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## Basel's Proposed Overhaul Of Capital Requirement Calculations For Banks' Trading Risk Is Only A Step Toward Greater Consistency

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# Basel's Proposed Overhaul Of Capital Requirement Calculations For Banks' Trading Risk Is Only A Step Toward Greater Consistency

The Basel Committee on Banking Supervision in October 2013 published a second consultation paper setting out proposals to improve the way it calculates regulatory capital requirements against the market risks banks run in their trading operations. This paper, "Fundamental review of the trading book: A revised market risk framework," incorporates comments it received after publication of a first document in May 2012. The Basel Committee, part of the Bank for International Settlements (BIS), calls for comments on this second paper before Jan. 31, 2014. What follows is Standard & Poor's Ratings Services response to this second consultation paper.

In our view, the proposals address some of the weaknesses of the existing framework. Notably, we welcome the proposal to use an expected shortfall measure calibrated on a stressed period as the basis for the capital charge on banks. This would remove the potential for double-counting of risks that exists under the current framework through the use of a combination of value-at-risk (VaR) and stressed value-at-risk SVaR charges. The proposals would also better capture losses from extreme "tail risk" events. Third, they would more clearly demark liquidity differences across underlying securities. We also believe the proposals could further smooth out differences in risk-weighting practices across the trading books of international banks, assuming that global regulators take a harmonized approach to the proposals.

## Overview

- The Basel Committee's latest proposed changes to the way it computes regulatory capital requirements for trading risk address many weaknesses in the existing framework, in our view.
- They remove some double-counting of risks in the current framework and better capture extreme losses that can occur in episodes of systemic turmoil.
- We also believe the proposals could improve consistency across banks in terms of regulatory capital requirements.
- However, we see the risk that the new framework may widen discrepancies in some instances, largely because of the difficulty for banks to backtest "expected shortfalls", the regulators' proposed capital charge measure, at various required liquidity horizons.
- We believe the final calibration of the changes should ensure that banks have an incentive to measure risks using internal models and to use the new measures for daily risk management.

Nevertheless, we believe the proposed new framework does not sufficiently address the fundamental issue of ensuring consistency of the way banks compute regulatory capital requirements worldwide. Indeed, we see a risk that the new framework may, in some instances, widen discrepancies rather than reduce them. This is largely related to the proposal to replace VaR with an expected shortfall measure at various liquidity horizons, and our concerns that the backtesting approaches outlined in the consultation paper could be relatively inefficient in assessing the accuracy of such models.

We also consider it likely that market risk capital charges would increase again for all banks under the proposed framework changes, particularly for those banks that were more aggressive in their risk model assumptions. This is largely due to lengthened liquidity horizons and fewer benefits of diversification across asset classes that the proposals envisage. Still, the capital multiplier applied to the expected shortfall measure and the diversification effects that the proposals allow across business lines, which the committee has still to determine, could mitigate the extent of the capital increases. In our view, the final calibration of the parameters of the reform should maintain the incentive for banks to measure risks using internal models and to use the new measures for daily risk management.

## **A Summary Of The Main Proposals**

The current market risk framework, known as Basel 2.5, imposes regulatory capital requirements for trading risks using up to five different measures:

- A value-at-risk (VaR) charge, which assesses potential losses at the 99% confidence level and a 10-day horizon;
- A stressed value-at-risk (SVaR) charge, which is a VaR calibrated on a period of market turmoil;
- An incremental risk charge (IRC) at a 99.9% level and a one-year horizon, which is designed to capture default and migration risks on unsecuritized credit products;
- A comprehensive risk measure (CRM) for correlation trading positions; and
- Standardized charges for securitization and resecuritization positions, as well as for some trading positions excluded from the scope of the VaR model.

This complex framework potentially leads to some inconsistencies and double-counting of risks, for example between the VaR and the SVaR, or between the VaR and the IRC (for further details see "Basel 2.5 Increases The Squeeze On Investment Banking Returns," published May 14, 2012, on RatingsDirect).

In its latest consultation paper, the Basel Committee proposes to address these inconsistencies with the following changes:

- An expected shortfall measure at the 97.5% confidence level to replace the 99% VaR as the main measure upon which regulatory capital requirements are computed. The expected shortfall is a statistical metric defined as the average loss out of all the losses above a certain threshold. The expected shortfall at the 97.5% level is the expected return on a portfolio in the worst 2.5% of the cases.
- The use of different liquidity horizons, ranging from 10 days to one year, depending on the liquidity of positions. In essence, banks would have to model larger shocks for less liquid assets that would take longer to sell or hedge during an episode of market stress. They would be required to compute VaR and shocks on risk factors resulting from various scenarios directly at the required liquidity horizon rather than scaling up the one-day VaR, as is generally the case now. This should result in more realistic results.
- A limitation of diversification effects within the expected shortfall model, especially with regard to positions across asset classes.
- An incremental default charge (IDC) in place of the incremental risk charge (IRC). This is because migration risk will already be captured in the extended liquidity horizons.
- A revised standardized approach with more granular risk factors that also allow for more diversification effects than the current simplistic standardized approach. Regulatory capital requirements derived from the internal model approach would be benchmarked against the capital requirements derived from the revised standardized approach.

