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The New Basel Capital Accord: A Return to Bank Supervisory Judgments

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Summary

The new Basel Capital Accord (Basel II) is of interest to Congress for three reasons: first, because it would change the safety and soundness standards for U.S. banks, it may be of direct legislative concern as well as requiring new regulatory oversight. Second, it has serious implications for the world financial system in ways that would affect the U.S. economy. Third, while its proposed risk-based capital system is intended to make the international financial system stronger and more efficient, Basel II could also raise the burden of the capital standards on small U.S. banks while lowing it for larger banks, especially if Basel II bifurcates the standards favoring larger banks. Consequently, the United States Financial Policy Committee for Fair Capital Standards Act of 2003 (H.R. 2043) was introduced in the House of Representatives. It would establish a mechanism for developing U.S. positions on issues before the Basel Committee.

The Basel accords regulate capital standards for international banking and other financial institutions. Risk-based capital standards are based on the idea that a bank is less likely to fail if its owners are required to put more of their own money at risk as the institution takes on additional risk. Basel II sets a more comprehensive framework for judging and containing bank risk than Basel I, and is more closely tuned to changes in risk that affect capital adequacy. Basel II also relies more heavily on bankers' and regulators' judgments of risk- and capital-determining models than the set formulas of Basel I. Basel II is now slated for implementation in January 2008 and at least initially, will apply to the largest 10 U.S. banks, but more banks may voluntarily participate.

Basel II has three reinforcing safety and soundness principles called "pillars." The first pillar is the minimum capital requirement. It is the set of rules a bank uses to calculate its minimum capital, taking into account each asset's unique credit risk, or probability of default. The second pillar is a supervisory review process, which requires a bank to maintain its own internal assessments of its risks relative to capital. Pillar two also sets a dynamic requirement that risk and capital evaluations take place over the business cycle as well as under simulated stressful market conditions. The models and methods must be validated or, alternatively, provided by a bank's specific governmental supervisors. The third pillar, market discipline, requires that each bank disclose sufficient information about itself to financial markets that creditors will be able to assess a bank's risk posture accurately and adjust borrowing and capital costs accordingly, thereby pressuring bank management (and signaling regulators) to adopt strong safety and soundness practices.

This report provides basic information on the accords and issues surrounding expected adoption of Basel II. First, it describes how capital assessments were made before these accords. Second, it discusses the situation that led to Basel I and how that accord changed matters. Third, it reviews three major problems with Basel I that Basel II is designed to address. Fourth, it describes Basel II's "pillars" or principles.

This report will be updated as developments warrant.

Contents

List of Figures

List of Tables

The New Basel Capital Accord: A Return to Bank Supervisory Judgments

Introduction

The Basel Capital Accords are international safety and soundness agreements that provide a framework for determining capital adequacy for internationally active financial institutions. The name, Basel Accord, comes from Basel, Switzerland, the home of the Bank for International Settlements (BIS). In 1974, BIS established the Basel Committee on Banking Supervision, made up of representatives from the monetary authorities of 13 countries — Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States — to consider capital adequacy issues and find practical ways to determine and mitigate bank risk, given different national systems of supervision and deposit insurance. The first accord was adopted in 1988, and is credited with providing stability to the international banking system, both through defining consistent safety and soundness standards, and by promoting better coordination among regulators and financial supervisors in participating nations.

The United States and other banking systems are now operating under the first Basel Capital Accord (Basel I). For some time, however, financial regulators in the United States and other industrial countries have recognized that Basel I is insufficiently sensitive in measuring the risks and determining capital needs of today's increasingly complex and dynamic banking operations. Consequently, a new accord (Basel II) has been negotiated. "Basel II" promises to have increased sensitivity to risk, and regulatory flexibility in determining a financial institution's capital adequacy. The new accord is to be implemented beginning 2008.[1]

Basel II is of interest to Congress[2] for four reasons: first, because it would change the safety and soundness standards for U.S. banks, it is potentially of direct legislative concern as well as requiring new regulatory oversight. Second, it has serious implications for the world financial system in ways that would affect the U.S. economy. Third, while its proposed risk-based capital system is intended to make the financial system stronger and more efficient, Basel II could also impose new costs

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[1] Damian Palatta, "U.S. Regulators Conductiing Two Basel II Studies,"*American Banker Online*, Nov. 5, 2004, p. 1, at [http://www.americanbanker.com/search.html?kw=Basel+II&query=+(ke+Basel+II+OR+tx+Basel+II+OR+ft+Basel+II)&articleid=5&connid=4848311&limit=(jn+american+banker)].

[2] U.S. Congress, House Financial Services Committee, Subcommittee on Domestic and International Monetary Policy, Trade and Technology, hearing, Feb. 27, 2003, at [http://financialservices.house.gov/hearings.asp?formmode=detail&hearing=182].

on U.S. banks, especially if the 7,000 or so that are relatively small by international standards are covered. Finally Congress may eventually be called upon to make Basel II a part of U.S. banking laws, as it did with Basel I.[3]

On May 9, 2003, the United States Financial Policy Committee for Fair Capital Standards Act (H.R. 2043) was introduced in the House of Representatives and referred to the Financial Services Committee.[4] The act would establish a mechanism for developing uniform U.S. positions on issues before the Basel Committee on Banking Supervision. At present, there is some disagreement among U.S. banking regulators on implementing Basel II.

This report provides the basic information needed to understand the Basel Accords and the issues surrounding the expected adoption of Basel II. First, it gives basic background on capital standards and describes how adequacy assessments were made before these accords. Second, it discusses the situation that led to Basel I and gives some details on that accord. Third, it addresses three of the major problems with Basel I that Basel II promises to improve. Fourth, it describes Basel II's "pillars," or principles of regulation. Fifth, it discusses Basel II's approaches to measuring capital, followed by a rough comparison with the requirement of the accords. The report concludes with a discussion of next steps toward implementing Basel II in the United States.

