Restated Accounting

A better framework for aligning valuations and operating metrics with capital measures lies in a new risk accounting approach.

By Allan D. Grody, Peter J. Hughes and Steven Toms

Accounting systems have elegance and symmetry and have stood the test of time. But double-entry bookkeeping in conjunction with its guiding accounting principles is not valuable for risk management. In fact, the Federal Reserve's analysis of the capital needs of the 19 systemically important financial institutions at the height of the financial crisis found that the risk management "books and records" and the "official books and records" were, to put it mildly, not aligned.

Like so many things these days, accounting has had difficulty keeping pace with massive change in the banking industry and financial markets and, most dramatically, with the evolving discipline of risk management.

Conventional accounting systems work only if they are based on notional transaction values. They are not designed to capture and report the risks inherent in those transactions. And given the massive escalation of risk concentrations in banks over more than a generation of unprecedented business consolidation, technological advancement, deregulation and increasingly sophisticated and complex forms of risk intermediation, the inability to deal with risk effectively within accounting systems is no longer sustainable.

In today's world, a single transaction can trigger credit, market, operational, interest rate or liquidity risk, or any combination of these risks, with the effect that the aggregated risk associated with that transaction can easily cascade well beyond its notional value, thus rendering conventional accounting systems of limited value. Such risks have accumulated in some instances to the point of triggering a contagion now known as systemic risk. As Enrico Dellavecchia, former CRO of Fannie Mae, very aptly put it, "I am sure you know that most executives in banking still don't get it; they still think accounting treatment describes the risk of a product."[1]

The accountants are making valiant efforts to come up with better and more precise ways to value transactions. But they can't compete with the mathematicians and statisticians collectively referred to as quants. Their claim is that conventional accounting simply isn't capable of determining the true economic worth of an enterprise. For that you need a more modern tool kit, one that has statistical science at its core. And so the focus shifts to the quants and their loss distribution models, extreme value theories, copulas and other such statistical inventions.

Where the Authorities Stand

Regulators, most notably the Basel Committee on Banking Supervision, have made abundantly clear which camp they're in. Under the Basel II capital standard, banks are rewarded through capital relief if they aspire to the more sophisticated value-at-risk (market risk), internal ratings based (credit risk) and advanced measurement (operational risk) approaches to risk quantification. Indeed, they want to see such model-based approaches embedded in the day-to-day management of the business, which under Basel rules is a condition for their acceptance for capital adequacy purposes, the so-called use test.

The quants' perspective on capital is alien to that of the accountants. The latter set out to ensure that transactions are properly valued and that total assets exceed total liabilities by a comfortable margin representing the firm's book capital or net worth. The statisticians model loss distributions to a 99.9% confidence interval over a one-year horizon to determine the amount of capital – referred to as economic capital – needed to absorb the largest unexpected loss that can occur once in a

thousand years. This, according to the statisticians, is the true economic worth of a bank, represented by the amount of economic capital it needs to survive.

There are issues here. In the more recent Basel III papers issued by the Basel Committee on Banking Supervision, there is a move away from economic capital modeling as a basis for determining capital adequacy, to the application of financial percentages, albeit at higher levels. In the case of market risk, sophisticated VaR methodologies are acceptable for regulatory capital adequacy purposes, provided banks apply a multiplier to the calculated economic capital requirement.

Why is this added measure of capital needed? Starting with liquidity risk, it is acknowledged that capital doesn't provide protection against this risk type. A very strongly capitalized, AAA-rated bank that cannot cover a short cash position due to unstable or frozen money markets is technically insolvent. And so Basel III requires that liquidity risk be fully collateralized via the holding of highly liquid instruments.

Then there is the ongoing issue with operational risk. The quants have not been able to make the case that modeling loss history reliably informs the amount of economic capital a bank needs to withstand unexpected operational risk losses. This is particularly the case given the absence of a method that measures exposures to risk in a way that links such exposures to changes in causal factors and, in turn, to the future probability of losses. Instead, banks rely on inherently subjective risk assessments through processes such as risk and control self assessments and key risk indicators, which, being non-additive – usually reported in red-amber-green status – cannot be consolidated, aggregated or correlated with actual loss experience.

A New Way of Thinking

The application of statistical science in banks at the enterprise level is in its infancy, raising inevitable concerns about flawed models, the data they use not being fit-for-purpose, and the application of statistical theory and model assumptions being beyond the comprehension of most bank stakeholders. It is also apparent that such approaches failed to provide early warnings of the financial crisis.

Book capital, derived from International Financial Reporting Standards or U.S. Generally Accepted Accounting Principles, is incomplete because risk events do not necessarily translate into accounting events. And economic capital is struggling to establish itself as a basis for enterprise-wide risk management.

New thinking is required. We argue for "risk accounting" as the next-generation accounting and risk management system and propose a solution that is analogous to management accounting. Whereas, for management accounting, transactions are tagged with the management information needed to drive cross-enterprise reporting (customer codes, product codes, organizational codes, unit costs etc.), these same transactions — in our proposed approach — are tagged with the risk information needed to drive cross-enterprise risk reporting.

A decade of research, pilots in banks and trade associations and trial and error led to the development of this patent-pending method and system comprised of risk tables that contain the information that is tagged onto transactions. The tables contain product risk weights that relate to the risk profile of each product, value band weights and a risk mitigation index derived from the processes that interact with the transaction on its journey through the operating environment.

The result is risk-weighted transactions denominated in a standard "risk unit" of measurement. The risk units are accounted for along the same lines as in management accounting. The result is daily quantitative and qualitative risk metrics that can be aggregated and consolidated by product, organization, risk type and geography.

Risk accounting provides the missing dynamic, an exposure measurement framework applicable to operating environments that can be used both as a risk management system and as the missing variable to support the statistical correlation of dynamic measurements of exposure to risk and actual loss experience.

Banks will naturally be looking at the costs of a granular, reengineering-like process by which the fundamentals of risk weights are developed and process components are evaluated. But these one-time costs will be offset by ongoing operational efficiencies, workflow improvements and expense reductions. More important, the effort will leave behind a system that can measure risks as they accumulate, before they result in catastrophic losses. This approach will help avoid the bank failures, bailouts and nationalizations caused by the current financial crisis.

FOOTNOTE

1. "Common Pitfalls in Risk Management, Part 3: Comments from Bank Regulators and a JPMorgan Veteran on Disco Risk Management," Kamakura Corp. Web site, August 31, 2009.

Allan Grody is the president of Financial Intergroup Holdings, New York. He can be reached at agrody@financialintergroup.com. Peter Hughes is the managing director of ARC Best Practices in the U.K. and a visiting research fellow at York Management School, University of York. Steven Toms is a professor of accounting and finance and head of the York Management School.

The authors provide a detailed risk accounting road map in the Capco Institute Journal of Financial Transformation, *Journal 29, fall 2010 (www.capco.com.).*