

February 2007

RISK-BASED CAPITAL

Bank Regulators Need to Improve Transparency and Overcome Impediments to Finalizing the Proposed Basel II Framework





Highlights of [GAO-07-253](#), a report to Congressional Committees

Why GAO Did This Study

Concerned about the potential impacts of the proposed risk-based capital rules, known as Basel II, Congress mandated that GAO study U.S. implementation efforts. This report examines (1) the transition to Basel II and the proposed changes in the United States, (2) the potential impact on the banking system and regulatory required capital, and (3) how banks and regulators are preparing for Basel II and the challenges they face. To meet these objectives, GAO analyzed documents related to Basel II and interviewed various regulators and officials from banks that will be required to follow the new rules.

What GAO Recommends

With safeguards, it is appropriate for U.S. banking regulators to proceed with finalizing Basel II and begin the transition period. GAO recommends that they (1) clarify some aspects of the Notice of Proposed Rulemaking (NPR); (2) issue a new NPR if material differences from the current NPR, or a U.S. standardized approach option, are planned for the final rule; (3) issue periodic public reports on progress, results, and any needed adjustments; and (4) at the end of the transition period, reevaluate the appropriateness of Basel II as a long-term framework for setting regulatory capital. The Federal Reserve said it agreed with our recommendations and the other banking agencies said they will consider them as part of the rule-making process.

www.gao.gov/cgi-bin/getrpt?GAO-07-253.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Orice Williams at williamso@gao.gov or Tom McCool at mccoolt@gao.gov.

RISK-BASED CAPITAL

Bank Regulators Need to Improve Transparency and Overcome Impediments to Finalizing the Proposed Basel II Framework

What GAO Found

Rapid innovation in financial markets and advances in risk management have revealed limitations in the existing Basel I risk-based capital framework, especially for large, complex banks. U.S. banking regulators have proposed a revised regulatory capital framework that differs from the international Basel II accord in several ways, including (1) requiring adoption of the most advanced Basel II approaches and by only the largest and most internationally active banks; (2) proposing Basel IA, a simpler revision of Basel I, and retaining Basel I as options for all other banks; and (3) retaining the leverage requirement and prompt corrective action measures that exist under the current regulatory capital framework.

While the new capital framework could improve banks' risk management and make regulatory capital more sensitive to underlying risks, its impact on minimum capital requirements and the actual amount of capital held by banks is uncertain. The approaches allowed under Basel II are not without risks, and realizing the benefits of these approaches while managing the related risks will depend on the adequacy of both internal and supervisory reviews. The move to Basel II has also raised competitiveness concerns between large and small U.S. banks domestically and large U.S. and foreign banks internationally. The impact of Basel II on the level of required capital is uncertain, but in response to quantitative impact study results showing large reductions in minimum required capital, U.S. regulators have proposed safeguards, such as transitional floors, that along with the existing leverage ratio would limit regulatory capital reductions during a multiyear transition period. Finally, the impact on actual capital held by banks is uncertain because banks hold capital above required minimums for both internal risk management purposes as well as to address the expectations of the market.

Banks and regulators are preparing for Basel II without a final rule, but both face challenges. Bank officials said they were refining their risk management practices, but uncertainty about final requirements has made it difficult for them to proceed further. Banks also face challenges in aligning their existing systems and processes with some of the proposed requirements. While regulators plan to integrate Basel II into their current supervisory process, they face impediments. The banking regulators have differing regulatory perspectives, which has made reaching consensus on the proposed rule difficult. Banks and other stakeholders continue to face uncertainty. Among the issues that regulators have yet to resolve are how the rule will treat bank portfolios that do not meet data requirements, how they will calculate reductions in aggregate minimum regulatory capital and what they will do if the reduction exceeds a proposed 10 percent trigger, and what criteria they will use to determine the appropriate average level of required capital and cyclical variation. Increased transparency going forward could reduce ambiguity and respond to questions and concerns among banks and industry stakeholders about how the rules will be applied, their ultimate impact on capital, and the regulators' ability to oversee their implementation.

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Abbreviations

A-IRB	Advanced Internal Ratings-Based Approach
AMA	Advanced Measurement Approaches
ANPR	advance notice of proposed rulemaking
EAD	exposure at default
FDIC	Federal Deposit Insurance Corporation
LDA	loss distribution approach
LGD	loss given default
LTV	loan-to-value
MRA	Market Risk Amendment
NPR	Notice of Proposed Rulemaking
OCC	Office of the Comptroller of the Currency
OTS	Office of Thrift Supervision
PCA	prompt corrective action
PD	probability of default
QIS-4	Fourth Quantitative Impact Study
SEC	Securities and Exchange Commission
VAR	value-at-risk

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United States Government Accountability Office
Washington, DC 20548

February 15, 2007

The Honorable Christopher Dodd
Chairman
The Honorable Richard Shelby
Ranking Member
Committee on Banking, Housing, and Urban Affairs
United States Senate

The Honorable Barney Frank
Chairman
The Honorable Spencer Bachus
Ranking Member
Committee on Financial Services
House of Representatives

For nearly a decade, federal banking regulators have been considering revisions to risk-based capital rules that could have far-reaching consequences for the safety, soundness, and efficiency of the U.S. banking system.¹ The original risk-based capital rules, known as Basel I, were adopted by the Basel Committee on Banking Supervision in 1988 and implemented in the United States in 1989.² The proposed changes, known as Basel II, are based on an internationally adopted framework developed by the Basel Committee. Basel II aims to align minimum capital requirements with enhanced risk measurement techniques and to encourage banks to develop a more disciplined approach to risk management. In the United States, Basel II rules are intended to apply primarily to the largest and most internationally active banking organizations. U.S. regulators expect about 11 banking organizations (core

¹Capital is generally defined as a firm's long-term source of funding, contributed largely by a firm's equity stockholders and its own returns in the form of retained earnings. One important function of capital is to absorb losses. The federal banking regulators are the Federal Reserve System (Federal Reserve), Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency (OCC), and Office of Thrift Supervision (OTS).

²The Basel Committee on Banking Supervision (Basel Committee) seeks to improve the quality of banking supervision worldwide, in part by developing broad supervisory standards. The Basel Committee consists of central bank and regulatory officials from 13 member countries: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, United Kingdom, and United States. The Basel Committee's supervisory standards are also often adopted by nonmember countries.

banks), which account for close to half of U.S. banking assets, to be required to implement Basel II. As such, regulators must take care to ensure that Basel II functions as intended to help preserve the safety and soundness of the banking system and mitigate the risk of losses to the federal deposit insurance fund.

However, in moving toward the proposed Basel II framework, a number of serious concerns have been raised by regulatory officials, banks, academics, and congressional and industry stakeholders. First, considerable uncertainty remains about the appropriate level of minimum required capital and the potential impact of the proposed rules on minimum required risk-based capital levels. Second, the proposed rules depend in part on the reliability of banks' internal models, and some observers have expressed concerns about using banks' internal models for establishing regulatory capital requirements. Third, the increased complexity of regulatory capital calculations undertaken by banks heightens the challenge of effective oversight by banking regulators. Fourth, the U.S. proposed rules differ in some respects from those of other countries, raising concerns about possible competitive effects of different rules between domestic and foreign banking organizations. Concerns have also been raised about domestic competitive inequities between banks that adopt Basel II and those that do not.

In light of these concerns, Congress has held several oversight hearings that have provided valuable information on regulatory objectives, actions, and potential pitfalls throughout the ongoing rule-making process. As part of this effort, Congress mandated that we review the implementation of Basel II in the United States.³ To date, federal regulators have requested public comment on a Basel II Advance Notice of Proposed Rulemaking (ANPR) and Notice of Proposed Rulemaking (NPR). They also have proposed additional changes, known as Basel IA, to establish simpler revisions to the regulatory capital framework for banks not subject to Basel II.⁴ However, regulators do not expect to issue final rules until later in 2007. Because the rule-making process is not complete, this report can

³Federal Deposit Insurance Reform Conforming Amendments Act of 2005, Pub. L. No 109-173 § 6(e) (Feb. 15, 2006).

⁴The Basel II NPR and Basel IA NPR were published in the Federal Register on September 25, 2006, and December 26, 2006, respectively. The comment periods for both NPRs will close on March 26, 2007.

address only certain aspects of the implementation process to date. Specifically, this report examines the following:

1. developments leading to the transition to Basel II,
2. the proposed changes to the U.S. regulatory capital framework,
3. the potential implications of Basel II's quantitative approaches and their potential impact on required capital,
4. banks' preparations and related challenges, and
5. U.S. regulators' preparations and related challenges.

To meet our objectives, we reviewed the Basel II international accord, the U.S. proposed rules for Basel II and Basel IA, draft supervisory guidance, and related materials. We interviewed officials at the federal bank regulatory agencies to obtain their views. We also interviewed officials at each of the banks that, under the proposed rule, would be required to adopt Basel II; a sample of banks that may opt into Basel II (based in part on size and primary regulator); a state bank regulator and an association of state bank supervisors; two bank trade associations; and two credit rating agencies. To understand how regulators oversee risk management processes at core banks and how the regulators are planning to incorporate Basel II into their examinations, we interviewed bank examiners and reviewed examination reports. We also compared the proposed capital requirements for different assets to demonstrate how related capital requirements may change, depending on the business cycle and the estimated level of risk of holding certain assets. We conducted our work from April 2006 to January 2007 in accordance with generally accepted government auditing standards. More information on our scope and methodology appears in appendix I.

Results in Brief

The motivation to revise risk-based capital requirements in the United States and internationally has been driven by the limitations of Basel I, especially for large, complex banking organizations, and by advances in risk management at these organizations. Regulatory officials generally agree that while Basel I continues to be an adequate capital framework for most banks, several limitations have rendered it increasingly inadequate for supervising the capital adequacy of the nation's largest, most complex banks. For example, Basel I's simple risk weighting approach does not adequately differentiate between assets that have different risk levels,

offers only a limited recognition of credit risk mitigation techniques, and does not explicitly address all risks faced by banking organizations. In addition, significant financial innovations have occurred since Basel I was established in 1988 to the point where a bank's regulatory capital ratios may not always be useful indicators of its risk profile. Many large banks have also developed advanced risk measurement techniques—including economic capital models—which regulators have sought to encourage both as an element of strong risk management and because such techniques may provide useful input to the supervisory process. By more closely aligning regulatory capital methodologies with banks' internal economic capital methodologies, Basel II aims to encourage large banks to develop and maintain a more disciplined approach to risk management.

While Basel II is an international accord based on shared regulatory objectives, U.S. regulators are proposing a regulatory capital framework that differs from the international accord in several ways. As recognized in the international accord, the United States and other adopting countries have used different degrees of national discretion in developing their own national rules to implement Basel II. The U.S.-proposed changes would result in three risk-based capital regimes—Basel II, Basel IA, and Basel I—largely based on a banking organization's size and complexity. While the Basel II international accord allows for the option of choosing from among several risk measurement approaches, U.S. regulators have proposed to limit the scope of Basel II to the advanced approaches and to require it only for the largest and/or most internationally active banks. These advanced approaches depend in part on a bank's own internal models. However, regulators have requested public comments on simpler approaches for determining minimum required capital—such as the “standardized approach” in the international accord and the U.S. Basel IA rule—as possible options for Basel II banks.⁵ U.S. regulators also have delayed implementation of the changes to the regulatory capital framework in response to concerns raised by a quantitative impact study about the potential adverse impact of Basel II on regulatory capital. They also have proposed prudential safeguards beyond those in the international accord, such as more conservative limits on permissible reductions in required capital during the transition period for Basel II banks. For banks not subject to Basel II, U.S. regulators have proposed

⁵The standardized approach for credit risk creates several additional risk categories but does not rely on banks' internal models for estimating risk parameters used to calculate risk-based capital requirements.

Basel IA, which consists of simpler revisions to Basel I, to address potential domestic competitive inequities among banks. U.S. regulators also plan to retain Basel I as an option for banks not required to adopt Basel II. Finally, regulators plan to retain the existing leverage ratio and prompt corrective action requirements for all banks.⁶

The new capital framework could improve bank risk management and make the allocation of capital more risk sensitive, but the impact of Basel II on minimum capital requirements and the actual amount of capital held by banks is uncertain. The advanced Basel II risk-modeling approaches have the potential to better align capital with risk, such that banks would face minimum capital requirements more sensitive to their underlying risks. However, the advanced approaches themselves are not without risks, and realizing the benefits of these approaches will depend on (1) the adequacy of bank quality assurance processes and supervisory review surrounding the development and maintenance of models, (2) the sufficiency of credit default and operational loss event data used as inputs to the regulatory and bank models that determine capital requirements, and (3) regulators' attention to the appropriate level of risk-based capital. Possible differences in regulatory capital requirements across banks subject to different risk-based capital regimes have raised some banks' concerns about competition between large and small banks domestically, and between large banks headquartered in the United States and foreign banking organizations. While initial estimates of the potential impact of Basel II showed large drops in minimum required risk-based capital, a considerable amount of uncertainty remains about the potential impact of Basel II on the level of regulatory capital requirements and the degree of variability in these requirements over the business cycle. The banking regulators have committed to broadly maintaining the current level of risk-based regulatory capital and have proposed safeguards that would limit regulatory capital reductions during a transition period. Regulators have also stated that banks under Basel II would continue to be subject to the leverage ratio, which while making required capital somewhat less risk sensitive, would also prevent significant reductions in capital. Basel II's impact on the total amount of capital held by banks, which would include capital held above the regulatory minimum, is also uncertain, given banks'

⁶As discussed later in this report, banks and bank holding companies are subject to minimum leverage requirements, as measured by a ratio of tier 1 capital to total assets. Prompt corrective action (PCA) is a supervisory framework for banks that requires regulators to take increasingly stringent forms of corrective action against banks as their leverage and risk-based capital ratios decline.

internal assessments of capital needs and the amount of actual capital the market and rating agencies expect them to hold. In light of the uncertainty concerning the potential impact of Basel II, these issues will require further and ongoing examination as the banking regulators continue to finalize the Basel II rule and proceed with the parallel run and transition period.

Officials from most core banks with whom we spoke reported that they are making significant progress in further enhancing their risk management practices but said that they faced several challenges, including uncertainty about what the final rule would require. Most officials at core banks stated that the banks had been working to improve the way they assessed and managed credit, market, and other types of risks, including the allocation of capital for these risks, for some years and were largely integrating their preparations for Basel II into their current efforts. Some officials saw Basel II as a continuation of the banking industry's evolving risk management practices and risk-based capital allocation that regulators had encouraged. Many officials reported that their banks were investing in information technology and establishing processes to manage and quantify credit and operational risk, including collecting data on credit defaults and operational losses, in order to meet the regulatory requirements proposed for the advanced approaches. To varying extents, many core banks are training staff and have hired additional staff to implement Basel II. Furthermore, officials at most core banks said that they had or would incur significant monetary costs and were allocating many resources to implement Basel II. However, many officials reported that their banks faced several challenges in implementing Basel II, including the lack of a final rule, difficulty obtaining data that met the minimum requirements for the advanced approaches for all asset portfolios and data on operational losses, and difficulty aligning their existing systems and processes with the proposed rule. Overall, core bank officials with whom we spoke viewed Basel II as an improvement over Basel I, and officials from noncore banks that were considering adopting Basel II stated that they believed the new regulatory capital framework would further improve their risk management practices.

Likewise, U.S. regulators are integrating preparations for Basel II into their current supervisory process, but a number of issues remain to be resolved as regulators finalize the rule. In preparation for Basel II implementation, bank regulatory officials said they had been integrating plans for Basel II's additional supervisory requirements into their existing oversight processes and supervisory reviews of banks' risk management. Regulators are also preparing for the process of qualifying banks to move to Basel II;

coordinating with other U.S. and international regulators; hiring additional staff with needed quantitative skills; and training current supervisory staff, including examiners. However, regulators face a number of impediments in their efforts to agree on a final rule for the transition to Basel II. The uncertainty about Basel II's potential impact and different regulatory perspectives made reaching agreement on the NPR difficult, as is likely to be the case for the final rule. Regulators have yet to resolve some of the uncertainty and increase the transparency of their thinking by providing more specific information about certain outstanding issues, such as the following:

- how they will treat portfolios that may lack adequate data to meet regulatory requirements for the advanced approaches,
- how they will calculate reductions in aggregate minimum regulatory capital and what would happen if a reduction exceeds a proposed 10-percent trigger, and
- what criteria they will use to determine the appropriate average level of required capital and appropriate cyclical variation in minimum regulatory capital.

