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Basel II in the United States: Progress Toward a Workable Framework

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Summary

Federal banking regulators (Office of the Comptroller of the Currency, Treasury, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, the Office of Thrift Supervision, and the National Credit Union Administration) issued a final rule for the implementation of the Basel II capital accord on December 7, 2007. The final rule became effective on April 1, 2008. It is expected that 11 of the largest U.S. banks will be mandated to be the "core" Basel II banks. Other banks may opt-in, if their implementation plans are approved by their primary federal supervisors. The rest of the U.S. banking industry will be able to choose between a modified version of the existing Basel I (Basel 1-A, the United States version of the Basel II standardized approach) or continue to operate under the Basel I framework. These three methods are expected to be available to financial institutions in the United States to determine the minimum amount of regulatory capital that must be held under the first pillar of the Basel II framework. Congress' oversight might be most productive in enforcing the other two pillars of Basel II — supervisory review and public disclosures of bank financial information.

This report will be updated as developments warrant.

Contents

Basel II in the United States: Progress Toward a Workable Framework[1]

The Basel Accords[2]

The Basel capital accords are international safety and soundness agreements that provide a framework for determining capital adequacy standards for banking institutions. The accords provide a framework for determining the minimum capital financial institutions must hold as cushion against insolvency or taxpayer-funded rescues. Without financial institutions holding this minimum amount of capital, banking regulators would not permit these banking organizations to conduct normal financial business. 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[3] and by promoting better coordination among regulators and financial supervisors in participating countries. But, for almost a decade now, banking regulators in the United States and other countries have argued that Basel I is not sufficiently sensitive in measuring the risks and determining the regulatory capital needs of an increasingly complex and dynamic banking system. Banking institutions are able to game the system to minimize capital-consuming assets and by moving assets off their balance sheets, often leading to capital levels not adequate for the associated risk. Basel II, a three-pillared framework announced in 2004 and updated in 2005 by the Bank for International Settlements Basel Committee on Banking Supervision, promises to be more sensitive to risk, and more accurate in determining and maintaining capital levels not adequate for the associated risk. Consequently, studies suggest Basel II may be more efficient in using regulatory capital.

Without All Three Pillars, Basel II Will Not Stand

The Basel II capital framework has three equally important pillars, but pillar one gets the most attention. Pillar one determines how banks calculate per-exposure minimum capital, taking into account each exposure's unique credit risk. The second pillar is the

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[1] For additional historical information and analysis, see CRS Report RL33278, *The Basel Accords: The Implementation of II and the Modification of I,* by Walter W. Eubanks.

[2] 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.

[3] For a definition of safety and soundness, see CRS Report RL33036, *Federal Financial Services Regulatory Consolidation: An Overview,* by Walter W. Eubanks, p. 4.

supervisory review process, which is less concrete than pillar one, but critical to the framework. Pillar two requires banks to internally assess their risk exposures and maintain sufficient capital relative to those risks. The supervisory agencies must validate the methodology and processes used in these self-assessments. "The supervisory review process of the framework is intended not only to ensure that banks have adequate capital to support all the risks in their business but also to encourage banks to develop and use better risk management techniques in monitoring and managing risk."[4] Validation of risk management mechanisms and accountability of determinations concerning stress testing, definition of default, and residual risk take place under pillar two.

The third pillar of the Basel II framework is public disclosure. Pillar three is a set of public information disclosures that a bank must make about itself. These disclosures are to make it easier for creditors and investors in financial markets to assess a bank's risk posture more accurately and adjust borrowing and capital costs accordingly. The idea behind this requirement is to bring market discipline to bear to give bank management a cost incentive to adopt strong safety and soundness practices. The disclosure requirements will also make it easier for depositors, investors, and regulators to make comparisons across banking institutions. This knowledge, in turn, is expected to affect the willingness of investors to invest in banks and their related businesses. Without pillar three, financial institutions could become more opaque and more difficult to understand as the institutions develop new products and complex risk-hedging strategies that are difficult to evaluate. It could also make it more difficult to understand the risk profile of the firm creating and selling these products as well as the firms buying and using them.

