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# Final Basel III Reforms: How Can Banks Prepare for the 'Basel IV'

## Highlights

» In finalizing its Basel III supervisory framework, the Basel Committee on Banking Supervision (BCBS) is implementing new rules for measuring credit, operational, and market risk.

» These rules bring major changes in risk management and also require all banks to use standardized approaches, which might run in parallel to their internal models.

» The new requirements usher in a period of relative stability in the regulatory landscape, but banks cannot easily or cost-effectively meet them with existing software tools.

» Moody's Analytics recommends that banks act now to apply the latest industry and regulatory technology trends to get ready for quantitative impact studies and the final implementation of the new rules.

Finalization of Basel III

In December 2017, after many months of stalled negotiations, the Basel Committee on Banking Supervision (BCBS) announced an agreement to complete the "finalized Basel III rules" (also known as "Basel IV").

The final agreement introduces an output capital floor, one of the key elements of the negotiations. Another sticking point of contention—primarily between the United States and Europe—was the extent to which banks can use internal models to determine their capital requirements. This issue was resolved by reducing the risk weights for mortgages and certain other loan categories in the standardized approach.

The main points of the package that apply as of January 2022 include:

» Revised credit risk standardized approach (CR SA)

» Revised credit risk IRB approach (CR IRB)

» Revised CVA (basic and standardized, no more advanced)

» Revised operational Risk (standardized, no more advanced measurement approaches [AMA])

» Revised leverage ratio (exposure measure)

» Revised leverage ratio (G-SIB buffer)

» Output standardized approach floor (commencing at 50% in 2022, phase in to final 72.5%)

However, no consensus was achieved on the treatment of sovereign risk, and more time was allowed for the review of the market risk framework.

In January 2019 (with a further update in February), the BCBS published the "finalized rules" for market risk. This Fundamental Review of the Trading Book also applies as of January 2022.

Why the standardized output floor?

A key objective of the revisions is to reduce excessive variability of risk-weighted assets (RWA).

At the peak of the global financial crisis, many market participants lost faith in banks' reported risk-weighted capital ratios. The Basel Committee's own empirical analyses also highlighted a worrying degree of variability in banks' calculation of RWA. The Basel Committee believes that revisions to the regulatory framework help restore credibility in the calculation of RWA by:

» Enhancing the robustness, granularity, and risk sensitivity of the standardized approaches for credit risk and operational risk, which facilitate the comparability of banks' capital ratios. For example, mortgage risk weights depend on the loan-to-value (LTV) ratio of the mortgage.

» Reducing mechanistic reliance on credit ratings by requiring banks to conduct sufficient due diligence, and by developing a granular non-ratings based approach for jurisdictions that cannot or do not want to rely on external credit ratings.

» Complementing the risk-weighted capital ratio with a finalized leverage ratio and a revised and robust capital floor to internally modeled capital requirements with related disclosure. This revision enhances comparability between banks and restores a level playing field. Hence, banks using internal models should apply an aggregated capital output floor based on the standardized approaches. The final agreement proposes to phase in the standardized output floor for risk-weighted assets up to 72.5% between 2022 and 2027.

Major changes to credit risk rules

The finalized Basel III mandates changes to credit risk rules in two major areas:

Standardized approach to credit risk (SACR): The final document proposes revisions to the calculation of risk weights for corporate, bank, covered bond, retail, residential, and commercial real estate exposures and specialized lending. The Committee has created alternative risk weight look-up tables for assets where external ratings are not permitted; banks using external ratings need to complement this approach with adequate due diligence. In the SACR approach, the risk weight applied to real estate exposures is more sensitive and determined by the LTV ratio. For off-balance sheet items, the credit conversion factors (CCFs), which are used to determine the amount of an exposure to be risk-weighted, have been made more risk-sensitive, including the introduction of positive CCFs for unconditionally cancelable commitments (UCCs). Revised regulatory haircuts are defined for security used as collateral

and the exposure formula if there is repos netting rules has been updated.