Moreover, the process could benefit from greater transparency going forward—for example, by the regulators providing additional information to facilitate understanding how they will assess the Basel II results during the transition years and how they will report on any modifications to the rule during that period. If these issues are not addressed, the ongoing ambiguity and lack of transparency could result in continued uncertainty about the appropriateness of Basel II as a regulatory capital framework.

With the use of safeguards during the transition period, it is appropriate for U.S. banking regulators to proceed with finalizing Basel II and proceed with the parallel run and transition period. To help reduce the uncertainty about the potential impact of Basel II, improve transparency, and address impediments that regulators face in transitioning to Basel II, we are making several recommendations to the heads of the Federal Reserve System (Federal Reserve), Federal Deposit Insurance Corporation (FDIC), the Office of the Comptroller of the Currency (OCC), and the Office of Thrift Supervision (OTS):

- As part of the process leading to the proposed parallel run and transition period, regulators need to clarify certain issues in the proposed final rule, including how they will treat portfolios that may

lack adequate data to meet regulatory standards for the advanced approaches, how they will calculate the 10-percent reduction in aggregate minimum regulatory capital and respond if this reduction is triggered, and the criteria regulators will use to determine the appropriate average level of required capital and the appropriate level of cyclical variation in minimum required capital.

- Regulators should issue a new NPR before finalizing the Basel II rule, if the final rule differs materially from the NPR or if a U.S. standardized approach is an option in the final rule.
- Regulators should also periodically publicly report on the progress and results of the proposed parallel run and transition period along with any needed regulatory alignments.
- Finally, regulators need to reevaluate, at the end of the last transition period, whether the advanced approaches of Basel II can and should be relied on to set appropriate regulatory required capital in the long term. Based on the information obtained during the transition, this reevaluation should include a range of options, including consideration of additional minor modifications to U.S. Basel II as well as whether more fundamental changes are warranted to set appropriate required regulatory capital levels.

We received written comments on a draft of this report from the Federal Reserve, OCC, FDIC and OTS in a joint letter, and the Department of the Treasury. These letters are reprinted in appendixes IV through VII. The banking agencies and Securities and Exchange Commission (SEC) also provided technical comments, which we incorporated in the report where appropriate. The Federal Reserve and OCC concurred with our recognition of Basel I's limitations for large and/or internationally active banks and agreed with our conclusion that the regulators should finalize the Basel II rule and proceed with the parallel run and transition period. OCC said its position has been to move forward with strong safeguards in place and assess the need for adjustment during the transition period before removing any temporary safeguards. OCC, and FDIC and OTS in their joint letter, noted that the U.S. proposals leave two safeguards that are not temporary in place—the leverage ratio and prompt corrective action framework—and that these underscore the agencies' commitment to maintaining a safe and sound banking industry. The Federal Reserve commented that it and the other regulators had attempted to be as transparent as possible in the rule-making process consistent with the letter and spirit of the Administrative Procedure Act, and OCC commented

that it will ensure that the rule-making process remains compliant with the act. FDIC and OTS said they believe serious consideration of a U.S. version of the Basel II standardized approach should be considered as an option for all U.S. banks.

The Federal Reserve said it concurred with our recommendations and would seek to implement them. OCC, FDIC, and OTS said they will consider our recommendations as part of their overall review of the comments received on the NPR. Treasury expressed concern with our recommendation on the possible issuance of a new NPR, saying that the overlapping comment periods for Basel II and IA should give commenters the ability to opine on implementation issues and options. We realize that an additional NPR would further delay the Basel II process; however, under certain circumstances an additional NPR would be a necessary step to provide more transparency to the process and to ensure that the full implications of the final rule are fully considered. In response to comments on this recommendation from the Federal Reserve, OCC, and Treasury, we have clarified the wording of our recommendation to more clearly state the need for a new NPR if the regulators intend to issue a final rule that is materially different from the NPR or if they intend to provide a U.S. standardized approach.

Background

The business of banking involves taking and managing a variety of risks. Major risks facing banking institutions include those listed in table 1.

Table 1: Major Types of Banking Risks

Risk	Definition
Credit risk	The potential for loss resulting from the failure of a borrower or counterparty to perform on an obligation.
Market risk	The potential for loss resulting from movements in market prices, including interest rates, commodity prices, stock prices, and foreign exchange rates.
Interest rate risk	A type of market risk that involves the potential for loss due to adverse movements in interest rates. ^a
Operational risk	The risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events.
Liquidity risk	The risk that a bank will be unable to meet its obligations when they come due, because of an inability to liquidate assets or obtain adequate funding.
Concentration risk	The risk arising from any single exposure or group of exposures with the potential to produce losses large enough to threaten a bank's health or ability to maintain its core operations.

Risk	Definition
Reputational risk	The potential for loss arising from negative publicity regarding an institution's business practices.
Compliance risk	The potential for loss arising from violations of laws or regulations or nonconformance with internal policies or ethical standards.
Strategic risk	The potential for loss arising from adverse business decisions or improper implementation of decisions.

Source: GAO.

^aAs discussed later in this report, current and proposed risk-based capital rules require banks with significant trading activity to hold capital for market risk from their trading activities. However, the current and proposed rules do not explicitly require capital for interest rate risk arising from nontrading activities.

Changes in the banking industry and financial markets have increased the complexity of banking risks. Banking assets have become more concentrated among a small number of very large, complex banking organizations that operate across a wide range of financial products and geographic markets. Due to these organizations' scale and roles in payment and settlement systems and in derivatives markets, a significant weakness in any one of these entities could have severe consequences for the safety and soundness of the banking system and broader economy. As a result, federal banking regulators have adopted a risk-focused approach to supervision that emphasizes continuous monitoring and assessment of how banking organizations manage and control risks. Faced with such risks, banks must take protective measures to ensure that they remain solvent. For example, banks are required to maintain an allowance for loan and lease losses to absorb estimated credit losses. Banks must also hold capital to absorb unexpected losses. Capital is generally defined as a firm's long-term source of funding, contributed largely by a firm's equity stockholders and its own returns in the form of retained earnings. In addition to absorbing losses, capital performs several other important functions: it promotes public confidence, helps restrict excessive asset growth, and provides protection to depositors and the federal deposit insurance fund.

Capital adequacy is fundamental to the safety and soundness of the banking system, and a bank's capital position can affect its competitiveness in several ways. Strong capital enhances a bank's access to liquidity on favorable terms and ensures that it has the financial flexibility to respond to market opportunities. However, holding capital imposes costs on banks, because equity is a more costly form of financing than debt. Capital adequacy regulation seeks to offset banks' disincentives to hold capital, which result in part from access to federal deposit insurance. In addition, capital adequacy requirements for large banks are

especially important because of the systemic risks these banks can pose to the banking system. Regulators require banks to maintain certain minimum capital requirements and generally expect banks to hold capital above these minimums, commensurate with their risk exposure. However, requiring banks to hold more capital may reduce the availability of bank credit and reduce returns on equity to shareholders. In addition, capital requirements that are too high relative to a bank's risk profile may create an incentive for a bank to hold more high-risk assets, in order to earn a market-determined return on capital. Banking regulators attempt to balance safety and soundness concerns with the costs of holding higher capital.

U.S. Regulators Responsible for Implementing Basel II

Four federal banking regulators supervise the nation's banks and thrifts, and each serves as primary federal regulator over certain types of institutions:

- OCC supervises national (i.e., federally chartered) banks. Many of the nation's largest banks are federally chartered.
- The Federal Reserve supervises bank holding companies, including financial holding companies, as well as state chartered banks that are members of the Federal Reserve System (state member banks). Many of the largest banking organizations are part of holding company structures—companies that hold stock in one or more subsidiaries—and the Federal Reserve supervises bank holding company activities.
- FDIC serves as the deposit insurer for all banks and thrifts and has backup supervisory authority for all banks it insures. It is also the primary federal regulator of state chartered banks that are not members of the Federal Reserve System (state nonmember banks).
- OTS regulates all federally insured thrifts, regardless of charter type, and their holding companies.⁷

Under the dual federal and state banking system, state chartered banks are supervised by state regulatory agencies in addition to a primary federal regulator. In addition to these banking regulators, SEC supervises broker-

⁷In this report, the term "bank" refers generally to insured depository institutions (banks and thrifts) as well as bank holding companies. Where the distinction is significant, the term "bank holding company" refers to the insured institution's ultimate holding company.

dealers. In 2004, SEC established a voluntary, alternative net capital rule for broker-dealers whose ultimate holding company consents to groupwide supervision as a consolidated supervised entity. The rule requires consolidated supervised entities to compute and report capital adequacy measures consistent with Basel standards.

Existing Regulatory Capital Framework

The U.S. regulatory capital framework includes both risk-based and leverage minimum capital requirements. Both banks and bank holding companies are subject to minimum leverage standards, measured as a ratio of tier 1 capital to total assets.⁸ The minimum leverage requirement is between 3 and 4 percent, depending on the type of institution and a regulatory assessment of the strength of its management and controls.⁹ Leverage ratios are a commonly used financial measure of risk. Greater financial leverage, as measured by higher proportions of debt relative to equity (or lower proportions of capital relative to assets), increases the riskiness of a firm. During the 1980s, regulators became concerned that simple capital-to-assets leverage measures required too much capital for less risky assets and not enough for riskier assets. Another concern was that such measures did not require capital for growing portfolios of off-balance sheet items. In response to these concerns, regulators from the United States and other countries adopted Basel I, an international framework for risk-based capital that required minimum risk-based capital ratios of 4 percent for tier 1 capital to risk-weighted assets and 8 percent for total capital to risk-weighted assets. By 1992, U.S. regulators had fully implemented Basel I; and in 1996, they and supervisors from other Basel Committee member countries amended the framework to include explicit capital requirements for market risk from trading activity. The use of a leverage requirement was continued after the introduction of risk-based capital requirements as a cushion against risks not explicitly covered in the risk-based capital requirements. The greater level of capital required

⁸Tier 1 capital is considered most stable and readily available for supporting a bank's operations. It covers core capital elements, such as common stockholder's equity and noncumulative perpetual preferred stock. Tier 2 describes supplementary capital elements and includes loan loss reserves, subordinated debt, and other instruments. Total capital consists of both tier 1 and tier 2 capital.

⁹Banks holding the highest supervisory rating have a minimum leverage ratio of 3 percent; all other banks must meet a leverage ratio of at least 4 percent. Bank holding companies that have adopted the Market Risk Amendment or hold the highest supervisory rating are subject to a 3 percent minimum leverage ratio; all other bank holding companies must meet a 4 percent minimum leverage ratio.

by the risk-based or leverage capital calculation is the binding overall minimum requirement on an institution.

Furthermore, the Federal Deposit Insurance Corporation Improvement Act of 1991 created a new supervisory framework known as prompt corrective action (PCA) that links supervisory actions closely to a bank's capital ratios. PCA, which applies only to banks, not bank holding companies, has become a primary regulatory influence over bank capital levels. PCA requires regulators to take increasingly stringent forms of corrective action against banks as their leverage and risk-based capital ratios decline. The purpose is to ensure that timely regulatory action is taken to address problems at financially troubled banks in order to prevent bank failure or minimize resulting losses.¹⁰ There is a strong incentive for banks to qualify as "well-capitalized," which is the highest capital category and exceeds the minimum capital requirements, because banks deemed less than well-capitalized have restrictions or conditions on certain activities and may also be subject to mandatory or discretionary supervisory actions. Regulatory officials noted that the PCA well-capitalized standards are the de facto minimum regulatory capital requirements for banks and that virtually all banks maintain capital levels that meet the well-capitalized criteria. As shown later in this report in figure 4, the required capital ratios for the well-capitalized category are: (1) a total risk-based capital ratio of 10 percent or greater, (2) a tier 1 risk-based capital ratio of 6 percent or greater, and (3) a leverage ratio of 5 percent or greater.¹¹

¹⁰See GAO, *Deposit Insurance: Assessment of Regulators' Use of Prompt Corrective Action Provisions and FDIC's New Deposit Insurance System*, GAO-07-242 (Washington, D.C.: Feb. 15, 2007), which responds to a legislative mandate that GAO review federal banking regulators' administration of the prompt corrective action program (P. L. 109-173, Federal Deposit Insurance Reform Conforming Amendments Act of 2005, Section 6(a), Feb. 15, 2006).

¹¹See, e.g., 12 C.F.R. § 6.4(b)(1) (OCC).

The Transition to Basel II Has Been Driven by Limitations of Basel I and Advances in Risk Management at Large Banking Organizations

Regulatory officials generally agree that while Basel I continues to be an adequate capital framework for most banks, it has become increasingly inadequate for supervising the capital adequacy of the nation's largest, most complex banking organizations. Many of these banks have developed advanced risk measurement techniques that have created a growing gap between the regulatory capital framework and banks' internal economic capital allocation methods. Regulators have sought to encourage the use of such methods as an element of strong risk management and because such methods may provide useful input to the supervisory process. Basel II is intended to address the shortcomings of Basel I and further encourage banks to develop and maintain a disciplined approach to risk management.

Basel I Is a Simple Framework with Broad Risk Categories That Is Inadequate for Large Banking Organizations

When established internationally in 1988, Basel I represented a major step forward in linking capital to risks taken by banking organizations, strengthening banks' capital positions, and reducing competitive inequality among international banks. Regulatory officials have noted that Basel I continues to be an adequate capital framework for most banks, but its limitations make it increasingly inadequate for the largest and most internationally active banks. As implemented in the United States, Basel I consists of five broad credit risk categories, or risk weights (table 2).¹² Banks must hold total capital equal to at least 8 percent of the total value of their risk-weighted assets and tier 1 capital of at least 4 percent. All assets are assigned a risk weight according to the credit risk of the obligor and the nature of any qualifying collateral or guarantee, where relevant. Off-balance sheet items, such as credit derivatives and loan commitments, are converted into credit equivalent amounts and also assigned risk weights. The risk categories are broadly intended to assign higher risk weights to—and require banks to hold more capital for—higher risk assets.

¹²In addition to the risk weights in table 2, a dollar-for-dollar capital charge applies for certain recourse obligations. See 66 Fed. Reg. 59620 (Nov. 29, 2001).

Table 2: U.S. Basel I Credit Risk Categories

Risk weight	Major assets
0%	Cash; claims on or guaranteed by central banks of Organization for Economic Cooperation and Development countries; claims on or guaranteed by Organization for Economic Cooperation and Development central governments and U.S. government agencies. The zero weight reflects the lack of credit risk associated with such positions.
20%	Claims on banks in Organization for Economic Cooperation and Development countries, obligations of government-sponsored enterprises, or cash items in the process of collection.
50%	Most one-to-four family residential mortgages; certain privately issued mortgage-backed securities and municipal revenue bonds.
100%	Represents the presumed bulk of the assets of commercial banks. It includes commercial loans, claims on non-Organization for Economic Cooperation and Development central governments, real assets, certain one-to-four family residential mortgages not meeting prudent underwriting standards, and some multifamily residential mortgages.
200%	Asset-backed and mortgage-backed securities and other on-balance sheet positions in asset securitizations that are rated one category below investment grade.

Source: GAO analysis of federal regulations. See, e.g., 12 C.F.R. Part 3, App. A (OCC).

