

The Basel 2 Approach To Bank Operational Risk:

Regulation On The Wrong Track*

Richard J. Herring
The Wharton School
University of Pennsylvania

Over the past fifteen years, leading banks around the world have adopted a new paradigm for financial risk management focused on the concept of economic capital. “Economic capital” is the amount of capital a bank requires to achieve a given level of protection against default for its creditors. Operationally, the question is usually posed as “How much capital should the bank have to achieve a target rating for its long-term debt?” This is a straightforward inference from Merton’s model of the pricing of risky corporate debt: given the institution’s net asset value and the target probability of default, economic capital is the amount needed to

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achieve the target probability of default.¹ Applications of this approach include Risk Adjusted Return of Capital (RAROC) or Value at Risk (VaR).

In principle, allocated economic capital can be used to risk-adjust returns across various lines of business to reveal which activities create or destroy shareholder value. The most successful application, however, has been to the measurement and management of market risk.

In a sharp break with previous regulatory practice, the Basel Committee on Banking Supervision recognized this new approach to risk management in the 1996 Amendment on Market Risk to the original Basel Accord on Capital Adequacy. Rather than allocate positions to crude risk buckets or apply mechanical asset price haircuts to positions in order to measure risks, the Basel Committee provided the opportunity for qualifying banks to rely on the supervised use of their own internal models to determine their capital charges for exposure to market risk.²

¹ Note that regulators should be concerned not only with the probability of default, but also with the magnitude of loss in the event of a default if they are to serve as effective guardians of the deposit insurance fund and taxpayers.

² It should be noted that the kind of capital implicit in the concept of economic capital is not identical to either Tier 1 or Tier 2 capital. Capital that would satisfy an economic capital requirement includes shareholder equity, retained earnings and reserves. This is broader than Tier 1, but less than the sum of Tier 1 and Tier 2.

This internal models approach to regulation was expected to deliver several benefits. First, it would reduce or eliminate incentives for regulatory arbitrage since the capital charge would reflect the bank's own estimate of risk. Second, it would deal more flexibly with financial innovations, incorporating them in the regulatory framework as soon as they were incorporated in the bank's own risk management models. Third, it would provide banks with an incentive to improve their risk management processes and procedures in order to qualify for the internal models approach. And fourth, compliance cost would be reduced to the extent that the business was regulated in the same way that it was managed.

By and large, the internal models approach for market risk has proven to be highly successful, even when it was severely tested by the market disruptions in 1997 and 1998. (Nonetheless, some observers expressed concerns that increased risk sensitivity of capital charges for market risk may have contributed to the market dislocations by leading many firms to withdraw from markets at the same time in response to increased volatility, thus reducing liquidity.)

The success of the internal models approach to market risk led to the extension of the methodology to credit risk, the principal risk facing most banks. This is partly due to a blurring of the traditional line between trading

and the lending business. Financial innovations have begun to erode traditional distinctions between the trading book and the banking book. Increasingly, traders are dealing with less liquid, less creditworthy instruments. A market in credit risk – more precisely credit risk derivatives – is growing rapidly. And, bank loans are underwritten increasingly with a view toward making them more marketable. Indeed, there is a thriving secondary market in bank loans. Thus it was only natural that leading banks would attempt to apply the same financial technology that had proven so successful in measuring and managing market risk to credit risk.

At the same time, regulators were becoming increasingly dissatisfied with the effectiveness of the original Basel Accord. In response to growing evidence of regulatory capital arbitrage, regulators began to consider whether the paradigm used so successfully in the regulation of market risk could be applied to credit risk and operational risk. The result was a proposal for a new Basel Capital Accord (Basel 2).

The Basel Committee found that internal models of credit risk were not yet sufficiently reliable (or verifiable) to replicate the approach to market risk and so they embarked on a complex course of increasingly intrusive specifications about how banks should manage their credit risk by means of an internal ratings approach. This initiative has been criticized by

the Shadow Financial Regulatory Committee (2001), Altman and Saunders (2001), and others³.

The proposal to extend capital regulation to operational risk has received less attention, but is even more vulnerable to criticism. In this instance, the Basel Committee is not simply changing regulation to conform to well-established industry best practice, as it did in market risk. It is attempting to define best practice.

Over the past year the Basel Committee on Banking Supervision has refined its approach to setting minimum capital requirements for operational risk.⁴ The result is a revised definition of operational risk, a reduced target for capital charges for operational risk relative to total minimum capital requirements and greater specificity about how such capital charges might be implemented.⁵ I believe this attempt to set capital charges for operational risk is fundamentally misguided.

The Basel Committee began in 1998 by using a definition of operational risk as all risk that is neither credit risk nor market risk, which is the definition used by the US regulatory authorities in earlier supervisory releases. The Basel Committee has now narrowed this very broad

³ See Llewellyn (2001) for a particularly lively collection of comments on Basel 2.

⁴ See Basel Committee on Banking Supervision (2001a, 2001b, 2002a, 2002b).

definition to include only “The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.” This definition itself raises two issues. First, it omits altogether basic business risk: the risk of loss attributable to the institution’s inability to reduce costs as quickly as revenues decline. Most institutions that attempt to allocate economic capital for operational risk find that this is the largest component.⁶ Second, it excludes the Basel Committee’s earlier attempt to include indirect costs and reputational risk.

The Basel Committee hopes that by imposing a risk-sensitive capital requirement for operational risk it will lead institutions to enhance the measurement and management of operational risk and will discourage them from substituting operational risk for credit or market risk. The Basel Committee has stated a goal of setting capital charges for operational risk in conjunction with an anticipated reduction in the capital charge for credit risk, so that overall capital charges will remain the same on average. This goal dictates their charge for whatever measure of operational risk they devise and belies any claim that the capital charge with regard to operational risk is somehow objectively determined.

