

# Capital ideas for Basel II reforms

BY DAVID ROWE, DEAN JOVIC  
AND RICHARD REEVES

To think that Basel II is only about regulatory capital would miss the point. Most banks today manage and evaluate the risks of their portfolios by applying the concept of economic capital.

It is crucial for financial institutions to build an advanced economic capital framework.

Banks actively evaluate and take risks on a daily basis as part of their core business processes. This involves analysis of the credit quality of the underlying obligor, combined with the effectiveness of guarantees, collateral, cross-default and other forms of credit protection.

Today, however, best practice does not stop there. It also is necessary to evaluate the impact of portfolio diversification and the degree of correlation among exposures on the bank's balance sheet.

In order to assess and manage risks, a bank must have effective ways to determine the appropriate amount of capital that is necessary to absorb unexpected losses arising from its market, credit and operational risk exposures.

In addition to that, profits from various business activities need to be evaluated relative to the capital necessary to cover the associated risks (so-called risk adjusted performance measurement or RAPM.) These two major concepts – risk as the basis to determine appropriate capital levels and the measurement of profitability against risk-based capital allocations – constitute the critical role of capital as a key component in the management of bank portfolios.

## The Challenge of determining economic capital

So if you can measure risks, shouldn't it be straightforward to determine risk-based capital? And why are the two terms – regulatory capital (RC) and economic capital (EC) – so sharply distinguished?

The challenge of determining EC lies in the fact that all the various risks that a bank faces (market risk, credit risk, operational risk) have a very different nature, are measured by different methodologies (if they can be quantified at all) and are difficult to encapsulate in one common metric.

Given perfect circumstances, such a common risk metric would not only be

able to capture and quantify all relevant risk exposures, it also would be able to account for all the correlations among different risk categories and exposures. This would allow individual estimates of unexpected losses to be aggregated into a statistically consistent unexpected loss distribution for the enterprise as a whole.

In reality, economic capital frameworks within financial institutions are often very fragmented. On one hand they often feature sophisticated capital and risk measurement methods for specific business areas. On the other hand, these frameworks often suffer serious deficiencies with respect to calculating aggregate risk from an integrated point of view.

Building an advanced economic capital framework assumes that banks find conceptual solutions to: risk measurement, the definition of appropriate shareholder value metrics and the allocation of capital based on individual risk measures and their correlations.

From an implementation point of view, economic capital frameworks imply key challenges in building comprehensive data structures and the supporting technology as well as mastering significant cultural change. In practice, the cultural challenge and its implications for staff incentives and compensation is often one of the main causes for the failure of capital management projects.

## An integrated framework for capital management

Ideally an integrated capital framework should not simply meet Basel II capital rules. It should have the potential to add significant value to a financial institution by allowing it to allocate economic capital to its risky portfolios and measure profitability against those allocations.

What is a practical way to achieve these combined objectives?

In order to calculate regulatory capital, compare and benchmark against economic capital amounts and integrate risk analysis into both strategic and tactical decisions, financial institutions need sophisticated modeling and analysis capabilities. In addition to that, an appropriate system has to be able to handle stress testing (including multi-dimensional "what if" analysis) and reporting for market disclosure while offering a high degree of flex-

ibility to model varied rules applicable in different national jurisdictions.

To meet Pillar 1 analysis and reporting requirements of Basel II, banks can gain considerable efficiencies from deployment of a flexible calculation engine, capable of working across multiple dimensions. Flexibility means particularly that the system's

**“Economic capital frameworks within financial institutions are often very fragmented”**

front-end supports the application of multiple variants of the same basic formulae in a context-sensitive manner for the purpose of handling different regulations in local jurisdictions.

In addition to that, the user should have the ability to modify formulae compo-

nents at will (eg to model proposed changes in regulation), yet keep a "locked-down" version for external reporting.

Finally, it is vital that the system transparently documents every component of the underlying calculations for review by internal risk personnel, auditors and banking supervisors.

A valuable functionality will be the ability to compare and contrast regulatory and economic capital in all relevant dimensions in a consistent and reconcilable way on a single platform.

## Conclusions

It is key for financial institutions to take an integrated view to regulatory and economic capital analysis. Satisfying the regulatory requirements of Basel II and building an economic capital analysis environment are different sides of the same coin and should not be viewed separately from each other.

Developing an advanced risk management capability and an economic capital framework is key to gaining competitive advantage from Basel II compliance efforts.

■ **David Rowe is executive vice-president for risk management at Sungard Trading Risks & Systems, based in Palo Alto. Dean Jovic is group managing director for risk management/Basel II at Sungard, based in Zurich. Richard Reeves is managing director of Bancware Whitelight at Sungard in London.**