However, Basel I's risk-weighting approach does not measure an asset's level of risk with a high degree of accuracy, and the few broad categories available do not adequately distinguish among assets within a category that have varying levels of risk. For example, although commercial loans can vary widely in their levels of credit risk, Basel I assigns the same 100 percent risk weight to all these loans. Such limitations create incentives for banks to engage in regulatory capital arbitrage—behavior in which banks structure their activities to take advantage of limitations in the regulatory capital framework. By doing so, banks may be able to increase their risk exposure without making a commensurate increase in their capital requirements. For example, because Basel I does not recognize differences in credit quality among assets in the same category, banks may have incentives to take on high-risk, low-quality assets within each broad risk category. As a result, the Basel I regulatory capital measures may not accurately reflect banks' risk profiles, which erodes the principle of risk-based capital adequacy that the Basel Accord was designed to promote.

In addition, Basel I recognizes the important role of credit risk mitigation activities only to a limited extent. By reducing the credit risk of banks' exposures, techniques such as the use of collateral, guarantees, and credit derivatives play a significant role in sound risk management. However, many of these techniques are not recognized for regulatory capital

purposes. For example, the U.S. Basel I framework recognizes collateral and guarantees in only a limited range of cases.¹³ It does not recognize many other forms of collateral and guarantees, such as investment grade corporate debt securities as collateral or guarantees by externally rated corporate entities. In addition, the Basel Committee acknowledged that Basel I may have discouraged the development of specific forms of credit risk mitigation by placing restrictions on both the type of hedges acceptable for achieving capital reduction and the amount of capital relief. As a result, regulators have indicated that Basel II should provide for a better recognition of credit risk mitigation techniques than Basel I.

Furthermore, Basel I does not address all major risks faced by banking organizations, resulting in required capital that may not fully address the entirety of banks' risk profiles. Basel I originally focused on credit risk, a major source of risk for most banks, and was amended in 1996 to include market risk from trading activity. However, banks face many other significant risks—including interest rate, operational, liquidity, reputational, and strategic risks—which could cause unexpected losses for which banks should hold capital. For example, many banks have assumed increased operational risk profiles in recent years, and at some banks operational risk is the dominant risk.¹⁴ Because minimum required capital under Basel I does not depend directly on these other types of risks, U.S. regulators use the supervisory review process to ensure that each bank holds capital above these minimums, at a level that is commensurate with its entire risk profile. In recognition of Basel I's limited risk focus, Basel II aims for a more comprehensive approach by adding an explicit capital charge for operational risk and by using supervisory review (already a part of U.S. regulators' practices) to address all other risks.

¹³As implemented in the United States, Basel I assigns reduced risk weights to exposures collateralized by cash on deposit; securities issued or guaranteed by central governments of Organization for Economic Cooperation and Development countries, U.S. government agencies, and U.S. government-sponsored enterprises; and securities issued by multilateral lending institutions. Basel I also has limited recognition of guarantees, such as those made by Organization for Economic Cooperation and Development countries, central governments, and certain other entities. See 12 C.F.R. Part 3 (OCC); 12 C.F.R. Parts 208 and 225 (Federal Reserve); 12 C.F.R. Part 325 (FDIC); and 12 C.F.R. Part 567 (OTS).

¹⁴The Basel Committee defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events, including legal risks, but excluding strategic and reputational risk. Examples of operational risks include fraud, legal settlements, systems failures, and business disruptions.

Basel I Does Not Reflect Financial Innovations and Risk Management Practices at Large Banking Organizations

The rapid rate of innovation in financial markets and the growing complexity of financial transactions have reduced the relevance of the Basel I risk framework, especially for large banking organizations. Banks are developing new types of financial transactions that do not fit well into the risk weights and credit conversion factors in the current standards. For example, there has been significant growth in securitization activity, which banks engaged in partly as regulatory arbitrage opportunities.¹⁵ In order to respond to emerging risks associated with the growth in derivatives, securitization, and other off-balance sheet transactions, federal regulators have amended the risk-based capital framework numerous times since implementing Basel I in 1992. Some of these revisions have been international efforts, while others are specific to the United States. For example, in 1996, the United States and other Basel Committee members adopted the Market Risk Amendment, which requires capital for market risk exposures arising from banks' trading activities.¹⁶ By contrast, federal regulators amended the U.S. framework in 2001 to better address risk for asset securitizations.¹⁷ These changes, while consistent with early proposals of Basel II, were not adopted by other countries at the time. The finalized international Basel II accord, which other countries are now adopting, incorporates many of these changes.

Despite these amendments to the current framework, the simple risk-weighting approach of Basel I has not kept pace with more advanced risk measurement approaches at large banking organizations. By the late 1990s, some large banking organizations had begun developing economic capital models, which use quantitative methods to estimate the amount of capital required to support various elements of an organization's risks. Banks use economic capital models as tools to inform their management activities, including measuring risk-adjusted performance, setting pricing and limits on loans and other products, and allocating capital among various business lines and risks. Economic capital models measure risks by estimating the probability of potential losses over a specified period

¹⁵Securitization is the process of pooling debt obligations and dividing that pool into portions (called tranches) that can be sold as securities in the secondary market. Banks can use securitization for regulatory arbitrage purposes by, for example, selling high-quality tranches of pooled credit exposures to third-party investors, while retaining a disproportionate amount of the lower-quality tranches and therefore, the underlying credit risk.

¹⁶61 Fed. Reg. 47358 (Sept. 6, 1996).

¹⁷66 Fed. Reg. 59614 (Nov. 29, 2001).

and up to a defined confidence level using historical loss data. This method has the potential for more meaningful risk measurement than the current regulatory framework, which differentiates risk only to a limited extent, mostly based on asset type rather than on an asset's underlying risk characteristics. Recognizing the potential of such advanced risk measurement techniques to inform the regulatory capital framework, Basel II introduces "advanced approaches" that share a conceptual framework that is similar to banks' economic capital models. With these advanced approaches, regulators aim not only to increase the risk sensitivity of regulatory measures of risk but also to encourage the advancement of banks' internal risk management practices.

Although the advanced approaches of Basel II aim to more closely align regulatory and economic capital, the two differ in significant ways, including in their fundamental purpose, scope, and consideration of certain assumptions. Given these differences, regulatory and economic capital are not intended to be equivalent. Instead, regulators expect that the systems and processes that a bank uses for regulatory capital purposes should be consistent with those used for internal risk management purposes. Regulatory and economic capital approaches both share a similar objective: to relate potential losses to a bank's capital in order to ensure it can continue to operate. However, economic capital is defined by bank management for internal business purposes, without regard for the external risks the bank's performance poses on the banking system or broader economy. By contrast, regulatory capital requirements must set standards for solvency that support the safety and soundness of the overall banking system. In addition, while the precise definition and measurement of economic capital can differ across banks, regulatory capital is designed to apply consistent standards and definitions to all banks. Economic capital also typically includes a benefit from portfolio diversification, while the calculation of credit risk in Basel II fails to reflect differences in diversification benefits across banks and over time. Also, certain key assumptions may differ, such as the time horizon, confidence level or solvency standard, and data definitions. For example, the probability of default can be measured at a point in time (for economic capital) or as a long-run average measured through the economic cycle (for Basel II). Moreover, economic capital models may explicitly measure a broader range of risks, while regulatory capital as proposed in Basel II will explicitly measure only credit, operational, and where relevant, market risks.

Federal Regulators Are Proposing a Regulatory Capital Framework that Differs from the International Basel II Accord in Several Respects

While Basel II is an international framework based on shared regulatory objectives, it is subject to national implementation. In the United States, federal regulators have proposed a series of changes that would result in multiple risk-based capital regimes—Basel II, Basel IA, and Basel I—largely based on the banking organization’s size and complexity.¹⁸ U.S. regulators proposed requiring only the Basel II advanced approaches for credit and operational risk for a small number of large and/or internationally active banking organizations, but regulators are currently seeking comment on allowing simpler risk measurement approaches for these organizations. The U.S.-proposed changes to implement Basel II differ from the international Basel II accord in several ways: the U.S. proposal has a more limited scope, contains additional prudential safeguards, retains key aspects of the existing regulatory capital framework, and contains certain technical differences.

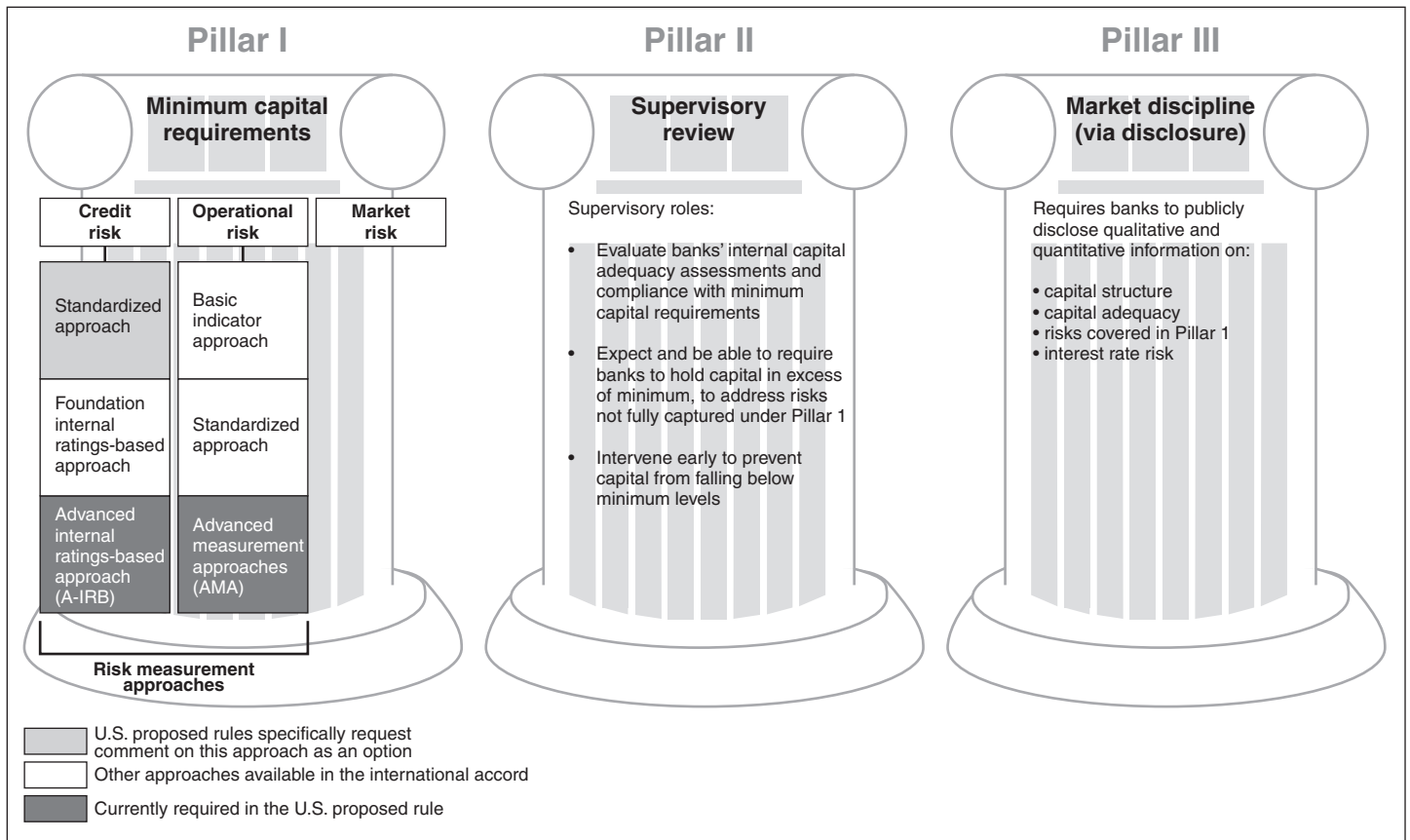
Basel II Is an International Framework Based on Shared Regulatory Objectives but Subject to National Implementation

The Basel II international accord seeks to establish a more risk-sensitive regulatory capital framework that is sufficiently consistent internationally but that also takes into account individual countries’ existing regulatory and accounting systems. The international accord allows for a limited degree of national discretion in the application of the approaches for calculating minimum capital requirements, in order to adapt the standards to different conditions of national markets. Since the international accord was issued in 2004, individual countries have been implementing national rules based on the principles and detailed framework that it sets forth, and each country—including the United States—has used some measure of national discretion within its jurisdiction. The Basel Committee noted that as a result, regulators from different countries will need to make substantial efforts to ensure sufficient consistency in the application of the framework across jurisdictions. Furthermore, the Basel Committee emphasized that the international accord sets forth only minimum requirements, which countries may choose to supplement with added measures to address such concerns as potential uncertainties about the accuracy of the capital rule’s risk measurement approaches. As detailed later in this report, the U.S.-proposed rules include such supplemental measures, including certain requirements that already exist in the current U.S. regulatory capital framework.

¹⁸See 71 Fed. Reg. 55830 (Sept. 25, 2006) (Basel II NPR); 71 Fed. Reg. 77446 (Dec. 26, 2006) (Basel IA).

Basel II aims for a more comprehensive approach to addressing risks, based on three pillars: (1) minimum capital requirements, (2) supervisory review, and (3) market discipline in the form of increased public disclosure. As shown in figure 1, Pillar 1 establishes several approaches (of increasing complexity) to measuring risk. The advanced approach for credit risk (known as the advanced internal ratings-based approach, or A-IRB) uses risk parameters determined by a bank's internal systems for calculating minimum regulatory capital. The A-IRB will increase both the risk sensitivity and the complexity of such calculations. Under the advanced approach for operational risk (known as the advanced measurement approaches or AMA), a bank is to use its internal operational risk management systems and processes to assess its need for capital to cover operational risk. This method provides banks with substantial flexibility and does not prescribe specific methodologies or assumptions, although it does specify several qualitative and quantitative standards. Pillar 2 explicitly recognizes the role of supervisory review, which includes assessment of capital adequacy relative to a bank's overall risk profile and early supervisory intervention that are already part of U.S. regulatory practice. Pillar 3 establishes disclosure requirements that aim to inform market participants about banks' capital adequacy in a consistent framework that enhances comparability. Appendix III describes the Basel II framework in further detail.

Figure 1: The Three Pillars of Basel II



Source: GAO.

Note: U.S. proposed rules solicit comments generally on permitting core banks the option of using other credit and operational risk approaches similar to those provided in the international accord. For credit risk, the U.S. proposed rules specifically request comments on the suitability for core banks of the standardized approach under the international accord or the U.S. Basel IA proposal.

Federal banking regulators have proposed adopting the international accord and integrating it into the existing U.S. regulatory capital framework, but the four agencies have faced a number of impediments to explicitly defining their objectives and balancing among several often competing priorities. The international accord identifies several broad objectives, and reaching agreement on these goals has been an important part of building consensus among U.S. regulators on how to proceed with Basel II. The international accord's objectives are:

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- **Safety and soundness.** To further strengthen the soundness and stability of the international banking system;
 - **Consistency and competitive equity.** To maintain sufficient consistency that capital adequacy regulation will not be a significant source of competitive inequality among internationally active banks;
 - **Focus on risk management.** To promote the adoption of stronger risk management practices by the banking industry; and
 - **Capital levels.** To broadly maintain the aggregate level of minimum capital requirements, while also providing incentives to adopt the more advanced risk-sensitive approaches of the revised framework.

However, in satisfying these goals, federal regulators have struggled to balance incentives (in the form of permissible capital reductions) for banks that adopt the advanced risk measurement approaches with the objective of broadly maintaining the aggregate level of minimum required capital. At the same time, regulators seek to ensure that any incentives for these banks do not adversely affect the ability of other banks to compete domestically. In addition, regulators have sought to balance efforts to protect safety and soundness under Basel II with efforts to maintain sufficient consistency with the international framework. In particular, regulators must ensure that the revised U.S. regulatory capital framework does not create excessive international competitive inequities for U.S. banking organizations. Unless these issues are resolved, they are likely to generate ongoing questions about the appropriateness of Basel II as a regulatory capital framework.

