# Capital Standards for Banks: The Evolving Basel Accord

The business of banking involves taking and managing risks. Lending, for example, involves the risk that the borrower will not pay back the loan as promised, and paying a fixed rate of interest on term deposits involves the risk that rates will drop, leaving the bank earning less on its investments than it is paying out on deposits. Risk is not unique to banking, of course; all types of companies engaged in international activities, for example, face the risk of unfavorable movements in exchange rates. But changes in banking and financial markets have increased the complexity of banking risks. And the position of banks in modern economies has made the management of banking risks ever more important to financial stability and economic growth.

In the United States, banks, in addition to their economic role in funding households and businesses, are central to the credit intermediation and payments process and to the conduct of monetary policy. Moreover, they have privileged access to borrowing from the Federal Reserve (via the discount window) and to federally supported payment systems; in addition, the deposits they accept from the public are federally insured.

Because of banks' multiple functions, the great degree of leverage they employ in carrying out their economic role, and their access to the safety net, society has a keen interest in the health and well-being of the banking system. The level of government regulation and supervision, unique to insured depository institutions, has evolved over the years. As part of the supervisory process, examiners have routinely evaluated the overall health of the institution as well as its risk-management capabilities. In the process, they have also assessed bank loan portfolios and the general integrity of bank financial statements. Only in recent decades, however, have U.S. banking agencies established specific standards for capital in relation to the risk of loss rather than simply commenting on institutions' capital adequacy to managers and boards of directors on a case-by-case basis, often in qualitative terms.

Specific standards were first imposed in 1981, following a period in which already low capital ratios at large U.S. banks continued to decline in the face of a substantial deterioration in the quality of loan portfolios due primarily to exposures to emerging economies. Prompted by the slow response of banks to these growing risks, the Federal Reserve and the other U.S. banking agencies adopted the "primary capital" standard requiring that banks maintain a ratio of capital (essentially equity and loan-loss reserves) to total assets of 5.5 percent.

Later, coordinated international efforts led to the more elaborate, though still relatively simple, Basel Capital Accord, which sets forth a framework for capital adequacy standards for large, internationally active banks and serves as the basis for the risk-based capital adequacy standards currently in place for all U.S. banks and bank holding companies. Now proposals are being considered to refine the current framework to take account of changes in banking and the banking system over the fifteen years since the Basel Capital Accord was adopted.

## *The Basel Capital Accord*

The Basel Capital Accord, the current international framework on capital adequacy, was adopted in 1988 by a group of central banks and other national supervisory authorities, working through the Basel Committee on Banking Supervision.[1] The accord's

This article is adapted from testimony presented by Federal Reserve Board Vice Chairman Roger W. Ferguson, Jr., on June 18, 2003, before the U.S. Senate Committee on Banking, Housing, and Urban Affairs and on June 19, 2003, before the U.S. House of Representatives Committee on Financial Services, Subcommittee on Financial Institutions and Consumer Credit. The full testimony is available on the Board's web site, at www.federalreserve.gov/generalinfo/basel2/speeches.htm.

1. The Basel Committee on Banking Supervision, established in 1974, is made up of representatives of the central banks or other supervisory authorities of Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The committee, which meets, and has its secretariat, at the Bank for International Settlements in Basel, Switzerland, has no formal authority. Rather, it works to develop broad supervisory standards and promote best practices, in the expectation that each country will implement the standards in ways most appropriate to its circumstances. Agreements are devel-

fundamental objectives are to promote the soundness and stability of the international banking system and to provide an equitable basis for international competition among banks. Although it was intended specifically for internationally active banks, the accord has, in practice, been applied beyond the largest institutions to cover most banking organizations worldwide.

The accord sets forth a framework for measuring capital adequacy and a minimum standard to be achieved by international banks in adopting countries. The original framework assessed capital mainly in relation to credit risk (the risk of loss due to the failure of a counterparty to meet its obligations) and addressed other risks only implicity, effectively loading all regulatory capital requirements on measures of credit risk. In 1996 it was amended to take explicit account of market risk in trading accounts (the risk of loss due to a change in market prices, such as equity prices or interest or exchange rates).

Stated simply, the Basel Capital Accord requires that a bank have available as "regulatory capital" (through combinations of equity, loan-loss reserves, subordinated debt, and other accepted instruments) at least 8 percent of the value of its risk-weighted assets (loans and securities, for example) and asset-equivalent off-balance-sheet exposures (such as loan commitments, standby letters of credit, and obligations on derivatives contracts). For purposes of determining a bank's assets, different types of assets are weighted according to the level of perceived risk that each type represents, and each off-balance-sheet exposure is converted to its equivalent amount of assets and weighted as that type of asset would be weighted. For example, commercial loans are weighted at 100 percent, whereas loans on residential housing, considered less risky, are weighted at 50 percent.[2] Total risk-weighted assets are multiplied by 8 percent to determine the bank's minimum capital requirement.