- The obligation to compute regulatory capital requirements on all securitization positions, according to the revised standardized approach. This includes correlation trading positions, which until now can be submitted to the comprehensive risk measure internal model.

## **New Proposals Address Some Weaknesses In The Current Market Risk Framework**

The proposed switch to an expected shortfall measure addresses our general concern that the 99% VaR does not incorporate losses from extreme "tail-risk" events and neglects risks that may lurk above the 1% worst loss. Since the expected shortfall is driven by the tail collectively more than by any particular outlier in the "look-back" period (that is, the sample of observations used to calibrate the underlying VaR models), it should result in more stable outputs and less sensitivity to specific data points. In addition, the use of the expected shortfall--and the calibration of it on a "stressed" period--will remove double-counting between the VaR and the SVaR.

We have claimed, since the publication of our in-house risk-adjusted capital model in 2009, that the use of a 10-day holding period uniformly across positions is not suited to times when liquidity dries up, and when it may take more time than expected to liquidate some trading positions (see, for example, "Trading Losses At Financial Institutions Underscore Need For Greater Market Risk Capital," published April 15, 2008). We therefore welcome the Basel Committee's proposal to implement several liquidity horizons depending on different risk factors--ranging from 10 days for large cap equity prices, to six months on some commodities and credit spreads on high-yield corporates, and one year on credit spreads on structured products. In our risk-adjusted capital framework, we use a one-year horizon to reflect the potential illiquidity of some positions in times of stress.

We also consider the Basel Committee's proposal to limit diversification effects across asset classes to be a step forward. The proposal would set the aggregate capital charge for modellable risk factors as a weighted average between the unconstrained expected shortfall at the bank level and the sum of partial expected shortfalls for each asset class. We view this as positive because correlations during a crisis tend to be fairly unstable.

Furthermore, we welcome the proposal to compute VaR directly at the required liquidity horizon rather than scaling it up from the one-day VaR, as is the case today for most banks. This will capture migration risks, such as the risk of a bond losing value because the issuer has been downgraded, absent any default. The current one-day VaR merely captures credit spread risk at unchanged rating levels. In this context, we consider the proposal to refocus the incremental risk charge (IRC) to a pure incremental default charge (IDC) a fitting measure to avoid double-counting.

Finally, we welcome the plan to implement a revised standardized approach, with a more granular set of risk factors than the current standardized approach and more diversification effects embedded in the calculations. For example, the revised standardized approach for equity positions defines 10 risk factors (corresponding to different sectors in the economy, such as consumers, telecommunications, and energy), while the current standardized approach has only one risk factor. All else being equal, this could make the revised standardized approach a useful benchmark to compare against regulatory capital requirements as derived from internal models. We would consider it helpful if bank disclosures included comments by bank management teams on what causes differences between internal-model and the revised standardized-approach results. Indeed, wide differentials can at the very least raise useful questions to bank

management teams regarding the aggressiveness of their models.

## **A Step Toward Greater International Consistency**

In its executive summary, the Basel Committee consultation paper claims that its revisions reflect its "increased focus on achieving a regulatory framework that can be implemented consistently by supervisors across jurisdictions." It says that its latest proposals therefore incorporate the lessons it had learned from the committee's recent investigations into the variability of market risk-weighted assets. This was a reference to the two Regulatory Consistency Assessment Programme (RCAP) exercises, published in January and December 2013, which showed that regulatory capital requirements for trading risk could differ widely between banks that had the same diversified portfolio (for details of the results see portfolio 30 on page 8 of the RCAP's "Second report on risk-weighted assets for market risk in the trading book, published December 2013).

The new proposed framework brings some improvements in this respect. First of all, the proposal to prohibit comprehensive risk measure (CRM) models for correlation trading positions will help achieve more consistency because the RCAP exercise highlighted some discrepancies surrounding the use of very complex CRM models.

Second, with regard to banks' internal model approval processes, we favor the proposal that would require banks to use the "risk-theoretical P&L" in the VaR backtesting exercise or the definition of the two metrics for the P&L attribution requirements. This formalization of VaR backtesting techniques should reduce inconsistencies across banks, in our view, because different regulators tend to have different requirements under the current regime. However, we see little value in the proposed "model-independent assessment tool," which appears to be a leverage ratio at the desk level. If this tool were to be implemented, repo desks would likely be excluded from the scope of internal models, although we believe VaR models can be rolled out successfully on these desks.

Third, the proposals related to the IDC models will also ensure more consistency, in our view. In particular, we welcome the proposed requirement that banks use at least two risk factors in their assessment of default correlations alongside implementing a 3-basis-point "floor" for the probability of default, including for sovereign exposures. The RCAP exercise, in particular, has shown that different correlation assumptions could lead to substantial variability in IRC figures. We note, however, that should the probability default floor be implemented for the trading book, it should be extended as well to the banking book internal models, in particular to sovereign exposures, in order to limit regulatory arbitrage between the banking and the trading books.