Before Risk-Based Capital

In general, capital is the owners' investment in an institution and it rises and falls with the worth of a bank's assets. The more capital a bank has, the greater the cushion against insolvency in bad economic conditions. Thus, regulators who are guarding the credit systems of their countries have an interest in requiring that owners have some minimum level of capital — their own investment — at risk, to avoid failures or taxpayer-funded rescues.[5] Capital is costly, however, in part because it restricts the amount of profitable borrowing a bank can engage in. Thus, owners have an interest in maintaining a low amount of capital, and that amount may be lower (and the risk taken higher) where governmental backing is higher, an insurance effect known as "moral hazard." Held capital requirements are said to be "risk-based" when they rise as institutions take on new or higher risk. The Basel Accords are attempts to base capital requirements on risks taken and thereby align

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[3] Basel I became U.S. law as Title III of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), (P.L. 104-316).

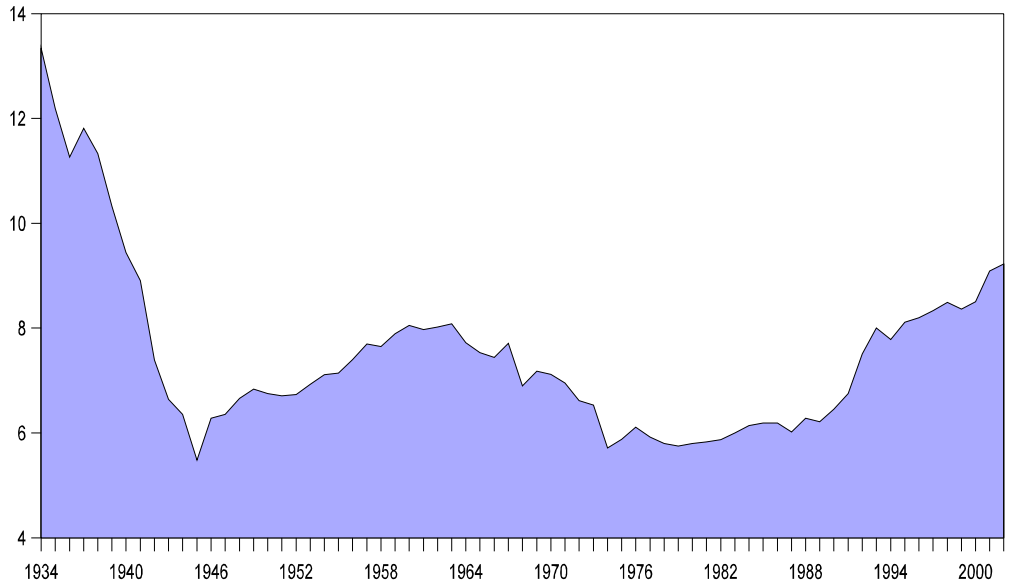
[4] U.S. Congress, House Committee on Financial Services, *United States Financial Policy Committee for Fair Capital Stands Act*, H.R. 2043, 108th Cong., 1st sess., [http://www.congress.gov/cgi-lis/query/z?c108:h.r.2043:].

[5] Capital requirements are not to be confused with reserve requirements. Minimum reserve requirements pertain to the amount of deposits a depository institution must hold to assure liquidity, and for monetary policy purposes. Minimum capital requirements pertain to owners' investment in the firm and are relevant to solvency.

institutions' profit incentives with their own safety and soundness, apart from any national supports, insurance, or guarantees.

In the United States prior to the 1980s, there was no formal numerical standard, or across-the-board capital regulation in effect. Instead, regulators assessed capital-asset ratios on a case-by-case basis. In those times, the bank regulators' judgments on the quality of management (based on observing decision making processes and results), the nature of investment portfolios, and the economic environment, were critical to determining the level of capital a bank was required to maintain. The regulatory determination was essential because the advent of deposit insurance in the 1930s lowered the need for bank capital.[6] That is, because depositors were insured, they did not need to closely monitor the safety and soundness of a bank; knowing that most depositors had no reason to worry about getting their funds returned to them in event of a bank failure, the bank owners could take greater risks, and reap greater rewards, with no concern that depositors would withdraw funds. The somewhat ironic result of deposit insurance was that capital-asset ratios for all banks were in a long historical decline until the end of World War II and then moved in a narrow range until the mid-1970s, as shown in **Figure 1**.

Figure 1. Bank Equity Capital, 1934 - 2002 (Percentage)



Source: FDIC.

Bank examiners' strict enforcement of capital requirements in the 1950-1970 period played a major role in maintaining bank safety. However, in the late 1970s, even as bank failures began to grow along with discussions of interest rate

[6] Trade-offs between capital adequacy and deposit insurance in financial terms are examined in Alex J. Pollock, "Cheap Capital: Call It Deposit Insurance," *American Banker*, June 5, 1991, p. 4.

deregulation,[7] regulators allowed bank capital ratios to remain steady at near historically low levels with deteriorating economic conditions. In 1981, declining bank capital raised the specter of multiple bank failures. Since one way to lower the risk of failure is to raise capital, two regulators, the Federal Reserve (Fed) and the Office of the Comptroller of the Currency (OCC) announced that they were raising capital requirements. They raised them still higher in 1983 in view of congressional recognition of the problem large U.S. banks had with nonperforming Third World loans.[8] The Federal Deposit Insurance Corporation (FDIC) adopted an identical standard in 1985. Bank capital rose in response to the new standards. But it was not until after full implementation of Basel I in the early 1990s and the failures and shutdowns of under-capitalized banks in the 1980s and early 1990s, that capital ratios rose rapidly. By the end of 2002, bank capital was up to 9.22% of total assets or almost $78 billion.

