

# Evolution in Banking Supervision

by Ed Stevens

It's no secret that the banking business has been changing rapidly. Computer, telecommunications, and satellite technologies have opened avenues for intermediation and risk management that were inconceivable as recently as 25 years ago. Moreover, whether independently or because of pressures created by technical change, a worldwide movement toward less restrictive financial regulation has been at work.<sup>1</sup> Global banking and financial markets have flourished as barriers to the free flow of capital and goods and services have fallen around the world. In the United States, mergers of large into ever-larger banking organizations have accompanied the elimination of legal barriers to nationwide branching. Combinations of banking, securities, and insurance businesses were emerging even before recent financial modernization legislation clarified the relaxation of regulatory restraints.

Banking supervision has been adapting to these vast structural changes both in the United States and abroad. Traditionally, supervision of safety and soundness relied on bank examiners to test the quality of a bank's assets and, indirectly, its asset selection process. Examiners' reports formed the basis for a supervisory judgment about the adequacy of a bank's capital for absorbing potential unexpected losses. Like banking, however, supervisory techniques are changing around the world. Last year, the worldwide Basel Committee on Banking Supervision, operating under the auspices of the Bank for International Settlements, published proposals for a new supervisory capital-adequacy framework that would supercede its widely adopted 1988 capital accord. This *Economic Commentary* describes the major innovations in the new Basel Committee proposals,

placing them in the context of changing banking and supervisory technology. Before doing that, it will be helpful first to consider why supervision is necessary at all and then why the 1988 Basel capital accord is said to be "in tatters."

## ■ Why Regulate and Supervise Banks?

No one should have a more intense concern for both the profits and safety of a bank than its own shareholders. That being the case, how can nonmarket governmental supervisors be any better at evaluating a complex banking organization's risk exposures and need for capital than the managers of that organization itself?

One reason why banking regulation and supervision are necessary is to redress "moral hazard." In most countries, banks are protected by government safety nets, typically including a lender-of-last-resort facility and/or deposit insurance. Safety nets can produce suboptimal market results by inflating banks' incentives to take risk. Banking regulation and supervision must replace the market discipline removed by the safety net.

A second rationale—at least in the case of Federal Reserve banking supervision—is that a Reserve bank carries on a banking business, requiring careful attention to its own counterparty risk exposures. Each business day banks in this country make about \$1 trillion in payments to one another. A substantial share of these involve near-instantaneous, irrevocable wire transfers of funds by the Reserve banks for their banking customers. In order to fund the wire transfers, the Reserve banks extend something like \$100 billion of daylight credit. They must manage their resulting risk

**Banking supervision must keep pace with technical innovations in the banking industry. The international Basel Committee on Banking Supervision currently is reviewing public comments on its proposed new method for judging whether a bank maintains enough capital to absorb unexpected losses. This *Economic Commentary* explains how existing standards became obsolete and describes the new plan.**

exposure to protect themselves from any loss that would result if a customer bank were to fail without having repaid its daylight borrowing. Managing this exposure involves monitoring the credit quality of their customer banks and supervising their adherence to capital-adequacy requirements.

## *How to Supervise*

The moral hazard of a safety net as well as prudent scrutiny of the central bank's customers provide a rationale for regulating and supervising banking organizations—to curtail risk taking. They do not, however, explain how to do this or to what degree. Traditional ex post tests of a bank's capital adequacy suffer from several drawbacks, especially in supervising large, complex banking organizations. One is that the legal entity of a bank is becoming increasingly irrelevant in managing risk. A banking organization—a holding company or a bank with bank and nonbank subsidiaries—typically manages lines of business that cut across corporate legal boundaries. Supervisors not only must be aware of the role a particular bank plays in each line of business, but must understand the risk-management strategy of the whole banking organization in order to evaluate the

risk exposures of a particular bank. Another is that risk management relies on a variety of financial instruments whose values vary day by day in response to developments in securities markets.

