivative accounting issues and compliance requirements, e.g. IFRS9 financial instruments
- Validate IRRBB models and internal controls to address independence and governance controls
- Assist in developing IRRBB policies, processes and procedures
- Evaluate IRRBB capital allocation and monitor capital adequacy
- Provide assistance in the implementation of the interest rate risk management infrastructure, including IT architecture, systems and data quality framework
- Assist in the projection of macro-economic scenarios and the optimization of the interest rate mismatches

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