

FINANCIAL SERVICES FLASH REPORT

Basel Committee on Banking Supervision Amends Minimum Capital Requirements for Market Risk

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On January 14, 2016, the Basel Committee on Banking Supervision (BCBS) released revised [standards for the minimum capital requirements for market risk](#)¹, which, once adopted by national regulators, will have a significant impact on capital for all banks. The revised market risk capital framework is a key component of the committee's reform of global regulatory standards in response to the global financial crisis, which exposed material weaknesses in the capital framework for market risk.

The revised standards focus on three key areas: the revised boundary between the banking book and the trading book; the revised internal models approach for market risk; and the revised standardized approach for market risk. They also include a shift from value-at-risk (VaR) to an expected shortfall measure of risk under stress and the incorporation of the risk of market illiquidity.

In summary, the boundary between the banking book and trading book has been revised to reduce incentives for a bank to arbitrage its regulatory capital requirements between the two regulatory books. Notably, stricter limits along with capital disincentives are applied to the transfer of instruments between the banking book and trading book.

The enhancements to the internal models approach for market risk have three main aims: to develop a more coherent and comprehensive risk capture process that takes better account of "tail risks" and market illiquidity risk; to advance a more granular model approval process, whereby internal models are approved for use at the trading desk level; and to place constraints on the capital-reducing effects of hedging and portfolio diversification.

The standardized approach for market risk has been revised so that it remains suitable for banks with limited trading activity, while also sufficiently risk sensitive to serve as a credible fallback for, as well as a floor to, the internal models approach. This is particularly relevant for banks whose internal models are found to be inadequate in certain areas by their supervisors and, as a consequence, are not permitted to be used to determine regulatory capital requirements. A key change to the standardized approach is the greater reliance on risk sensitivities as inputs into capital charge calculations. This means that a common risk data infrastructure would be able to support both the revised internal models and the standardized approaches, thus facilitating the use of the standardized approach as a fallback and floor to internal models.

The revisions, which are discussed in greater detail below, will likely result in a weighted mean increase of about 40 percent in trading book charges, while boosting the share of banks' risk-weighted assets (RWAs) to approximately 10 percent from six percent under existing rules, according to a statement from the BCBS based on its impact analysis of data provided by banks. This increase, on top of those already imposed following the global financial crisis, places an additional capital and administrative burden on banks struggling to maintain profits in

¹ www.bis.org/bcbs/publ/d352.pdf.

a turbulent market. In some cases, the changes could cause some banks to scale back their trading activities. Although still significant, the increase in the capital burden on banks is lower in this revised framework than in previous proposals.

The revised framework

Further information on the three main areas is provided below to explain the revisions in more detail.

The revised boundary between the banking book and the trading book

The boundary between the banking book and trading book has been revised to reduce incentives for a bank to arbitrage its regulatory capital requirements between the two regulatory books, with the boundary based on the bank's intent to trade or hold a position to maturity. Notably, stricter limits along with capital disincentives are applied to the transfer of instruments between the banking book and trading book. The new guidelines are intended to limit the movement of positions from the banking book to the trading book, where positions are marked-to-market and exhibit lower capital requirements.

The key enhancements include:

- (1) *Additional guidance on the appropriate contents of the trading book.* The definition of the trading book is supplemented with a list of instruments presumed to be in the trading book. Importantly, a bank must receive explicit supervisory approval for any deviations from this list of instruments.
- (2) *Reducing the ability to arbitrage the boundary.* A strict limit on the movement of instruments between the banking book and trading book is introduced. If the capital charge on an instrument is reduced as a result of switching (in the rare instances where this is allowed), the difference in charges measured at the point of the switch is imposed on the bank as a fixed, additional (and disclosed) Pillar 1 capital charge.
- (3) *Enhanced supervisory powers and reporting requirements.* The revised standard provides supervisors with the discretion to initiate a switch from the trading book to the banking book or vice versa if an instrument is deemed to be improperly designated. Banks must also prepare, evaluate and make available to supervisors, reports on their boundary determination and compliance, inventory ageing, daily limits, intraday limits (for banks with active intraday trading) and assessments of market liquidity.
- (4) *Clearer treatment of internal risk transfers across the regulatory boundary.* The current boundary specifies the treatment of internal risk transfers of credit risk but is silent with respect to other risk classes. To promote consistency and comparability in regulatory practices across jurisdictions, limits are introduced on the internal risk transfers of equity risk and interest rate risk from the banking book to the trading book for regulatory capital purposes.

The revised internal models approach

Regulatory trends continue to move away from internal models-based approaches. The key enhancements under the revised internal models approach can be broadly categorized into the following:

- (1) *More coherent and comprehensive risk capture.* The revised internal models approach replaces VaR and stressed VaR with a single Expected Shortfall (ES) metric.

- ES captures tail risks that are not accounted for in existing VaR measures. ES measures the riskiness of a position by considering both the size and the likelihood of losses above a certain confidence level.
- ES must be calibrated to a period of significant financial market stress. The revised standard allows for maximum stress to be calculated on a reduced set of bank-selected risk factors, provided that these factors explain at least 75% of the variation in the ES model with a full set of risk factors.
- Market illiquidity is factored into the revised internal models framework. ES introduces the concept of varying liquidity horizons. “Liquidity horizon” is defined as the time required to exit or hedge a risk position without materially affecting market prices in stressed market conditions.