Internal ratings-based approach (IRBCR): The revised IRB framework removes the use of the Advanced IRB (A-IRB) approach for asset classes that cannot be modeled in a robust and prudent manner. These include exposures to large and mid-sized corporates, and exposures to banks and other financial institutions. As a result, banks with supervisory approval must use the Foundation IRB (F-IRB) approach, which removes the two important sources of RWA variability as it applies fixed values to the loss given default (LGD) and exposure on default (EAD)parameters. In addition, all IRB approaches can no longer be applied to equity exposures that now have to be processed in a standardized approach. Revised LGD and LGD floors are defined in F-IRB. Revised CCFs apply to off-balance sheet items in F-IRB and a new EAD floor in A-IRB. Given the enhancements to the IRB framework and the introduction of an aggregate output floor, the 1.06 scaling factor that is currently applied to RWAs determined by the IRB approach to credit risk has been removed.

Revised operational risk framework

The Basel Committee has also revised the operational risk framework. The advanced measurement approaches (AMA) for calculating operational risk capital requirements (which are based on banks' internal models) and the existing three standardized approaches have been replaced with a single risk-sensitive standardized approach that all banks must use. From now on, operational risk capital requirements are based on two components: the bank's income (BIC) and a measure of the bank's historical losses (ILM). ILM is a function of BIC and the Loss Component (LC), where the latter is equal to 15 times a bank's average historical losses over the preceding 10 years.

Revised CVA risk framework

The initial phase of Basel III reforms introduced a capital charge for potential mark-to-market losses of derivative instruments because of the deterioration in the creditworthiness of a counterparty. This risk—known as credit valuation adjustment (CVA) risk—is a form of market risk and was a major source of losses for banks during the global financial crisis, exceeding losses arising from outright defaults in some instances.

The new framework includes the exposure component of CVA risk together with its associated hedges. Similarly to the internal models review, if the approach is not considered prudent enough the BCBS aims to restrain the use of internal models. Hence, the option to use an internally modeled approach has been removed. Banks can use either the standardized approach (SA-CVA), which now requires a supervisor's authorization, or the basic approach (BA-CVA).

Leverage ratio and G-SIB buffer

The G-SIB leverage ratio buffer has been set at 50% of the G-SIB's risk-based capital buffer (namely, if a G-SIB is subject to a 2% risk-weighted capital buffer, its leverage ratio buffer is set at 1%). The Committee has introduced constraints on dividend distributions for G-SIBs that do not comply with the leverage ratio buffer requirement according to a five-range scale.

The framework also includes changes to the exposure measure of the leverage ratio. These include adjustments to the treatment of derivatives in the exposure measure, and updates to the treatment of off-balance sheet exposures for consistency with the standardized approach to credit risk.

Impact for banks

In October 2018, the European Banking Authority (EBA) published the preliminary impact of the Basel reforms on EU banks' capital. Overall, the results show that European banks' minimum Tier 1 capital requirement would increase by 16.7% at the full implementation date. Moreover, to comply with the new framework, EU banks would need EUR 24.5 billion of total capital, of which EUR 6.0 billion is extra CET1 capital. The EBA is working on a more detailed report on the impact of these reforms in response to the European Commission's Call for Advice.

Beyond the capital costs, the implementation of the new standards is challenging for banks as they entail significant changes in their internal processes. Furthermore, the introduction of the standardized output floor, with the need to calculate and disclose capital requirements under the standardized approach, results in operating model changes and raising compliance costs for banks:

» Operating models and processes must shift from model-driven to standardized approaches.

» Banks' systems must align with the new operating model

to support comparisons of multiple calculations and floors.

» New data attributes might be necessary to estimate RWA under the new approaches.

» Because of increased regulatory reporting requirements, banks need to disclose their RWA calculations under the standardized

approach.