U.S. Regulators Propose to Apply Basel II Only to Large and/or Internationally Active Banks and Are Considering Which Risk Measurement Approaches to Make Available

As currently proposed in the United States, Basel II would be required only for the nation's largest and/or most internationally active banking organizations. In addition, while banks in other countries may choose from options that include both standardized and advanced approaches available in the international accord, the current U.S. proposal permits only the advanced approaches for credit risk (A-IRB) and operational risk (AMA).¹⁹ In the proposed rule, U.S. regulators stated that they proposed to implement only the advanced Basel II approaches, which use the most sophisticated and risk-sensitive measurement techniques, in order to promote further improvements in the risk measurement and management practices of large and internationally active banks. Although other countries may offer banks the choice of using any of the approaches in the international accord, U.S. regulators noted that most foreign banks comparable in size and complexity to U.S. core banks are adopting some form of the advanced approaches.²⁰ Regulators estimate that, according to currently proposed criteria, 11 organizations would be required to comply with Basel II.²¹ Together, these banks (known as core banks) hold about \$4.9 trillion in assets, or about 42 percent of total banking assets in the United States (fig. 2). Other banks that are not required to adopt the Basel II rule may opt into it with the approval of their primary federal regulator, and regulators estimate that about 10 additional banks are considering doing so.

¹⁹For operational risk, the U.S.-proposed rule permits a bank to propose an alternative approach to the AMA in limited circumstances, but regulators expect use of such an alternative approach to occur on a very limited basis. See 71 Fed. Reg. 55840-41.

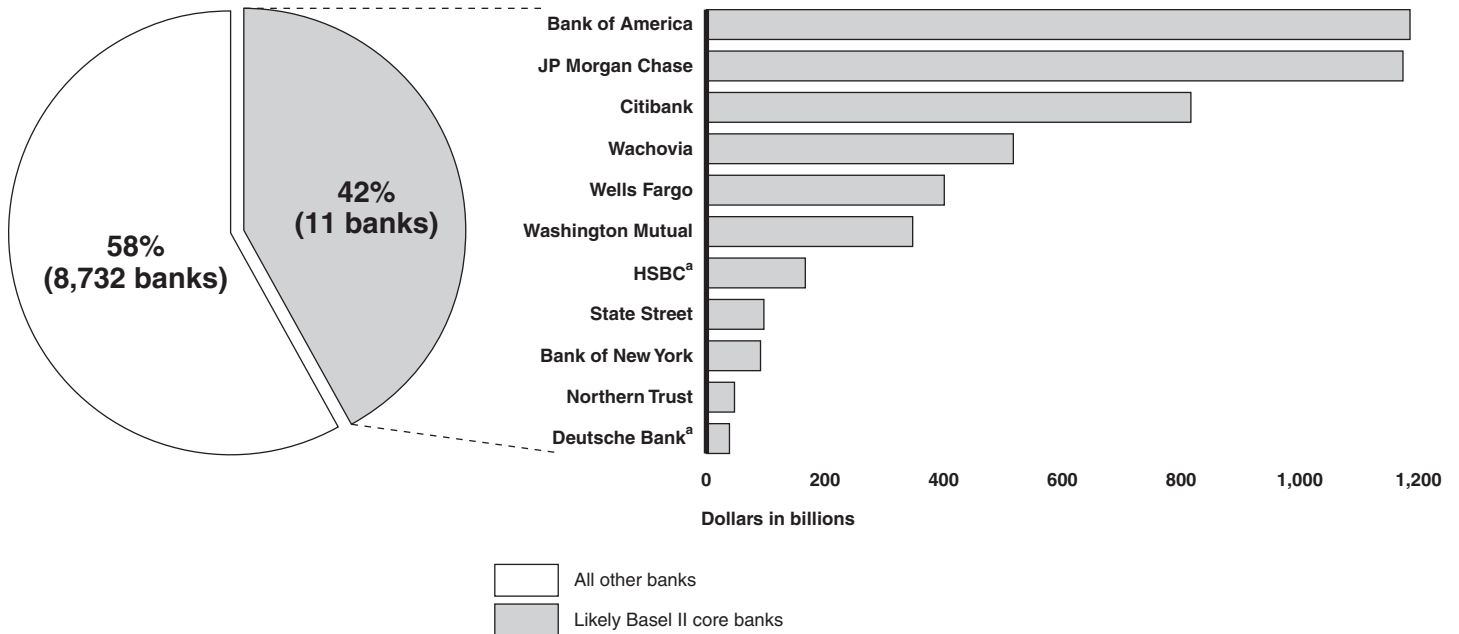
²⁰These foreign banking organizations indicated they may adopt the foundation internal ratings-based approach for credit risk, which uses internal models to some extent. However, the United States has proposed to adopt only the advanced IRB approach.

²¹A bank is required to adopt Basel II if it meets the following proposed criteria: at least \$250 billion in assets, or at least \$10 billion in on-balance sheet foreign exposure.

Figure 2: Banks that Meet U.S.-Proposed Criteria for Mandatory Adoption of Basel II

Share of U.S. banking industry assets

Likely Basel II core banks by asset size



Sources: GAO analysis of public regulatory filings; FDIC.

Note: Banks were identified based on regulatory filings as of December 31, 2005. Assets data shown as of September 30, 2006 for the lead bank (i.e., depository institution) in each respective core banking organization.

^aRefers only to the lead U.S. bank subsidiary of a foreign-owned banking organization.

Beginning in mid-2006, several core banks and industry groups have called for the U.S.-proposed rules to offer all banks the option of adopting alternative risk measurement approaches, including a standardized approach for credit risk such as the one available in the international accord. A standardized approach for credit risk, which is simpler and less costly to implement than the Basel II advanced approach (A-IRB), increases risk sensitivity compared to Basel I by expanding the number of risk weight categories and more fully recognizing credit risk mitigation. However, it is not as risk sensitive as the Basel II A-IRB approach, which relies in part on banks' internal models to estimate inputs into capital calculations. Bank officials stated that the A-IRB approach, as proposed in the United States, would yield little opportunity for banks to realize the benefits of a more risk-sensitive capital framework. Officials from a few core banks acknowledged that a standardized approach for credit risk might not adequately address the risks facing large, complex banks.

However, other bank officials said that they would prefer having the option of using a standardized approach for credit risk, especially if the U.S.-proposed rule for the advanced approach continued to exhibit certain differences from the international accord.

Some federal and state regulators have also noted the potential advantages of allowing a standardized approach for credit risk. For example, FDIC officials have noted that because the standardized approach establishes a floor for each risk exposure, it does not provide the same potential for dramatic reductions in capital requirements and would not pose the same competitive inequity concerns as the advanced approach. But FDIC officials also recognized that others have argued that only the advanced approaches would provide an adequate incentive for strengthening risk measurement systems at the largest banks. An association of state bank regulators also called for consideration of the standardized approach in the international accord, stating that it would be more risk sensitive than the current framework and simpler to implement and supervise than the advanced approach. An academic familiar with bank regulation also expressed support for a standardized approach as an interim solution to allow the regulators time to further assess the feasibility of the internal ratings based approach.

In response to these developments, regulators have requested public comments on whether U.S. banks subject to the advanced approaches should be permitted to use other credit and operational risk approaches similar to those provided in the international accord. However, regulators have not specified how, if at all, they might propose to apply such approaches, citing the need first to review comments received during the comment period of the rule-making process, which has been extended to March 26, 2007. Regulators have also noted that to date, banks have not sufficiently clarified their views on what form a standardized approach for credit risk should take. Given that the Basel II NPR only asks a question about a standardized approach and offers no specifics, the banking regulators indicated that pursuant to the rule-making requirements of the Administrative Procedure Act they would likely issue a new, targeted NPR if they were to include the approach as an option for credit risk.²² This new proposal would require a definition of the standardized approach in the United States, its application criteria, and how long banks could opt to use it. Failure to provide a subsequent NPR if this option were included in the

²²5 U.S.C. § 553.

final rule could result in new questions, issues, and potential unintended consequences that the regulators may not have considered.

U.S. Regulators Have Revised Time Frames for Implementation and Proposed Prudential Safeguards

Concerns in the U.S. about the potential adverse impact of Basel II on regulatory capital requirements have led federal regulators to revise the time frame for implementation and propose additional prudential safeguards. Appendix II shows key events in the transition to Basel II and proposed implementation time frames in the United States and abroad. In April 2005, U.S. federal regulators announced that a quantitative impact study (QIS-4) had estimated that Basel II could cause material reductions in aggregate minimum required risk-based capital and significant variations in results across institutions and portfolio types. As a result, they delayed the time frame for issuing the Basel II NPR in order to further analyze the results of the study. In February 2006, regulators announced that QIS-4 had estimated reductions in minimum total risk-based capital requirements of 15.5 percent (mean) and 26.3 percent (median), as well as reductions in minimum tier 1 risk-based capital requirements of 22 percent (mean) and 31 percent (median), relative to the current Basel I-based framework. The study also estimated significant reductions in minimum required capital for almost every portfolio category.²³ In addition, the study showed that similar loan products at different banks may have resulted in very different risk-based capital requirements. However, as discussed later in this report, regulators were unable to conclude whether the study's estimates were an understatement or overstatement of the overall level of minimum risk-based capital that would be required in a fully implemented Basel II. Nevertheless, the regulators stated that the results observed in QIS-4 would be unacceptable in an actual capital regime.

While regulators decided to proceed with issuing a proposed rule, delays in both the rule-making process and the implementation time frame have created challenges. Regulators stated that a final rule, supplemented with certain prudential safeguards, would allow them to more reliably observe the impact of Basel II. Such a controlled environment would prevent unintended capital reductions and would allow banks to submit compliant data based on a final rule that would provide greater certainty than data

²³QIS-4 estimated aggregate reductions in minimum required capital for every wholesale and retail exposure category (except credit cards, for which minimum required capital would increase significantly) across the 26 banking organizations that participated in the study. The study also estimated a reduction in minimum required capital for securitization exposures and a relatively small increase for equity exposures.

submitted under a preliminary impact study. For example, regulators delayed the start of the first available “parallel run” until January 2008, a year later than the international accord, creating challenges for banks that operate in multiple countries.²⁴ Regulators also added a third transition period to the original two transition periods and established floors on capital reductions for individual institutions during the transition period that are more conservative than those proposed in the international accord.²⁵

Regulators must resolve a number of open questions before issuing the final rule for Basel II. They have expressed a goal of doing so by June 30, 2007, at least 6 months prior to the start of the first available parallel run. The regulators have defined more specific objectives in the U.S.-proposed rule that include the following:

- Viewing a 10 percent decline in aggregate risk-based capital requirements compared to risk-based capital requirements under the existing rules as a material reduction warranting modifications to the Basel II-based framework;
- Establishing comparable capital requirements for similar portfolios;
- Domestically, working to mitigate differences in risk-based capital requirements between institutions that participate in Basel II and those that do not; and
- Retaining the leverage ratio and prompt corrective action requirements.

Table 3 summarizes some of the key differences between the U.S.-proposed rules for Basel II and the international accord.

²⁴A bank transitioning to Basel II must first satisfactorily complete a one-year parallel run period in which it calculates regulatory capital according to both Basel I and Basel II (its actual regulatory capital requirement would be determined by Basel I).

²⁵During each transition period (lasting at least 1 year), banks would be subject to limits on the amount by which a bank’s risk-based capital requirements could decline and would be required to calculate capital requirements according to both Basel I and Basel II.

Table 3: Differences in U.S.-Proposed Implementation of Basel II and International Accord

	United States	International Accord
Scope of application	<ul style="list-style-type: none"> Proposes only the advanced approaches for credit and operational risk for largest banks. Proposes Basel IA and retains Basel I for all other banks. First available parallel run in 2008. 	<ul style="list-style-type: none"> Provides all banks with a choice of multiple approaches for assessing risks. Replaces Basel I. First available parallel run for A-IRB and/or AMA in 2007.
Prudential safeguards	<ul style="list-style-type: none"> Transitional floors in which required risk-based capital cannot go below 95 percent, 90 percent, and 85 percent of Basel I requirements in three transition years, respectively. Regulators intend to view a 10 percent or greater decline in aggregate risk-based capital requirements (compared to Basel I) as a material reduction warranting modifications to the U.S. Basel II framework. Leverage ratio and prompt corrective action are retained. 	<ul style="list-style-type: none"> Transitional floors in which required risk-based capital cannot go below 90 percent and 80 percent of Basel I requirements in the first and second transition years, respectively. Supplementary measures are not required under the international accord, but national authorities are free to adopt them as they see fit.
Significant technical differences		
Wholesale definition of default	<p>Based on whether:</p> <ul style="list-style-type: none"> the bank places any exposure to the obligor on nonaccrual status, the bank incurs full or partial charge-offs on any exposure to the obligor, or the bank incurs a credit-related loss of 5 percent or more on the sale of any exposure to the obligor or transfer of any exposure to the obligor to the held-for-sale, available-for-sale, trading account, or other reporting category. 	<p>Based on whether:</p> <ul style="list-style-type: none"> the bank considers an obligor unlikely to pay in full without recourse to bank actions, or an obligor's payment on principal or interest is more than 90 days past due. Includes nonaccrual status and material credit-related loss on sale as elements indicating unlikelihood to pay. However, the accord does not specify the threshold of 5 percent for credit-related losses upon sale or transfer, and other countries' definitions do not generally include nonaccrual status.
Retail definition of default	Occurs when an exposure reaches 120 or 180 days past due, depending on exposure type, or when the bank incurs a full or partial charge-off or write-down on principal for credit-related reasons.	Occurs when an exposure reaches a past due threshold between 90 and 180 days, set by the national supervisor, or when the bank considers an obligor unlikely to pay in full without recourse to bank actions.
Small- and medium-sized business lending	Does not include an adjustment that would result in a lower capital requirement for loans to small and medium-sized enterprises compared to other business loans under the framework.	Includes such an adjustment.

	United States	International Accord
Loss given default (LGD)	<ul style="list-style-type: none"> A bank may use its own LGD estimates upon obtaining supervisory approval, which is based in part on whether the estimates are reliable and sufficiently reflective of economic downturn conditions. A bank that does not qualify to use its own internal LGD estimates must instead compute LGD using a supervisory formula that some bank officials have described as overly conservative. 	<ul style="list-style-type: none"> Requires banks to estimate losses from default that would occur during economic downturn conditions, which may result in higher regulatory required capital for some exposures under the framework. Does not identify an explicit supervisory formula for estimating LGD when a bank's internal LGD estimates do not meet minimum requirements. Instead, if a bank is unable to estimate LGD for any material portfolio, it would not qualify for the A-IRB approach.

Source: GAO analysis.

U.S. Regulators Proposed Basel IA and Plan to Retain Basel I for All Other Banks

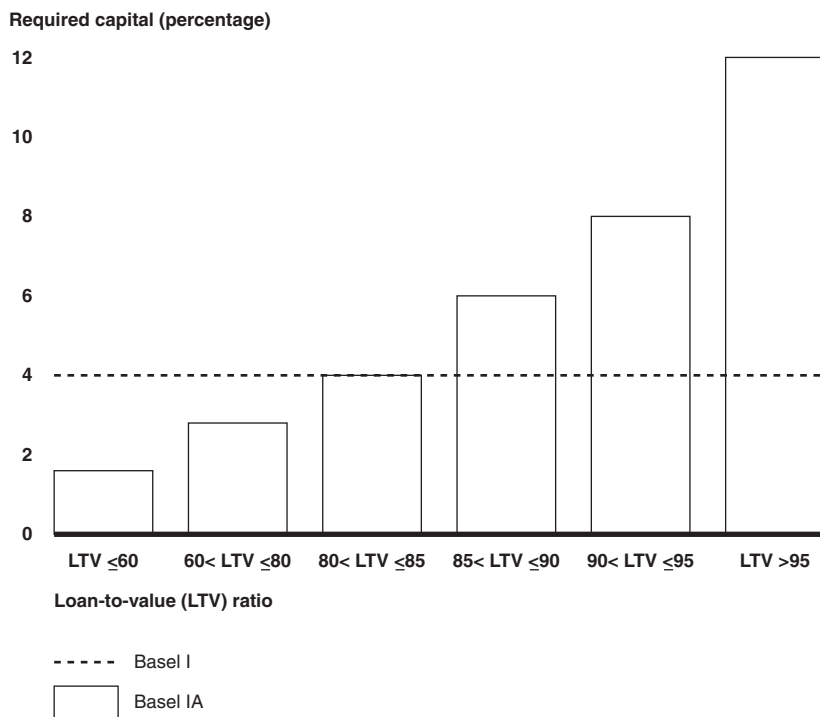
Regulators have proposed revising and retaining key aspects of Basel I, which would result in multiple risk-based capital regimes—Basel II, Basel IA, and Basel I. The regime that each bank uses will be largely based on its size and complexity. Federal regulators had initially limited the scope of Basel II to a small number of large and/or internationally active institutions and had planned to retain Basel I unchanged for all other institutions, in order to reduce the regulatory burden for these banks. In response to concerns voiced by small banks about potential competitive inequities between them and banks adopting Basel II, regulators proposed Basel IA.²⁶ Regulatory and bank officials acknowledge that Basel IA may help mitigate potential competitive inequities, although the extent of this impact is still to be seen. Basel IA is a risk-weighting approach that provides greater risk sensitivity than the current Basel I framework and is less risk sensitive and less complex than the Basel II advanced approaches. The Basel IA proposal discusses various modifications that would increase the number of risk-weight categories relative to Basel I; permit greater use of external credit ratings, if available, as an indicator of credit risk; expand the range of eligible collateral and guarantors used to mitigate credit risk; and use loan-to-value (LTV) ratios to determine risk weights for most residential mortgages.²⁷ Specifically, Basel IA proposes six risk-weight categories based on LTV ratios that would replace Basel I's

²⁶71 Fed. Reg. 77446 (Dec. 26, 2006).

