REPRINT

risk & compliance

BASEL IV COMPLIANCE

REPRINTED FROM:
RISK & COMPLIANCE MAGAZINE
JAN-MAR 2020 ISSUE

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MINI-ROUNDTABLE

BASEL IV COMPLIANCE

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Luís Barbosa is currently leading PwC's European network in the area of risk modelling & risk-weighted assets (RWA) and is responsible for the credit risk internal models Basel IV European initiative. He joined PwC's financial services risk & regulation advisory department (Lisbon office) in 2015, where he has been engaged in several international PwC projects related to risk management and measurement at financial institutions, with a clear focus on strategic and regulatory affairs.

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Luís Jesus is currently a consultant and the solution lead for the regulatory risk solution in the risk and quantitative solutions division at SAS, where he has been involved in several projects around the world for the implementation of the new Basel IV capital requirements. Before joining SAS, he was chief risk officer (CRO) at Banco Montepio from 2015 to 2018 and an associated partner at KPMG until 2015, as the head of the risk advisory function for banking in Portugal and Angola.

R&C: Could you explain the global reach of Basel IV? In which regions is its implementation more advanced?

Barbosa: Basel IV, or the completion of Basel III implementation, brings a substantial revision of the global regulatory framework, seeks to restore credibility in the calculation of risk weighted assets (RWA) and improves the comparability of banks' solvency ratios. It will fundamentally change the calculation of RWA across the different risk types – credit, market, operational, counterparty credit risk (CCR) and credit valuation adjustment (CVA) risks. This will be driven either by standardised or internal model approaches, including the rules of a wide set of relevant topics for the banking business, such as large exposures, securitisations, leverage, output floor, step-in risk, interest rate risk in the banking book (IRRBB), the treatment of investment funds or underlying disclosure requirements. Regarding the implementation of Basel IV across the globe, there are several different realities. In Europe, namely within the European Union (EU), the process of translating the Basel guidance into effective law is typically slow, taking up to one year, and requires a great deal of discussion until a final agreement is reached at the European parliament. Countries such as Australia, Canada, Singapore and Hong Kong appear to be at a more advanced stage, showing greater flexibility and capacity to adopt the referred changes, at least from the regulatory side.

Jesus: After the financial crisis, the new Basel III regulatory framework was developed by the Basel Committee to address the regulatory weaknesses that were identified and was intended to improve the resilience of individual banks and of the financial system, and therefore to reduce the risk of taxpayers having to bear the cost of future banking crises. The latest set of these reforms are collectively called Basel IV. Although this framework is a global guidance targeting all internationally active banks around the world, the implementation approach for these reforms will be based on the strategy defined by each country by their supervisory authorities. We believe that Europe and Asia-Pacific will be the regions taking the lead on the implementation of Basel IV. In this regard, it is relevant to highlight the adoption, in April 2019, of a set of legislative measures referred to as 'CRR II' by the European parliament. Additionally, the Australian Prudential Regulation Authority (APRA) has already issued a first set of reforms to implement Basel IV, which will probably be concluded next year. The Basel Committee monitors the adoption status of Basel standards around the world, with other countries defining dates for issuing local regulation for the implementation of Basel IV.

R&C: In your opinion, how well are banks prepared for Basel IV? Where are they focusing their implementation efforts?

Barbosa: Many banks are still preparing for Basel IV and there are many significant challenges still to be faced. Primarily, business models and risk strategies must be adjusted in anticipation of the new rules. For instance, strategies regarding changing the mix of portfolios or investment strategies, avoiding a significant increase in RWA or taking advantage of any opportunity for RWA reduction should be considered. Capital optimisation programmes are clearly back on the agenda of many boards. Looking to the surrounding processes, not only have the revised RWA calculation approaches become more complex to implement – even the standardised ones – but also the links established with the business require a set of structural adjustments. Data requirements and respective data quality also play an important role in ensuring that all optimisation opportunities can be effectively used for RWA reduction. Overall, banks are still fine-tuning their impact estimations and on the market risk side, continuing and finishing their fundamental review of the trading book (FRTB) assessment and implementation processes. There is a lot still to be done, at all levels. And everything must be finalised well in advance of the implementation date.

Jesus: The implementation of the Basel IV regulatory requirements represents a significant challenge for most financial institutions, mainly due to the broad scope of the changes that cover different risk types, such as credit, market and operational risk, and that require changes to current approaches used to calculate capital requirements. This can also have a relevant impact on business models due to impacts on specific lines of business. Therefore, the implementation of these changes requires the significant allocation of resources, technical and human, to ensure their adoption across their risk management and business processes. There are different levels of preparation for Basel IV. Most banks have already performed an internal gap

> **"Primarily, business models and risk strategies must be adjusted in anticipation of the new rules."**
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> *Luís Barbosa, PwC*

analysis on these changes and are at an initial stage of their implementation projects. Bigger banks, and those banks that have participated in the Basel IV quantitative impact studies (QIS), have been more exposed to these changes and are therefore more advanced in these implementation projects. However, given the increased regulatory scrutiny, most banks will have to provide a detailed and granular view of these impacts on their balance sheets and their business, which, in most cases, is still not possible at this stage.

