

Basel III Proposal To Increase Capital Requirements For Counterparty Credit Risk May Significantly Affect Derivatives Trading

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(Editor's Note: This article is part of a series of comments by Standard & Poor's Ratings Services in response to the Basel Committee on Banking Supervision's proposals on bank capital and liquidity released for comment in December 2009. This article supplements our views outlined originally in the report: "Basel 3 For Global Banks: Third Time's The Charm," published on March 4, 2010. The Basel Committee's comment period ends on April 16, and it is planning to issue final rules by the end of 2010 with implementation scheduled for 2012.)

Overview

In assessing the Basel Committee on Banking Supervision's proposal to increase capital requirements for counterparty credit risk, Standard & Poor's Ratings Services' view is that:

- The standards it sets out could have significant effects on the derivatives markets and on financial institutions with large derivatives sales and trading businesses.
- Although certain proposed measures--such as the introduction of the stressed Expected Positive Exposure--are consistent with our view that risks in the trading book deserve higher capital charges, we note that the BCBS' proposed calibration of Value at Risk on Credit Valuation Adjustments suggests stress events that would go far beyond the loss experience of the past twenty four months.
- The overall ratings implications won't be clear until there is a final version of the framework, which we expect later in 2010.

Whether from losses on defaulted counterparties or from credit valuation adjustments (CVAs) related to mark-to-market losses on non-defaulted counterparties, many financial groups incurred significant counterparty credit risk (CCR) losses in their trading of over-the-counter (OTC) derivatives and repo-style transactions during the severe market dislocations of 2008-2009. In particular, the Lehman default and its aftermath elevated the focus of market participants on the issue of CCR in trading books.

The Basel Committee on Banking Supervision (BCBS) published a consultative document in December 2009 that aims to remedy certain issues that emerged during the financial markets crisis--issues that, in the Committee's view, the Basel II framework does not fully address. One such issue is high potential losses from CCR at individual financial institutions and in the broader financial sector.

We believe that the absolute amount of risk in question is significant, even if potential CCR losses in trading are only a small fraction of the trading portfolios and a miniscule fraction of off-balance-sheet notional exposures in OTC derivatives. Leading global banking groups' trading and OTC derivatives positions have grown to substantial proportions. For example, a single large global corporate and investment bank can have balance-sheet trading assets of more than \$500 billion and notional levels of OTC derivatives in the tens of trillions of dollars.

The Committee's proposals on CCR, particularly concerning CVAs, could, in our opinion and given the current calibration, multiply the risk-weighted assets (RWA) and the capital required for CCR by four to six times the

current amounts. The additional capital requirement we expect could be greatest for financial institutions with large derivatives sales and trading businesses. Because of this potential multiplier effect on the capital required for trading OTC derivatives, we believe that the BCBS proposals concerning CCR have potentially significant implications for the behavior of derivatives markets in the medium term. They could, for example, favor the use of qualified clearing houses as counterparties for derivatives contracts. This could alleviate the extra capital burden for banks but, in our view, raises questions about clearing houses' capacity to support the risks.

We see the general thrust of the proposals concerning CCR as being generally consistent with our Risk Adjusted Capital Framework. The crisis demonstrated that asset correlations among financial institutions were higher than originally estimated, with most institutions simultaneously affected by market-price volatility. Likewise, so-called "wrong-way" risk materialized, particularly among financial guarantors whose creditworthiness eroded simultaneously with the value of the assets that they guaranteed.

For some financial institutions, the losses taken via CVAs in 2008 and 2009 were substantial and were not captured by the Basel II framework. We believe that the proposal to introduce a stressed value at risk (VaR) on CVAs appears to address the apparent shortcoming in Basel II on this point. Nonetheless, we view that there may be a risk that using a regulatory scaling factor of at least three times would go far beyond the loss experience of the past twenty four months according to our preliminary estimates. It could potentially create unintended consequences. We expect to monitor this proposed charge as it is reviewed by BCBS based on other feedback from market participants and data produced during the impact study to be conducted this year.

The Three Main Proposals Regarding CCR In The Basel Committee's Consultative Document

The main objectives of the BCBS proposal concerning CCR are:

- To increase the correlation assumptions—and hence the risk weightings—of "systemically important" financial intermediaries;
- To increase the risk weightings of CCR for banks using an internal model (expected positive exposures, or EPE) through a set of specific measures such as the concept of stressed EPE; and
- To add a new Pillar 1 capital charge aimed at capturing the potential increase in CVAs during one year due to credit spread widening of counterparties.