Supervisors have responded to these two difficulties by developing risk-focused examinations. According to the General Accounting Office, this approach “emphasizes a supervisory plan ... tailored to the institution’s risk profile and organizational structure.”<sup>2</sup> Risk-focused examinations deal with how to curtail risk, but don’t provide criteria for how much risk to curtail. The Basel risk-adjusted capital guidelines represent a concerted global effort to establish those criteria.

### **International Standards**

A bank’s capital typically is said to include the amounts paid in by shareholders and its retained earnings, as well as certain liabilities that have lowest priority when paying off the creditors of a failed bank. The larger a bank’s capital, the larger the loss of asset value the bank can sustain before depositors (and a deposit insurance agency) suffer losses. Minimum capital requirements are among the earliest forms of government regulation of banking.

Increasing globalization of trade and finance over the post-World War II period resulted in increasingly intense competition among banks. This drew attention to international differences in capital requirements and their role in determining competitive advantages and disadvantages in the global banking market. Finally, after considerable negotiation, the Basel Committee on Banking Supervision of the Bank for International Settlements worked out the 1988 international accord on capital regulation.<sup>3</sup>

The 1988 accord was an agreement among the G-10 central banks to apply common minimum regulatory capital requirements to their respective banking industries. The standards set the minimum level of capital a bank should maintain at 8 percent of risk-adjusted exposure.<sup>4</sup> This exposure is determined as a weighted average of the value of a bank’s assets and equivalent off-balance-sheet items. The framework, updated several times over the intervening years, still provides the foundation for minimum risk-adjusted capital standards in the major national banking systems of the world.

The idea behind the accord is simply that a bank’s capital should be commensurate with the riskiness of its business. The framework has two main parts. The first defines what to include in a measure of capital, distinguishing between two types—primary and secondary. The bank’s common stock and noncumulative perpetual preferred stock issues, plus certain reserves, are included in primary capital, while secondary capital consists of other kinds of reserves and other classes of stock, plus certain liabilities, including subordinated term debt.<sup>5</sup>

The other part of the framework lays out a weighting system used to calculate a minimum capital standard for each bank. Weights are 0, 10, 20, 50, or 100 percent, and they are applied to specific types of assets and off-balance-sheet items, depending on the nature of the financial instrument and borrower, although national supervisors have some discretion over their own guidelines. Cash and government securities of the bank’s own country get a risk weight of zero, claims on public-sector entities get 10 percent, claims on banks incorporated in OECD nations, 20 percent, fully secured mortgages on residential property, 50 percent, while all other claims on private-sector entities get a 100 percent risk weight. Market-risk provisions were added in 1996. These address the risk that changes in interest rates will change the market value of a financial instrument. They apply to interest-rate-related instruments and equities in a bank’s trading account, and foreign-exchange and commodities risks throughout the whole bank.<sup>6</sup> The sum of all risk-weighted assets, when multiplied by 8 percent, produces the minimum capital required by the supervisory process.

### **Diminishing Effectiveness of the 1988 Accord**

Despite the shift to risk-focused examinations, risk-based capital guidelines have become less and less effective as a basis for supervisory judgments about the quality of a banking organization. This especially applies to the largest, most complex banking organizations, and to a lesser extent to all banking organizations as they move into new financial technologies. Capital arbitrage has seriously eroded the effectiveness of the arbitrary risk weights regulators use to determine a bank’s minimum need for capital.

“Capital arbitrage” characterizes a variety of techniques banks use to reduce the impact of binding capital requirements. To see how, one must distinguish between the regulatory and the economic perceptions of adequate capital. Regulatory capital corresponds to the risk-based requirements associated with the Basel accord. Economic capital is what a bank would hold in the absence of regulation to achieve a desired position on its risk/return trade-off. In general, regulatory capital requirements can be expected to constrain the behavior of banks as long as supervision is designed to compensate for the failure of market discipline to price risk taking appropriately. This means that banks must maintain more capital than they have an economic incentive to hold. Equivalently, banks have an incentive to devise ways of avoiding the requirement. In the last decade of the twentieth century, banks have been able to respond to these incentives with some ease. New financial technologies have increased the substitutability of loans and securities, while derivative instruments enable risks to be deconstructed into marketable components. Two main features characterize most of the ever-increasing variety of capital arbitrage techniques: “cherry picking” and securitization.<sup>7</sup>

Cherry picking refers to practices that shift a bank’s portfolio toward the riskier of two loans when supervisors would put both loans in the same “risk bucket.” Banks have an incentive to accommodate the credit needs of high-quality borrowers in ways that avoid straight loans in order to achieve a lower risk weight.