How Basel II Addresses Some Basel I Shortcomings

Even though Basel I has been modified at least twelve times since its implementation in 1988, banking regulators in the United States and in other countries argue that it is inadequate, particularly for large and complex organizations. In the United States, Basel I divides bank assets into five categories, or buckets, and applies the following capital weights to each bucket — 0, 20%, 50%, 100% and 200%. A 100% weight requires 8% of the value of the asset as capital.[5] For example, less risky assets such as cash or debt due to or guaranteed by national governments are placed in the bucket carrying a weight of zero capital. Three major problems have been pointed out with this approach: (1) regulatory arbitrage between buckets, (2) little or no recognition for risk mitigation provisions, and (3) not accounting for operational risk. These weaknesses may result in institutions holding inadequate levels of capital.

Regulatory capital arbitrage, a shift in holding a particular risk exposure with a higher and binding regulatory capital requirement to an exposure with a lower capital requirement, is more easily done and more highly rewarded under Basel I than under Basel

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[4] Bank for International Settlements, Basel Committee on Bank Supervision, *International Convergence of Capital Measurement and Capital Standard, A Revised Framework*, June 2004, p. 158.

[5] See CRS Report RL33278, *The Basel Accords: The Implementation of II and the Modification of I,* by Walter W. Eubanks, p. 8.

II. The limited number of buckets and the broad definition of what risk exposures are to be placed in them makes it possible for an institution to place high- risk exposures into less capital-consuming buckets, resulting in the institution being undercapitalized. To illustrate, investors usually 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 loan exposures, 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 economic incentive to carry more B-rated than triple A-rated commercial loans on their books. B-rated commercial loans have higher yields with the same capital charge. For greater profits, some banks would sell triple A-rated loans to acquire higher-yielding B-rated loans, raising the institution's credit risk exposure.

Risk mitigation is an internal step financial institutions 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 protections from losses. Under Basel I, acquiring an asset whose risk of default decreases as another asset's default risk increases often would increase a bank's capital requirement instead of reducing it, even though the bank is sounder as a result of the transaction. These kinds of offsetting risk exposures are tied mostly to short-term financial instruments whose net exposures are best captured with econometric models. Since Basel I's implementation in 1988, a smaller portion of large banks' portfolio is traditional loans, and a growing portion is tradable short-term instruments related to interest rates, equities, commodities, currencies, and debt securities. Basel I is not sensitive enough to capture the risk mitigating effects of traditional loans not to mention the effects of these more sophisticated short-term instruments.

Basel I does not address operational risk. Operational risks can produce losses resulting from inadequate or failed internal processes 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 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.[6] Several studies have shown that most bank failures could be attributable to operational risk. Basel II assesses a capital charge for operational risk to induce sufficient risk-reducing action so that failing internal processes have a better chance of detection. This is an explicit capital charge that is added onto all other capital charges.

Basel II in the United States

The Agencies have taken a bifurcated approach to implementing the Basel II capital accord in the United States. In other countries including the European Union, the Basel II framework is applied to all banking institutions, using different approaches to calculate the risk-based capital requirements for different asset-size banks. In the United States, banking institutions are not under one Basel II framework, but under a Basel II framework

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[6] Operational Risk Consultative Document, Basel Committee on Banking Supervision, January 2001, [http://www.bis.org/publ/bcbsca07.pdf].

for large banks and Basel I framework for the remaining banks. There are the Basel II "core" banks, and Basil I "non-core," "general" banking institutions.

Besides the complication of the bifurcation of the banks covered, the Basel II implementation is at different stages for the core banks as well as the general banking institutions. Core banks are banking organizations with at least $250 billion of consolidated total assets or at least $10 billion of on-balance-sheet foreign exposures.[7] General banking institutions are the remaining banking organizations operating in the United States. Initially, in 2009, 11 banks are going to be required to use the Basel II framework to determine and maintain their required risk-based capital for credit and operational risk. Core banks are also required to use the most advanced or sophisticated approaches of the Basel II framework to determine their credit and operational risks for pillar one. The general banking institutions (non-core banks) may continue to use Basel I or use the Basel II standardized approach (not yet approved) to determine their minimum regulatory risk-based capital under pillar one.

On December 7, 2007, the Agencies issued a call for comment on their final rule for the implementation of Basel II for the core banks.[8] The final rule became effective on April 1, 2008. Other large banks may opt-in on their primary federal supervisor's approval of their Basel II implementation plan. Otherwise these larger banks would remain in the existing Basel I framework. The Basel II standardized approach is in an earlier stage of implementation. On December 26, 2006, the Agencies issued a Notice of Proposed Rulemaking (NPR) that would modify Basel I framework.[9] In order to give banks an opportunity to compare the risk-based capital requirements in the Basel II NPR and the Basel 1-A NPR, the Agencies extended the comment period for the Basel II NPR from January 23, 2007 to March 26, 2007. A summary of the proposed rulemaking appears below. Since the Agencies have not made any further announcements on the Basel I-A NPR, it is expected that the Agencies will follow the usual process and announce a final rule soon. It is possible that these three methods will be available to banking organizations in the United States.