Basel I

The current Basel I Capital Accord was published in July 1988 and fully implemented by the end of 1992. Even though U.S. banking regulators began implementing Basel I in 1988, Basel I did not become U.S. law until 1991 when the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA)[9] was enacted. Under Basel I, the capital that is held against a bank's assets can be of two components — core ("tier 1") capital and supplementary ("tier 2") capital. Core capital consists of common shareholders' equity (issued and fully paid), disclosed reserves, most retained earnings, and perpetual noncumulative preferred stock. Supplementary capital includes subordinated debt, limited-life preferred stocks, and loan loss reserves.[10] These two components must sum to the overall minimum capital requirement of 8% of a bank's assets.

Basel I standards are also roughly risk-based: banks must hold more core and supplementary capital against assets deemed riskier, and may hold less against assets deemed safer. The accord divides bank assets into categories, or "buckets," and applies risk weights to each bucket. **Table 1** lists the main buckets. An asset with a 100% weight requires 8% capital. For example, unsecured corporate and consumer loans have a weight of 100%, meaning that the bank must hold capital equivalent to

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[7] See CRS Report RL30816, *The Anticipated Effects of Depository Institutions Paying Interest on Checking Accounts*, by Walter W. Eubanks, for a discussion of interest rate deregulation and safety and soundness of depository institutions.

[8] See U.S. Congress, House Committee on Banking, Finance, and Urban Affairs, Task force on the International Competitiveness of U.S. Financial Institutions, *The Basel Accord*, 101st Cong., 2nd sess., H.Rept. 101-7 (Washington: GPO, 1991), pp. 318-322. At the same time bank capital requirements were being raised, regulators for the distressed savings and loan industry were lowering them to avoid having to close failures and pay off depositors — a practice known as forbearance. The ultimate losses were much higher as a result.

[9] 105 Stat. 2236

[10] Goodwill — an accounting construct measuring the market value of a bank's reputation and a major point of contention in the savings and loan failures — is not included in any capital.

8% of their value. At the low extreme, cash, and debt due to or guaranteed by national government carries a bucket weight of zero, meaning that no capital is required for such investments.

Specialized assets outside the designated categories, such as derivative instruments, or foreign exchange options, must be converted and placed into a category. Specialized assets that are judged to be of normal credit risk are assigned a weight of 100%, while other assets with contingent components are converted into credit-risk equivalent values. As an extreme case, loans a bank has made that have been defaulted and not yet written off, may receive weights as high as 300%, which would require a bank to set aside capital equal to 24% of the value of the asset. Another case would be a letter of credit in a highly fluctuating foreign currency, which would likely get a higher than normal weight.

Table 1. Basel I Asset Weighting Percentages

Percentage of the Regulatory Capital Requirement 100% weight = 8% capital	**Percentage of Asset Required to be Financed by Capital**	**Major Asset Categories or Buckets**
Zero	Zero	Cash; amounts due from central banks; claims guaranteed by central governments; gold.
20%	1.6%	Assets collateralized by government securities, or conditionally guaranteed by central governments; claims on depository institutions; cash in process of collection; guarantees of public-sector entities (including government-sponsored enterprises).
50%	4%	Revenue bonds; credit equivalents of interest rate and exchange rate contracts that are off-balance sheet items; residential first mortgages.
100%	8%	All other claims on private obligators [bonds]; business and consumer loans; government obligations paid solely by private parties; fixed assets and real estate; investments in subsidiaries; all other assets.
100% +	Above 8%	Defaulted assets and other assets with above normal risk.

Source: Summary of the regulations set forth in 12 C.F.R Part 3, 1991. The actual categories are very detailed and have been modified over time.

In addition to the risk-based capital, as a back-up regulatory requirement, U.S. banks must also maintain a minimum leverage ratio. A leverage ratio measures the relative significance of debt to shareholder financing for a bank, and implies a minimum amount of shareholder equity (tier 1) relative to debt (including deposits) plus equity. Under FDICIA, Congress mandated that regulators must require prompt corrective action when a bank's minimum leverage ratio falls below 4%, or 5%, depending of the type of banking institution. That is, banks must maintain the equivalent of at least 4% of their financing in the form of core capital. Institutions that are below this ratio are subject to mandatory supervisory action to rebuild their capital. If capital levels and ratios are not restored to standard, it could lead to regulators taking punitive action and even placing the bank in conservatorship to avoid a failure or lower the costs in event of failure.

In short, Basel I transformed capital supervision into a system of weighted risk categories or buckets that is applied to most banks. This framework for risk-based capital adequacy requirements is currently used by 110 countries. Because at the time it was introduced, it required most banks to raise their level of capital, it strengthened the stability of the international banking system. Most importantly for purposes of international trade and investment flows, it helped to remove a source of competitive inequality among banks that varied dramatically from nation to nation reflecting different ties, guarantees, or other backing by national governments.

Major Problems with Basel I

Most arguments for switching from Basel I are based on the observation that Basel I's "bucket" system is overly simple, leads to inefficient uses of capital, and doesn't necessarily lower the costs of bank failures. Technological advances in communications and finance, combined with geographical and financial instrument diversification, and global market integration, have made banking systems too dynamic and complex for Basel I. Large, internationally active banks now use far more complex risk models and have developed advanced reserve and capital management techniques. In this rapidly changing environment, the Basel I framework is unable to yield accurate or timely information on major banks' safety and soundness.

Three specific problems have effectively undermined Basel I: risk mitigation management, regulatory arbitrage, and a perceived increase of operational risk. None is adequately accounted for in Basel I. Consequently, banks tend to hold inappropriate levels of regulatory capital given the riskiness of their assets — in some cases, regulatory capital is insufficient, in others it is excessive to assure safety.

Risk Mitigation

Risk mitigation is an internal step banks can take to control their risks. Many prudently managed banks take credit (and interest rate and other) risk mitigating measures by investing in offsetting assets such as loan insurance, derivative hedges, collateral liens, and other proven investments that protect lenders from losses. Under Basel I, acquiring an asset whose risk of default decreases as another asset's default

risk increases would increase a bank's capital requirement instead of reducing it, even though the bank is sounder as a result of the transaction.