A bank's capital ratio—its regulatory capital as a proportion of its risk-weighted assets—and whether that ratio meets or exceeds the 8 percent minimum have become important indicators of the institution's financial strength. The definition of capital has evolved over the years in response to financial innovation. The definition of assets has also changed to address financial innovation, both on and off balance sheet. Although the framework sets forth many details, it allows national supervisors a degree of discretion in adopting the standard to its specific institutions and markets.

## *NEED FOR A NEW CAPITAL STANDARD*

The Basel Capital Accord, now familiarly known as Basel I, is widely viewed as having achieved its principal objectives of promoting financial stability and providing an equitable basis for competition among internationally active banks. At the same time, it is also seen as having outlived its usefulness, at least in relation to larger banking organizations. From the perspective of U.S. supervisors, Basel I needs to be replaced, at least for the largest, most complex banks, for three major reasons: It has serious shortcomings as it applies to these large entities; the art of risk management has evolved at the largest banks; and the banking system has become increasingly concentrated.

### *Shortcomings of Basel I*

Basel I was a major step forward in capital regulation. Indeed, for most banks in this country Basel I, as it has been augmented by U.S. supervisors, is now—and for the foreseeable future will be—more than adequate as a capital framework. It is too simple, however, to address the activities of the most complex banking organizations. As implemented in the United States, it specifies only four levels of risk, even though loans assigned the same risk weight (for example, 100 percent for commercial loans) can vary greatly in credit quality. The limited differentiation among degrees of risk means that calculated capital ratios are often uninformative and may provide misleading information about a bank's capital adequacy relative to its risks.

The limited differentiation among degrees of risk also creates incentives for banks to "game" the system through regulatory capital arbitrage by selling, securitizing, or otherwise avoiding exposures for which the regulatory capital requirement is higher than the market requires and pursuing those for which the requirement is lower than the market would apply to that asset, say, in the economic enhancement necessary to securitize the asset. Credit card loans and residential mortgages are types of assets that banks securitize in large volumes because they believe required regulatory capital to be more than market or

oped by consensus, but decisions about which parts of the agreements to implement and how to implement them are left to each nation's regulatory authorities.

The 1988 Basel Capital Accord and its amendments are available on the web site of the Bank for International Settlements, at www.bis.org/publ/bcbs04a.htm.

2. As implemented in the United States, there are four risk weights—0, 20, 50, and 100 percent—applied to various risk categories.

economic capital.[3] Such capital arbitrage of the regulatory requirements by banks is perfectly understandable, and in some respects even desirable in terms of economic efficiency. Because, of course, banks retain those assets for which the regulatory capital requirement is less than the market would apply, large banks engaging in capital arbitrage may, as a result, hold too little capital for the assets they retain, even though they meet the letter of the Basel I rules.

Although U.S. supervisors are still able to evaluate the true risk position of a bank through the examination process, the regulatory minimum capital ratios of the larger banks are, as a result of capital arbitrage, becoming less meaningful. Not only are creditors, counterparties, and investors hampered in evaluating the capital strength of individual banks from the ratios as currently calculated, but regulations and statutory requirements tied to those ratios have less meaning as well. For the larger banks, in short, Basel I capital ratios neither reflect risk adequately nor measure bank strength accurately.

### *Evolution of the Art of Risk Measurement and Management*

Risk measurement and management have improved significantly beyond the state of the art of fifteen years ago, when Basel I was developed. Banks themselves have led the development of new techniques to improve their risk management and internal economic capital measures in order to be more effective competitors and to control and manage their credit losses. But clearly they can go considerably further. A revised accord that is carefully crafted could speed adoption of still better techniques and promote the further evolution of risk measurement and management by spurring increased investment in the process.

### *Continuing Concentration of the Banking Industry*

Market pressures have led to consolidation in banking around the world. The U.S. banking system has been part of this trend; it, too, has become increasingly concentrated, with a small number of very large banks operating across a wide range of product and geographic markets. The operations of these large banks are tremendously complex and sophisticated, and these banks have markedly different product mixes. At the same time, a significant weakness in any one of these entities could have severely adverse macroeconomic consequences. Although the share of insured liabilities to total funding has declined over time, these banks, with their scale and role in payment and settlement systems and in derivatives markets, have presented authorities with greater moral hazard. The regulatory framework should encourage these banks to adopt the best possible risk measurement and management techniques while allowing for the considerable differences in their business strategies. A modified accord could encourage these and other large banks to push their management frontier forward.

## *BASEL II*

Over the past several years, the Basel Committee on Banking Supervision has been working on a new accord to reflect changes in the structure and practices of banking and financial markets. The most recent version of the proposed New Basel Capital Accord, now known as Basel II, was released in a consultative paper in April 2003.[4] The focus of the reform has been on strengthening the regulatory capital framework for large, internationally active banking organizations through minimum capital requirements that are more sensitive to an institution's risk profile and that reinforce incentives for strong risk management.