Correlation assumptions

The BCBS considers that correlations among systemically important financial intermediaries increase during a crisis and are higher than correlations among nonfinancial counterparties. Consequently, it proposes a 1.25 multiplier to the current correlation assumptions for financial intermediaries in the Basel II framework. This would increase the correlations to a 15%-30% range from the current 12%-24% range. The BCBS defines systemically important financial intermediaries as regulated banks, brokers/dealers, and insurance companies with assets of at least \$25 billion; and all hedge funds and financial guarantors (i.e. no size cut-off for these two types of counterparties).

By our estimation, this could increase the risk weightings (and corresponding capital charge) by approximately 30%-35% for investment-grade counterparties and by 20%-25% for noninvestment-grade counterparties. We believe that banking groups with significant trading activities and a high proportion of financial intermediaries as counterparties (such as hedge funds) would likely be the most affected by the implementation of this proposal.

Internal models (EPE)

The Committee feels that, under Basel II rules, the financial institutions that use internal models to calculate counterparty risk exposures do not take into account sufficiently the potential volatility and illiquidity of markets in times of stress. To remedy this, the BCBS proposes an approach that would mirror the concept of stressed VaR for market risk. It would require banks to estimate EPE to counterparties under stressed market parameters. In addition, the BCBS proposes that, under certain circumstances such as the presence of exotic trades or a track record of margin call disputes with a counterparty, the margin period of risk (the period during which the institutions would execute a replacement trade) for OTC derivatives would increase to 20 days from the current 10 days.

In our view the result of these two proposals would likely be to increase EPE, and thus the exposure at default (EAD), for CCR with respect to OTC derivatives and repo-style transactions. It is expected to apply only to institutions with regulatory approval to use the internal model approach for the calculation of EPE. At year-end 2009, only a few large banks had such regulatory approval. The list includes UBS AG, Credit Suisse AG, BNP Paribas, Deutsche Bank AG, Barclays Bank PLC, The Royal Bank of Scotland Group PLC, and HSBC Bank PLC.

Credit valuation adjustments

The current Basel II framework addresses CCR by assessing the risk of counterparty default and, to some extent, credit migration. But it does not factor the risk of market-value losses due to the widening of counterparties' credit spreads in a financial institution's trading book. To address this, the BCBS proposes a new capital charge to capture a financial institution's risk of posting additional mark-to-market losses during a one-year horizon due to increasing counterparty credit spreads.

This risk led to significant mark-to-market losses for a number of institutions in the financial market downturn of 2008 and 2009. For example, in 2008 Deutsche Bank recorded €2.2 billion of credit valuation adjustments against its aggregate monoline exposures, and an additional €1.2 billion in 2009.

The proposal in this area seeks to address what the BCBS views as a significant source of CCR. In brief, the BCBS proposes that financial institutions produce a VaR on CVA under normal and stressed scenarios (see Appendix).

We believe that this proposal represents the largest potential capital charge for financial institutions, particularly those with proportionally large derivatives sales and trading businesses. Just this part of the BCBS proposals concerning CCR could, in our opinion, multiply the RWA (and corresponding capital charge) of CCR by three to five times under the current calibration. This specific proposal therefore has in our opinion the greatest potential implications for the behavior of financial institutions in the medium term.

The Amount Of CCR In The Current Regulatory Basel II Framework

We estimate that CCR in the trading book represented on average 5%-10% of banks' total RWA at year-end 2008. The proportion is estimated to be 10%-20% for financial groups with significant operations in derivatives sales and trading. For investment banks, the proportion is even higher, up to 45% in some cases.

For non-U.S. entities as of year-end 2008, we estimate that CCR on financial institutions represented about 60% of the total, CCR on corporations (including insurance companies and hedge funds) represented slightly more than one-third of the total, and exposures on sovereigns represented less than 20%. For banks with significant investment-banking activities, we estimate that exposures to corporations represent more than 40% of CCR. This reflects business with hedge funds (which can represent up to 20% of total exposures for banks with large prime

brokerage operations) and other large nonbank financial entities.

The Basel II Proposal And Standard & Poor's Risk-Adjusted Capital Framework (RACF)

Standard & Poor's RACF calculates capital for counterparty risk exposures related to OTC derivatives and securities-financing transactions by applying risk weights to regulatory EAD calculated and reported by financial institutions. If the BCBS proposal results in higher EAD for financial institutions (a likely outcome, in our opinion), we anticipate that the increased EAD would likely lead to higher RWA and lower risk-adjusted capital ratios for the institutions under the RACF.