Large banks employ a variety of sophisticated business models to measure their actual exposure to losses in strong and weak markets, taking into account the hedges, collateral and recourse agreements, and other risk-mitigating tools. The Market Risk Amendment to Basel I recognized the problem of the fixed credit risk buckets in deterring measures against excessive market risk, and the impracticality of such detailed examinations as would be necessary to determine the effectiveness of all banks' internal risk mitigation measures; it allowed certain, very large qualifying banks to use their risk models to help determine minimum capital requirements. The problem remains that credit risk mitigation is not taken into account under Basel I.

Regulatory Arbitrage

The idea behind risk-weighted capital rules is to encourage lower risk lending by raising the cost of higher risk lending. In general, the higher the quality of a loan or investment, the lower the return. If risk-weighting is accurate, the disincentive to invest in the high-quality, low-risk assets is reduced. However, the limited number of categories in Basel I gives banks an incentive to take on higher risk assets within each very broad bucket, without shifting into a higher capital-consuming bucket. This is called "regulatory arbitrage," or "gaming the system."

Within a risk category, Basel I encourages banks to hold high risk, high yielding assets and sell low-risk ones into the capital market. For example, usually investors distinguish among commercial loans by demanding higher yields for higher risks. Basel I's bucket approach does not. It places a capital charge of 8% on all commercial loans, even though a triple A-rated commercial loan carries a lower yield than a B-rated one. Since both loans carry the same capital charge, Basel I gives the bank an incentive to carry more B-rated than triple A-rated commercial loans because they have higher yields. For greater profits, banks are likely to sell triple A-rated loans to acquire higher yielding B-rate or even lower rated loans. As a result of this regulatory arbitrage, some banks are likely to be holding less capital than actual risk implies. Adding more categories helps only to a point; ultimately, individual loan risk evaluations are required to make accurate capital needs assessments.

Operational Risk

Operational risks can produce losses resulting from inadequate or failed internal processes, people, and systems, or from external events including legal and compliance-related risks. Operational risks include poor accounting, lapses of governance controls, settlement failures, poor or fraudulent managers and traders, and security and process failures. Despite the fact that some of these risks are captured under credit risk, operational risks have historically played major roles in depleting capital from failed banks which have met the minimum credit risk-based requirements. Operational risk is a major cause of bank failures. It is not, however, explicitly taken into account in Basel I. Fraud contributed to eight of the 11 U.S. bank failures in 2002, and was the direct cause of failure in several of these cases. There is considerable controversy over how to form a capital charge for operational

risk because it is not clear how such a charge would actually work to deter fraud. The general approach for most corporations is to require sufficient disclosure that fraud has a better chance of being detected.[11] Nonetheless, for some regulated U.S. financial corporations, explicit capital charges are required as an "add-on" to all other capital charges[12] and the lack of such charges in Basel I is considered to be a serious omission.

The Basel II Capital Framework

Between 1992 and 2001, numerous new and old risk-based capital questions related to risk management and supervision were put to the Basel Committee. The Committee's cumulative responses are presented in the form of Basel II The expectation is that for some banks Basel II will replace the current Basel I Capital Accord beginning implementation in January 2008. The Basel II Capital Accord is expected to improve safety and soundness by being a more comprehensive framework which is more accurately sensitive to risk and, therefore, able to adjust measures of capital adequacy more rapidly than the current framework. It also represents a shift in regulatory philosophy toward greater use of market signals in determining the adequacy of capital. Basel II has three reinforcing principles, known as "pillars."

Pillar One

The first pillar is the minimum capital requirement, which may be seen as essentially an improved Basel I. It is the rule a bank uses to calculate its per-loan minimum capital, taking explicitly into account each loan's unique credit risk.[13] For example, unlike the bucket approach of Basel I where all assets in a bucket — such as commercial loans — are assigned the same specific risk weights, in Basel II a commercial loan with a "triple A" rating is assigned a lower risk weight than a B-rated commercial loan. Other types of loans are also differentiated according to their perceived risk. The specific risk assignment is set by the bank and its regulators based on the credit history of the borrower in that institution. Thus, the pillar one refinements specifically take into account and correct for the Basel I problems with regulatory arbitrage.

Basel II also takes into account risk-mitigation measures taken in bank assets. While the capital requirement is determined for each asset, risk-offset relationships that can be demonstrated to the satisfaction of the regulators are not penalized. Some provisions, of course, may prove not entirely effective because of disputes, contractual impairments, and counter party failures. Nonetheless, regulators would

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[11] This is the approach of the Securities and Exchange Commission, for example.

[12] This is the approach taken by the Office of Federal Housing Enterprise Oversight with respect to the large housing government-sponsored enterprises.

[13] This is the risk that a borrower fails to make the contractual payments on a timely basis or fails to fully discharge the terms of the contract.

have the flexibility to reward banks by lowering capital charges for such risk-mitigation arrangements.

In addition to credit risk, Basel II explicitly accounts for operational risk under pillar one. In the most recent version of the Basel II proposal, banks will have to set aside a minimum of 12% of the total credit-risk capital with no cap. That is, if a bank's credit- risk or current regulatory capital totals 8% of its total assets, it would have to add 12% of that, or about 1% of assets, for operational risks, ending up with a total regulatory capital requirement of 9%. Some have argued that operational risk is already included in the credit risk-based calculations. Others have argued that the capital charge for operational risk should be at the discretion of bank supervisors and therefore not an explicit universal requirement. Furthermore, other analysts argued that a capital charge for operational risk does not necessarily mitigate operational risk itself, because it is not directly linked to operationally risky behavior. Operationally risky behavior may be only indirectly countered by supervisory review process, and market disclosure of bank operations. This remains a controversial matter and the basis for calculating operational risk is not yet final.