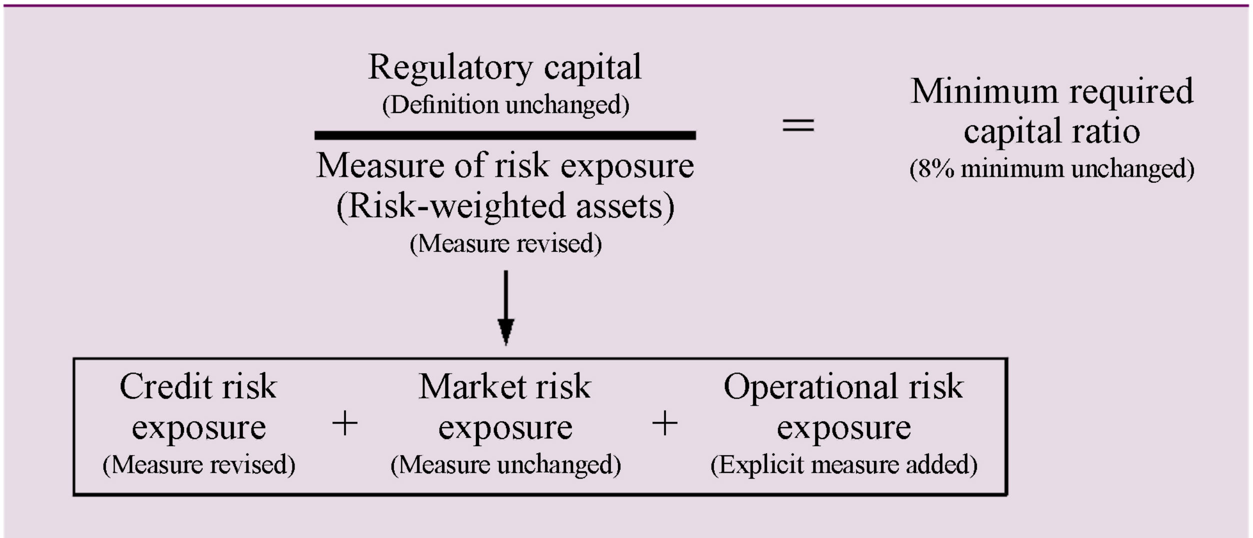
The proposed substitute for the current capital accord is more complex than its predecessor, for several reasons. One reason is that the assessment of risk in an environment of a growing number of financial instruments and strategies having subtle differences in risk–reward characteristics is inevitably complicated. Another is that the reform effort has multiple objectives:

- To improve risk measurement and management
- To link, to the extent possible, the amount of required capital to the amount of risk taken
- To further focus the supervisor–bank dialogue on the measurement and management of risk and the connection between risk and capital
- To increase the transparency of bank risk-taking to the customers and counterparties that ultimately fund—and hence share—these risk positions.

3. Economic capital is a bank's internal estimate of the capital needed to support its risk-taking activities.

4. The full document, titled "The New Basel Capital Accord," as well as an overview, is available at www.bis.org/bcbs/bcbscp3.htm.

Proposed changes to elements of the capital ratio under Basel II




## *Overview*

The Basel II framework is built on three mutually reinforcing elements, or "pillars":

• Pillar 1 addresses minimum capital requirements—the rules by which a bank calculates its capital ratio and its supervisor assesses whether it is in compliance with the minimum capital threshold. The concept of the capital ratio would remain unchanged. As under Basel I, the numerator of the ratio would be an amount representing the capital available to the bank (its regulatory capital) and the denominator would be an amount representing the risks faced by the bank (its risk-weighted assets). As proposed, the minimum required capital ratio (8 percent) and the definition of regulatory capital (certain equity, reserves, and subordinated debt) would not change from Basel I.[5] What would change is the definition of risk-weighted assets—the methods used to measure the riskiness of the loans and investments held by the bank. Specifically, Basel II would make substantive changes in the treatment of credit risk and would provide for specific treatment of securitization, a risk-management technique not fully contemplated by Basel I. And it would explicitly take account of operational risk—the risk of loss resulting from inadequate or failed internal processes, people, or systems or from external events. This modified definition of risk-weighted assets, with its greater sensitivity to risk, is the hallmark of Basel II. (See diagram.)

• Pillar 2 addresses supervisory oversight. It encompasses the concept that well-managed banks should seek to go beyond simple compliance with minimum capital requirements and perform for themselves a comprehensive assessment of whether they have sufficient capital to support their own individual risk profile. It also promotes the notion that supervisors, on the basis of their knowledge of industry practices at a range of institutions, should provide constructive feedback to bank management on their internal assessments. (In the United States, pillar 2 is largely already encompassed in the supervisory process, but it would represent a significant change in supervision in some other countries.)

• Pillar 3 seeks to complement these activities with stronger market discipline by requiring banks to publicly disclose key information that enables market participants to assess an individual bank's risk profile and level of capitalization. This pillar is seen as particularly important because some banks under Basel II would be allowed to rely more heavily on internal methods for determining risk, giving them greater discretion in determining their capital needs.

## *Options for Application*

In contrast to Basel I, which applies the same framework to all covered banks, Basel II, as currently proposed, offers three options for measuring credit

5. However, the definition of regulatory capital under Basel II remains under consideration by the Basel Committee. Capital currently includes allowances for loan and lease losses, which are reserves for yet-unidentified, but expected, loan losses. However, most models used by banks themselves to measure their economic risks focus only on unexpected losses and, as a result, would exclude such reserves when evaluating capital adequacy.

risk and three for measuring operational risk. The purpose of offering options is to allow each bank and its supervisors to select approaches that are most appropriate to the bank's operations and its ability to measure risk.