Basel II for the Core Banks. As outlined in the final rule, the Agencies have selected the advanced internal rating-based approach for core banks to calculate their minimum risk-based capital for credit risk, and the advanced measurement approach (AMA) to calculate their minimum regulatory capital for operational risk. The Agencies will allow core banks to use their internal assessment models and management technology to calculate these two regulatory capital requirements. To qualify to use this approach, core banks have to meet stringent qualifying criteria including rating design, risk rating systems, corporate governance, and (most critically) validation of internal estimates. The

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[7] U.S. Department of the Treasury, "Risk-based Capital Standards: Advanced Capital Adequacy Framework," *Federal Register,* Vol. 71, no. 185, Sept 25, 2006, p. 55841, [http://www.setonresourcecenter.com/register/2006/Sep/25/55830A.pdf].

[8] U.S. Department of the Treasury, "Risk-based Capital Standards: Advanced Capital Adequacy Framework," *Federal Register,* Vol. 72, No. 235, December 7, 2007, p. 69288, [http://www.setonresourcecenter.com/register/2007/Dec/07/69288A.pdf].

[9] U.S. Department of the Treasury, "Risk-based Capital Standards: Advanced Capital Adequacy Framework," *Federal Register,* Vol. 71, No. 247, December 26, 2006, p. 77519, [http://edocket.access.gpo.gov/2006/pdf/06-9737.pdf].

banks will determine their regulatory capital by their own assessments of the risk of default on each of their asset's exposures based on their own models. The first measure is the probability of default (PD) of each exposure. 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. For each exposure, the risk weights would be a function of PD, LGD, EAD, and M.

To calculate its required risk-based capital charge, a bank's portfolio of on- and off-balance sheet exposures would be broken down into four categories: wholesale, retail, securitization, and equities. Supervisory approval is needed before a bank can use its own internal ratings-based approach for wholesale and retail exposures. Capital charges for equity exposures may be modeled with supervisory approval, but securitization exposures are subject to a hierarchy of approaches based on specific factors. 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%.

For operational risk, the primary federal supervisor must approve a bank's use of the advanced measurement approach (AMA) to calculate its minimum regulatory capital. To qualify for AMA the bank's board of directors and senior management must demonstrate that they are actively involved in the oversight of the operational risk management of the bank. The bank's operational risk management system must be conceptually sound and has been implemented with integrity with sufficient resources, control and audits in the major line of business. In addition, the bank must meet a long list of qualitative and quantitative standards set by the framework and have the approval of the bank's primary supervisor. At the same time, the AMA does not specify the approach or the assumption the bank uses. The bank needs to have a credible, transparent, well-documented and verifiable approach for weighting these fundamental elements in its overall operational risk measurement system. For example, there may be cases where the internal and external estimates of event data would be unreliable for business lines because of a small number of observed losses. In such cases, scenario analysis and business environment and control factors may play a more dominant role in the risk measurement system.

General Banking Institutions and the Standardized Approach. According to the Basel I-A Notice of Proposed Rulemaking (NPR), the Agencies intend to offer a version of the standardized approach of the Basel II framework as an option for non-core banks for credit risk. The standardized approach could reduce some of the perceived shortcomings of Basel I significantly. Compared to Basel I, some of the major differences are that the standardized approach increases the number of risk weight categories, permits the use of external credit ratings, expands the eligibility of financial collateral and guarantors, and uses loan-to-value ratios to risk weight first and second liens on one-to-four family residential mortgages. Besides the risk weight of 0, 20%, 50%, 100%, or 200% depending on the asset's external credit rating, the NPR suggests adding four more risk weights: 35%, 75%, 150% and 350%. It is important to note that even though the NPR did not offer capital provisions for operational risk, the Basel II accord calls for operational risk provisions in using the standardized approach.