Pillar Two

The second pillar represents a major return to bank supervisory judgments. It is the supervisory review process, which is less tangible than pillar one, but somewhat more determinable than in the pre-Basel era. Pillar two requires banks to maintain internal assessments of risks relative to capital. This is a process rather than a static quantitative assessment as in pillar one. Pillar two is a dynamic requirement that risk and capital self-evaluations must take place over the business cycle as well as in a period of noncyclical stress.[14] The bank supervisory agencies have a key role to play under this pillar. They must validate the methodology and processes used in these bank self-examinations. "The focus is on ensuring that the bank has strong risk-assessment capabilities and that the supervisor and the bank jointly assess and evaluate that capacity."[15]

Pillar two provides an opportunity for flexibility in risk-based capital requirements. It is under pillar two that the rigidity of Basel I (one size fits all) gives way to negotiations in the interpretation of empirical data between the bank and its supervisors of the safety and soundness of the institution. Larger banks routinely use risk models to assess their safety and soundness profile and to determine the advisability of new business, or of concentrations of risks in continuing business. For smaller banks, however, sophisticated risk-modeling may not be as beneficial. In the latter case, the supervisory agency could simply require a bank to operate under

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[14] Business cycle stresses measure the effects of credit risk changes as the economy fluctuates, while noncyclical stresses, which have cyclical components, measure interest rate risk and other exogenous changes. An example of a noncyclical stress would be a sudden two percentage points rise in market interest rates.

[15] Roger W. Ferguson, Jr., vice chairman of the Board of Governors of the Federal Reserve System, before the Subcommittee on Domestic and International Monetary Policy, Trade and Technology, Committee on Financial Services, House of Representatives, Feb. 27, 2003, [http://www.federalreserve.gov/boarddocs/testimony/2003/200302272/default.htm].

the rules of Basel I based on the dialogue and evidence pertaining to the individual bank's special risk profile, geographic location, and loan concentration, among other factors.

Pillar Three

The third pillar represents a major change from previous safety and soundness rules: supervisory use of market signals and market discipline. That is, pillar three is a requirement that a bank make public sufficient information about itself and its own determining factors in its capital requirements, among other disclosures, that creditors and investors in financial markets will be able to assess a bank's risk posture accurately and adjust borrowing and capital costs accordingly. The idea behind this requirement is to bring market discipline to bear so that bank management and their regulators have a cost incentive to adopt strong safety and soundness practices. Comparison across banking institutions could be more easily made by depositors and investors, as well as regulators. This knowledge, in turn, would affect the willingness of investors to invest, or alter the cost to the bank of investments and thereby the bank's profitability.

It is under pillar three that a bank may be required to issue subordinated debt.[16] Subordinated debt consists of bonds that are paid after other debts are satisfied and just ahead of shareholders. If a bank is perceived to operate in an increasingly risky way, buyers of subordinated debt would require a greater return than regular debt holders and the price of the debt would fall (or, the yield would rise) relative to other debt, signaling regulators of market perceptions. Thus, without issuing new stock, a bank and its regulators can, by issuing "sub-debt," have a reasonable indicator of the financial market assessment of its strength. The lower the market yields on such debt, the sounder the bank is seen to be. The idea is to add "more sets of eyes" to analysis of a bank's risks.

Measuring Capital Adequacy

U.S. bank supervisors have already decided they will implement one of the three approaches Basel II offers to measure bank capital adequacy. To the extent that Basel II is more flexible than Basel I, most of that flexibility comes from the approaches used to measure capital adequacy. The three approaches to calculating the minimum allowable amount of bank owners' investment in the bank are: the standard approach, the foundation internal ratings-based approach, and the advanced internal rating-based approach. These three approaches are briefly described in this section to better understand the principles behind Basel II.

The Standard Approach. The standard approach is very close to the calculus under Basel I. Under this approach, to calculate the capital adequacy of bank risk-weighted assets, the total exposure to losses from an asset is multiplied by the supervisory determined risk weight. Compared to Basel I, the major differences

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[16] See CRS Report RL30820, *Subordinated Debt: A Potential Tool for Greater Market Discipline of the Financial System*, by Marc Labonte, for a discussion of the relationship between this kind of debt and the safety and soundness of the banking system.

are that capital required for credit risk is no longer capped at 8% when the risk weighting equals 100%, and the standard moves away from the uniform 100% risk weights for all corporate credits. A corporate claim could receive a risk weight of 20%, 40%, 100% or 150% depending on its external credit rating. There are at least five other modifications in the weighting structure, and more may be added.[17] The general notion is that degree of riskiness can be more finely differentiated under Basel II.

U.S. regulators appear unlikely to implement the standardized approach. They have said that credit risk measured under this approach would generally not be appreciably different from what is measured under the current rules for most U.S. banks, and the marginal changes in capital requirements would not justify the costs of implementation.[18]

The Foundation Internal Rating-based Approach. U.S. bank regulators have also ruled out the foundation internal ratings-based approach because of technological and other costs.[19] For these approaches, banks must meet stringent qualifying criteria. National supervisors would use quantitative as well as qualitative measures to determine which banks may apply for the Basel II framework. The evaluative process would include rating system design, risk- rating system operation, corporate governance, and most critically, validation of internal estimates. In the foundation version, regulatory capital is determined by a bank's own assessment of the risk of default on each of its assets. This is called probability of default (PD). In this approach, the banks have to supply few direct inputs. Regulatory agencies supply most of the supervisory standards that the bank must meet. These supervisory rules are similar but not identical to the standardized approach.

The Advanced Internal Rating-based Approach. U.S. bank supervisors have indicated an interest in selecting the advanced internal rating-based approach for U.S. banking regulation because it allows use of banks' existing internal assessments and management technology to calculate regulatory capital requirements. Like the foundation approach, the first measure is the probability of default (PD) of each asset. Next the bank must estimate the loss severity. This estimate is also called the "loss given default" (LGD). The third measure has two elements: first is the amount at risk in the event of default (exposure at default, or EAD). This is the nominal value of the assets at the time of default. The second element is the maturity (M), which is considered an explicit risk component. An element that is in Basel II, but not included in U.S. regulators' planned adaptation, is a bank's exposure to a

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[17] Christoph Sidler and Gabriel David, "Impact of the New Basel Accord," *White Paper: Basel II*, eds.com/financial, Jan. 2003, p. 9.