### Credit Risk

The options for calculating credit risk are the standardized approach and two internal-ratings-based (IRB) approaches—the foundation approach and the advanced approach. The standardized approach is similar to the current framework in that bank assets are categorized and then weighted according to fixed risk weights for the various categories specified by supervisors. However, the standardized approach adds more risk categories and makes use of external credit ratings to evaluate corporate risk exposures.

Under the two IRB approaches, each bank would evaluate its assets in terms of the most important elements of credit risk—the probability that a borrower will default during a given period, the likely size of the loss should default occur, the amount of exposure at the time of default, and the remaining maturity of the exposure. Risk weights, and thus capital requirements, would be determined by a combination of bank-provided quantitative inputs and supervisor-provided formulas.

The details for calculating capital charges would vary somewhat according to type of exposure (corporate or retail, for example). The difference between the two IRB approaches is that the foundation approach would require the bank to determine only each loan's probability of default, and the supervisor would provide the other risk inputs; under the advanced approach, the bank would determine all the risk inputs, under procedures validated by the supervisor. Banks choosing to operate under either of the two IRB approaches would be required to meet minimum qualifying criteria pertaining to the comprehensiveness and integrity of their internal capabilities for assessing the risk inputs relevant for its approach.

### Operational Risk

The three proposed options for calculating operational risk are the basic indicator approach, the standardized approach, and the advanced measurement approaches (AMA). The basic indicator and standardized approaches are intended for banks having relatively less significant exposure to operational risk. They require that banks hold capital against operational risk in an amount equal to a specified percentage of the bank's average annual gross income over the preceding three years. Under the basic indicator approach, the capital requirement would be calculated at the firm level; under the standardized approach, a separate capital requirement would have to be calculated for each of eight designated business lines. Banks using these two approaches would not be allowed to take into account the risk-mitigating effect of insurance.

The AMA option is designed to be more sensitive to operational risk and is intended for internationally active banks having significant exposure to operational risk. It seeks to build on banks' rapidly developing internal assessment techniques and would allow banks to use their own methods for assessing their exposure, so long as those methods are judged by supervisors to be sufficiently comprehensive and systematic.

Internationally active banks and banks having significant exposure to operational risk would be expected to adopt the more risk sensitive AMA option over time. No specific criteria for using the basic indicator approach would be set forth, but banks using that approach would be encouraged to comply with supervisory guidance on sound practices for managing and supervising operational risk. Banks using either the standardized approach or the AMA approach would be required to have operational risk systems meeting certain criteria, with the criteria for the AMA being more rigorous.

## IMPLEMENTATION OF BASEL II IN THE UNITED STATES

Like its predecessor, the proposed New Basel Capital Accord provides a *framework* for ensuring that banks hold adequate capital against risk. National discretion is built into the framework so that adopting countries have some flexibility in implementing rules that are most appropriate to their own circumstances. The U.S. banking agencies have been closely coordinating their efforts to implement a new accord in this country. While their current proposal differs in some respects from the Basel Committee's proposal, those differences lie mainly in the scope of application rather than in the details for calculating capital charges.[6]

6. The U.S. banking agencies are the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, and the Office of Thrift Supervision.

The current proposal for implementation in the United States is contained in an interagency advance notice of proposed rulemaking,

## *Scope of Application*

The U.S. banking agencies have proposed that large, internationally active banking organizations be treated differently from most other banks because of the complexity and scale of their operations and transactions and their greater ability and need to quantify risks.

### Most U.S. Banks

The agencies have proposed that most banking organizations in this country not be required to adopt Basel II, although they may do so if they wish provided that they demonstrate the ability to develop the necessary risk measures required as inputs to determine capital requirements. Those banks not adopting Basel II would remain under the existing (Basel I) capital rule, which entails no explicit capital charge for operational risk. The agencies have several reasons for believing that most U.S. banks should not be required to apply new rules:

- Most U.S. banks have relatively straightforward balance sheets and do not yet need to employ the full range of sophisticated risk-management techniques required under the advanced versions of Basel II.
- Most U.S. banks already hold considerable capital in excess of the Basel I regulatory minimum, in part to meet existing U.S. regulatory criteria for being considered "well capitalized." According to regulatory reports, more than 98 percent of these organizations have risk-weighted capital ratios in excess of 10 percent, well above the Basel I minimum of 8 percent. Applying new standards to them would likely have little effect in requiring them to hold additional capital, but would require the adoption of expensive new procedures, and thus does not seem worthwhile.
- U.S. banks have long been subject to comprehensive and thorough supervision, including a review of their risk-measurement and risk-management processes. They also disclose considerable information through regulatory reports and, if they are issuers of public debt or equity, under accounting rules and requirements of the Securities and Exchange Commission; consistent with pillar 3 of Basel II, they already provide significant disclosure.

published in the *Federal Register* on August 4, 2003 (vol. 68, no. 149, pp. 45899–948). Draft supervisory guidance on internal-ratings-based systems for accounting for corporate credit and on advanced measurement approaches to accounting for operational risk, with request for comment, was published in the *Federal Register* on the same date (pp. 45949–988).

