

Industry Trends

“Industry Trends” is a regular column of the *Algo Research Quarterly* that looks at emerging trends in risk management. In this column, “BIS II and Beyond,” **Diane Reynolds** discusses the initial proposal for a new capital accord from the Bank of International Settlements, the industry’s response to it, and subsequent amendments. An overview of issues currently in the industry spotlight rounds out the discussion.

In the last 18 months or so, the profile of operational risk management within most banks has increased significantly. More people—in particular more senior people—are now taking an active interest in operational risk. One of the driving forces behind this interest is the release of an initial proposal for the New Capital Accord, entitled BIS II, from the Basel Committee on Banking Supervision (BCBS), an arm of the Bank for International Settlements (BIS). BIS II introduces a regulatory capital charge dedicated to operational risk, which separates it from the remainder category of “other risks.” (For details on the New Capital Accord, see BIS 2001a.)

The previous accord, introduced by BCBS in 1988 (BIS 1988), has been adopted as part of the regulatory requirements in more than 100 countries. The body itself focuses on regulating banks that operate internationally, and comprises regulators from the G-10 as well as the banks in question. Understandably, every bank is paying close attention to the developments of the new accord.

Since the introduction of the initial proposal, BCBS has been putting significant effort into operational risk measurement and management advisories. A working paper was published in September 2001 (BIS 2001b), followed by a set of sound practices for operational risk management in December 2001 (BIS 2001c). In the meantime, quantitative impact studies—QIS1 and QIS2—have been conducted to collect and analyse data from member banks (BIS 2001d). The goal of these studies is to calibrate the models, and assess the fairness and effectiveness of the proposal.

In the industry, there is much discussion about operational risk; so much so that the publishers of RISK magazine provide a separate publication dedicated solely to operational risk. Conferences

include streams with an operational risk theme, and entire conferences and workshops provide focused operational risk information. Banks are joining together to form data consortia, and data collection services are emerging.

Operational risk, however, is still in its infancy; many unknowns remain. Differing opinions exist and are being vigorously disputed by those involved. In all, it is an exciting time in the field of operational risk.

This article provides an overview of the initial proposal and the industry’s response to it. It describes the significant changes introduced in the working paper, and presents a brief overview of the Standards of Practice. The article concludes with some current topics that are being hotly debated.

An initial proposal for BIS II

This section discusses three key features of the initial proposal; later sections are devoted to updates and modifications of the first attempt. To illustrate the remaining concerns and recent advances in the industry, this background is presented first.

The initial proposal for a new capital accord presented requirements for regulatory capital relating to four types of risk: market, credit, operational and “other.” The previous accord referred to market and credit risk specifically, grouping operational risk into the broader category of other risks. While introducing operational risk into the explicit capital requirements for the first time, the proposed changes were much more sweeping. In fact, the most significant changes, in terms of monetary capital reserves, under BIS II are related to credit risk. Still, the impact of 20% of capital being dedicated to operational risk makes it a considerable concern, and financial institutions balk at implementing it.

The proposal itself was split into several sections. Some address the fundamental methods by which banks will be regulated, while others concentrate on each of the types of risk. Clearly, a short article cannot do justice to much of the details and important information. Hence, the objective of this section is to introduce three key concepts presented in the initial proposal. Before discussing the definition of operational risk and the capital calculation options under the initial proposal, the three “pillars” of BIS II are reviewed.

The three pillars

The initial proposal presented by BCBS is based on three pillars, or fundamental mechanisms, of regulation. Pillar I is **capital**: a monetary cushion that each bank is required to set aside as a reserve against adversity.

Pillar II is **regulatory supervision**: the imposition of higher capital levels, senior management changes and other penalties on banks that fail to meet the expected risk management standards. Regulators will have the authority to impose such stringent measures as they deem necessary on financial institutions that are found to be in non-compliance. At the same time, regulators have the responsibility to review each bank’s practices and evaluate them against the standard.

The third, and perhaps most controversial, is Pillar III, **disclosure**: the revelation of significant losses, risk management practices and other key information to all shareholders, as required under the proposed regulation.