[18] Testimony of John D. Hawke, Jr., Comptroller of the Currency, before the U.S. Congress, House Financial Services Committee, Subcommittee on Domestic and International Monetary Policy, Trade and Technology, Feb. 27, 2003, at [http://financialservices.house.gov/media/pdf/022703jh.pdf], p. 21.

[19] Business cycle stresses measure the effects of credit risk changes as the economy fluctuates, while noncyclical stresses, which have cyclical components, measure interest rate risk and other exogenous changes. An example of a noncyclical stress would be a sudden two percentage points rise in market interest rates.

single borrower or group which is called "granularity" (G). For each exposure, the risk weights would be a function of PD, LGD and EAD.

To calculate the capital charge, the bank's portfolio would be broken down into five categories: corporate, retail, bank, sovereign, and equity. Supervisory approval is needed before a bank can use its own internal ratings-based approach for these five categories. After the bank determines the probabilities of default (PDs), and the losses given default (LGDs) for all exposures, these are mapped into regulatory risk weights for the portfolio. These risk weights are adjusted to include expected and unexpected (a deviation measure) losses. The minimum capital charge is determined by multiplying the risk weights by the amount expected to be outstanding at the time of default (EAD) and 8%.

How the Accords Compare

Table 2 compares the capital charges that a bank would be required to hold under pre-Basel standards, under Basel I and under Basel II, using a single category of bank asset — a $100 commercial loan — with different risk ratings. The three credit ratings are AAA, the safest rating, BBB, a middle risk rating, and a B rating, a low investment grade and the riskiest on this chart. **Table 2** shows that before Basel I, the minimum capital requirement for these three risk grades of commercial loans would have been determined by the judgment of the bank examiners and supervisory agency. Under Basel I, a more rigid system would have required a fixed 8% of the loan regardless of the actual and varying risk of default. Under Basel II a range of possible capital amounts would result. The exact amount would rest on the judgment of the bank and its examiners and supervisory agencies and would vary according to general economic conditions for any given credit rating. Consequently, for the B-rated $100.00 commercial loan a capital requirement could range from $3.97 to $41.65, a wide range that implies considerable supervisory discretion.

Table 2. Minimum Capital Required for a $100.00 Commercial Loan Before Basel I, After Basel I, and Basel II

	AAA Credit Risk	BBB Credit Risk	B Credit Risk
Before Basel I	Supervisory Judgment	Supervisory Judgment	Supervisory Judgment
After Basel I	$8.00	$8.00	$8.00
Basel II Advance Internal Ratings-Based[a]	$0.37 to $4.45 and Supervisory Judgment	$1.01 to $14.13 and Supervisory Judgment	$3.97 to $ 41.65 and Supervisory Judgment

Source: FDIC

a. Calculations reflect representative lower and upper bounds to be held in support of the $100.00 commercial loan. The quality of these loans refers to one-year default possibilities (DPs) corresponding to the historical average for the given rating. The calculations include an operational risk charge, which is determined by using the basic indicator approach where capital charge is equal to 15% of the institution's average gross income over the previous three years. Return on assets

(1.41%) is a proxy for average gross income. This is multiplied by the amount of the loan ($100.00) as an estimate of operational risk (.15* $1.41=$.21). Lower bound reflects a LGD of 10% (high recovery) with a one-year maturity(M) loan. Upper bound reflects an LGD of 90% and a five-year maturity loan.

Remaining Concerns about Basel II

Basel II is, in some ways, a work in progress: specific adaptation to banks within the nations that subscribe to the accord is up to national regulators, particularly their central banks. The broader framework, particularly the added bank management and supervisory involvement in determining minimum bank capital, is expected to bring about much greater sensitivity to risk and flexibility in containing it than Basel I. U.S. regulators, led by the Fed, have indicated their intent to adopt the advance internal rating approach for only the 10 most important, internationally active banks, but expect that other major banks will also join the system. The Fed expects 20 large banks will be operating under Basel II by the implementation date of January 2008. These institutions are already operationally disposed to this system, running complex risk-assessment models, and handling risk through a wide variety of hedges and other insurance. They account for about 99% of the foreign assets held by the top 50 domestic banking organizations and approximately two-thirds of U.S. domestic banking assets.[20] Nonetheless, implementation of Basel II raises important issues.

Cost and Complexity

If the regulators should apply Basel II to banks that are not operationally disposed to the system, Basel II could prove to be a very costly regulatory burden. Most banks, especially the 7,000 or so that are relatively small by international standards, would have to incur significant new costs to prepare for even the least costly standard approach to capital determinations. Cost considerations are the primary reason that U.S. regulators plan to implement Basel II in only the largest U.S. banks.

Under Basel II, senior executives of all covered banks are required to sign off and be accountable for the integrity of the internal management systems and processes that generate the data for determining capital requirements. These executives must ensure that their internal systems can stand up to regulatory scrutiny and will be held liable (it is not clear yet what liability means in terms of enforcement) if they do not. Covered banks must already have made or be willing quickly to make major investments to upgrade their core processing systems and information technology architectures. In addition, internal audit and control functions must be able to collect extensive internal loss data and be operational in time to meet the January 2008 implementation deadline. In short, these banks must already have taken on the cost of re-engineering their management governance structure and their operations in the context of Basel II. Several very large banks are

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[20] See Roger W. Ferguson, Jr. remarks at the Basel Sessions 2003, Institute of International Finance, New York, New York, June 17, 2003, available online from the Federal Reserve site at [http://www.federalreserve.gov/boarddocs/speeches/2003/20030617/default.htm].

already in position for Basel II, primarily because their complex operations already required sophisticated models and risk-containment procedures as a business matter. Smaller banks, however, are far less likely to be ready for implementation.