When the costs of imposing a new capital regime on thousands of U.S. banks are balanced against the benefits—slightly more risk sensitivity of capital requirements under, say, the standardized version of Basel II for credit risk and somewhat more disclosure—requiring most U.S. banks to make the change to Basel II does not seem worthwhile. Countries whose institutional structure differs from that in the United States might find universal application of Basel II to benefit their banking system, but in the United States this approach seems neither necessary nor practical.

### Large, Complex Banking Organizations

The agencies have proposed that the largest, most complicated banking organizations—those with total assets of at least $250 billion or total foreign exposure of at least $10 billion—be required to adopt the advanced versions of Basel II—the advanced internal-ratings-based (A-IRB) approach for measuring credit risk and the advanced measurement approaches (AMA) for measuring operational risk. U.S. supervisors believe that these advanced approaches are best suited to the objective of encouraging the largest U.S. banking organizations to continue to incorporate into their operations the most sophisticated techniques for the measurement and management of risk. As noted earlier, these entities use financial instruments and procedures that are not adequately captured by the Basel I paradigm. They have already begun to use—or have the ability to adopt—the techniques of modern finance to measure and manage their exposures. Moreover, substantial difficulty at one of the largest banking organizations could have significant effects on global financial markets. Consequently, the U.S. banking agencies believe that all the largest banks worldwide should be using these more advanced risk measurement and management procedures.

Under the advanced approach for measuring credit risk, a banking organization would be required to estimate, for each credit exposure, the probability of borrower default, the likely size of the loss in the event of default, and the likely amount of exposure at the time of default. These three probabilities, together with the effective remaining maturity of the exposure, would be used as key inputs in formulas provided by supervisors to determine the minimum required capital for a given portfolio of exposures. Although the bank would estimate these key inputs, the estimates would have to be based on empirical information, using procedures and controls validated by the bank's supervisor, and the results would have to measure risk accurately.

U.S. banks that adopt the advanced approach to measuring credit risk would be required to hold capital against operational risk pursuant to the AMA option. Accordingly, banks themselves would bear the primary responsibility for developing their own methodology for determining their operational risk capital requirement. Supervisors would require that the procedures used be comprehensive, systematic, and consistent with certain broad outlines and would review and validate each bank's process. In this way, a bank's capital charge for operational risk would reflect its own environment and controls. The ability of a bank to lower the amount of its capital charge by taking actions to limit its potential losses from operational problems is an important incentive provided by this approach. Under the AMA, there would be no quantitative regulatory mimimum capital for operational risk, either absolutely or relative to total capital; the amount required would vary from bank to bank.

At present, about ten U.S. banks—termed "core" banks—have total assets or total foreign exposure above the specified amounts and therefore would be required, under the current proposal, to adopt the advanced approaches to measuring credit and operational risks. In the years ahead, it is possible that other banks, as they grow, may meet the criteria and thus shift into the core group.

In addition, as noted, other banks that can meet the requirements of the advanced approaches to quantify various aspects of credit risk exposures and to develop systems for measuring operational risk exposures would be allowed to adopt these approaches if they so chose. Relevant considerations for banks in deciding whether to pursue the advanced approaches include the benefits of doing so relative to the costs, the nature of their operations, the effect on their capital requirement, and the message they want to send to their counterparties about their risk-management techniques. It is estimated that in the near term, perhaps ten or more large U.S. banks now outside the core set (termed "opt in" banks) would choose to adopt Basel II. Thus, if Basel II were applied today, about twenty U.S. banks would likely adopt the advanced versions of Basel II.

Over time, other large banks, perhaps responding to market pressure and facing declining costs—and wider understanding—of the technology, might also choose the advanced capital regime. The agencies believe, however, that it would be some time before a cost–benefit assessment would induce smaller and less complex banks to do so. The decision for many banks may rest on market reactions to their initial view. Discussions with the rating agencies confirm that they do not expect many banks outside the core group to find adoption of Basel II to be cost effective during the initial implementation period, and preliminary surveys of bank equity security analysts indicate that they are more focused on the disclosure aspects of Basel II than on the scope of application. This would suggest little market pressure on non-core banks to adopt the advanced approaches. For their part, U.S. supervisors have no intention of pressuring other banks to adopt Basel II, at least in the early years. As risk-measurement standards evolve and become more widespread, supervisors might expect more banks to use advanced measures. The point, as always, is that risk management and capital standards should keep pace with banking practice and that all banks should be well managed.

The ten core banks, together with the estimated ten self-selecting banks, currently account for 99 percent of the foreign assets, and more than 65 percent of total assets, held by U.S. banking organizations. These figures indicate the importance of these entities to the U.S. and global banking and financial markets. In turn, the proposal to require Basel II for just these entities, were the new accord applied today, underscores the United States' commitment to fostering international competitive equity and the adoption of best-practice policies at the organizations critical to financial stability while minimizing cost and disruption at purely domestic, less-complicated organizations.