²⁷LTV ratios are a measure of credit risk for mortgages and are commonly used in the underwriting process. A higher LTV ratio indicates a higher level of risk.

single risk category for most mortgages.²⁸ As a result, minimum capital requirements for mortgages under Basel IA would be more sensitive to risk than they would be under Basel I. As shown in figure 3, Basel I would generally require the same amount of capital regardless of the risk level (LTV ratio) of the mortgage, but Basel IA would generally increase required capital for higher risk loans and decrease required capital for lower risk loans. Nevertheless, Basel IA would not be as sensitive to credit risk as the Basel II A-IRB approach, nor would it rely on banks' internal models to determine minimum capital requirements. Under the Basel II A-IRB approach, risk parameter estimates take into account a wider variety of information, such as probability of default, loss given default, and exposure at default.

Figure 3: Sensitivity to Credit Risk for Mortgages under Basel I and Basel IA



Source: GAO analysis of information from the Basel IA Draft NPR and Congressional Research Service.

²⁸Under U.S. Basel I, most first-lien, one-to-four family mortgages meet certain required criteria (i.e., they meet prudent underwriting standards and are not 90 days or more past due or in nonaccrual status) to receive a 50 percent risk weight. Those mortgages not meeting the criteria receive a 100 percent risk weight.

Federal regulators have recently requested comment on whether Basel IA might be an appropriate option for banks subject to Basel II as an alternative to the advanced approaches. As discussed earlier, in the September 2006 Basel II NPR regulators requested comment on whether, and for what length of time, a standardized approach for credit risk similar to the approach in the international accord should be provided as an option for core banks. Subsequently, in the Basel IA NPR released in December 2006, the regulators requested comment on whether the Basel IA proposal or the standardized approach in the international Basel II accord would be an appropriate credit risk measurement approach for Basel II banking organizations and whether operational risk should be addressed using one of the three Basel II approaches.²⁹ In many respects, the Basel IA proposal is similar to the Basel II standardized approach for credit risk. Both approaches create several additional risk categories and for the most part do not rely on banks' internal models for calculating risk-based capital. Unlike Basel IA, the standardized approach has only a single risk-weight category for most mortgage loans. Compared with the advanced approach, the standardized approach offers less risk sensitivity but also less complexity, and it does not provide capital incentives for large banks to further improve their risk management practices. Regulators also asked in the Basel IA proposal how, if Basel IA is an option for Basel II banking organizations, they can be encouraged to enhance their risk management practices or financial disclosures if provided options other than the advanced approaches. Lack of sufficient resolution on these significant questions may lead to continued uncertainty about the proposed changes to the U.S. regulatory capital framework.

Given the large number of U.S. banks of different sizes, including thousands of small banks, regulators also plan to retain Basel I. Any bank not required to adopt Basel II would have the option of either adopting Basel IA, upon notifying its primary regulator, or remaining under Basel I. Regulatory officials have noted that Basel I would still be an adequate capital regime for most banks but that it is becoming increasingly inadequate for the largest and most complex banks. Regulators have stated that some small banks tend to hold capital well in excess of current regulatory minimums. Regulators indicated, based on comment letters received, that due to the compliance burden associated with moving to

²⁹71 Fed. Reg. 77463.

Basel IA, some small banks that are highly capitalized may choose to remain under Basel I.

U.S. Regulators Plan to Retain the Leverage Requirement and Apply Existing Prompt Corrective Action Measures

While the U.S.-proposed Basel II and Basel IA rules address revisions to risk-based regulatory capital, regulators also plan to retain the existing leverage requirements and prompt corrective action (PCA) measures. Federal regulators have committed to retaining a minimum leverage requirement for all banks, regardless of whether they use Basel II, IA, or I to calculate their risk-based required capital.³⁰ The leverage requirement, a simple ratio of tier 1 capital to on-balance sheet assets, is a U.S.-specific measure, while risk-based requirements are generally defined based on the international Basel accords. U.S. regulators stated that risk-based and leverage requirements generally serve complementary functions, in which the leverage ratio can be viewed as offsetting potential weaknesses of the risk-based ratios, while the risk-based ratios offset weaknesses of the leverage ratio. Risk-based requirements are intended to be more sensitive to assets of varying levels of risk and to address risks of off-balance sheet activities. However, the complexity of risk-based capital calculations will increase significantly under the advanced approaches of Basel II as these calculations depend on banks' estimates of risks and supervisory formulas that are based on certain assumptions. By contrast, a leverage ratio is easy to calculate and verify. Regulatory officials also noted that the leverage requirement can be considered to cover areas that risk-based requirements do not currently address, such as interest rate risk, concentration risk, and "model risk" (i.e., risk that the model assumptions or underlying data could be unreliable). While U.S. regulators support the use of a leverage requirement, some have noted that the leverage ratio, as currently formulated, may impede the risk sensitivity of the proposed changes to risk-based requirements.³¹

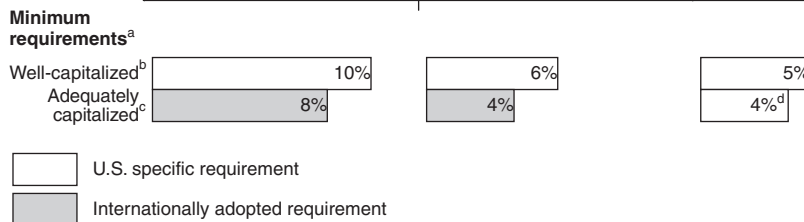
³⁰A leverage limit is required unless a federal banking agency rescinds it upon determining (with the concurrence of the other federal banking agencies) that the measure no longer is an appropriate means for carrying out the purpose of PCA. 12 U.S.C. § 1831o(c)(1)(B)(ii).

³¹For example, OTS notes that, if Basel II is adopted as proposed, the capital of institutions with concentrations of low-risk assets could be constrained by a leverage requirement at a capital level well above that suggested by the risk reflected by a bank's internal model that meets supervisory qualification criteria. Conversely, the leverage requirement may not impose any meaningful constraint on relatively higher-risk institutions (in particular, since the leverage ratio as currently formulated does not address off-balance sheet risks). As a result, OTS notes that low credit risk lenders may have a regulatory capital arbitrage incentive to pursue riskier lending.

In addition, under the PCA framework in the United States, banks tend to hold both risk-based and leverage capital at significantly higher levels than the international regulatory minimums. As figure 4 shows, the PCA thresholds for “well-capitalized” status exceed the international Basel minimums, which are considered under PCA as “adequately capitalized.” According to banking regulators, failure to maintain well-capitalized status can have significant consequences, such as higher deposit insurance premiums. As a result, most U.S. banks maintain regulatory capital at levels that achieve well-capitalized status. In connection with the U.S.-proposed Basel II framework, PCA will play a significant role in ensuring that Basel II banks maintain sufficient capital.

Figure 4: U.S. Regulatory Capital Requirements

Risk-based capital ratios		Leverage ratio
Total capital to risk-weighted assets	Tier 1 capital to risk-weighted assets	Tier 1 capital to total average assets
Covers on- and off-balance sheet assets		Covers only on-balance sheet assets
As proposed, banks will use one of three risk-based regimes, based largely on size and complexity: <ul style="list-style-type: none"> • Basel II • Basel IA • Basel I 		Applies to all banks
Calculates explicit capital requirements for only credit risk, market risk, (where relevant), and operational risk (Basel II only)		Simple capital to assets ratio intended to broadly cover all risks faced by a bank



Source: GAO.

^aSelected capital categories as defined in PCA, which applies to banks (i.e., insured depository institutions), but not bank holding companies.

^bThe well-capitalized designation for bank holding companies under Regulation Y has equivalent risk-based minimums as those under the well-capitalized PCA designation for banks, but it does not have a minimum leverage requirement.

^cFor the risk-based capital ratios, the adequately capitalized minimums are equivalent to the internationally adopted Basel minimums and apply to both banks and bank holding companies.

^dA minimum leverage requirement of 3 percent applies to (1) banks that receive the highest supervisory rating and (2) bank holding companies that have adopted the Market Risk Amendment or that hold the highest supervisory rating. All other banks and bank holding companies are subject to a 4 percent minimum leverage requirement.

The U.S. Proposal Differs in Other Ways from the International Accord

The Basel II NPR contains several other deviations from the international accord that have resulted in uncertainty and concerns about international consistency. For example, the proposed definitions of default for wholesale and retail exposures in the United States differ from those used in other jurisdictions. Differences in such fundamental definitions could have significant effects on the implementation costs of banks operating in multiple jurisdictions, possibly requiring banks to develop multiple data systems and processes. Furthermore, in contrast to the international accord, the U.S. proposal does not include an adjustment that would result in required capital for loans to small- and medium-sized businesses being lower than would be required for other business loans under the framework. Regulators noted that some misunderstanding may exist among banks on aspects of the proposed rule, such as the estimation of loss given default (LGD), a key risk input, under economic downturn conditions. The regulators proposed a supervisory formula for banks that do not qualify for use of their own LGD estimates, but it was not intended as a requirement for those banks that do qualify for use of their own LGD estimates. A number of other differences exist, and regulatory officials noted the need to take a comprehensive view of these differences, that in some areas the proposed U.S. requirements are less conservative than the international accord, and in other areas the requirements are more conservative. Notwithstanding these differences, other international differences in regulatory and accounting standards also have significant consequences for the comparability of capital ratios and the associated costs of implementing Basel II.

In addition, SEC has established a holding company supervision regime for certain securities firms that requires computation of groupwide capital adequacy measures and is separate from the federal banking regulators' proposed Basel II rule, raising some concerns about competitiveness between large commercial and investment banks subject to different capital rules. SEC's voluntary, alternative net capital rule, approved in 2004, allows certain broker-dealers to use internally developed mathematical models to calculate market and derivatives-related credit risk.³² In order for a broker-dealer to apply the rule, its ultimate holding company (collectively, the "consolidated supervised entity") must calculate and report capital adequacy measures that are broadly consistent

³²SEC, *Alternative Net Capital Requirements for Broker-Dealers That Are Part of Consolidated Supervised Entities*, 69 Fed. Reg. 34428 (June 21, 2004).

with Basel standards and consent to groupwide supervision by SEC.³³ SEC issued the rule in part as a response to a requirement by the European Union that non-European Union financial institutions be subject to consolidated supervision at the groupwide level in order to conduct business in Europe without establishing a separate European holding company. Five investment bank holding companies have elected to be treated as consolidated supervised entities. While the rule does not prescribe the use of the Basel II advanced approach for credit risk, consolidated supervised entities have with one exception elected to apply this approach.³⁴ According to SEC officials, because the timetable imposed by the European requirements necessitated the adoption of holding company capital requirements by consolidated supervised entities prior to issuance by U.S. banking regulators of guidance on Basel II, SEC has used the 2004 international Basel II accord as its guide for Basel II implementation. SEC officials stated that they would review the changes in the banking regulators' final rule and that they planned to implement Basel II for investment banks in a way that was generally consistent with the Federal Reserve's interpretation of Basel II as applied to financial holding companies.

³³Holding companies that already have a principal regulator (e.g., bank or financial holding companies regulated by the Federal Reserve) would be examined by their principal regulator, rather than SEC.

³⁴According to SEC, one firm, faced with less than 6 months between publication of SEC rules and the European Union deadline, opted to implement Basel I as an interim measure. That firm plans to adopt the Basel II advanced approach for credit risk in the first quarter of 2007.

Basel II Is Expected to Improve Risk Management and Enhance Capital Allocation, While Proposed Safeguards Would Help to Prevent Large Capital Reductions during a Temporary Transition Period

The longer-term impact of Basel II on minimum regulatory capital requirements and the safety and soundness of the banking system is largely unknown, but its implementation could have a variety of consequences for the banking system. First, bank and regulatory officials generally agree that the movement toward Basel II has prompted the largest U.S. banking organizations to make improvements in their risk measurement and risk management systems. Second, the advanced Basel II risk modeling approaches have the potential to better align capital with risk, such that banks would face minimum capital requirements more sensitive to their underlying risks. However, the advanced approaches are not themselves without risks and realizing the benefits of these approaches will depend in part on the sufficiency of credit default and operational loss event data used as inputs to the regulatory and bank models that determine required capital. Third, while initial estimates of the potential impact of Basel II showed large drops in minimum required capital, the impact of Basel II on minimum required capital is uncertain, and U.S. regulators have proposed safeguards to prevent the large reductions in required capital during a transition. Fourth, possible changes in regulatory capital requirements have also raised some banks' concerns about competition between large and small banks domestically, and between large banks headquartered in the United States and foreign banking organizations. Finally, Basel II's impact on the amount of capital banks' actually hold is also uncertain because regulatory requirements are just one of several factors that banks weigh in deciding how much capital to hold. In light of the uncertainty concerning the potential impact of Basel II, these issues will require further and ongoing examination as the banking regulators continue to finalize the Basel II rule and proceed with the parallel run and transition period.

Basel II Preparations Have Contributed to Improved Risk Management at Participating Banks

Bank and regulatory officials generally agree that, due to the systems required for the use of the advanced approaches, Basel II has already prompted some large banks to improve their risk measurement and management systems. For example, officials at one bank said that the more detailed categorizing of risks under the advanced approaches would offer information about a portfolio that banks could use to identify and plan for potential problems. Other officials said that Basel II would improve their collection and use of data so that they could aggregate and better understand information about their risk profile across all their portfolios. Some officials noted that Basel II would help to formalize processes for identifying and addressing operational risk. In preparation for Basel II implementation, many banks have improved data collection and invested resources in quantifying and modeling operational risk.

Although they felt it still had many gaps, officials from several core banks said that Basel II also brought regulatory requirements closer to the ways in which they have been addressing economic risk internally. Many of these officials believe that the transition to Basel II should help the banks continue to more quickly improve their risk management practices.

Officials from some banks that were considering adopting Basel II cited several factors that made the new framework attractive. Officials from some banks acknowledged that over the long run Basel II would make the regulatory capital framework more risk sensitive and improve bank's risk management and internal controls, resulting in stronger banks. Officials from one bank stated that over the long term, Basel II would equip them with the tools to better differentiate and price risks and allocate capital, placing the bank in a stronger position to compete with larger banks. Officials from a few banks said that as a result of acquisitions or business growth, their institutions would grow and become more complex, requiring more sophisticated risk measurement and management tools. These officials also shared the view that Basel II would further improve their collection and use of data and other information. Officials from one bank believed that such information would allow banks to make better decisions during emergency situations. Finally, officials at some banks said that their foreign parent companies were required to implement the new framework, facilitating their adoption of Basel II in the United States.