R&C: To what extent do the new standards under Basel IV require changes to calculation engines and to banks' internal processes?

Barbosa: The proposed changes are structural and inevitable. For instance, the credit risk standardised approach (SA) RWA calculation rules were altered significantly, with new risk factors being considered, a revised, more granular, set of risk weights becoming available, complementary analyses to be required, such as due diligences on credit risk worthiness, or new segments identified, including land acquisition, development and construction. On the use of the internal ratings-based (IRB) approach, several constraints are being imposed at parameter level – minimum probability of default (PD) and loss given default (LGD) – and for certain exposure classes, the option of applying the advanced-IRB (A-IRB) was removed. Regarding the market risk framework, the FRTB implies revising, potentially in a noteworthy manner, the banking book boundary and introduces a new, more risk sensitive, though complex and data intensive SA. The use of internal models implies necessarily replacing the value at risk (VaR) by the expected shortfall. Much more can be listed here or is to happen in the remaining risk types. Calculation engines do need to be adapted to this new package of rules, ensure proper performance levels, speed and consistency, be transparent and allow for greater agility, such as for simulation purposes, and incorporate required adjustments.

Jesus: If we consider credit risk, as an example, there are significant changes arising from the restrictions on the use of internal models for some asset classes and the introduction of more risk-sensitive methods under the SA, as well as the introduction of flooring the results of the IRB capital requirements through the output floors. This represents a significant change, particularly for banks that received supervisory approval for using advanced approaches to calculate capital requirements. On the calculation side, this implies, for example, that the current calculation engines will have to execute two parallel processes under the standardised and the current approaches, which will require an enhanced performance from those engines. On the other hand, some of the regulatory requirements include changes to other internal processes, for example regarding due diligence of ratings or internal rating assessments for unrated bank exposures. On the market risk side, the changes could also require a review of trading business processes and monitoring tools.

R&C: What constraints surround the current use of internal model approaches?

Barbosa: Focusing on credit risk models, the IRB approach will reveal a new face from January 2022 onwards, in terms of application scope, parameter level floors and the estimation of risk parameters. Starting with the application scope, the IRB approach will no longer be an option for equity exposures, while the A-IRB cannot be applied to banks, other financial institutions, including insurance companies, and corporates with consolidated revenues above €500m. RWA will also benefit from the removal of the IRB scaling factor of 1.06x. Moreover, the rollout of the IRB approach and the permanent partial use of the SA are about to change, with the 'full IRB bank' principle being replaced by the 'asset class' one. The switch back to the foundation-IRB (F-IRB) or SA may be a reality for certain portfolios, with banks struggling to optimise costs in the further development and maintenance of IRB procedures. At parameter level, two type of changes are foreseen. The first is at the level of the input, with floors applied to own-estimated parameters, such as a minimum PD of 5 bps for corporate or retail clients, or regulatory ones, including unsecured senior exposures to corporate clients subject to a LGD of 40 percent, instead of 45 percent for different types of exposures. The second relates to additional guidance on the specification of estimation practices, with particular interest in the credit conversion factor (CCF) estimation, at least, for EU banks, as the European Banking Authority (EBA) has published several technical documents on PD and LGD estimation in recent years. The recalibration and redevelopment of IRB models will certainly occur everywhere in the next two to three years. Last, but not least, the output floor will restrain the impact of internal models linking directly the respective RWA to the SA figures. For the first time, banks are encouraged to optimise RWA, for the same exposures and instruments, on both internal models and SAs.

Jesus: Banks have made significant investments in the past for the development, implementation and validation of internal models that could support their capital calculation processes under advanced measurement approaches. However, as a result of the work performed by supervisory authorities in recent years, and with the main objective of reducing the variability of RWA across banks with similar risk profiles, the new requirements introduce restrictions on the use of internal models for some asset classes, namely those with a lower number of defaults and where it is more difficult to accurately assess the risk parameters. With the same goal, floors were created and increased for some of those risk parameters. Additionally, RWA calculated based on IRB models are floored by a percentage of the RWA as determined through the SAs. These output floors will be phased in over a period of five years, with a progressive increase in that percentage and therefore, by 2027, the amount of RWA should be at least 72.5 percent of the SA. The same approach was used for market risk, where there are stricter approval rules for internal models and a new SA as a reference to determine the floor for the final amount of the requirements and for operational risk with a new SA to replace the current internal model approach. These changes, which span across different asset classes and risk types, have altered some of the compliance and optimisation drivers and will require banks to anticipate the impacts, at a granular level, on their capital positions and their business.

R&C: When undertaking their implementation projects for Basel IV, are banks aiming for pure regulatory compliance or additional benefits?