While finalizing the RACF calibration of risk weights assigned to exposures to financial institutions in early 2009, we noted the elevated correlation in equity returns among financial institutions throughout 2008. The RACF risk weights that we published in April 2009 reflect our assessment of the effect of heightened asset correlations among financial institutions. We currently do not use a stressed CVA concept in our RACF and thus we do not employ a direct capital charge for this.

The Basel II Proposals For CCR Appear Consistent With Our Approach

We believe that the Committee's new proposal on counterparty credit risk will address some of the apparent shortcomings in the existing framework. Indeed, the Committee's recognition that default correlations among financial institutions tend to be higher than those among nonfinancial institutions is generally consistent with our internal assessments in early 2009.

The new proposal to evaluate counterparty risk exposures based on parameters estimated during periods of economic and financial stress (the "stressed EPE"), we believe, is consistent with the regulatory approach to assessing trading-book market risk that will be put into force in many countries starting January 1, 2011. We believe it is a good proxy for capturing wrong-way risk. It could also potentially reduce the cyclicity of the regulatory capital charge for banks using internal models (EPE banks).

We also believe that the concept of lengthening the margin period at risk up to 20 days for EPE banks on OTC derivatives under the conditions defined in the proposal is more representative of the underlying risk. However, the combination of this proposal with the stressed EPE could translate into higher capital charges for banks using internal models than for banks using a less-sophisticated approach to measuring counterparty risk exposures. An unintended consequence in our view could be that banks using the current exposure method to assess their CCR exposures could be disincentivized from investing in and upgrading their risk-measuring and monitoring systems, consistent with EPE models.

Separately, the underlying concepts of the VaR on CVA make sense to us and are expected to produce helpful additional data for our analysis. We believe it makes sense to view this risk on a one-year horizon, which is the horizon we use in our Risk adjusted capital framework for risks in the trading book. Counterparty risk tends to have a much longer risk horizon than does market risk. For example, bank A can typically offset the market risk associated with a long position in a foreign exchange forward contract with bank B by executing a short position in another foreign exchange contract with bank C. However, bank A can in this scenario only offset the counterparty risk with bank B by entering into a short position with respect to the same bank. Hence, we view that counterparty

risk has a time component that is potentially more difficult to manage than market risk. A bank's exposure to a counterparty with which it is not comfortable can potentially take a while to unwind, if it is possible at all.

The VaR on CVA approach proposed by regulators--although potentially less precise than the tools used by the most sophisticated banks--has in our view the potential merit of restoring comparability among banks using a variety of methodologies, underlying assumptions, and calibrations.

Nonetheless, we believe the proposed VaR on CVA approach has some significant calibration issues. Our assessment of this shows an additional capital charge of about 15%-20% of total regulatory EAD for banks with an approved VaR model. Coupled with the other proposals, we calculate that this could put the total capital charge for counterparty risk at a level between 20% and 25% of EAD, compared with an estimated 2.5%-4% under the current Basel II framework. In our view, this would go far beyond the loss experience of the past 24 months.

In our view, this potential inconsistency is a calibration issue more than a conceptual issue. The question over calibration, we believe, lies in the proposed use of the regulatory scaling factor of at least three applied to this new capital charge, and the addition of VaR to the stressed VaR.

Potential Implications For The Financial Industry

It is, in our view, likely that the bulk of the additional capital requirements will come from the VaR on CVAs. By keeping the concept of stressed VaR on CVAs, but before taking into account the scaling factor of three, the implementation of these proposed changes, we believe, would at least double the current capital charge for CCR.

For banks with significant capital-market operations, where the current capital charge for counterparty risk represents already close to 20% or more of the total regulatory charges, the increased charges could be significant, in our view. Coupled with the significant increase in the market-risk capital charge (to be implemented at the beginning of next year and which could in some cases lead to a tripling of regulatory charges), the proposed BCBS changes, if adopted with the current calibration proposals, would represent a spectacular increase.