Regulatory officials also believed that the systems required for the advanced approaches would allow banks to better understand and measure risk, and they suggested that the improvements in risk management at these banks was one of the primary benefits of Basel II. For example, Federal Reserve officials noted that the proposed rule mandates that the largest U.S. banks adopt the advanced approaches of Basel II because these approaches would strongly encourage improved risk measurement and management practices. Regulatory officials stated that the requirement to model operational risk has created significant interest in the discipline and has motivated some banks to collect operational loss data. Another positive risk management effect of Basel II preparation, according to some regulatory officials, is improved data collection that will be useful for internal economic capital purposes as well as for calculating regulatory capital.

Basel II Models Could Improve the Risk Sensitivity of Capital Requirements but Also Have Limitations

The bank and regulatory models associated with the Basel II advanced approaches have the advantage of making capital requirements more sensitive to some underlying risks, but also have a number of limitations. This improved risk sensitivity could improve the safety and soundness of the banking system. However, the use of bank models that influence capital requirements requires increased reliance on risk assessments provided by bank officials, though these assessments are subject to both internal and supervisory review. The A-IRB approach incorporates historical estimates of credit losses to determine required capital but is based on simplifying assumptions provided by regulators about the sources of credit risk. Its effectiveness will depend on the quality and sufficiency of data on credit losses. With sufficient controls on the modeling process, and relevant historical data, the A-IRB approach should generate capital requirements more reflective of actual credit risk than the broader risk categories of Basel I. The AMA approach offers a number of channels for risk sensitivity, though the operational risk capital requirements are sensitive to the potentially varied statistical assumptions and data banks would use to estimate the magnitude of severe operational loss events. Finally, while banks' models have been used for internal purposes, they are relatively unproven for regulatory capital purposes. The use of these models also raises concerns about their ability to estimate losses from low-frequency catastrophic events, which also increases the importance of supervisory review as well as regulators' attention to the appropriate level of risk-based capital.

More Risk-Sensitive Capital Requirements Could Improve Safety and Soundness

For a given amount of capital, more risk-sensitive capital requirements could improve the safety and soundness of the banking system through a number of channels—each of which more closely aligns required capital with associated risks—and provide a required level of capital more likely to absorb unexpected losses. First, holding assets with higher risk under Basel II would require banks to hold more capital relative to lower risk assets. For example, while Basel I requires the same amount of capital for many high-risk and low-risk mortgages, those mortgage loans on average expected to have greater credit losses under Basel II would require more capital than would be required for other mortgage loans. Second, banks with higher risk credit portfolios or greater exposure to operational risk would be required to hold relatively more capital than banks with lower risk profiles. For example, a bank with a speculative bond portfolio, or one with a business line more susceptible to fraud, could face relatively higher capital requirements in those areas. Third, because credit quality varies over the business cycle, banks could be required to hold more capital for some assets as economic conditions are expected to deteriorate. As a result, banks would have a relatively larger capital requirement when

credit losses from default are more likely. Finally, although more risk-sensitive capital requirements can help enhance safety and soundness, the level of regulatory capital must also be sufficient to account for broader risks to the economy and safety and soundness of the banking system, which will require ongoing regulatory scrutiny.

A-IRB Approach for Credit Risk Has Strengths and Weaknesses

Assuming sufficient controls on the quantification and modeling process, and relevant historical data, the A-IRB approach should generate capital requirements more reflective of actual credit risk than the broad Basel I risk categories; however, the formulas provided by regulators for calculating capital requirements for credit risk have both strengths and weaknesses. The A-IRB formulas generate a capital requirement that depends on risk characteristics of the asset, estimated by the bank, such as the probability of default (PD) and LGD, thus making required capital more sensitive to the underlying risk of the asset. This improved risk sensitivity would help ensure that banks are required to hold relatively more capital against riskier assets more likely to generate unanticipated credit losses and hold less required capital against less risky assets. However, the appropriateness of the capital requirements generated by the A-IRB approach depends on the accuracy of parameter estimates, such as PD and LGD, which depend in part on the quality and comprehensiveness of the historical data that underlie the estimates. For portfolios with data that cover short time horizons or incomplete economic cycles, the capital required under the A-IRB approach will not necessarily accurately reflect the risk of credit losses from the asset because the more limited history may not be representative. However, for portfolios with data covering longer time horizons that include adverse economic conditions, the A-IRB approach is anticipated to generate a capital requirement better aligned with the underlying risk of the asset than the broad risk categories of Basel I.

The authors of a Basel Committee working paper have noted significant challenges related to estimation of loss severity and exposure at default in particular, and highlight the importance of building consistent data sets at banks.³⁵ For new or innovative financial products, bank officials described a number of strategies for estimating risk parameters, including simulating how the borrower would behave under a variety of economic conditions, comparing the product to similar products for which the banks already

³⁵"Studies on the Validation of Internal Rating Systems," *Basel Committee on Banking Supervision Working Paper*, no. 14, May 2005.

had data, using expert judgment, and making conservative adjustments to estimates. Officials at several banks told us these sorts of products were typically not material portions of their credit portfolio, and therefore would not materially affect their capital requirements under Basel II. None of the bank officials with whom we spoke had received formal feedback or guidance from regulators clarifying the treatment of portfolios that did not have a historical track record, though one official explained that similar strategies to those described above had already been endorsed by regulators for market risk calculations.

For large corporate borrowers, bonds or loans with lower external ratings would generally be assigned a higher probability of default, resulting in relatively higher required capital. In addition, estimates of LGD for small business loans, for example, will be sensitive to collateral that the borrower provides, with greater collateral reducing the losses to the lender if the borrower defaults, and hence required capital. However, the A-IRB formulas are based on certain simplifying assumptions that provide only limited recognition of diversification and concentration in credit risk, among other limitations. Other criticisms include inappropriate values for the regulator-provided asset correlations with the overall economy, and the assumption that credit risk at a given bank is driven by a single, economy-wide risk-factor with simplified statistical properties. More generally, some researchers believe that the A-IRB approach does not reflect best practices in banking but instead reflects a negotiated compromise that attempts to balance competing goals, including improved risk sensitivity and simplicity.³⁶ In essence, the A-IRB approach is an attempt to convert historical data on credit defaults into worst-case scenario credit losses, assuming that this scenario can be captured by statistical assumptions about the distribution of losses. These severe scenarios are inherently difficult to estimate, because of their rarity, but their magnitude will determine the level of resources banks will need to weather similar events. Regulators acknowledge the assumptions of the A-IRB approach represent simplifications of very complex real-world phenomena, meant to approximate such severe scenarios.

AMA for Operational Risk Also Has Strengths and Weaknesses

The Basel II NPR is less prescriptive on the calculation of capital requirements for operational risk, the AMA. Nevertheless, banks must incorporate a number of elements, and regulators have prescribed a level

³⁶Hugh Thomas and Zhiqiang Wang, "Interpreting the Internal Ratings-Based Capital Requirements in Basel II," *Journal of Banking Regulation*, vol. 6, no. 3 (2005).

of confidence for bank models that is equivalent to requiring a capital level for operational risk that would have a one in one thousand chance of being exceeded by operational losses in a given year, provided the underlying assumptions were correct. The elements that banks must incorporate are internal operational loss event data, external operational loss event data, results of scenario analyses, and assessments of the bank's business environment and internal controls.³⁷ One rationale for the flexibility afforded under the AMA approach is that operational risk modeling is a new and evolving discipline.

According to some regulatory officials, Basel II banks are all currently exploring the loss distribution approach (LDA) to estimating their exposure to operational risk. Under one possible way to implement a LDA, a bank would use internal and external operational loss data to separately estimate the range of possible frequencies and magnitudes of operational losses. The bank would then combine this information with expert-designed scenarios to better anticipate very infrequent, yet very severe operational loss events. Finally, the bank is required to incorporate information regarding the strength of its internal controls, and risks of its particular business environment into its estimates of potential losses. Banks may also be able to use insurance or other risk mitigants aimed at covering operational losses to reduce their operational risk required capital by up to 20 percent. This approach offers a number of channels for risk sensitivity and also provides incentives to mitigate operational risk. First, internal operational loss data are by nature specific to individual banks, so they are expected to reflect the types of losses that have historically affected the bank. Second, because the AMA requires that banks incorporate an assessment of the strength of internal controls, expert-designed scenarios could reflect where internal controls, or lack of them, are likely to mitigate or exacerbate potential operational losses. Third, because banks would, to a limited extent, be able to reduce their capital requirements by insuring against some operational losses, the AMA could provide additional incentives for banks to purchase such insurance or other risk mitigants.

There are several methodological challenges with respect to quantifying operational risk. For example, the operational risk capital charge will be

³⁷Scenario analysis is defined in the Basel II NPR as a "systematic process of obtaining expert opinions from business managers and risk management experts to derive reasoned assessments of the likelihood and loss impact of plausible high-severity operational losses that may occur at a bank." 71 Fed. Reg. 55852, 55920.

Using Bank Models for
Regulatory Capital Purposes
Increases Importance of
Validation and Supervisory
Review of Bank Models

strongly influenced by infrequent but very large operational losses. Because of their rarity, the magnitude and likelihood of these losses is difficult to estimate. Some banks have joined industry groups to share data or have purchased data from external sources to supplement internal data. Nevertheless, the estimated operational risk exposure will be sensitive to the potentially varied statistical assumptions and data sources chosen by the bank. The lack of data on severe operational losses also increases reliance on scenario analysis. While scenario analysis can be useful in offering a forward-looking perspective not captured by internal data, the Basel Committee has noted that the rigor applied to scenario development varies greatly from bank to bank.

Required capital levels under Basel II will depend in part on a bank's own assessment of the risks to which it is exposed, and these assessments are to be subject to both independent internal scrutiny and supervisory review. The use of these assessments has the advantage of making regulatory capital more sensitive to risks but also requires bank supervisors to increase their reliance on the risk assessments of bank officials. As discussed previously, models similar in some ways to the ones that would be used for Basel II have been used by banks for internal risk management purposes but, with the exception of market risk, have not been used to calculate minimum regulatory capital requirements. To address this issue, regulators have put several safeguards in place to provide greater confidence in bank estimates, especially the requirement that the models that the bank would use to implement Basel II must be validated on an ongoing basis. That is, these models must have an independent internal evaluation for conceptual soundness and real-world performance, among other areas. The model validations can also be reviewed by bank examiners and quantitative specialists at the discretion of the regulators, and the integrity of the process surrounding model validation is also subject to regulatory review. The adequacy of the supervisory review process will be particularly important to ensure prudent estimates of risk, and hence, required capital.

Changes in Capital
Requirements Could Affect
Competition among Banks

Possible changes in regulatory capital requirements have raised concerns about competition between large and small banks domestically; between large banks headquartered in the United States and foreign banks; and commercial and investment banks in the United States, though the effect of Basel II on bank competition remains uncertain. The competitive landscape for banks headquartered in the United States will change in 2007 as some foreign banks implement Basel II, which has raised concerns among core banks. For example, some core banks are concerned that the

leverage ratio, to which foreign banks based in industrialized countries are generally not subject, may impose higher capital requirements than Basel II for banks with relatively low-risk credit portfolios. U.S. banks competing in foreign jurisdictions would be subject to foreign regulatory requirements, as well as a 3 percent leverage ratio at the holding company level. U.S. banks have also expressed concern about other aspects of the U.S. Basel II rules that could impose higher costs than foreign Basel II rules.³⁸

Controversial initial estimates of the capital levels that would be required under the A-IRB approach suggested that credit risk capital required for many broad asset classes could fall relative to Basel I. In particular, OCC has noted that because of the low credit risk associated with collateralized mortgage lending, that Basel II may lead to substantial reductions in credit-risk capital for residential mortgages. Because mortgage lending is an area where the largest U.S. banks compete with smaller banks, some regulators and smaller banks were concerned that those banks not subject to Basel II would be at a disadvantage. Regulators proposed Basel IA in part to mitigate potential competitive disparities between large and small banks, and the proposal features some additional risk sensitivity for mortgages and lower capital requirements than Basel I for some lower risk mortgages. OCC has noted that another potential avenue for competitive effects between smaller banks and Basel II banks is small business lending. One study of lending to small and medium enterprises found only relatively minor competitive effects between community banks and Basel II banks, because community banks and large banks make different kinds of small business loans. However, there were potentially significant adverse competitive effects on large banks that do not adopt Basel II in the United States.³⁹ While this study is a comparison of the A-IRB approach and Basel I, regulators state in the Basel IA NPR that they are exploring options for an additional, lower risk-category for certain small business loans (the equivalent to a 25 percent reduction in capital requirements for those loans). Even with Basel IA as an option, FDIC officials have highlighted concerns about potential competitive disadvantages for banks

³⁸The Basel Committee has stated both that a limited amount of national discretion can be used to adapt the Basel II standards to different conditions of national markets, and that national authorities are free to put in place supplementary measures of capital adequacy.

³⁹Allen N. Berger, "Potential Competitive Effects of Basel II on Banks in SME Credit Markets in the United States," *Journal of Financial Services Research*, vol. 29, no. 1 (2006).

that do not adopt Basel II based on lower estimated capital requirements in the QIS-4 as compared with the Basel IA ANPR. Retaining the leverage ratio for all U.S. banks will likely be important to addressing some of these competitiveness concerns.

Finally, banking organization officials have also raised the concern that they will face disadvantages relative to domestic competitors that will not be subject to the U.S. version of Basel II, such as some large investment banks regulated by SEC at the holding company level (consolidated supervised entities), which are permitted to use the international Basel II framework. SEC officials with whom we spoke generally did not believe that the differences between the NPR and SEC's rule would raise material competitiveness issues, mostly because investment banks did not currently engage in significant middle market and retail lending. The officials said they would review the changes to the banking regulators' final rule and planned to implement Basel II for investment banks in a way that was generally consistent with the Federal Reserve's interpretation of Basel II, as applied to financial holding companies, and would consider changes that went beyond the Basel agreement. SEC officials stated they did not anticipate the need to propose another rule to incorporate any such changes.

The Impact of Basel II on the Level of Bank Capital Is Uncertain, but Proposed Safeguards Would Limit Capital Reductions during a Transition Period

Quantitative Impact Study Raised Concerns about Large Drops in Required Capital

While initial estimates of the impact of Basel II showed large drops in minimum required capital, a considerable amount of uncertainty remains about the potential impact of Basel II on the level of regulatory capital requirements and the degree of variability in these requirements over the business cycle in the long term. The banking regulators have committed to broadly maintain the level of risk-based capital requirements and proposed safeguards that would limit capital reductions during a transition period.

The QIS-4 showed, on average, large drops in minimum required risk-based capital for participating banks, and there are a number of factors affecting capital requirements that could make the potential impact of Basel II, as currently proposed, vary in either direction from the QIS-4 results. First, the Basel Committee has instituted a "scaling factor" that was not included in the QIS-4 results, currently 1.06, equivalent to a 6 percent increase, which would raise capital requirements for credit risk relative to QIS-4.⁴⁰ The U.S. regulators, who have included this increase in

⁴⁰A bank's credit risk-weighted assets would be multiplied by the scaling factor, which would yield an increase in minimum required capital for credit risk of 6 percent.

the NPR, view 1.06 as a placeholder, and have stated that they will revisit the scaling factor along with other calibration issues identified during the parallel run and transitional floor periods. U.S. regulators have also committed to broadly maintain the overall level of risk-based capital requirements (i.e., capital neutrality) with some incentives for the advanced approaches in the NPR, though they have not defined precisely how they plan to achieve this goal. Large reductions in minimum required capital could reduce safety and soundness because banks would generally hold too little capital in the absence of capital regulation. Second, the regulators have noted a number of factors that could have biased the QIS-4 estimates in either direction. For example, the limited use of downturn LGDs, meant to capture economic losses from default in a stressed or recessionary economic environment, might have caused required capital to be understated during QIS-4, while the lack of incorporation of credit risk mitigation may have overstated required capital. Officials at some banks noted more recently that, based on their estimates, they did not expect large deviations from their QIS-4 results—with respect to the level of total minimum capital requirements—given similar economic conditions. Finally, the greater sensitivity of the A-IRB approach to economic conditions and the good economic environment during QIS-4 was an important factor in explaining lower estimates of required capital, and less favorable economic conditions could produce greater required capital.