With these pillars supporting the entire proposal for BIS II, the specific information relating to operational risk can be discussed in context.

Defining operational risk

One of the key issues addressed by the proposal is the definition of **operational risk**, which is defined for regulatory purposes in the initial proposal as “the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events.” Specifically excluded from this definition are strategic and reputational risks, while legal risks are included.

Three capital models

BIS II, in the initial proposal, provides for three models for calculating regulatory capital for operational risk:

- the **Basic Approach**, which is simply a regulatory multiplier of Gross Income
- the **Standardized Approach**, which provides Gross Income multipliers for each line of business within the bank
- the **Internal Measurement Approach**, the most sophisticated approach—which is a variation of the Standardized Approach—allows banks to predict some multipliers for themselves.

However, in order to progress to a more sophisticated model, the bank must meet certain qualifying criteria imposed by the regulators. Under Pillar II, these requirements are reviewed by the regulators before accepting the capital calculation. The Basic Indicator Approach has no qualifying criteria, but remains out of bounds for internationally active banks.

In order to qualify for the Standardized Approach, banks most notably must:

- have independent channels for risk reporting,
- have internal audit reviews of the operational risk systems,
- collect data on operational losses, and
- be able to map their businesses into the standardized lines of business required for regulatory calculations.

In addition to meeting all of the requirements for the Standardized Approach, a bank wishing to take advantage of the more sophisticated Internal Measurement Approach must also:

- integrate fully the measures into their daily activities,
- be able to justify and verify the capital calculations,
- ensure the accuracy and completeness of loss collection processes,

- use applicable external loss data in a rigorous manner to enhance model accuracy, while being able to prove both the applicability of the data and the appropriateness of its use, and
- validate models using historical experience.

With all of the additional requirements, what is the benefit of moving to the Internal Measurement Approach? If the models bear evidence of a significantly reduced capital amount, as much as 25% may be saved over the capital required under the Standardized Approach!

Response to the initial proposal

The industry—including banks, associations, insurers, software and hardware providers, and consultants—was given an opportunity to comment publicly on the proposal. The responses received by BCBS were made available to all via the Internet.

The response to the initial proposal for BIS II—at least regarding operational risk—spanned a wide spectrum, from those who thought it did not go far enough towards encouraging banks to adopt good practices to those who believed operational risk did not merit a capital charge of its own. This section reviews some of the most common and significant complaints.

Many responding banks or associations thought that operational risk should not carry a capital charge because it is too hard to quantify. Others believed it was too hard to define or that the proposed definition was too broad. Still others were of the opposite opinion—the definition was too narrow. Of concern to those not debating its definition was the dividing line between operational risks and those deemed to be market or credit risks.

Perhaps the most widely discussed and disputed point was the association of 20% of regulatory capital with operational risk. Any number of protests, sample calculations and theories were dedicated to a reduction of this level.

Issues concerning the powers, and lack of powers, given to regulators were raised. The lack of capital incentives to adopt more sophisticated approaches or to improve controls was pointed out by all. Some argued about the cost of implementing the systems and processes required to meet the requirements.

Many responses analysed the mathematics behind the proposed approaches and found it lacking. Disputes about the overall methodologies, the calibration techniques and other details abounded. For example, a common complaint against both the Standardized and Internal Measurement Approaches was that adding capital across business lines does not allow for “economies of scale” as experienced by large institutions. Other complaints focused on the lack of reliable data for calibrating models. Many argued for allowing a richer selection of capital models; several were presented, most notably the Loss Distribution Approach and the Scorecard Approach discussed in the next section.

A final complaint for many was that the use of insurance to mitigate operational risk was specifically disallowed for regulatory capital purposes in BIS II. The main arguments were the immaturity of the insurance markets in this area and concerns over the enforceability of the contracts in case of catastrophe. These caused a storm of responses from insurers seeking to prove the suitability of their product offerings. In all, more than 100 responses were received. Not surprisingly, it took several months for BCBS to review them all and draft an amended proposal in the form of a working paper on operational risk.