Procyclicality

Some bank supervisors as well as academics have expressed concerns about the pro-cyclical characteristics of the Advance Measurement Approach in the United States.[21] Procyclicality means that banks would be able to disproportionately expand lending when economic activity is expanding and similarly be forced to disproportionately contract lending when economic activity is contracting. This is the case because in economic expansions lending is less risky and the framework would recommend less need for capital. In economic contractions when lending tends to be more risky, the framework would recommend higher levels of capital, slowing or possible preventing banks from lending. While there is logic to the pattern it could also be contrary to the intent of monetary policy to ease credit and expand lending to reverse a contraction, or to tighten credit and slow lending when the economy is over heated and likely to become inflationary. Procyclicality, in other words, has a destabilizing tendency on the economy.

While procyclicality is not a new issue, Basel II appears to be more procyclical than its predecessor. That is, Basel II is argued by many financial analysts to require much more bank capital during economic recessions than Basel I.[22] The main reason is that during recessions, credit ratings of many commercial firms' securities — including loans made by and securities held by banks — may be downgraded; this could result in a dramatic increase in required bank capital. As table 2 demonstrates, if a $100.00 commercial loan with a triple-A rating in an economic expansion requiring as low as $0.37 bank capital were downgraded to a B rating, it would require as much as $41.65 worth of capital.

Presumably, Basel II compensates for this procyclical bias though the supervisory review process (pillar two): supervisory review could make capital adjustments called "cyclical buffers." The amount of these adjustments would come from stress tests, among other factors. The stress tests are simulations of sharply adverse economic conditions (sometimes called "depression scenarios"). For each bank, the stress tests supply information — such as how long the bank's current level of capital would last under adverse conditions — that is used as guidance to ease required capital sufficiently to at least partially offset the procyclical bias of the pillar one capital requirements. Supervisory review places a critical responsibility on bank supervisors in times of recessions. The fact is that the more accurately regulatory

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[21] Testimony of Donald E. Powell and John D. Hawke, Jr., before the U.S. Congress, House Financial Services Committee, Subcommittee on Domestic and International Monetary Policy, Trade and Technology, Feb. 27, 2003, [http://financialservices.house.gov/media/pdf/022703jh.pdf].

[22] Testimony of D. Wilson Ervin, Strategic Risk Manager of Credit Suisse First Boston, before the U.S. Congress, House Committee on Financial Services, Subcommittee on Domestic and International Monetary Policy, Trade and Technology, Feb. 27, 2003, p. 6, [http://financialservices.house.gov/media/pdf/022703de.pdf].

capital is tied to risk, the greater the regulatory incentive for appropriately-priced risk taking. Supervisory calming of risk-taking fears in adverse climates is critical to the efficient use of capital.

Market Competitiveness

The implementation of Basel II in the United States potentially could change the competitive positions of regional banks, smaller banks, and foreign banks as some of these banks switch from Basel I to Basel II. Both some small as well as regional bankers believe that they will be placed at a competitive disadvantage with the Basel II banks because, under most circumstances, Basel II allows lower overall capital charges. Specifically, under Basel II, lower capital requirements are likely on such important lines of business as residential mortgages, loans to small businesses and retail loans. Lower capital is not across-the-board, however: Basel II banks will face higher capital charges on commercial real estate and operational risk, in addition to incurring the higher cost of developing the risk-management structure to operate under Basel II.

Internationally, all the banks to be part of Basel II are big players in the international financial markets. Some of the largest competitors that U.S. banks face both domestically and abroad are U.S. nonbank financial firms, for example General Electric. These nonbank global competitors, which will not be under Basel II, could have competitive advantages in their lines of business, particularly when they securitize loans. Such companies, however, do come under market scrutiny and, while their capital is not formally regulated, their costs of borrowing do rise and fall with market perceptions of their risks. At least domestically, those risks are supposed to be disclosed in regular information filings with the Securities and Exchange Commission (SEC).

Other countries' regulatory agencies are reviewing their capital adequacy standards in light of Basel II.[23] Like the United States, they will have the option of adopting parts or the entire Basel II framework. Because international banks also participate in the domestic market with smaller banks, concerns have been raised that implementation of the new capital accord may not level the banking playing field (combined international and domestic) as intended. For example, if U.S. regulators only apply the new accord to a few banks, while the European Union applies it to all banks, capital charges for European banks as a whole could be lower than U.S. banks, at least during economic expansions. In such circumstances, smaller U.S. banks could find themselves and any expansion plans somewhat constrained, at least until they were able to take on the costs and complexities to qualify for Basel II's advanced treatment.

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[23] The European Commission, "Capital Adequacy: Commission welcome Significant progress on new Basel Capital Accord," press release, Nov. 7, 2002, at [http://europa.eu.int/rapid/].

Prompt Corrective Action (PCA)

As already noted, in placing Basel I in U.S. banking law, Congress did not rely solely on risk-based capital requirements to assure the safety and soundness of banks, or to reduce the cost of bank failures. Under FDICIA, Congress took away some discretion from regulators. Banks and their regulators must take prompt corrective action when a bank minimum leverage ratio falls below 4% or 5%, depending of the type of banking institution. Institutions that are below this ratio are subject to mandatory supervisory action to rebuild their capital. Used as a trigger for intervention, the leverage ratio reduced the opportunity for bank supervisors to practice forbearance toward undercapitalized banks.

Prompt corrective action is likely to be adjusted for implementation of Basel II. First, it is not likely that the new Basel accord will bring about such a large decrease in required capital that PCA leverage tests become binding constraints. That is, it is unlikely that under Basel II, banks' required capital would fall to 4% or below. The Basel Committee already limits any reduction in capital as a result of shifting to Basel II, to 10% of the existing minimum capital requirement, in the first year of adoption. In the second year, the minimum capital floors would be 80% of pre-implementation levels. Thus, in the first two years of implementation, the decline in required capital could only allow capital to fall 20% lower than what it is currently.