⁵ This section is adapted from Shadow Financial Regulatory Committee (2002). I am grateful to my colleagues on the Shadow Committee for their insights and particularly to Ken Scott who collaborated in the drafting of the statement.

⁶ See, for example, the insightful analysis in Kuritzkes and Scott (2002).

In contrast to credit risk and market risk, there is no compelling rationale for setting a capital charge for operational risk. Institutions can increase the option value of deposit insurance by taking bigger market or credit risks since larger risks may yield larger returns. Risk sensitive capital requirements thus have a direct impact on incentives to take greater risks. But operational risk is downside risk only. Taking more operational risk does not enhance the option value of deposit insurance. It is simply a kind of expense that institutions try to minimize to the extent that it is cost effective to do so. These two different species of risk are best dealt with in two different ways.

It is by no means clear that capital regulation is the most efficient means of achieving a reduction in the exposure of institutions to operational risk. Moreover, there is no systemic risk rationale for imposing capital requirements because losses due to operational risk tend to be idiosyncratic to a particular institution. The sorts of institution-destroying operational losses that have occurred – often due to the actions of a rogue trader – are usually attributable to a failure of internal controls rather than inadequate capital. No reasonable amount of capital would be sufficient to cover such an extreme event. The most effective means of reducing operational risk are

sound policies, practices and procedures, and insurance (which also serves the function of shifting losses should they, nonetheless, occur).⁷

The Basel Committee has identified three approaches to setting capital charges for operational risk: (1) The Basic Indicator Approach, (2) The Standardized Approach and (3) The Advanced Measurement Approaches. Each approach requires a greater investment in processes and procedures than the one that precedes it on this list. The Basel Committee intends to provide an incentive for institutions to make the investment by calibrating the approaches so that the capital charge will be lower if an institution qualifies for the more complex approach.

The Basic Indicator Approach will set the charge for operational risk as a percentage of Gross Income, defined to include net interest income and net non-interest income, but exclude extraordinary or irregular items. Since it includes net interest and non-interest income it is doubtful whether this indicator captures even the scale of an institution's operations adequately, but it surely has only the most tenuous link to the risk of an expected loss due to internal or external events.

The Standardized Approach requires that the institution partition its operations into eight different lines of business. The capital charge is then

⁷ See Calomiris and Herring (2002) for an extension of the argument to the case of

estimated as an exposure indicator for each line of business multiplied by a coefficient. Provisionally, the Basel Committee intends to use Gross Income for this purpose as well (while recognizing that a trading unit that is making losses is not necessarily subject to lower operational risk). The quantitative impact study attempted to examine actual losses across these eight lines of business experienced by thirty banks in eleven countries from 1998 to 2000. These losses, however, do not necessarily reflect differences in risk. First, frequent small losses, because they are predictable, tend to be expensed. They do not contribute to the risk for which capital is held. Second, the loss data did not reflect recoveries and indemnification from insurance.

The Advanced Measurement Approaches require multiple pages of preconditions that most institutions could not be expected to meet for years. Reflecting the Basel Committee's uncertainty about the best way to proceed, it outlined three different approaches. The Basel Committee is willing to consider insurance as a mitigator of operational risk only under the Advanced Measurement Approaches.

Neither the Basic Indicator nor the Standardized Approach provides a persuasive way of relating the capital charge for operational risk to actual

investment management companies.

differences in operational risk across institutions, and the Advanced Measurement Approaches remain to be fully specified. Clearly in this instance, the desire to make capital regulation risk sensitive has exceeded the Basel Committee's capacity to implement this worthy objective.

At a more fundamental level, it is unclear why the Basel Committee insists on dealing with operational risk under Pillar 1 – that is, as an issue of capital adequacy. Interest rate risk in the banking book, which is surely easier to quantify than operational risk, is dealt with only under Pillar 2 – that is, as a supervisory issue. Moreover, Pillar 2 is surely the most efficient way of dealing with operational risk. Appropriate policies, procedures and processes are the most direct way of dealing with internal events, and insurance is the most effective way of dealing with external events. These are the sorts of issues that are best dealt with in the supervisory process rather than through an extended but essentially arbitrary exercise in capital regulation.

The Basel Committee clearly intends to proceed along the supervisory line as well, but with a one-way ratchet. Supervisors will be able only to impose an additional capital charge if they find that policies, processes and procedures are inadequate, but not to reduce the capital charge for institutions that have exemplary controls. Since the Pillar 1

capital charge is already imperfectly risk sensitive, the Basel 2 approach that feeds operational risk into Pillar 1 may end up only distorting competition further.

More fundamentally, the proposal to establish a capital charge for operational risk raises the question of the circumstances under which regulators should attempt to hardwire the state of the art in management science in capital regulations. This was not a troubling issue with respect to market risk because there was a much broader consensus on the state of the art, and the state of the art was much more advanced. Moreover, the internal models approach to regulation was designed to change as internal models improve. But, in the case of operational risk -- where there is much less consensus about state of the art, which is by any measure much more rudimentary and changing rapidly -- regulators run the risk of crystallizing the state of the art prematurely. Because international negotiations are long, cumbersome and highly political, they take a very long time to complete. What may have been state of the art when negotiations began may no longer be state of the art when negotiations conclude. And if the history of the original Accord is any guide, it may take at least a decade to revise even regulations that are widely viewed as dysfunctional.

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