## *Issues in Implementation*

Three key areas of concern relating to the current proposal for implementing Basel II in the United States have been identified: the cost of implementation, competitive equity, and the treatment of operational risk.

### Cost of Implementation

Implementing the advanced approaches for measuring credit and operational risk in the United States would be expensive for the small number of banks required to do so, for other banks choosing to do so, and for supervisors. For banks, the greatest expense would be in establishing the mechanisms necessary to evaluate and control risk exposures more formally than in the past. The A-IRB approach would not eliminate losses: Banks are in the business of taking risk, and where there are risks, there will be losses. But U.S. supervisors believe that the better risk management that would be required under the advanced approaches would better align risk and return and thereby provide benefits to bank stakeholders and the economy. And the more-risk-sensitive capital requirements would help ensure that banks have sufficient capital to absorb losses when they do occur.

Moreover, not all the costs associated with the adoption of modern, formal risk-management systems should be attributed to Basel II. The large banks that would be required, or would choose, to adopt the advanced approaches have already adopted many risk-management processes, in their need to compete for funding in a global marketplace, and would continue to develop them even without Basel II. The current proposal might speed the adoption process, but, overall, the costs of adopting these processes are being forced on these banks not by Basel II but by the requirements of doing business in an increasingly complex financial environment.

## Competitive Equity

A second key concern in implementation, as currently proposed, is competitive equity, in three areas.

*Equity in Application.* Some U.S. banks that would be subject to Basel II have expressed concern that U.S. supervisors might be more stringent in their application of Basel II rules than the supervisors in other countries, thereby placing U.S. banks at a competitive disadvantage. To address the concern about unequal application, the Basel Committee has established an Accord Implementation Group made up of senior supervisors from each Basel Committee member country to work out common standards and procedures and to serve as a forum in which conflicts can be addressed. No doubt some differences in application would be unavoidable across banking systems having different institutional and supervisory structures, but supervisors would remain alert to the potential problem and work to minimize it. Moreover, as is the case today, U.S. bank subsidiaries of foreign banks would be operating under U.S. rules, just as foreign bank subsidiaries of U.S. banks would be operating under host-country rules.

*Equity of Effects on Minimum Capital Requirements.* The proposed changes in calculating capital requirements under the advanced versions of Basel II could have the result of lowering some banks' minimum capital requirements, and raising other banks' minimum requirements, relative to the amounts that would have been required under Basel I. Some observers have expressed concern about the competitive edge that might be gained by a bank having its capital requirement lowered by more than that of another Basel II bank.

The essence of Basel II is that it is designed to link the capital requirement to the risk resulting from the exposures at each individual bank. A bank that holds mainly lower-risk assets, such as high-quality residential mortgages, would have no advantage over a rival that held mainly lower quality, and therefore riskier, commercial loans just because the former had a lower capital requirement. The minimum capital requirement should be a function of risk taken, and under Basel II, two banks that have similar loans should have similar capital requirements. Under Basel I, the regulatory capital requirement does not always fully reflect the risk taken. Because Basel II is more risk-sensitive, it should not have much of an effect on competitive equity. If anything, one could argue, it will reduce competitive distortions. However, supervisors are mindful of the concerns surrounding possible competitive distortions created by Basel II and therefore are analyzing evidence and evaluating the potential effects that Basel II might have.

*Equity under a Bifurcated Scheme.* The most frequently voiced concern about possible competitive imbalance relates to the "bifurcated" rules implicit in the proposed scope of application—that is, requiring Basel II, through the advanced approaches, for a small number of large banks while requiring the current capital rules for all other U.S. banks. The concern is that the banks remaining under the current capital rules, with capital charges that are not as risk sensitive, would be at a competitive disadvantage relative to Basel II banks, which would have lower capital charges on less-risky assets.

While it is true that the same credit exposure might receive a lower minimum capital charge at a Basel II bank than at a Basel I bank, it can also be argued that a Basel II bank would have higher capital charges on higher-risk assets, plus the cost of developing and maintaining the information systems and risk-measurement processes required by Basel II. Nonetheless, concerns remain about competitive equity under the proposed scope of application. Making changes to the U.S. proposal to address these concerns would involve making some difficult trade-offs. On the one hand is the pressing need to reform the capital system for the largest banks and the practical arguments for retaining the current system for most

U.S. banks. On the other hand is the concern that the current proposal might have the unintended consequence of disadvantaging those banks remaining under the current capital regime. Although there are reasons to believe that little if any competitive disadvantage would fall on those banks remaining under the current regime, the matter is taken seriously and will be explored before final decisions are made.

The basic question is the role of minimum regulatory capital requirements in banks' determination of the price and availability of the credit they extend. Economic analysis suggests that currently imprecise and nonbinding regulatory capital should be considerably less important to banks in their decisionmaking than their own calculations of risk and the capital allocations they make within their organization to individual exposures, portfolios, and business lines—their internal economic capital measures. Sound bank pricing is based on an explicit estimate of the riskiness of the credit, market conditions, and competitive factors. In most cases, regulatory capital is largely irrelevant in the pricing decision and is therefore unlikely to cause competitive disparities.