(2) *More granular model approval process.* The revised framework allows for a more granular model review process and breaks internal model approvals down to the level of the regulatory trading desk. A bank supervisor could approve – as well as remove – the use of internal models for each desk. This is in contrast to the current framework where supervisory approval/removal of internal models is possible only at the bank-wide level. This makes it easier for supervisors to take decisions on disallowing the use of internal models when such action is appropriate.

In order to qualify as a model-eligible desk, a trading desk needs to comply with model validation criteria. In addition, banks need to demonstrate proficiency in modelling profit and loss (P&L) with an appropriate degree of accuracy. Otherwise, the desk must be capitalized under the standardized approach. ES model approval for each desk is premised on two quantitative validation criteria:

- **Profit and loss (P&L) attribution.** A test to determine whether the P&L based on risk factors included in the trading desk’s risk management model captures the material drivers of actual P&L.
- **Backtesting.** A test to determine how well the risks in an internal model are captured.

A model-eligible trading desk must also identify which risk factors in its model are “modellable” and which are “non-modellable” according to a set of conditions determined in the framework. The intent is for banks to model risk factors only when there is adequate observable data to do so prudently. Risk factors that do not meet these conditions are deemed to be non-modellable and must be capitalized individually using a separate stressed capital add-on from the ES approach used for modellable risk factors.

(3) *Constraints on the effects of hedging and portfolio diversification.* Banks using the internal models-based approach are allowed significant latitude to recognize the risk-reducing benefits of hedging and diversification. The portfolio diversification benefits (intended to be risk reducing), can disappear in times of stress. The following changes serve to constrain the capital-reducing effects of hedging and portfolio diversification in the internal models approach:

- a. The current VaR-based regulatory models for market risk allow for unconstrained recognition of diversification benefits. In contrast, the total ES capital charge for modellable risk factors is calculated as an equal-weighted average of:
 - i. an “unconstrained” bank-wide ES charge with diversification benefit recognized across all risk classes; and

- ii. a set of “constrained” partial ES charges – one for each of the broad regulatory risk classes (interest rate risk, equity risk, FX risk, commodity risk, and credit spread risk) – added up as a simple sum with no cross-risk class diversification benefit recognized.
- b. One of the main observations from the committee’s review of the variability of market risk-weighted assets was that the more complex incremental default risk charge (IRC) models were a relatively large source of unwarranted variation. IRC is intended to cover credit migration and default risks, which VaR does not capture fully. In response, the revised framework replaces the IRC with a Default Risk Charge (DRC) model. As a standalone modelled approach, the IRC effectively disallows diversification effects between certain credit-related risks (default and migration risk) and other risks. Under the revised framework, the DRC model will capture default risk exclusively (i.e., separate from all market risks, including credit spread risk). As a further constraint, the DRC places limitations on the types of risk factors and correlations that can be used within the model.

The revised standardized approach

Continuing with the trend away from internal model-based approaches, the revised standardized approach is guided by several overarching objectives to its use. First, the approach must provide a method for calculating capital requirements for banks with a level of trading activity that does not require sophisticated measurement of market risk. Second, it provides a fallback if a bank’s internal model is deemed inadequate. Finally, the approach should facilitate consistent and comparable reporting of market risk across banks and jurisdictions. The revised standardized approach will also capture the risks from securitization exposures in the trading book, which are fully removed from the scope of internal models for market risk.

There are four main components of the revised standardized approach: (1) closer calibration between the revised standardized and internal model approaches; (2) the sensitivities-based method; (3) standardized default risk charge; and (4) residual risk add-on.

(1) Closer calibration between the revised standardized and internal model approaches

To ensure a closer calibration between the standardized and internal model approaches, a number of improvements to the internal models approach have been embedded into the revised standardized approach. For example: (1) The standardized “bucket” risk weights within each risk class under the standardized approach have been calibrated to stressed market conditions using an ES methodology, and (2) The concept of varying liquidity horizons, which has been incorporated into the revised internal models approach, is also mirrored in the calibration of the standardized risk weights. An important change in the revised standardized approach is its greater reliance on risk sensitivities as inputs into capital charge calculations – these inputs are integral to the pricing and risk management models of trading-active banks. A direct consequence is that a common risk data infrastructure would be able to support both the revised internal model and standardized approaches, thus facilitating the use of the standardized approach as a fallback and floor to internal models.

(2) Sensitivities-based method

The use of the sensitivities-based method is extended to a broader set of risk factors for capturing three risk sensitivities, namely, “delta,” “vega” and “curvature” risks. The use of sensitivities is already a feature of the current standardized approach for market risk, which allows for its use in the treatment of some risk asset classes and of certain instruments. The

revised methodology builds on these existing features and extends the use of sensitivities to a much broader set of risk factors.