Working paper: Revising BIS II

BCBS published a working paper on Operational Risk in September 2001 (BIS 2001b) as an update to the operational risk section of the initial proposal. It attempted to address many of the respondents’ concerns regarding the initial proposal (BIS 2001a). Some of the most notable changes were: a reduction in the overall percentage of capital to be allocated for operational risks; a slight modification of the definition; a change to the disclosure requirements under Pillar III; the possibility of using Advanced Measurement Approaches and the promised consideration of allowing insurance as a mitigant.

The capital allocated to operational risk has been reduced from 20% to 12%. This translates into 17–20% of gross income under the Basic Indicator Approach. There is also a small change in the definition of operational risk: the words “direct or indirect” have been removed.

Despite strong opposition to disclosure requirements among the responses, a substantial disclosure requirement remains. Firms must disclose both qualitative and quantitative information about their operational risks. The quantitative disclosure amounts to a capital figure for each line of business. The qualitative disclosures, probably more alarming to the banks, require a description of the operational risk management objectives and policies of the firm. This specifically includes a description of the strategies and processes employed, the organization of the risk management team, the scope and nature of risk reporting systems, and the hedging policies related to operational risk, including how they are monitored. Some concern in the industry about this area remains.

Advanced Measurement Approaches (AMAs) are permitted; they include, as examples, the Internal Measurement Approach, the Loss Distribution Approach, and the Scorecard Approach. However, other techniques may also be used, provided that their efficacy and suitability can be proven to regulators. Very little detail is provided on any of the methods. One interesting note at the technical level is that correlations may be considered in capital calculations, provided their validity can be substantiated.

The **Loss Distribution Approach**—the most mathematically satisfying approach mentioned in the working paper—involves creating a statistical distribution of potential future losses from which capital can be measured. Although not addressed in the working paper, consensus seems to be that a 99% or 99.9% confidence level is an appropriate measure of one-year capital. Of course, once a loss distribution is available, a wide range of risk measures may be computed. This methodology is much in line with the assessment models for market and credit risk.

Many practitioners believe that operational risk is inherently different from market and credit risks, and that it is inappropriate to measure it in the same way. This group typically supports the **Scorecard Approach** to capital allocation, which entails creating a scorecard for each line of business. The scores reflect the operational risk levels of the business line, its controls, its past experience and other factors. Capital is allocated among the lines of busi-

ness based on their relative sizes and scores. The precise method of determining capital at the enterprise level has yet to be widely agreed on, but the working paper states that it must be based on collected loss data. The scorecard approach itself, however, is favoured by many institutions.

Insurance may be used to mitigate the capital charge, provided it meets yet-to-be-determined standards. There is a limit to the amount of reduction in capital charge due to the combination of AMA and insurance. The floor for such capital calculations is 75% of that under the Standardized Approach.

Although the list of significant changes is short, they reflect a fundamental shift in the views of regulators to operational risk. In BIS II, the attitude was one of cautious participation: operational risk would be segregated from other risks, but capital calculations would be formulaic. The working paper opens up operational risk to an internal models approach of great flexibility, leaving room for almost any factor to be included in operational capital calculations, provided it can be justified. The last vestige of caution and apprehension remains in the floor of 75% of Standardized Approach capital.

Sound practices

The Sound Practices document (BIS 2001c) “outlines a set of principles, which provide a framework for the effective management and supervision of operational risk, for use by internationally active banks and supervisory authorities when evaluating operational risk management policies, procedures and practices.” In addition, it “discusses the key elements of a comprehensive operational risk program, which is appropriate for the largest, most sophisticated institutions and which is consistent with emerging industry practice.”

To address these impressive objectives, the document is divided into two sections. The first section provides 10 basic principles for supervisors of operational risk, which span four broad categories:

- development of appropriate risk management environments,
- identification of risk,

- control of risk, and
- the respective roles of supervisors and disclosure.

Unfortunately for those still protesting the amount of disclosure, no concessions were made. Instead, an explanation of the current stance was provided in a restatement of the purpose of disclosure. Essentially, the investing public must be able to assess the level of operational risk experienced by the bank, and the quality of its risk management.

