

Cutting the Gordian knot

Basel II remains wedded to incremental extensions to the market risk rules. It is time for a bolder approach in this area, argues David Rowe

Developing a uniform set of capital requirements applicable to the diverse range of banks around the world is no easy task. Once specific requirements complete the tortuous vetting process and are implemented, there is understandable reluctance to alter them at a later date.

During most of the period of debate around Basel II, the expectation was that it would leave the market risk rules untouched. But as the deliberations dragged on, there has been a significant migration of credit risk from the banking book into the trading book. This resulted in a demand for explicit treatment of both changes in credit spreads and incremental default risk (IDR) in the market risk capital calculation.

The Basel Committee now requires that a bank must “capture... default risk of its trading book positions that is incremental to the risk captured by the value-at-risk-based calculation...”¹ Furthermore, “the bank must demonstrate that it meets a soundness standard comparable to that of the internal-ratings based approach for credit risk... under the assumption of a constant level of risk...”² Among other things, this implies calculating potential losses at a 99.9% confidence level for a one-year time horizon.

Combining two different confidence levels and two different time horizons (99% 10-day VAR and 99.9% one-year IDR) into the market risk capital requirements begs the question of what it is we are trying to measure. This is a classic example of a Gordian knot that would be nearly impossible to disentangle. Surely the goal should be to assess the potential impact of trading book activity on a bank’s earnings and net worth, including the impact of rare but large sudden jumps to default. Using inconsistent confidence levels and time horizons makes it unclear what exactly is being measured other than an arbitrary figure to define regulatory capital.

Earlier this year, the International Swaps and

Derivatives Association co-published a draft proposal for a more consistent way to incorporate incremental default risk into the market risk capital calculation.³ The main argument of the paper is to reinterpret the current rules as effectively equivalent to a longer horizon (60 business days instead of 10) and a higher confidence level (99.9% instead of 99%) but with no supervisory multiplier. (Currently this multiplier is a minimum of three, and is universally set somewhat higher to reflect the lack of full incorporation of specific and default risk.)⁴ The paper argues that a calendar quarter is sufficient time to reduce risk in the case of large unexpected losses in trading activities, unlike the situation in the banking book where the ability to alter risk quickly is far more limited.

Once credit spread movements are reflected in market VAR estimates, only unexpected jumps to default within security-specific liquidation periods remain unaccounted for. Isda proposes grouping positions by credit rating and time to liquidation. Maintaining a constant level of risk, as required in the Basel proposal, means positions that migrate to a new credit rating during a liquidation period are assumed to be replaced with new positions reflecting the initial portfolio composition. Risk surrounding the resulting gains or losses would be captured in the specific risk dimension of the VAR calculation. IDR would be based on recurring exposure to the constant probability of surprise default over multiple liquidation periods out to the 60-day risk horizon.⁵

Clearly, any multi-product trading portfolio will have market risk driven by various factors that are far from perfectly correlated with IDR. Therefore, even with a well-diversified portfolio of credit risk, the correlation between market VAR and IDR must be less than one. For this reason, the simple addition of VAR and IDR is overly conservative. The paper proposes applying either a supervisory mandated correlation assumption or an internally estimated correlation. The latter would be truly risk-sensitive, since a trading book where market VAR is driven by credit spreads would have a much higher correlation between VAR and IDR than another book where the VAR was dominated by something like foreign exchange rates.

Rather than pile inconsistency on unavoidable complexity, the Basel Committee would be wise to recognise that liquid credit exposure does imply lower risk of unexpected default than illiquid banking book assets being held to maturity. By assessing capital for incremental default risk accordingly, it would follow Alexander’s example and cut the Gordian knot rather than pull it tighter. ■

¹ Bank for International Settlements, *International Convergence of Capital Measurement and Capital Standards – A Revised Framework Comprehensive Version*, June 2006, page 200, paragraph 718(ccii), available at www.bis.org/publ/bcbs128.pdf

² As above, page 201, paragraph 718(cciii)

³ Isda, *Industry Technical Paper on Incremental Default Risk*, January 26, 2007, available from the Risk Management Committee section at www.isda.org

⁴ Current rules imply $NORMINV(0.99, 0, 1) \times \sqrt{10} \times 3 = 2.326 \times 3.162 \times 3 = 22.070$. Using 99.9% confidence, a 60-day horizon and no supervisory multiplier implies $NORMINV(0.999, 0, 1) \times \sqrt{60} \times 1 = 3.090 \times 7.746 \times 1 = 23.937$. If the current regulatory multiplier is set to 3.25, the two results are effectively equal

⁵ To prevent potential regulatory arbitrage, highly illiquid positions would be treated based on existing one-year probability of defaults

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