Moreover, most banks, especially smaller ones, currently hold capital far in excess of regulatory minimums, for various reasons. Thus, changes in their own or their rivals' minimum regulatory capital requirement generally would not have much effect on the level of capital they choose to hold and would therefore not necessarily affect internal capital allocations for pricing purposes.

In addition, small banks have for years faced capital arbitrage from larger rivals that are able to reduce their capital charges by securitizing loans for which the regulatory requirements are high relative to what the market would require based on the perceived level of economic risks. The more-risk-sensitive advanced approach would, in fact, reduce the regulatory capital charge in just those areas in which capital requirements are too high under the current regime. Indeed, capital arbitrage has done much of that already. The advanced approach would provide, in effect, risk-sensitive capital charges for lower-risk assets that are similar to the charges that larger banks have for years already obtained through capital arbitrage. In short, competitive realities between banks might not change in many markets in which minimum regulatory capital charges would become more explicitly risk sensitive.

Concerns have also been raised about the effect of the proposed Basel II capital requirements on the competitive relationships between depository and nondepository institutions. The argument that economic capital is the driving force in pricing applies in this case, too. The role of economic capital is only reinforced by the fact that the cost of capital and funding is less at insured depositories than at their nondepository rivals because of the safety net provided by federal deposit insurance. Insured deposits and access to the Federal Reserve discount window (and Federal Home Loan Bank advances) let insured depositories operate with far less capital or collateralization than the market would otherwise require of them—and far less than it requires of nondepository rivals. Again, Basel II would not change those market realities.

## Treatment of Operational Risk

The third key area of concern about the U.S. proposal for implementing Basel II is the proposed treatment of operational risk. Operational risk—and requiring that capital be held to offset it—are not new concepts. Supervisors have been expecting banks to manage operational risk for some time, and banks have long been holding capital against it. Under Basel I, both operational and credit risks are covered in a single measure of risk and a single capital charge. Basel II would require explicit and separate charges for the two.

Operational disruptions have caused banks here and abroad to suffer huge losses and, in some cases, failure.[7] In an increasingly technology-driven banking system, operational risk has become an even larger share of total risk; at some banks it is the dominant type of risk. Not addressing operational risk would be imprudent and would leave a considerable gap in the regulatory system.

Still being considered is the way operational risk should be treated—as an explicit capital charge under pillar 1 or on a case-by-case basis under pillar 2. Under the current U.S. scope of application proposal, it would be treated as an explicit charge under pillar 1 for A-IRB banks, and these banks would be obligated to evaluate their own operational risks in a structured, though flexible, way. An A-IRB bank could reduce its operational risk charge by adopting procedures, systems, and controls that reduce its risk or by shifting the risk to other entities through such measures as insurance. This approach parallels the way in which a bank could reduce its credit risk charge by shifting to less-risky exposures or by making use of risk-mitigation techniques such as requiring collateral or guarantees.

7. See "Large Losses from Operational Risk, 1992–2002," appendix 2 in June 19, 2003, testimony (www.federalreserve.gov/boarddocs/testimony/2003/20030619/attachment2.pdf).

Those banks for which operational risk is the dominant risk would have significant required capital charges should operational risk be explicitly treated under pillar 1. Such banks already hold significant economic capital for operational risk—in part to meet market demands. Thus, adoption of the proposal would shift their "excess" regulatory capital—capital held in excess of current regulatory minimums under Basel I—to required regulatory capital under Basel II without changing their total capital position much, if at all.

An alternative is to handle operational risk case by case through the supervisory review of buffer capital under pillar 2. There is concern, however, that doing so would greatly reduce the transparency of risk and capital that is an important part of Basel II. Also, because pillar 2 treatment would be based on supervisory judgment, comparable treatment of risks across banks would be very difficult. Work done thus far by U.S. banks that would be subject to Basel II indicates that an explicit charge could induce banks to adopt risk-reducing innovations and encourage them to develop improved operational risk management. Nonetheless, this matter, like the other areas of concern, will be considered further before final decisions are made.

## SUPERVISORY CONSIDERATIONS

Some observers have expressed concern that the combined credit and operational risk capital charges for U.S. banks subject to Basel II would decline too much for prudent supervisory purposes. In exploring this possibility, authorities have conducted a series of surveys to estimate the likely effect of the proposed requirements on banks' regulatory capital. In these "quantitative impact studies," banks throughout the world have followed the proposed methods of estimating their likely regulatory capital charges for distinct types of exposures, and survey results have led to adjustments to the proposal.[8] In the United States, at least one additional survey will be conducted before final decisions are made and final rules are issued.

As a further precaution, the current proposal for Basel II calls for one year of parallel (Basel I and II) capital calculation and a two-year phase-in period, with capital minimums for the two years set at 90 percent and 80 percent of the Basel I levels respectively. If the evidence at any of those stages suggested that aggregate capital was declining too much, the Federal Reserve Board—as well as the other agencies—would insist that Basel II be adjusted or recalibrated.