We believe that there are other potential unintended consequences. Specifically, we think increasing capital requirements on counterparty risk provides a strong incentive for banks to push more OTC derivatives transactions through qualified clearing houses (against which zero capital charges are expected to apply under the proposal). Because most nonfinancial intermediary market participants are not likely to become general clearing members in clearing houses, we believe that banks will still offer trades and collect fees from such participants, but more hedges are likely to be transferred to exchanges and clearing houses. Although we expect that this could reduce counterparty risk overall, it might also introduce systemic risks posed by the clearing houses themselves. We note that exposures to qualified clearing houses are treated under the proposal as risk free (with a zero capital charge), which we believe disregards this potential emerging systemic risk. Moreover, difficult-to-customize instruments traded with end users could leave banks with basis risk. The standardized hedges would not always perfectly fit the features of the initial trades.

Because clearing houses typically impose initial and variation margins to general clearing members, we expect that banks likely will seek to reprice increasing costs to end users, possibly increasing the overall cost of hedging interest-rate and currency risks for these participants.

Finally, if OTC derivatives are too capital-costly for regulated financial institutions to transact, there is the potential

that business and risks might be driven "underground" to unregulated institutions such as hedge funds.

Appendix: The VaR On CVA

Regulators have proposed a bond-equivalent approach for the new Pillar 1 charge. Technically, the VaR on CVA is defined as the 99% VaR at a one-year horizon of the market value of a portfolio of zero-coupons bonds. Each counterparty to which the bank is exposed represents one bond in the portfolio. Bonds are described under the proposal as having the following characteristics:

- The notional value of the bond equivalent is the total EAD (treated as fixed within the CVA loss-calculation framework) of a counterparty, calculated according to the applicable Basel II CCR approach for OTC derivatives used by the firm (current exposure method, standardized, or internal model methods).
- The maturity of the bond equivalent is the effective maturity, calculated according to the applicable Basel II CCR approach.
- The liquidity horizon for the CVA-loss risk calculation is one year, instead of the 10-day horizon used for market-risk capital purposes.
- Single-name credit default swap (CDS) hedges that reference the counterparty to which the bank is exposed will be recognized.
- The equivalent bonds are evaluated as zero-coupon bonds.
- Whenever CDS spreads referencing the counterparty are available, they must be used to discount the (defaultable) bond equivalent. When these are not available, the proxy spread used to determine the CVA for fair-value accounting purposes must be used.

This CVA charge consists of the regulatory capital charge for general and specific risk that would be applied on this long-only bond portfolio. In determining the capital charge for banks with an approved VaR model, both the VaR and the stressed VaR with the appropriate scaling factors (at least three) must be used. The stressed VaR must be computed using a period of economic and financial stress, mirroring what has been done on the market-risk front.

Example

A bank has 100 of nominal residential mortgage-backed securities (RMBS) exposures maturing in five years, for which it has bought credit protection from another party (a financial guarantor). If the fair value of the RMBS comes down to 75, the current exposure on the counterparty rises to 25 (100 minus 75) as the financial guarantor would step in if coupons and principal on the RMBS would not be paid in full and in due time. Assuming that the add-on capturing the potential increase in the exposure during the margin period at risk (10 days) is 5, the regulatory exposure toward the counterparty is $25 + 5 = 30$.

In the absence of opportunities of arbitrage, this exposure is defined as the discounted sum at the risk-free rate of the cash flows that the guarantor will pay. If uncertainties regarding the guarantor's capacity to step in and meet its commitments increase (reflected by higher credit spreads), the bank will likely post some counterparty valuation adjustments on its exposure. One way to determine the CVA is to compute the gap between the discounted sum at the risk-free rate (i.e., the regulatory exposure) and the discounted sum at the risky rate of the cash flows paid by the guarantor. When some CVAs on a given counterparty have already been taken, we expect that the bank will likely compute the distribution of future CVAs (assuming different paths for the credit spreads of the counterparty) at a one-year horizon or the distribution of marked-to-market variations in the price of a bond issued by the counterparty with cash-flows equal to expected cash-flows paid by the counterparty throughout the life of the

transaction.

As illustrated by this example, the Pillar 1 charge defined by the Basel proposal is basically an estimate of the additional CVA that the bank will post on the counterparty at a one-year horizon and a 99% confidence interval.

Related Research

Standard & Poor's Response To The Basel Committee's Proposals On Bank Capital And Liquidity, April 15, 2010

Basel III Proposals Could Strengthen Banks' Liquidity, But May Have Unintended Consequences, April 15, 2010

The Basel III Leverage Ratio Is A Raw Measure, But Could Supplement Risk-Based Capital Metrics, April 15, 2010

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