Options for meeting these challenges

Banks have various options to address these regulatory compliance challenges while improving their profits and competitiveness. The real question, however, is how to do this sustainably and within the context of broader transformation strategies. Options include:

1. Business model revision. Banks could make strategic decisions to exit certain businesses and geographies, closing accounts and selling off high-risk exposures and consolidating business units. However, this decision is likely to have an impact on revenues and profitability.

2. Traditional cost optimization. Alternatively, banks could reach for the usual levers: centralization, functional consolidation, labor arbitrage, automation, and process re-engineering. However, such measures often create unexpected costs, and at best they deliver diminishing returns.

3. Technology-driven transformative investments. Finally, banks might look at solutions that can provide long-term benefits such as cloud computing and new data-intensive technologies such as big data, artificial intelligence, machine learning, and robotics. These investments have an effect beyond regulatory compliance; they generate fundamental changes in banks' businesses by improving operational efficiency and incentivizing innovation.

Four things banks should be doing now

The latest technology offers real opportunities. With the regulatory landscape getting clearer, there has never been a better time to explore them.

1. The cloud is a good place to start. By migrating to the cloud, financial institutions become more agile thanks to the flexibility and scalability that cloud offers. Cloud also brings more transparency in terms of their IT costs. Moreover, most financial institutions seek to reduce maintenance and upgrade- elated work. By using the cloud, and Software-as-a-Service (SaaS) in particular, financial instructions can achieve greater efficiencies and outsource a significant part of their compliance burden, ultimately becoming more competitive and better serving customers.

2. Adopt a comprehensive and standard approach to regulatory compliance to overcome the fragmented "silo" approach for regulatory compliance, which causes inefficiencies and unnecessary costs. There are an increasing number of data points shared by the various regulatory frameworks that require global consistency in the attributes that are reported. If a bank makes adjustments in a particular transaction in its portfolio, it can be difficult to ensure that there is consistency across all silo-based applications. As long as reports draw on different data sources for each framework, getting them to match will be a serious challenge, and supervisors are increasingly alert to discrepancies. In addition, the silo approach implies many heavy IT cycles (ETL and datamart updates) each time a regulation changes and the requirements become more complex and granular, and demand higher frequency. This challenge is another reason to move to a more elastic cloud-based IT infrastructure.

3. The latest technologies such as Hadoop, Spark, and YARN now enable firms to tackle big data challenges with distributed storage and processing, together with efficient resource management. These technologies can be deployed on-premises and in the cloud, but cloud deployments give greater opportunities to optimize run-time performance and reduce costs. Open source software is affordable at scale over the cloud and offers great support. Firms are not locked in to a vendor's pricing model.

4. Logical data models can put power-users—the people who understand the regulatory frameworks and who anticipate future changes—in the driver's seat. As data is not physically transformed from source systems, power-users can calculate outputs for regulatory analytics more simply and directly with logical data preparation and configuration without the constant need for ETL development, which shortens IT project cycles. They rely less on the V- model of system lifecycles (specification by users, development by IT, IT tests, user tests, and user acceptance) whereby the business does not see the output until the end of the cycle, which generally needs more

than one iteration. Instead, firms can transition toward incremental rolling configuration, where the power-user plays the key role of identifying data in the logical data model, and configuring and testing outputs for specific reporting requirements and scenarios. The European Central Bank (ECB)s Banks Integrated Reporting Dictionary (BIRD), which is designed to address the misalignment between banks about the meaning of specific sections within various regulatory frameworks, provides an opportunity to implement standardized logical data models integrating a bank's risk, treasury, and finance functions.

ConclusionAs the post-crisis surge in regulation comes to an end, costs will decrease, though still remain at the current high level, for thenext few years. Between now and 2022, project teams will be busy implementing the latest proposals from the Basel Committee and the new accounting regimes such as IRFS 9 and current expected credit loss (CECL). We are already noticing a cultural shift as enterprise risk management project teams turn their attention toward integrated solutions that lead to cost reduction and better process efficiency. New technologies will certainly provide a boost in years to come with the adoption of new solutions to deliver Regulatory-Compliance-as-a-Service.

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