Barbosa: Given the current capital targets, which grew significantly in the last five to seven years, precisely with the beginning of Basel III, no bank can afford to adopt something as impactful as Basel IV focusing only on compliance. It is a question of being competitive in an aggressive market, struggling to enhance profitability and show the highest possible solvency ratios to reinforce the trust of all relevant stakeholders. Compliance, for sure, is a must have, but without disregarding all opportunities for optimising RWA, which inevitably implies looking to the business model in place and revising it accordingly. Banks are also taking the opportunity to optimise their data

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Luís Jesus, SAS

structure and IT architecture to allow for a more flexible, quicker and transparent RWA calculation process. And this is the best time to do it, as all RWA calculation engines will need to be adapted.

Jesus: Considering the magnitude and complexity of regulatory changes under Basel IV and the increased regulatory scrutiny, there are several challenges to ensuring compliant implementation of the requirements. Compliance is still a priority. Any implementation project in a big financial institution, particularly those operating in different countries, will have to consider the existence of local adjustments to the Basel framework, which will require calculation engines with an appropriate level of flexibility. Additionally, a fully compliant engine should also allow full traceability of the calculation processes and access to all inputs, assumptions and outputs of the calculation, as an audit trail for supervisors and other stakeholders. But institutions are usually looking far beyond pure regulatory compliance in their implementation projects, including ways to streamline their data governance and management processes and to upgrade their calculation engines and IT platforms.

R&C: What other changes can these implementation projects add to banks' current risk management processes?

Barbosa: Banks should see these implementation projects as a major opportunity to create suitable conditions for better decision making, at both operational and strategic levels. For instance, how can RWA be optimised in any, relevant, credit lending decision or what might be the impact of a real estate price-decline, shock in the bank's RWA? In the first case, it is a question of ensuring a better-informed decision, for instance exploiting collaterals additional eligibility or efficient allocation, reducing the maturity of an exposure or even adjusting any contractual arrangement with impact on RWA. In the second case, anticipating the consequences of a stressed scenario or of changes in regulation allow any required remedial actions to be applied in a timely manner.

Jesus: Many banks are calculating their capital requirements, based on IT solutions that were implemented during their Basel II projects and have been customised over time to adjust to some of the regulatory or business changes. Therefore, these banks are taking this opportunity to modernise these solutions and implement systems that comply with their current requirements regarding performance, traceability and control. Additionally, banks are moving into risk management processes that are supported by scenario-based analysis, and that allow them to project the impact of changes in the macroeconomic or regulatory environment on their balance sheets and capital positions, similarly to what supervisors have been requesting under their regulatory stress-testing exercises. Therefore, the implementation of modern IT platforms, with increased performance and integration, and that can support different use cases, could be a key factor in the enhancement of risk management processes.

R&C: Going forward, how do you expect these changes to affect banks' business models and market approach?

Barbosa: Banks are being encouraged to adjust their business model mix and to rethink the use of internal models – and they will do this. The uncertainty is around how much and the end results. For example, European banks will be adversely impacted by Basel IV proposals, particularly regarding the application of the output floor, the challenges posed by the FRTB and the new operational risk framework, driven by the 'internal loss multiplier'. The impact on individual banks, however, depends on the adopted business model and on the approach applied to each risk type, knowing that certain changes will increase RWA and expected loss (EL), others will decrease them, as it is not all 'one-way traffic'. While some banks will see their RWA decrease, others will face a significant RWA increase and reconsider their business, and existence. From a business perspective, lending to small and medium-sized enterprises (SMEs) or going for highly collateralised residential real estate (RRE) and commercial real estate (CRE) exposures are attractive from a capital perspective. Subordinated debt, equity or land acquisition, development and construction-related exposures will become very penalising in terms of capital consumption. Moreover, with the FRTB, certain instruments and desks will no longer be profitable. And in this regard, a contagion effect may impact other financial markets players, such as asset managers, pension funds, hedge funds and insurance companies. In conclusion, in the next two to three years, banks will need to adapt themselves to the structural changes that are coming with the adoption of Basel IV, and the sooner they do this the better.

Jesus: Banks will have to introduce changes to their business models due to the potential impact of the Basel IV changes, depending on their size, location, risk profile and current calculation approach. According to the most recent monitoring reporting issued by the Basel Committee in October 2019, on average, Tier 1 minimum required capital will increase by 3 percent for Group 1 banks, with Tier 1 capital of more than €3bn, mostly due to changes in market risk capital requirements, and 8 percent for Group 2 banks, with Tier 1 capital below that threshold, mostly due to credit risk. Output floors will have a significant impact for all banks in the sample. There is a significant dispersion of impacts across regions and individual banks. As an example, European banks evidence a strong increase of minimum required capital of around 18.6 percent that compares to a decrease of 0.4 percent for banks in the Americas. In the current market situation, banks face significant profitability challenges arising from the low interest rate environment, increased competition from other market players and cost structures. Therefore, as these changes might have a relevant impact on their business, banks will need to make decisions on their future business priorities, targeting the most profitable lines of business, and moving away from products and segments with negative risk adjusted returns. R&C