(3) Standardized default risk charge

The third component of the revised standardized approach is the standardized Default Risk Charge (“standardized DRC”). The standardized DRC as a whole is calibrated to the credit risk treatment in the banking book to reduce the potential discrepancy in capital requirements for similar risk exposures across the banking book and trading book. The framework for default risk requires that positions are first allocated to default risk bucket categories (e.g., corporations, sovereigns, local governments/municipalities for non-securitization exposures). The standardized DRC allows for some limited hedging recognition within each bucket category, but not across different bucket categories.

(4) Residual risk add-on

The final component of the revised standardized approach is the Residual Risk Add-on. This captures any other risks beyond the main risk factors already captured in the sensitivities-based method or standardized DRC. It provides a simple and conservative capital treatment for the more sophisticated/complex instruments that would otherwise not be captured in a practical manner under the other two components of the revised standardized approach. According to the BCBS, the Residual Risk Add-on is “the simple sum of gross notional amounts of the instruments bearing residual risks, multiplied by a risk weight of 1.0% for instruments with an exotic underlying risk and a risk weight of 0.1% for instruments bearing other residual risks.”

The implications of the revised framework

The implications of the proposed revised minimum capital requirements for market risk are far reaching.

Institutions have gone to great lengths with their covered position policies and governance for the trading book. Any changes that result from the BCBS revisions will have a ripple effect, causing corresponding adjustments to policies and procedures given the governance over them. Institutions must be able to assure regulatory authorities that routines are in place to ensure compliance with a documented set of internal policies, controls and procedures that reflect the new standards.

Tighter controls on the movement of items between the banking and trading books will limit some functional units’ activities. Identifying certain positions to move between books to reduce capital charges and transfer risk will cascade from analysis, governance, modeling and reporting.

Reporting routines, including content, data and requirements, will need to be re-evaluated and adjusted to ensure reporting satisfies the new standards. An additional BCBS publication is forthcoming that more clearly lays out the disclosure standards for the new market risk requirements. There will also be more to come on disclosures.

The revised internal models approach component is significant and will cause extensive work on the quantitative data front. VaR has been the predominant risk measure for decades and significant effort will be required for modeling teams to replace VaR and stressed VaR models and measures with a single ES metric. Aside from capital implications, the departure from VaR may have far-reaching effects from trading desks to back offices, including changes to policies, procedures and monitoring. The ES metric should factor in liquidity to better predict the sudden

stops of market liquidity, which is a “hot button” issue since it played a significant role in the global financial crisis.

In addition, current VaR models allow for diversification benefits. However, under the revised framework, these are intended to be severely limited using the ES method that has no recognized cross-risk benefit. Furthermore, IRC models will be replaced with DRC models where DRC places limitations on the types of risk factors and correlations that can be used within the model.

The additional supervisory authority to take model approval down to the desk level adds an unwanted level of regulatory scrutiny and authority. The revised internal models approach also goes hand-in-hand with the complexities of the revised standardized approach. Some improvements to the internal models approach have been embedded into the revised standardized approach keeping these two components intricately tied together.

The new standards, which give greater importance to the standardized model compared to internal models, are part of a broader project by the Basel Committee to limit banks’ use of their own models. Approval for models will be made more granular and regulators will be able to simply halt the use of internal models at the trading desk level at banks. This is demonstrative of the Basel Committee’s aim to reduce banks’ reliance on their own models for calculating capital. Although the capital increases are relatively modest compared to previous versions of these proposals, firms need to assess how these changes will impact them, particularly with regard to their trading activities.

Timetable

The changes to the market risk framework are significant and wide ranging. Although the BCBS indicates that the revised market risk framework would come into effect in January 2019 and reporting under the new standards required by the end of 2019, the implementation date can vary between national regulators – only some will follow the BCBS timetable. The BCBS formulates broad supervisory standards and guidelines and recommends statements of best practices in banking supervision, with the expectation that member authorities (which includes the U.S. Federal Reserve Board, Reserve Bank of Australia, Canadian Office of the Superintendent of Financial Institutions, Deutsche Bundesbank, Hong Kong Monetary Authority, and Banks of Italy, Japan, Korea, Spain and England, to name a few) and other nations’ authorities will take steps to implement them through their own national systems. Notably the Hong Kong Monetary Authority (HKMA) has stated:

“The HKMA’s current intention would be to implement the revised market risk capital framework in accordance with the BCBS timetable and so the HKMA will consult the industry on its implementation proposals for Hong Kong in due course, taking account of the progress of the BCBS in finalising related standards that may have an impact on the framework. As the revised market risk capital framework in effect represents a significant overhaul of the current market risk capital framework, it is likely to have impacts on, among other things, the capital requirements, systems, data and resources of locally incorporated authorized institutions (AIs), particularly for those with material market risk exposures. All relevant AIs are therefore strongly recommended to familiarise themselves with the new market risk capital standards in advance of any HKMA consultations, consider the implications of implementation for their institutions, and start preparing, to the extent practicable, for the local implementation of the revised framework.”

The BCBS standards are not binding but serve as a springboard for future local regulations by supervisors. Given the sweeping nature of these changes, firms are advised to read through the paper in detail and focus on how the very technical and complex rule changes will impact their business.

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