Frozen in time

David Rowe argues that the Bank for International Settlements (BIS) appears stuck in the distant past with regard to counterparty credit risk analysis

Permitting the use of internal models for market risk capital determination was a brave and commendable departure by the BIS from the traditional regulatory approach (*Risk* March 2000, page 62). In making this step, regulators recognised that demanding a rigid one-size-fits-all method entailed many shortcomings. It severely restricted the level of sophistication to a lowest common denominator acceptable across a wide range of institutions. In doing so, it excluded the type of advanced analysis commonly used by large banks with active capital markets units.

Perhaps the biggest flaw of the traditional approach was to discourage development and deployment of improved internal control systems. A single mandated capital calculation was too easily interpreted as the "the method for risk analysis approved by the regulators". Senior executives at a few institutions viewed risk management as an essential core competency. Based on this view, they were willing to commit considerable resources to develop and deploy improved risk information systems. Lack of any regulatory capital benefit from such efforts, however, was a persistent disincentive.

Allowing use of internal models effectively reversed the disincentives for dynamic improvement of risk systems. As new and more complex activities were undertaken, accurate analysis of the true market risks became essential. This was the means of preventing unrealistic increases in regulatory capital requirements. Also, regulators could subtly play on the competition among private institutions. Without divulging proprietary information, they could say something like: "In our examinations of other institutions, we have seen such-and-such type of analysis. This appears to reflect potential risks that your system does not capture. Before you expand this activity, we expect to see a similar degree of sophistication in your risk systems."

The right to review and approve internal models has allowed regulators to demand better risk information and control systems.

The tendency to confuse mandated capital calculations with "the approved approach to risk analysis" is bad enough in itself. It is particularly destructive when combined with failure to distinguish between what constitutes acceptable analysis at the aggregate versus the detailed level. In few places are the consequences of this confusion more obvious than in counterparty credit risk analysis.

Regulators first took formal notice of counterparty credit risk in the 1988 Accord. Then, such risk was a fairly minor sideshow to the larger issue, namely mandating minimum regulatory capital for credit exposure in the traditional banking book. Also, few banks had any kind of sophisticated process for internal estimates of counterparty exposure. (Many banks did not even track and approve such exposures, although this changed rapidly after the Accord became official.) Finally, the specific goal in the 1988 Accord was to impose a reasonable increase in total regulatory capital to cover aggregate counterparty credit risk. The resulting approach was the now-familiar method of formula-based add-ons to current exposure. In light of the limited significance of the issue, the state of internal systems and the aggregate nature of the objective, this was reasonable at the time.

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Clearly the add-on method of calculating "loan equivalent amounts" was designed for aggregate exposure estimation purposes. As such, the mandated parameters reflected reasonable assumptions about the average degree of diversification of the trades within the portfolio. The add-on method was never put forward as an acceptable approach for measuring exposure on individual trades or to individual counterparties. Nevertheless, that is how it was used in all too many institutions (*Risk* October 2000, page 55). The method is seriously inadequate when applied at a detailed level. This is because the amount of diversification varies widely across individual counterparty portfolios. As a result, counterparty-specific exposure estimates derived using add-on methods are inherently inconsistent.

In the early 1990s, a few banks, notably Citibank, Bank of America and Morgan Guaranty Trust, took the lead in developing sophisticated counterparty exposure measurement systems. (I was involved in implementing such a system that went live in late 1993.) These systems involve Monte Carlo simulation of the distribution of exposure at many future dates throughout the life of each portfolio of interest. They require:

- generation of statistically consistent sets of future market conditions;
- corresponding valuation of each transaction (or at least each nettable pool of transactions) within each market scenario;
- recognition of netting where deemed legally enforceable; and
- calculation and display of both the expected value and a high-confidence point (usually the 95th, 97.5th or 99th percentile) of the exposure distribution at each simulation point.

Such systems can also supply supplemental information such as sensitivity of exposure to specific market events and realistic aggregation across counterparties.

Despite the obvious advantages of consistent counterparty exposure measurement, a surprising number of major banks continue to settle for a simple add-on approach. To some degree this is undoubtedly based on concern about the cost and complexity of a more sophisticated system. I feel sure, however, that it is partly the result of a view that "if it's good enough for Basel, it's good enough for us".

In light of this history, it is little short of astonishing that the proposed revision to the Capital Accord to become effective in 2004 states that: "Measures of exposure for [foreign exchange, interest rate, equity and commodity derivatives] under the IRB [internal ratings-based] approach will be calculated as per the rules for the calculation of credit equivalent amounts under the 1988 Accord – ie, based on the same methodology [replacement cost plus potential future exposure] and matrix of add-ons across the different product types and maturity bands as set out in annex 3 of the 1988 Accord."

Summary

Regulation of financial institutions has made a commendable shift from rigid and inflexible methods for risk estimation and calculation of capital requirements. On counterparty credit exposure, however, regulators appear inexplicably frozen in the past. What was a reasonable stop-gap measure in the 1988 Accord is being proposed, without change, as the exclusive one-size-fits-all method allowed under a major revision to take effect 16 years later! This is in conflict with the constructive trend towards allowing, even encouraging, the use of internal risk assessment methodologies in other areas. It ignores the progress made by many institutions over the past five to 10 years. It will also perpetuate obsolete and inconsistent counterparty exposure measurement techniques where they are still being used. I hope others will join me in recommending that the Basel Committee reconsiders this decision and formulates criteria for an alternate internal model-based approach in this area. ■