Congress and Basel II Implementation

Although Congress may choose to act on them, the Basel Accords are not international treaties needing congressional approval. They are international banking recommendations in the framing of which U.S. bank regulators — with the Federal Reserve taking the lead as the nation's central bank — have been major participants. Basel I was originally a proposal of the Federal Reserve of New York to the Basel Committee in 1986. Its standards were adopted by the monetary authorities in the G-10 countries as guidelines in 1987. The agreement to use Basel I as a common approach to evaluate bank capital adequacy came in 1988 with an effective date at the end of 1992. As pointed out earlier, Congress made the agreement part of U.S. banking law in 1991, long after it was implemented by U.S. bank supervisors. The leverage ratio requirement coupled with prompt corrective action was a major modification that is applicable to U.S. banks and not other signatories. Similarly in the case of Basel II, U.S. regulators have been both instigators and participants. William J. McDonough, retired president of the Federal Reserve Bank of New York, was also chairman of the Basel Committee on Bank Supervision at the BIS when Basel II was being developed.

The United States Policy Committee for Fair Capital Standards Act (H.R. 2043)

On May 9, 2003, the United States Policy Committee for Fair Capital Standards Act (H.R. 2043) was introduced by Representative Spencer Bachus and referred to the House of Representatives Financial Services Committee. The act would establish the United States Financial Policy Committee for Fair Capital Standards. The

purpose of the policy committee would be to develop uniform U.S. positions on the proposals made to and issues before the Basel Committee on Banking Supervision that, if implemented, may directly or indirectly affect U.S. financial institutions. The committee the law would establish consists of the heads of the major federal banking regulatory agencies: the Secretary of the Treasury, who would chair the committee; the chairman of the Board of Governors of the Federal Reserve System; the Comptroller of the Currency; and the chairman of the Federal Deposit Insurance Corporation. By making the Secretary of the Treasury the chair of this committee, this law would enhance the role of the Treasury Department relative to the Federal Reserve in decision-making concerning implementing Basel II.

If H.R. 2043 becomes law, Basel I is not likely to be a guide to the implementation of Basel II. In the case of Basel I, Congress waited until U.S. bank regulators implemented the accord before it adopted the Basel I capital standards with modifications into U.S. banking law. H.R. 2043 would require the United States Financial Policy Committee to report to Congress on its evaluations of the impact of Basel II on the following: the cost and complexity of the proposal; the impact of the proposal on small, medium, and large financial institutions; the impact of the proposal on real estate markets; the effect of an operational risk standard on the resilience of the nation's financial system, and competition; the impact of the proposal on competition between banks and other financial institutions; the need for additional training for supervision and examination personnel; any comments filed by the public after notice and opportunity to comment for a period of not less than 60 days; and the relative impact of compliance by domestic banks.

The planned implementation of Basel II in the United States will bifurcate bank regulatory capital standards, which some regulators believe will give a greater advantage to some larger banks operating under Basel II. U.S. financial regulators, led by the Federal Reserve, intend to require Basel II for only the most important, internationally active banks, and presume that other major banks will also eventually join the system. On August 4, 2003, U.S. federal banking regulators jointly issued an advance notice of proposed rulemaking (ANPR).[24] According to the ANPR, the overwhelming majority of commercial banks in the United States will continue to operate under Basel I. The agencies expect to identify only 10 large international banks to be designated core banks. Another 10 banks may voluntarily opt into the new standards after meeting infrastructure and other supervisory and disclosure requirements. These 20 banks combined account for about 99% of foreign assets held by the top 50 domestic banking organizations and approximately two-thirds of U.S. domestic banking assets.[25] This means that the overwhelming share of the international banking business will be under Basel II, but an overwhelming majority of U.S. banks are not likely to be. Because of the up-front costs that Basel II would impose on banks, most U.S. banking institutions are likely to remain exempt. Basel

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[24] U.S. Department of the Treasury, "Internal Ratings-Based Systems for Corporate Credit and Operational Risk Advanced Measurement Approaches for Regulatory Capital," *Federal Register*, vol. 68, no. 149, Aug. 4, 2003, pp. 45948-45988.

[25] Roger W. Ferguson, Jr. *Basel II: Scope of Application in the United States*, statement before the Institute of International Bankers, New York, New York, June 10, 2003, [http://www.federalreserve.gov/boarddocs/speeches/2003/200306102/default.htm].

II could enable the larger banks under it to expand lending at more competitive rates.[26]

Concerns about competitiveness, safety, and soundness have caused U.S. regulators to announce on December 3, 2004, the launching of two more Basel II studies.[27] The first study is a quantitative impact study (QIS-4). It incorporates the most advanced options for measuring credit and operational risks, which the U.S. Basel II banks are expected to adopt. In this study, bankers must enter nearly 100 points of data on risk exposures in a spreadsheet. The banks must provide the regulators with data on things like residential mortgages, undrawn credit lines, and operational risk data such as fraud, and natural disasters that could disrupt their businesses. The second study concerns bank portfolios. It too involves spreadsheets on roughly a dozen types of portfolios. The regulators expect close to 30 banks and thrifts to participate. The results of both studies should be in by the end of January 2005 and will be used by the regulators in preparing the Basel II implementation proposal around mid-2005.

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[26] See George French et al., *Risk-Based Capital Requirements for Commercial Lending : The Impact of Basel II*, Apr. 21, 2003, [http://www.fdic.gov/bank/analytical/fyi/2003/042103fyi.html].

[27] Damian Paletta, "U.S. Regulators Conducting Two Basel II Studies," *American Banker, Online*, Nov. 5, 2004, p.1.
[http://www.americanbanker.com/article.html?id=20041104U640KSWA&from=washregu]