Securitization is the act of packaging and selling loans as marketable securities. It is the usual method banks use to shed their lower-risk loans. The problem with this method, however, is that the market frequently requires that such securities be “enhanced” or “insured.” The most straightforward enhancement is to sell them with “recourse,” where the bank selling the securitized loans retains liability in the case of default. Simply selling a loan-backed security with recourse could be worse than holding the loans themselves because recourse requires a 100 percent capital requirement.

Banks have found ways around this, however, by exploiting a provision in the accord which treats these financial guarantees more favorably for regulatory

**TABLE 1 PROPOSED WEIGHTS FOR CALCULATING CAPITAL REQUIREMENTS**

Claim	Assessment (percent)					
	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
Governments	0	20	50	100	150	100
Banks Option 1 <sup>a</sup>	20	50	100	100	150	100
Option 2 <sup>b</sup>	20	50 <sup>c</sup>	50 <sup>c</sup>	100 <sup>c</sup>	150	50 <sup>c</sup>
Corporates	20	100	100	100	150	100

- a. Risk weighting based on risk weighting of sovereign in which the bank is incorporated.  
 b. Risk weighting based on the assessment of the individual bank.  
 c. Claims on banks of a short original maturity, for example less than six months, would receive a weighting that is one category more favorable than the usual risk weight on the bank's claims.

SOURCE: Adapted from "A New Capital Adequacy Framework" (see footnote 8), p. 31.

purposes if the enhanced assets are not owned by the bank. The bank accomplishes this by "remote origination," creating an organization that officially originates the loan (referred to as a "special purpose vehicle" or SPV). A bank refers customers who satisfy its underwriting criteria to the SPV, which in turn funds the loans. The SPV funds the loans by issuing securities, such as commercial paper, with a significant credit enhancement from the bank. Note that if this enhancement is 100 percent, there is no risk on the securities the SPV issues. From the standpoint of the bank, the method is identical to funding the loans and selling them with recourse except that the credit enhancement is treated as a direct credit substitute for regulatory purposes. This amount can be substantially less than the amount of credit issued by the "vehicle." Other more complex arrangements involving indirect credit enhancements are also used, tailored to the unique circumstances of particular customers.

Notice that these techniques economize on capital in two ways. First, securitized or enhanced assets carry a lower risk weight when calculating regulatory capital. Second, assets that remain in the bank's portfolio after cherry picking and securitization carry no higher risk weight despite the fact that these capital arbitrage techniques reduce the average quality of assets in a given risk bucket.

### ■ A Proposed New Capital-Adequacy Framework

In June of last year the Basel Committee requested public comments by March 31, 2000, on a proposal for a new capital-adequacy framework.<sup>8</sup> The proposed framework is intended to maintain at least current levels of bank capital and to "enhance competitive equality." It differs from the existing framework in a number

of ways, but primary interest centers on two new approaches for determining minimum regulatory capital. One would replace the arbitrary risk weights with weights based on external credit ratings. The other would tailor the determination to the unique risk profile of each institution through reliance on that institution's own internal risk ratings.

### External ratings

The first approach effectively would reduce weights on the highest-quality assets and increase weights on lower-quality assets. Banks' claims on governments, other banks, securities firms, and all other corporations would be rooted in the professional judgments of rating agencies such as Standard and Poors, Moody's, and Fitch IBCA. Table 1 is a simplified illustrative example based on Standard and Poor's rating system.

Replacing arbitrary risk buckets with weights based on external ratings could reduce the present incentive to cherry pick. Also, the proposed new framework would replace the current arbitrary weights for securitizations with weights based on external ratings that should more effectively reflect actual risks. Presumably, the recourse or insurance part of the asset that is attached to many securitized loans would have a higher risk weight—given its lower value—than the underlying securities themselves.