The QIS-4 results featured variations in capital requirements across portfolios and also identical assets. Regulators offered several possible explanations for this variation, but some regulatory officials believed that the variation raised questions about the reliability of bank models for determining regulatory capital. One result of the QIS-4 was a variation in capital requirements for the same broad class of assets. However, portfolios for a given type of exposure can vary significantly from bank to bank. For example, one bank may specialize in prime credit card borrowers, while another may specialize in less credit worthy credit card borrowers. The former would therefore be required to hold less capital for its credit card risks under a risk-sensitive system such as Basel II. FDIC officials have expressed particular concern regarding variation in capital requirements for identical assets across banks based on a test constructed by regulators as part of the QIS-4. In a functioning capital regime, this variation would imply different capital treatment across banks for the same degree of risk, which, if significant, would run counter to both the goals of capital adequacy and competitive equity. The regulators emphasized that the QIS-4 was conducted on a “best efforts” basis without the benefit of either a definitive set of proposals or meaningful supervisory

The Parallel Run, Transitional Floors and Leverage Ratio Would Help Prevent Large Declines in Required Capital during a Transition Period

review of the institutions' systems.⁴¹ Nevertheless, QIS-4 raised a number of questions that have significantly changed the way U.S. regulators are planning to implement Basel II.

As proposed in the United States, Basel II would initially have a less significant impact on minimum required capital because the parallel run and transitional floors would prevent large reductions in capital requirements during a transition. The parallel run would allow regulators to observe how Basel II would affect minimum capital requirements; and regulators would see how the banks' models perform, as banks would calculate required capital under both Basel I and Basel II, while meeting the Basel I requirement. The NPR notes that regulators plan to share information related to banks' reported risk-based capital ratios with each other for calibration and other analytical purposes. Banks would be qualified to transition to Basel II only after four consecutive calendar quarters during which the bank complies with all of the qualification requirements to the satisfaction of its primary federal supervisor. During at least three transitional years, permissible risk-based capital reductions at a qualified bank would rise by 5 percent per year relative to minimum capital requirements calculated using Basel I. Regulators have also stated that banks under Basel II would continue to be subject to the leverage ratio—a capital requirement that is calculated as a percentage of assets, independent of risk—which could also prevent significant reductions in required capital.

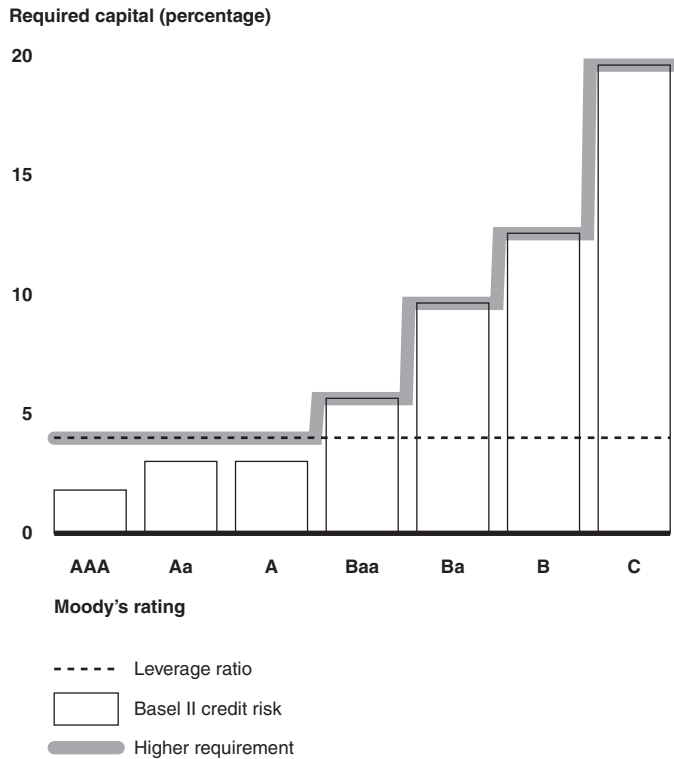
As mentioned previously, regulatory officials have suggested a number of advantages to the leverage ratio—a common financial measure of risk—although as it is currently formulated, it also has some drawbacks. The advantages of the leverage ratio include that it is easy to calculate and that it can compensate for the limitations of the risk-based minimum requirements, including coverage of only market, credit, and operational risk, and the possibility that risks could be quantified incorrectly. However, the leverage ratio could be the higher capital requirement for some banks at some times, especially those with low risk profiles. This would dampen some of the risk sensitivity of Basel II for low-risk banks and assets, possibly leading to disincentives for banks to hold low-risk portfolios. Furthermore, some banks were concerned that the leverage

⁴¹For example, Basel II banks will have to qualify before moving to the advanced approaches, and, as mentioned above, validate models used to calculate A-IRB credit risk parameters. During the transition period, the parallel run and transitional floors also guard against precipitous reductions in capital requirements.

ratio requirement, along with certain safeguards, defied the purpose of moving to a conceptually more risk-sensitive capital allocation framework. These banks believed that the leverage requirement and some safeguards could prevent banks' regulatory capital levels from reflecting actual risk levels. As a result, the banks would not benefit from the capital reductions associated with taking on less risk, or managing it more effectively. As seen in figure 5, the leverage capital requirement for the lowest risk externally rated corporate exposures could exceed the Basel II credit risk requirement, making the leverage ratio the relevant requirement. Both figures 5 and 6 compare the minimum leverage ratio requirement (a tier 1 capital requirement) with the Basel II credit risk capital requirement (a total capital requirement that must be met with at least half tier 1 capital, but can also include tier 2 capital). If the figures compared only tier 1 capital, the Basel II credit risk capital requirements would be half as high, which would mean that the leverage ratio would exceed the Basel II tier 1 capital Basel requirement for a broader range of assets, and thus be the relevant constraint.⁴²

⁴²As noted previously, the proposed Basel II minimum risk-based capital requirements are that banks hold 4 percent of risk-weighted assets as tier 1 capital and 8 percent of risk-weighted assets as total qualifying capital. 71 Fed. Reg. 55921.

Figure 5: Leverage Ratio vs. Basel II Credit Risk Required Capital for Externally Rated Corporate Exposures, by Rating



Sources: GAO analysis of information from the Basel II NPR, Federal Reserve System, Moody's Investors Service, and QIS-4 Summary.

Note: Estimates in the figure assume a LGD of 31.6 percent (mean LGD for corporate, bank, and sovereign exposures from QIS-4), a downturn LGD of 37.07 percent (calculated using the supervisory formula from the Basel II NPR) and a maturity of 5 years. Default probabilities, from Moody's, are 0.03 percent for AAA (the lower bound in the Basel II NPR), 0.08 percent for Aa and A, 0.3 percent for Baa, 1.43 percent for Ba, 4.48 percent for B, and 19.09 percent for C. The leverage requirement is measured in tier 1 capital, and the Basel II credit risk requirement is measured in total capital. The estimates do not include any increase in the operational risk capital requirement that could come from holding additional assets.

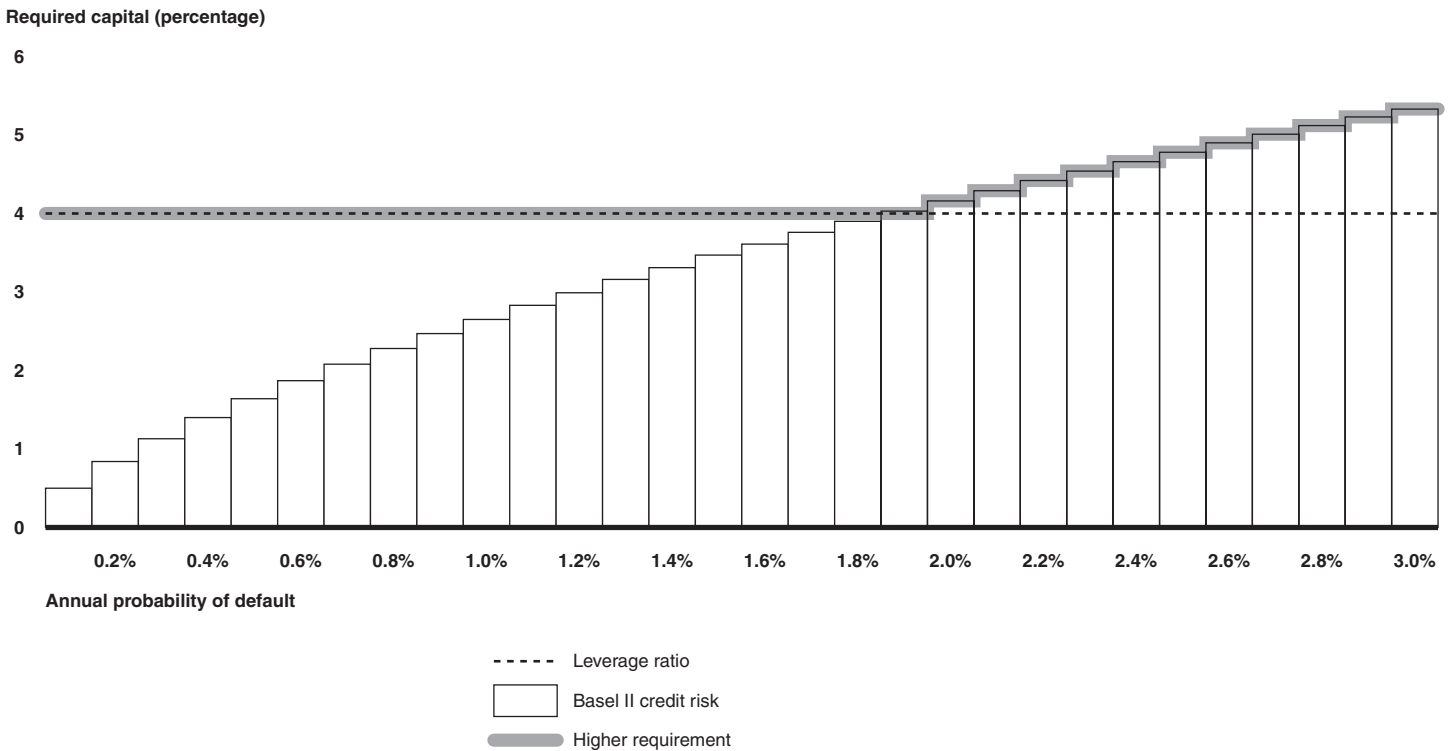
OTS has noted that because of the low credit risk associated with residential mortgage-related assets, relative to other assets held by banks, the risk-insensitive leverage ratio may be more binding for mandatory and opt-in thrifts, thus the proposed rule may cause these institutions to incur much the same implementation costs as banks with riskier assets, but with reduced benefits. Similar to the lowest risk externally rated corporate exposures, as seen in figure 6, the leverage capital requirement for many lower risk mortgages, such as those with a lower probability of default, could exceed the Basel II credit risk requirement. Also, the U.S. leverage

requirement does not include off-balance sheet exposures, which include many securitizations and derivatives, resulting in an incomplete picture of capital adequacy.⁴³ As a result, the retention of the leverage ratio under Basel II may still provide a regulatory disincentive to hold low-risk assets on the balance sheet.⁴⁴

⁴³In contrast, Fannie Mae and Freddie Mac, regulated by the Office of Federal Housing Enterprise Oversight, must meet a leverage capital requirement that includes both on-balance sheet assets as well as off-balance sheet obligations, along with a risk-based capital requirement. 12 C.F.R. § 1750.4.

⁴⁴The Federal Reserve has noted that if this takes place, the disincentive does not present a regulatory capital problem from a prudential perspective so long as appropriate risk-based capital charges are levied against all assets that are retained by a bank.

Figure 6: Leverage Ratio vs. Basel II Credit Risk Required Capital for Mortgages, by Probability of Default



Source: GAO analysis of information from the Basel II NPR, Federal Reserve System, and QIS-4 summary.

Note: According to one estimate, a borrower with a LTV ratio of 80 percent (equivalent to a 20 percent down payment) and a credit score of 740 has a 0.15 percent annual probability of default. For the same down payment, credit scores of 700, 660, and 620 are associated with default probabilities of 0.2, 0.31, and 0.51 percent, respectively. Estimates in the figure assume a LGD of 17.7 percent (mean LGD for mortgage exposures, other than home equity lines of credit, from QIS-4) and a downturn LGD of 24.28 percent (calculated using the supervisory formula from the Basel II NPR). The leverage requirement is measured in tier 1 capital, and the Basel II credit risk requirement is measured in total capital. The estimates do not include any increase in the operational risk capital requirement that could come from holding additional assets.

Basel II Required Capital Could Vary over the Business Cycle

To supplement the results from QIS-4, some banks simulated their portfolios under alternative economic conditions and estimated that capital requirements for consumer and business credit exposures could vary from 20 to 35 percent over the business cycle under Basel II, because

defaults and losses are higher in poor economic times.⁴⁵ More generally, some bank officials said that Basel II is more sensitive than Basel I to the risk level of their exposures and the health of the economy in which they were operating. However, federal regulatory officials with whom we spoke were uncertain about how much capital requirements would or should vary over the business cycle. FDIC officials with whom we spoke said they believed it was undesirable for bank capital requirements to fall substantially during expansions and rise substantially during recessions, when bank capital may be most difficult to obtain. Because capital requirements could vary over the business cycle, average (i.e., through the cycle) capital could be higher or lower than Basel I, depending on how Basel II is calibrated. In particular, if Basel II were calibrated to be capital neutral with Basel I during good economic conditions, average capital requirements could actually rise relative to Basel I.

While minimum capital requirements are expected to vary over the business cycle, actual capital held by banks could be more stable if banks take into account more stressed economic scenarios through holding capital above regulatory minimums. Requiring banks to hold more capital when borrowers are more likely to default could help ensure that banks have adequate capital when economic conditions begin to deteriorate. However, some experts have raised concerns that this could exacerbate already deteriorating economic conditions by discouraging banks from lending. Regulatory officials were uncertain of whether minimum required capital would adjust in advance of changes in economic conditions. However, the Basel II NPR contains a stress-testing requirement in which banks must simulate their portfolios in order to understand how economic cycles, especially downturn conditions, affect risk-based capital requirements. Adequate stress testing, as in calculating risk parameters, will depend on banks gathering data from historical recessions that could reflect future economic downturns, or adjusting existing data to reflect more severe economic conditions. As part of Pillar 2, according to the NPR, regulators expect that banks will manage their regulatory capital position so that they remain at least adequately capitalized during all phases of the economic cycle.⁴⁶ OCC has noted that the stress-testing requirements will help ensure that institutions anticipate cyclicity in capital requirements, reducing the potential impact of changes in capital

⁴⁵These estimates are generally based on the recessionary period between 2000 and 2002, which was relatively mild by historical standards.

⁴⁶71 Fed. Reg. 55855.

Impact of Basel II on Total
Capital Held Is Uncertain
Because Banks Hold Capital for
a Variety of Reasons

requirements. In other words, bank capital would be relatively stable over the business cycle, while the buffer between required capital and actual capital held would fluctuate through the cycle. Several bank officials have suggested that this scenario is consistent with banks' desire to avoid raising additional capital during a downturn.