The Basel I-A proposed rule would expand the use of external credit ratings to the risk weight for some categories of exposures. For example, when a Nationally Recognized Statistical Rating Organization (NRSRO) gives the highest investment grade rating (AAA) to a set of corporate securities those securities would get a 20% risk weight under the standardized approach instead of the 100% which those securities might have received under Basel I. Similar corporate securities receiving the lowest investment grade rating of BBB would receive a risk weight of 75%. The NPR rule would expand the range of recognized collateral to include a broader set of externally rated liquid, and readily marketable financial instruments such as long-and short-term debt. The standardized approach recognizes eligible guarantors such as NRSRO-rated governments.

In determining the risk weights for residential mortgages, the proposed rule for the standardized approach would allow risk weights to be assigned to residential mortgages based on the loan-to-value ratios and whether a particular mortgage is a first-or second-lien. Furthermore, the banking institutions would be allowed to take into consideration certain loan level private mortgage insurance. For mortgage loans with negative amortization provisions, banks would be required to carry minimum capital for the increase risk associated with such provisions. To illustrate, a first lien on a single family mortgage with a LTV of 60% or less would be given a risk weight of 20%. The same mortgage with a LTV greater than 95% would be given a risk weight of 150%. If the loan is a second lien or a junior lien and the LTV is 60% or less, the risk weight would be 75%. If it is a second lien with a LTV of 90% it would be 150%. Mortgage loan insurance would have the effect of reducing the risk weights somewhat, but not significantly. The standardized approach rules also assign risk weights to short-term commitments, early amortization, removes risk weights on certain derivatives transactions, the use borrowers' creditworthiness to assign risk weights for certain claims, and a 75% risk weight for small loans to businesses. While these issues were addressed in Basel I-A, for the sake of brevity, they are not addressed in this report.

As mentioned earlier, the Basel committee's version of the standardized approach for operational risk was included but the Agencies excluded any such provision from their Basel I-A proposal. Given that the standardized approach will be applied to small banking organizations which have a higher rate of failure than larger banking organizations, operational risk capital provisions may be more relevant for these organizations. Although requiring capital for operational risk would reduce the banks' capacity to issue loans, it helps to cushion against insolvencies and the potential for taxpayer bailouts. In the Basel committee's operational risk for the standardized approach, the bank's activities are divided into eight lines of business: corporate finance, trading and sales, retail banking, commercial banking, payment and settlement, agency services, asset management, and retail brokerage. Gross income within each line of business serves as a proxy for the scale of business operation and therefore is used as the weight of risk exposure within the lines of business. The minimum capital for each line of business is calculated by multiplying the gross income from that line by a fixed percentage (β), which could be given by the bank's primary supervisor.

Implications for Congress

Basel II is of interest to Congress for several reasons: Basel II could change the safety and soundness standards as well as the competitiveness of U.S. banks, and could potentially be of direct legislative concern as well as requiring new regulatory oversight.

Since Basel II uses capital more efficiently and many U.S. partners have already implemented Basel II, it has been argued that the United States might already be at a competitive disadvantage in trade in financial services.[10] The emphasis of congressional oversight concerns about Basel II is likely to be on the two less popular pillars of Basel II — pillars two and three. How well the agencies enforce these two pillars could have serious implications for the world financial system in ways that would affect the U.S. economy. Pillar two requires the supervisory agencies to validate the methodology and processes used in the banks' self-assessments. The second pillar is the supervisory review process, over which Congress has had a long history of carrying out its responsibility through hearings and legislation. The third pillar of the Basel II framework is public disclosure. Pillar three is a set of public information disclosure requirements that a bank must make about itself. These disclosures are to enable creditors and investors in financial markets to assess a bank's risk posture accurately and adjust borrowing and capital costs accordingly. Here too, Congress has a rich history of enforcing similar business discloses information through oversight hearings of regulatory agencies and legislation. Congress may also eventually be called upon to make Basel II a part of U.S. banking laws, as risk-based capital requirement was mandated in Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991.[11]

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[10] R. Christian Bruce, "Regulators Reach Agreement on Basel II, Clearing Path for 2008 U.S. Implementation," *BNA Banking Report*, July 23, 2007, p. 127, [http://ippubs.bna.com/NWSSTND/IP/BNA/bar.nsf/SearchAllView/25BB186198CE52718525731F00092409?Open&highlight=BASEL,II].

[11] Section 131 of P.L. 102-242 (the Federal Deposit Insurance Corporation Improvement Act of 1991) adds a new 38(c) (105 Stat. 2254-2255), pertaining to "Capital Standards," implicitly endorsed Basel I by mandating that federal banking agency shall provide a risk-based capital requirement.