### Internal ratings

Risk management at internationally active banking organizations is becoming a highly sophisticated scientific discipline involving models of market, credit, and operational risks that are intended for use in the analysis of compensation, customer profitability, pricing, portfolio allocation, and capital needs. Models of market risk are better

developed than others because historical data are readily available and all banks' exposures derive from the common pool of securities available in the market. Credit-risk modeling is more difficult, given the vast number of unique potential borrowers and very little in the way of a common pool of historical information available to all banks.<sup>9</sup> Risk ranking of assets within a bank will be more reliable than across banks because true risk can be very institution specific.

Nonetheless, "the Basel Committee ... believes that an internal ratings-based approach could form the basis for setting capital charges for some sophisticated banks." This supervisory approach must overcome two hurdles to become practicable. One is the challenge to both banks and supervisors of translating internal relative credit ratings into absolute capital requirements. The other is the supervisory challenge of achieving consistency both among the sophisticated banks for whom an internal ratings-based methodology is feasible and between those banks and others for whom the standardized external ratings-based methodology is appropriate.

So far, the internal ratings-based approach is a methodology in the making, not yet an operational option. As an indication of future practice, however, it highlights the significant shift that is taking place in banking supervision. Periodic examination for compliance with arbitrary regulatory requirements is giving way to continuous monitoring based on an understanding of each bank's own technically sophisticated risk-management strategies.

### ■ Concluding Comment

The 1988 Basel accord has become outmoded. For many banking organizations, the Committee's new proposal to employ external ratings in judging asset risk could remove some of the existing incentive for capital arbitrage. At the same time, for the largest, internationally active banking organizations, the possibility of focusing supervisory attention on their emerging internal risk-management methods could enhance the effectiveness of the supervisory process by putting both bank and supervisor "on the same page." In both cases, the new proposals would reduce inconsistencies between regulatory and economic estimates of the risk of one asset relative to that of another, thereby removing a major incentive for capital arbitrage. However, the

unique supervisory problem remains that of judging how much capital is adequate both for the risk profile of a bank as well as for the moral hazard generated by the banking safety net.

### Footnotes

1. An impressive body of examples can be found in *Enhancing the Role of Competition in the Regulation of Banks*, Competition Policy Roundtable, Organisation for Economic Co-operation and Development, Directorate for Financial, Fiscal and Enterprise Affairs, Committee on Competition Law and Policy, September 7, 1998.

2. *Risk-Focused Examinations—Regulators of Large Banking Organizations Face Challenges*, Report to Congressional Requesters, Washington, D.C.: General Accounting Office, January 2000.

3. The Basel Committee on Banking Supervision is a committee of banking supervisory authorities established by the central bank governors of the G-10 countries in 1975.

4. "International Convergence of Capital Measurement and Capital Standards," vol. 1, chap. 1, Basel Committee on Banking Supervision, Bank for International Settlements, April 1997. All of the Basel Committee

papers mentioned are available at <[www.bis.org](http://www.bis.org)>.

5. In calculating the adequacy of its capital, a bank cannot include any secondary capital in excess of primary capital or any subordinated debt in excess of half of primary capital.

6. "Amendment to the Capital Accord to Incorporate Market Risks," Basel Committee on Banking Supervision, Bank for International Settlements, January 1996.

7. See "Capital Requirements and Bank Behaviour: The Impact of the Basel Accord," Basel Committee on Banking Supervision, Working Paper no. 1, April 1999, p. 23, and David Jones, "Emerging Problems with the Basel Capital Accord: Regulatory Capital Arbitrage and Related Issues," *Journal of Banking and Finance*, vol. 24, no. 1/2 (January 2000), pp. 33–58.

8. "A New Capital Adequacy Framework," Consultative paper issued by the Basel Committee on Banking Supervision, Bank for International Settlements, June 1999.

9. For details, see "Credit Risk Modelling: Current Practices and Applications," Basel Committee on Banking Supervision, Bank for International Settlements, April 1999.

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