## **But Risks Remain Over Backtesting**

We see a risk that the new framework may, in some instances, widen discrepancies between banks rather than reduce them. This is because the backtesting process recommended by the Basel Committee could be inefficient in assessing the accuracy of models based on expected shortfalls at various liquidity horizons. One weakness of the expected shortfall measure is that it cannot be backtested directly. What banks can do instead is backtest the one-day VaR, by comparing the VaR for a specific day, based on the set of positions and market parameters at the time of closing the previous day with the profit and loss (P&L) that materialized that day. They could then assess whether the VaR

excesses conform to the confidence level used to construct the metric. This cannot be done under the expected shortfall measure. Estimates of expected shortfall depend on the full shape of the tail of the loss distribution, which is unknown. The Basel Committee proposes backtesting the expected shortfall using both the 97.5% and the 99% one-day VaR. However, a VaR model may have good backtesting properties at 97.5% and 99% levels and poor backtesting properties at a higher confidence level. In such a situation, the expected shortfall would not satisfactorily reflect risk.

The proposal to require banks to compute a VaR for various illiquid positions at a six-month or a one-year horizon is an improvement upon the current trading risk framework, in our view. However, discrepancies between banks could indeed increase if only the one-day VaR was backtested. A bank using mean-reverting models, notably within the fixed-income business line, is likely to generate relatively benign shocks at the six-month horizon. This bank could come up with a substantially lower expected shortfall than another bank using a radically different model, yet both could exhibit good backtesting properties for the one-day VaR, assuming both banks use Monte-Carlo simulation. Overall, this would not fix the fundamental issue of inconsistency of market risk-weighted assets and, in some instances, it could even compound it.

We believe one way toward achieving more consistency between banks would be for the Basel Committee to set more prescriptive modelling assumptions, notably for Monte-Carlo simulations, regarding, for example, the length of the "look-back" period, choice of univariate distributions, and choice of the dependence between risk factors.

## **New Measures Should Encourage Internal Risk Models And Daily Risk Management**

We understand that the Basel Committee has still to calibrate a number of key parameters. These include, for example, calculation of the level of diversification within the expected shortfall internal model across business lines or the regulatory scaling factor applied to the expected shortfall measure when determining the regulatory capital requirements. Regulators will notably examine the results of the impact study to finalize the calibration.

Overall, we believe the measures that are ultimately adopted should still give banks the incentive to measure risks using sophisticated VaR and expected shortfall models. It would be counterproductive, in our view, to calibrate parameters so that regulatory capital requirements using internal models match those derived from the standardized approach. On the one hand, the revised standardized approach is an improvement on the current standardized approach, in particular because it offers a more granular set of risk factors and takes into account more diversification benefits. However, we believe it should remain a fallback option used by a bank whenever the set of non-modellable factors for a particular desk is too high. This is because the standardized approach remains a relatively rough measure and would likely fail the use test—that is, we think it would not be used by banks for daily risk-management purposes.

We understand that the Basel Committee is contemplating the possibility of flooring the regulatory capital requirements that banks derive from internal models to a given percentage of regulatory capital requirements that would be achieved should the revised standardized approach be used instead. In our view, the multiplier should be sufficiently low so as to be binding only in a few instances. We would expect such a floor simply to provide a "sanity

check", aimed at identifying outliers in the same way that we consider the leverage ratio should operate for the assessment of bank capital. Overall, internal models provide valuable information and, when properly managed, help bank management teams to understand trading risk and monitor it properly given their desired level of risk appetite.

Finally, we also consider it important that banks use the new risk metrics for daily risk-management purposes and not only for the purpose of computing regulatory capital requirements. If there is a strong disconnection between the two, we see a danger that banks might arbitrage the regulatory measure by taking hedges that would not be sensible purely from a risk-management perspective, that is, simply for the purpose of reducing regulatory capital requirements.

## **Related Criteria And Research**

### **External publications**

- Fundamental Review of the Trading Book – A Revised Market Risk Framework, BIS, October 2013
- Regulatory Consistency Assessment Programme (RCAP) – Second report on risk-weighted assets for market risk in the trading book, BIS, December 2013
- Regulatory Consistency Assessment Programme (RCAP) – First report on risk-weighted assets for market risk in the trading book, BIS, January 2013

### **On RatingsDirect**

- Basel 2.5 Increases The Squeeze On Investment Banking Returns, May 14, 2012
- Revised Market Risk Charges for Banks in our Risk-Adjusted Capital Framework, June 22, 2012
- Trading Losses at Financial Institutions Underscore Need for Greater Market Risk Capital, 15 April 2008
- Lifting the Lid on Traded Market Risk, Oct. 31, 2006
- Chasing Their Tails: Banks Look Beyond Value-At-Risk, July 12, 2005

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