That said, some reduction in minimum regulatory capital for sound, well-managed banks having relatively low risk portfolios should be expected and, indeed, is intended. Improved risk measurement and management, when coupled with such existing U.S. supervisory measures as prompt corrective action, minimum leverage ratios, statutory provisions making capital a prerequisite to exercising additional powers, and market demands for buffer capital, should result in lower risk profiles—and, as a matter of sound public policy, banks with lower risk profiles should be allowed to hold less regulatory capital than banks with higher risk profiles. Greater dispersion in required capital, if reflective of underlying risk, is an objective, not a problem to be overcome.

A final consideration in relation to capital is change over time in technology and procedures. Basel II is designed to adapt to such changes. In the years ahead, banks and supervisors will no doubt develop better ways of estimating risk parameters as well as better functions that convert those parameters to capital requirements. When they do, the changes could be substituted directly into the Basel II framework, portfolio by portfolio if necessary. Basel II would not lock risk management into any particular structure; rather, it could evolve as best practice evolves.

## LOOKING AHEAD TO ADOPTION

Reform of the current Basel Capital Accord and development of U.S. rules implementing a new accord are ongoing and interrelated. The current proposal for the new accord, issued in April 2003, was preceded by several earlier drafts. Each draft has been accompanied by documents providing background on the concepts, framework, and options and has been followed by written public comments and meetings with bankers in Basel and in other nations, including the United States. After each draft, consideration of public comment and analysis of the results of the quantitative impact studies have led to significant refinement and improvement of the proposal.

Similarly, the U.S. banking agencies have held meetings with bankers, including those whose institutions would not be required to adopt Basel II but might have an interest in choosing to adopt the advanced approaches, to ensure that they understand the proposal and the options it provides them. And

8. The most recent survey (QIS 3) gathered information from more than 20 U.S. banks and 365 others around the world. For more information about the surveys, see www.bis.org/bcbs/qis/index.htm.

white papers have been issued to help commenters frame their views on aspects of the U.S. proposal.[9]

The dialogue with bankers has had a substantive influence on the shape and details of the proposals—for example, on the mechanism for establishing capital for credit risk, the way capital for operational risk may be calculated, and the nature of disclosure rules. Supervisors also remain open to changes that would simplify the proposal but attain its objectives.

The ninety-day period for comments on the current Basel Committee proposal for the new international accord ended on July 31, 2003, and the ninety-day comment period for the advance notice of proposed rulemaking (ANPR) for implementation in the United States will end on November 3, 2003. Comments on the ANPR will highlight the need for further modifications. After reviewing the comments, U.S. banking agencies will develop a national position to present at a meeting of the Basel Committee to resolve remaining differences, now scheduled for late 2003. The mechanics of review of the U.S. ANPR make it unlikely that the U.S. agencies will be in a position to sign off on a final document by then, and the schedule is likely to slip into early 2004. The Basel Committee's goal is implementation in member countries by the end of 2006.

Implementation in the United States of the final Basel II agreement would require that the U.S. banking agencies issue a formal notice of proposed rulemaking, review comments on that proposal, and then issue a final rule. On a parallel track, core banks and potential opt-in banks in the United States will be having preliminary discussions with their supervisors to develop a work plan and schedule. As noted earlier, at least one additional quantitative impact study will be conducted, starting in 2004, so that U.S. supervisors can be more certain of the impact of the proposed changes on individual banks and the banking system.

As currently planned, core and opt-in banks will be asked by late 2004 to develop an action plan leading up to final implementation. In keeping with the Basel II timeline, bank implementation by the end of 2006 would be desirable. However, each bank's plan will be based on a joint assessment by the bank and its supervisors of a realistic schedule; for some banks, the adoption date may be beyond year-end 2006 because of the complexity of the required changes. For each bank, the emphasis will be on "doing it right" rather than on "doing it quickly," and no bank would be forced into a regime for which it is not ready. Supervisors would, however, expect a formal plan and a reasonable implementation date. At any time during the transition to adoption, the schedule could be slowed or the rules revised if there were a good reason to do so.

## SUMMARY

The existing capital regime needs to be replaced for the large, internationally active banks whose operations have outgrown the simple paradigm of Basel I and whose scale requires improved risk-management and supervisory techniques to minimize the risk of disruptions to world financial markets. Fortunately, the art of risk measurement and management has improved dramatically since the first capital accord was adopted. The new techniques are the basis for the proposed new accord.

The Basel II framework is the product of extensive multiyear dialogues with the banking industry regarding evolving best-practice risk-management techniques in every significant area of banking activity. By aligning supervision and regulation with these techniques, the proposed new framework represents a major step forward in protecting the U.S. financial system and those of other nations. Basel II will also provide strong incentives for banks to continue improving their internal risk-management capabilities and will give supervisors the tools to focus on emerging problems and issues more rapidly than is now possible. □

9. These white papers and many other documents related to Basel II are available on the Board's web site. See www.federalreserve.gov/generalinfo/basel2/default.htm.