The second section focuses more on banks, and how they should be managing operational risk. It is a survey-style approach, carefully expressed as not representative of any one bank's current practice. It discusses various aspects of risk management, including management structures and responsibilities; the definition of operational risk within firms; the collection of operational risk data and, finally, operational risk measurement. The comments and advisories are high level and generally applicable. Again, few details of risk measurement methods are provided, although quantitative and qualitative techniques are contrasted.

Despite its brevity, the Sound Practices document has been well received in the industry—at least in principle. The setting down of clear rules of engagement has proven quite helpful in moving along the process of adopting better operational risk management practices in many banks.

Current issues

Clearly, there are many more issues related to operational risk than can, or should, be summarized here. However, some of the highlights are included to give the interested reader a flavour of current industry discussions.

Some banks, particularly in Asia Pacific, have yet to take any significant steps towards implementing an operational risk management process. Surprisingly, this is also true of many regional banks in the United States. Many are waiting to see if operational risk remains segregated from other risks in the final draft of BIS II. The delays in formulating this final draft—and the subsequent delays to its implementation deadlines—fuel this wait-and-see perspective. Others are caught up in the debate

over the details of the definition of operational risk, and have stalled at this critical point. Meanwhile, European and Australian banks seem to have moved on to risk assessments and loss collection.

All is not smooth sailing, however. Even in banks where operational risk is recognized as a regulatory issue, broader acceptance and an accommodating budget can be difficult to come by. The distinction between operational risk management and management itself can be hard to prove. To justify the value to a business of the often large expenditures required to implement operational risk policies and procedures is difficult in a recessionary, cost-cutting climate. The integration of operational risk measures into management processes will go a long way in justifying the costs and realizing real benefits to the system, but may require a significant change in the culture of a bank. Moving from a “blame-and-hide-mistakes” culture to one of open reporting and risk identification is challenging, as can be seen by the reluctance on the part of some to move towards compliance.

Many banks, in the absence of definitive definitions or large budgets, do forge ahead. Almost all large banks have initiatives in place to conduct risk self-assessments; fewer make the attempt to distil this data into a short list of key risks, which must be addressed to ensure a bank's stability and prosperity. The identification of important risks and a focus on addressing them is filtering into the industry as an excellent first step in realizing the benefits of operational risk management.

Technical challenges still abound: lack of data; lack of suitable mathematical models; handling disparate sources and types of data; as well as lack of information technology infrastructures that are required to support and implement operational risk systems. Ultimately, all of the above must be addressed before a proper analysis of operational risk data can be performed. Many advances are being made in these areas, but the time horizon for resolution is a long one.

Banks that hope to qualify for an advanced Measurement Approach when BIS II is finally adopted need to begin planning today. Operational risk, unlike some other types of risk, cannot be managed by a few people in a small room. It permeates all

activities of the bank: its employees, its customers and even its environment, and so must its management. Operational risk management is not just a project to be started and completed; it is a lifestyle banks must adapt to.

In an effort to reduce regulatory uncertainty, BCBS clarified three issues in a July 2002 press release (BIS 2002):

- BIS II will take effect on January 1, 2007.
- A capital charge will be applied for operational risk.
- When capital is calculated under AMA, no floor will be imposed.

References

Bank of International Settlements, 1988, "International Convergence of Capital Measurements and Capital Standards," (<http://www.bis.org>), July.

Bank of International Settlements, 2001a, "The New Basel Capital Accord, Consultative Document," Basel Committee on Banking Supervision, <http://www.bis.org/publ/bcbsca.htm>, January.

Bank of International Settlements, 2001b, "Working Paper No. 8," <http://www.bis.org/bcbs/pub.htm#wp>, September.

Bank of International Settlements, 2001c, "Sound Practices," see Publications, No. 86, <http://www.bis.org/bcbs/pub.htm#wp>, December.

Bank of International Settlements, 2001d, "Quantitative Impact Study of the Basel Committee on Banking Supervision," <http://www.bis.org/publ/bcbsca.htm>. April.

Bank of International Settlements, 2002, <http://www.bis.org/press/p020710.htm>, July.