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Risk accounting – a new dawn for accountants

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The radical changes that have irreversibly altered the risk landscape in which today's business is conducted raises questions as to the ability of double-entry bookkeeping and associated accounting principles to reliably report the true financial condition of an enterprise. Technological advancement, business consolidation through mergers and acquisitions, de-regulation and now re-regulation in financial services and the creation of evermore sophisticated forms of risk intermediation have driven the build-up of risk concentrations in business enterprises on an unprecedented scale. Conventional accounting systems are simply not designed and, consequently, not able to capture and report the current and possible future economic effects of such accumulations of risk.

Take the example of a collateralised debt obligation (CDO), the financial instrument that underpinned the subprime fiasco. Upon creation and at purchase a CDO is capable of simultaneously triggering credit, market, liquidity and operational risks whereby the cumulative effect of these risks often cascades beyond the notional transaction values on which conventional accounting systems are based. Indeed, the financial crisis demonstrated how a relatively benign set of transactions can result in a contagion of risk in systemic proportions with disastrous consequences.

Our solution is 'Risk Accounting', a next generation accounting system that is designed to account for transactions on a risk-weighted basis. The simple rationale on which the risk accounting methodology is constructed involves the combination of operational metrics with risk metrics. These are presented in tables populated with risk factors and associated risk-weights that relate to notional transaction values, the inherent risk characteristics of different products and the risk mitigation effectiveness of related systems and processes. The applicable risk-weights are extracted from the tables and tagged onto the transactions which are then processed to produce quantitative and qualitative risk metrics using a new unitised valuation metric called a 'Risk Unit'. Risk Units can be mapped and aggregated into cross-enterprise risk reports and dashboards by product, organisation, risk type and geography.

This proposed solution is analogous to management accounting where transactions are tagged with the management information needed to drive cross-enterprise management reporting (customer codes, product codes, organisational codes, unit costs, etc.). For risk accounting the proposed method tags these same transactions with the risk information from the tables described above in order to drive cross-enterprise risk reporting.

The evidence of the failure of conventional accounting systems to keep pace with changes in the risk landscape and, most dramatically, with the new discipline of financial risk management, is compelling. The road to the financial crisis is littered with financial institutions whose accounting and financial controls failed to identify and report the risks that had accumulated to life threatening levels. As Enrico Dellavecchia, the 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".

Whereas the accounting profession is making valiant efforts to keep pace by looking for better and more precise ways to value transactions, it is losing ground to the relatively new discipline of financial risk management that is emerging in most financial institutions with the endorsement of the Basel Committee on Banking Supervision. Its disciples are the mathematicians and statisticians that the financial services industry collectively refers to as 'quants'. They are proceeding on the premise that conventional accounting is simply not capable of determining the true economic worth of an enterprise. For that determination a more modern toolkit is required, one that has statistical science at its core. And so the focus shifts from the accountants and their 'T' accounts with IFRS or US GAAP accounting to the quants and their loss distribution models, extreme value theories, copulas and other such statistical inventions.

The quants' perspective on capital is very alien to that of the accountants'. Accountants set out to ensure that transactions are properly valued and that total assets exceed total liabilities by a comfortable margin, such excess being represented as 'book capital' which is the firm's net worth in accounting terms. The quants do something quite different. They model loss distributions to a 99.9 percent confidence interval over a one year or shorter time horizon (99.9 percent confidence equates to a once in one thousand year occurrence) to determine the

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amount of capital – referred to as 'economic capital' – that is needed to absorb the largest unexpected loss that can occur. This, according to the quants, is the true economic worth of a bank represented by the amount of economic capital it needs to survive.

Thus, an informational dichotomy has been created involving two sources of incomplete, unreliable and largely unrelated financial information. Book capital derived from IFRS / US GAAP accounting is incomplete because it is largely insensitive to accumulations of product and transaction based risks. Economic capital is struggling to establish itself due to the relative infancy of financial modelling at the enterprise level; issues regarding the quality of data upon which such models rely; and variations in statistical theory and assumptions that inhibit consolidation, aggregation and comparison of the risk data generated by such models.

It is this informational dichotomy that is a principal cause of the financial crisis and constitutes an intolerable set of circumstances for stakeholders who need to understand the financial condition of an enterprise. Hence, new thinking is required and a next generation of accounting and risk systems needs to be contemplated.

Enterprises, banks in particular, will be evaluating the cost of the 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 the ongoing operational efficiencies, work flow improvements and expense reductions engendered in any reengineering effort. More importantly, this process will leave behind a risk management system that can measure risks as they accumulate, that is, before they become catastrophic losses.

In this way, risk accounting will help avoid the bank failures, bailouts and nationalisations and the consequent global economic and political fallout that became the unexpected feature of the current financial crisis.

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