Could do better

David Rowe argues that the Basel Committee can provide better incentives for improved operational risk management than those implicit in the draft revision to the capital Accord

Operational risk is an enigma for regulators and risk managers. This is especially true for those steeped in the traditions of advanced mathematics and classical statistics. In these fields, as throughout the hard sciences, controlled experiments and replicable results are deemed the essence of empirical truth. In most areas of the social sciences, however, controlled experiments are not possible. Nevertheless, where data is plentiful and consistent over time, econometric and related methods are applicable.

When it comes to operational risk, data is neither plentiful nor consistent. Definitions of what constitutes an operational loss differ from institution to institution and even across departments. Losses resulting from operational failures are often classified as trading or credit losses. This should not be surprising, since historically there was no obvious rationale or compelling incentive to preserve such information.

Even the range of items to be considered under the operational loss heading is the subject of dispute. The list extends from pure operational failures to such things as compliance issues, fraud, legal uncertainty, reputational risk, natural disasters and political instability. Even with agreement on the relevant risk categories, there remains room for dispute on how to calibrate exposure drivers for each area.

On a "purely scientific" basis, the problem is effectively hopeless in the current environment. The answer is to fall back on the experience of those most familiar with the various areas giving rise to operational risk.

Best practice

One of the most positive trends in regulatory philosophy in recent years is the emphasis on encouraging use of best practice risk methods. This began with internal models being allowed for market risk capital calculation, and is evident throughout the latest proposed revision in the Basel capital Accord. The move away from a one-size-fits-all approach is clearly evident in the Basel Committee's three alternative approaches to determining operational risk capital. At one extreme, this capital charge may be derived as a fixed multiple of some aggregate activity measure such as gross income. This is the appropriately named basic approach. The next most sophisticated method is the standardised approach. Here, different business lines are assigned individual gross activity measures and the regulators determine the appropriate fixed multiple to calculate the regulatory capital requirement. Finally, there is the internal measurement approach. Here, the business lines of the standardised approach are overlaid with a series of operational risk types. For each business line/risk type combination, regulators define an exposure indicator (EI). Banks then use internal data to define the probability of a loss event (PE) per unit of the exposure indicator, and the expected loss given such an event (LGE). Expected losses (EL) by business line and risk type combination are the product of these three components. Regulators supply a fixed multiplier (gamma) to translate these expected losses into a capital charge.

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The draft proposal also discusses an advanced form of the internal measurement approach called the loss distribution approach. This involves estimating two distributions based on internal loss data. One distribution is the loss associated with a single event and the other is the frequency of loss events over a given (usually one-year) time horizon. The Committee does not believe that any institution will have sufficient internal data to support this approach when the Accord goes into effect at the beginning of 2004.

I fear that the Basel Committee has proposed either too little science or too much. To me, the basic and standardised approaches represent too little science. By any standard, they represent blunt instrument approaches to calibrating operational risk. To be fair to the Committee, these approaches are not out of line with the practice in many internal efforts to allocate economic, as opposed to regulatory, capital. This does not, however, mitigate their weaknesses.

First of all, allocating capital based on simple aggregate activity measures fails to distinguish between well-run and poorly run units. Moreover, the marginal sensitivity of allocated capital may be perverse. If it is based on aggregate gross income, allocated capital falls if gross income declines. It is just at this point, however, that margins are often tightening and management is tempted to cut back on operational and risk oversight resources. Conversely, if capital is allocated on the basis of expenses, then cutting staff and "stretching the operational fabric thinner" is an easy way to reduce a unit's capital allocation even as the risk of operational loss increases.

The point is that an activity-based approach to operational risk estimation may be reasonable from a macro perspective. It can behave perversely, however, in response to marginal changes and can even create incentives for managers to play the system in destructive ways.

In contrast, the internal measurement approaches attempt to shoehorn operational risk into a framework that has worked reasonably well for market and credit risk. Unfortunately, I fear the fit is poor. Without adequate data to calibrate such a framework objectively, it will have the appearance of scientific sophistication with little of the reality.

Clearly, the Basel Committee wants to keep the aggregate capital requirement roughly constant for most banks under the new Accord. Like it or not, that desire is what will determine the aggregate parameters applied to operational risk capital. That said, a very desirable secondary goal should be to create internal incentives for improved operational risk management and a reliable basis for trend analysis. It is possible to accomplish both goals.

Regulators could determine the initial operational risk capital allocation for each bank based on the kind of macro considerations in the standardised approach. They would then allow each bank to develop its own internal risk indicators for allocating this capital to individual operating units, subject to supervisory oversight. This would both allow and encourage internal discussion among business managers and risk controllers concerning the appropriate drivers of operational risk. There would also need to be supervisory agreement on the sensitivity of the capital allocations to changes in the risk indicators. Once such a system was in place, the macro drivers of the standardised approach could be discarded and future operational risk capital set on the basis of the performance of the approved risk drivers and associated sensitivities.

Summary

The Basel Committee clearly wants the proposed revision to the capital Accord to leave aggregate capital requirements in the system roughly constant. This is the paramount rationale for introducing an operational risk capital charge at this stage. An important secondary objective, however, should be to create incentives and information to promote improved operational risk management. A combination of activity-based initial capital requirements with internally developed allocation mechanisms used to drive both unit level and aggregate capital allocations can accomplish both goals. ■

[1] *For an indication of how such a system might work in practice, see "Marking the cards at ANZ" by Mark Lawrence,* Risk *November 2000, pages S8–S12*