Basel II's impact on the capital actually held by banking organizations is also uncertain, because banks hold capital for a variety of reasons, including market forces such as meeting the expectations of counterparties and credit rating agencies. Officials at several banks told us that they weighed a number of factors when deciding how much capital to hold, including both minimum and Pillar 2 regulatory requirements; internal economic capital models; senior management decisions; and market expectations, which are often exemplified by assessments from credit rating agencies such as Moody's and Standard and Poor's.⁴⁷ The Basel Committee has identified important obligations for banks as part of Pillar 2 supervision, specifically a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels. This process requires banks to demonstrate that their internal capital targets are well founded and consistent with their overall risk profile and current operating environment. Banks are to assess all material risks, including both those risks covered by Pillar 1 minimum requirements as well as other risks that are not addressed, such as concentration, interest rate, and liquidity risks. One rating agency expected that banks would hold a larger capital cushion than they currently do over regulatory requirements under Basel II because of the uncertainty about the new requirements. Further, a foreign bank supervisor suggested that the effect of Basel II on actual capital would be less than the change in minimum required capital, due in part to the expectations of counterparties and rating agencies.

⁴⁷In order for a bank holding company to be eligible to become a financial holding company, which allows it to engage in securities and insurance businesses, all its commercial banks must be well-capitalized. As mentioned previously, well-capitalized banks must meet capital ratios for risk-based and leverage capital that are above the minimum requirements.

Core Banks Are Incorporating Basel II into Ongoing Efforts to Improve Risk Management, but Challenges Remain

Officials at most core banks with whom we spoke reported that their banks had been working to improve the way they managed and assessed credit, market, and other types of risks, including the allocation of capital to cover these risks for some years. According to these officials, the banks were largely integrating their preparations for Basel II into their current risk management efforts. Some officials saw Basel II as a continuation of the banking industry's evolving risk management practices and risk-based capital allocation practices that regulators had encouraged. To help meet the regulatory requirements proposed for Basel II's advanced approaches, many core bank officials reported that their banks were investing in information technology and establishing processes to manage and quantify credit and operational risk. To varying extents, many officials said that the banks had hired additional staff or were providing different levels of training for current employees. Most officials said that their banks had incurred or would incur significant monetary costs and were allocating substantial resources to implement Basel II. Many officials also reported that their banks faced challenges in implementing Basel II, including operating without a final rule, obtaining data that meet the minimum requirements for the A-IRB for all asset portfolios and data on operational losses, and difficulty aligning their existing systems and processes with the proposed rules. Officials at many core banks viewed Basel II as an improvement over Basel I, and some banks considering adopting Basel II believed that the new regulatory capital framework would help improve their risk management practices.

Core Banks Are Working to Integrate Basel II into Existing Efforts to Improve Risk Management and Capital Allocation Practices

Officials at many core banks with whom we spoke pointed out that their banks had been improving the way they managed and assessed credit, market, and other types of risks for some time, including allocating capital to cover these risks. Some officials noted that regulators had encouraged these efforts and added that many of the steps the banks had taken foreshadowed proposed Basel II requirements, in part because of regulatory guidance. For example, a number of core banks noted that the Federal Reserve's Supervisory Letter 99-18 (SR 99-18) emphasized the need for banking organizations to make greater efforts to ensure that their capital reflected their underlying risk positions.⁴⁸ The guidance also encouraged the use of credit-risk rating systems in measuring and managing credit risk. One official compared the processes that the

⁴⁸See Federal Reserve, *Assessing Capital Adequacy in Relation to Risk at Large Banking Organizations and Others with Complex Risk Profiles*, SR 99-18 (July 1, 1999).

guidance encouraged for determining whether or not banks were adequately capitalized to the role of supervisory oversight under Pillar 2 of Basel II. Officials at another bank explained that the bank had already set up an internal risk rating system that was similar to what the officials believe will be required under the A-IRB. Officials at other banks noted that they were complying with OCC's supervisory guidance in Bulletin 2000-16 for validating computer-based financial models, a process similar to that which is proposed under Basel II.⁴⁹

Officials at many core banks said that their efforts to comply with the proposed Basel II rules took place within an existing corporate structure that allocated risk management, review, and reporting responsibilities among different divisions and business units. For example, officials from one bank said that their business units follow a common set of implementation tools and information regarding these projects, which is consolidated to facilitate managerial oversight. Some banks are establishing risk governance policies or processes to help in developing assessments of their risks and are monitoring and reporting these risks. Officials from one bank noted that policies and processes for determining risk parameters were being used to assess capital needs. Other banks have established or are enhancing internal controls for systems related to Basel II, including data systems.

Core Banks Are Investing in Information Technology, Such as Data Collection, to Quantify and Manage Risks

Officials at many core banks reported that their banks were investing in information technology and establishing processes to manage and quantify credit and operational risk, including collecting data on credit defaults and operational losses, in order to meet the regulatory requirements proposed for the advanced approaches. To varying extents, core banks are making efforts to collect, aggregate, and store data and detailed information associated with credit defaults that can be used to determine risk parameters. For example, officials at several banks explained that they were collecting more comprehensive and detailed information on their credit defaults or were gathering such information more consistently. Many banks are automating or upgrading their data collection systems, including building data repositories that aggregate default information in a centralized database.

⁴⁹See OCC Bulletin, OCC 2000-16 (May 30, 2000).

In preparation for Basel II, some bank officials also reported that their banks were creating or refining systems to classify and assign internal ratings showing the risk levels of their credit exposures. Many banks are also making efforts, to varying extents, to establish an ongoing, independent process to track, review, and validate the accuracy of the risk ratings. Many banks are working on statistical models that will generate risk parameters that can be used to determine the level of regulatory capital needed to cover their exposures to credit risk, according to bank officials. For this effort, some banks are using existing models that are also used to determine internal economic capital. Many are establishing processes to review and validate the accuracy of their regulatory and economic capital model inputs using quantitative methods and expert judgment.

Similarly, officials at many core banks reported that their banks had built or were in the process of building systems and databases to collect and store data on operational losses. Officials at some banks noted that their banks were compiling key risk indicators for potential operational losses or said that their banks had engaged in benchmarking exercises for operational risk with federal regulators. Several officials also reported that their banks were in the process of codifying and enhancing their internal controls for operational risk, including developing and documenting relevant policies. Other banks are conducting independent reviews of the operational risk-control processes that their business lines are required to follow. As with credit risk, many officials said that their banks were building or further developing their models to assess capital needs for potential operational losses, including by applying scenario analyses.

Core Banks Reported That They Were Training Employees and Hiring Additional Staff to Implement Basel II

To varying extents, officials at many core banks stated that as part of their preparations for Basel II they had hired or would hire additional staff and were providing different levels of training for their staff to implement Basel II. For example, one bank intends to hire more than 100 new staff who would largely be devoted to building systems to address credit, operational and market risk, including modifying the bank's capital models for operational risk. Some officials noted that they were reallocating human resources within their organizations or drawing on the expertise of existing staff who were already familiar with the Basel II requirements. Some banks have devoted or plan to devote more resources to modeling efforts, such as hiring consultants and validating models.

Bank officials also described training programs and standardized training procedures that were tailored to projects related to Basel II or to staff

audiences, including (1) providing courses and online information on the Basel II requirements and (2) educating senior management about the new systems required under the advanced approaches. Banks have also invested in or identified the need to focus training in specific areas, such as how to assign credit-risk ratings to their borrowers, or validate their rating systems. Other specific training topics reported by bank officials included calculating capital for wholesale credit exposures, transferring information from databases into risk models, and effective regulatory reporting. In addition, banks have invested in training for operational risk—for example, by promoting awareness for and treating operational risk in a consistent manner. Some officials also noted that the training required to implement Basel II was similar to the training they had developed for their own risk management or economic capital efforts. Officials from several banks expect to provide additional training as they continue to implement Basel II or when they better understand what will be required in the final rule.

Core Banks Reported Having Incurred Significant Monetary Costs in Implementing Basel II

Officials at many core banks said that they had or would incur significant monetary costs, and were allocating substantial resources to implement Basel II. Some banks had developed plans or performed analyses to see what areas of their implementation efforts required improvement, so that they could determine the skill sets, staffing levels, systems, and technology needed to comply with the proposed rules. Many bank officials expected to make significant investments in building their credit-risk infrastructure, including developing models to measure risk. Specifically, some officials noted that they were making greater investments to collect data and build data warehouses. Officials at several banks added that they expected to incur ongoing costs as a result of implementing Basel II. For example, one bank official explained that they had performed a number of analyses to estimate certain risk parameters and needed to check regularly that the numbers generated from the analyses were reasonable.

Depending on the final rule, bank officials expect to incur additional costs. The uncertainty about the final rule has contributed to the expense of preparing for Basel II, according to the officials, because some banks have been unable to make timely decisions or have had to adjust their systems to conform to different stages of the proposed rules for Basel II specified in the ANPR, and later in the draft NPR. However, officials at many core banks stated that they might have incurred some of these costs regardless of Basel II in their efforts to improve their risk management practices and economic capital systems. For example, officials at one bank stated that upgrading the bank's technological infrastructure would also help the

bank meet Basel II requirements. Some officials were concerned that the expenditures and efforts they had made to prepare for Basel II were far greater than the improvements they expected Basel II to bring to their risk management practices. But others noted that separating the direct costs of Basel II from other expenses was difficult, because the banks had ongoing risk management needs and laws to comply with, such as the Sarbanes-Oxley Act of 2002.⁵⁰ Ultimately, banks' efforts to meet Basel II requirements have compressed such expenditures into a shorter time frame.

Core Banks Face Challenges, Including the Lack of a Final Rule and Difficulties in Obtaining Data and Aligning Existing Systems with the Proposed Rules

Officials at many core banks reported that their banks faced challenges in implementing Basel II. Key among these challenges is the uncertainty created by the lack of a final rule. Some officials, for example, stated that they had prepared for the implementation of Basel II knowing that the requirements of the rule could change, potentially increasing costs. Officials at a few banks noted that they might be unable to move forward with certain implementation efforts, such as hiring or providing specific training for their staff, without a final rule. If the final rule requires that banks make significant changes to their current efforts, several officials said that they might be unprepared for the parallel run that is scheduled to start in January 2008. Other officials stated that without the final rule, regulators were unable to provide banks with formal regulatory guidance or definitive evaluations of their readiness to meet Basel II requirements, thus making it difficult for banks to obtain clarification on parts of the proposed rules. However, several officials found the preliminary feedback they had received from regulators to be helpful.

Further, officials from many core banks said that they were having difficulty obtaining data that met the minimum requirements of the A-IRB for all asset portfolios and data on operational losses. For example, some banks have not historically collected all of the data required for Basel II. While bank officials generally said they believed their banks would meet the data requirements by the start of the parallel run in 2008, many said that they did not have enough historical data on loan defaults for credit risk. In some cases, officials said that they did not have enough data on credit defaults for immaterial portfolios or portfolios with low-risk, high-quality exposures. In other cases, the officials said that they needed to collect additional information specified in the regulatory criteria. For

⁵⁰Pub. L. No. 107-204, 116 Stat. 745 (July 30, 2002).

example, officials at a few banks described having to integrate and reconcile different types of financial and risk data before they could apply the information to their modeling efforts. Some banks lacked historical data covering more than one economic cycle and noted that it was difficult to capture default information reflecting what could occur during a significantly stressed economic environment. Officials at a few banks noted that it either took more effort or was a challenge to collect data from different legacy systems. Similarly, many officials said that their banks had limited internal data on operational losses, including instances of severe loss. For both credit and operational risk, banks are supplementing insufficient internal data with external data obtained through rating companies or data consortiums. However, several officials noted that it was difficult to assess the reliability of external data or to draw analogies from external information that adequately represented the risks of a bank's portfolio.

Core bank officials also said that they were having difficulty aligning their existing models with the proposed specifications for the A-IRB approach. For example, some bank officials were concerned that the proposed safeguards, such as certain limits that constrain how banks could calculate risk parameters used to determine capital for credit risk, differed from banks' internal practices or would lead to higher capital requirements. In calculating capital for credit risk, some banks use probabilities and definitions of default for their internal economic capital that are different from the regulatory capital specifications. Officials from several banks noted that they were collecting separate information for both types of calculations or maintaining separate models for calculating economic and regulatory capital. Some officials also noted that because the U.S. requirements for Basel II differed from those of other countries—for example, the definitions of default and the implementation time frames—they were having difficulty using the systems and models used for the U.S. requirements to meet the capital requirements of other countries. Others noted that it would be difficult to comply with different Basel II rules across countries, and some banks were preparing to implement the standardized approach for credit risk in other countries because of the delay in finalizing the rules for the advanced approaches in the United States.

U.S. Regulators Are Integrating Preparations for Basel II into Their Current Supervisory Process but Face a Number of Impediments

While U.S. regulators have been integrating preparations for Basel II into their current supervisory processes and building on their experience overseeing risk management practices of the banks, a number of issues remain to be resolved as regulators finalize the rule. All the regulators have some experience overseeing models-based risk management at core banks. In addition, they plan to integrate Basel II supervisory requirements into their existing oversight processes and reviews and are taking steps to prepare for the process of qualifying banks to use the advanced approaches by reviewing banks' preliminary qualification plans. Regulators are also hiring and training staff and coordinating with U.S. and foreign regulators.⁵¹ However, regulators face a number of impediments in their efforts to agree on a final rule for the transition to Basel II. Regulators' different perspectives have made reaching agreement on the NPR difficult, as will likely be the case for the final rule. Moreover, the process could benefit from greater transparency going forward, including how regulators will assess the Basel II results during the transition years and report on any modifications to the rule during that period. It is also important for regulators to resolve some of the uncertainty and increase the transparency of their thinking by including in the final rule more specific information about certain outstanding issues, such as how regulators will treat portfolios that lack adequate data to meet regulatory requirements for the advanced approaches, how regulators will calculate reductions in aggregate minimum regulatory capital and what would happen if the reduction exceeds a proposed 10-percent trigger, and how worthwhile public disclosure will be under Pillar 3. If these issues are not addressed, the ongoing ambiguity and lack of transparency could result in continued uncertainty about the appropriateness of Basel II as a regulatory capital framework.

Regulators Have Been Building on Experience Overseeing Risk Management

To varying degrees, banking regulators have overseen some aspects of banking organizations' internal models-based risk management since the mid-1990s, including economic capital and market risk models similar to those that will be a part of Basel II. Although this oversight has been for risk management and—with the exception of certain market risk models—not for capital-setting purposes, regulators believe this experience will help them oversee banks in a Basel II environment. Regulators have also

⁵¹All four regulators said that their primary focus was on Basel II, rather than on Basel IA, and that the additional risk categories and other changes reflected in Basel IA would not be a significant regulatory oversight effort in comparison to Basel II; therefore, we also focus on regulators' preparations for Basel II.

developed regulatory practices that will continue after the Basel II rule is finalized. These practices include, among others, creating standards to use in calculating banks' risk-based capital ratios and reviewing banks' internal controls to determine if they are sufficient for sound risk management.

In 1996, regulators amended Basel I to incorporate market risks in the Basel I calculations of required capital.⁵² The Market Risk Rule, which is overseen by the Federal Reserve, OCC, and FDIC for a small number of institutions, requires banks to use their own internal models to measure risk. Specifically, it requires banks to measure banks' daily value-at-risk (VAR) for covered positions—that is, banks must maintain capital to cover the risks associated with potential fluctuations in future market prices.⁵³ A bank's internal model may use any generally accepted technique to measure VAR, but the regulation requires that the model be sophisticated and accurate enough for the nature and size of the covered positions. To adapt banks' internal models for regulatory purposes, banking regulators developed minimum qualitative and quantitative requirements for all banks subject to the market risk rule. Banks use these standards in calculating their VAR estimate for determining their risk-based capital ratio.⁵⁴

The Federal Reserve, OCC, and FDIC also review banks that are subject to the market risk capital requirements for evidence of sound risk management, such as an institution's risk control unit that reports directly to senior management and is independent of the business trading units. The Market Risk Rule requires banks to conduct periodic backtesting—for example, by comparing daily VAR estimates generated by internal models

⁵²The effective date of the Market Risk Rule was January 1, 1997, but the date for mandatory compliance was January 1, 1998. 61 Fed. Reg. 47357-78. In September 2006, the banking regulators issued a Notice of Proposed Rulemaking proposing revisions to the Market Risk Rule to enhance its risk sensitivity and introduce public disclosure requirements. 71 Fed. Reg. 55958 (Sept. 25, 2006).

⁵³Covered positions include all positions (both debt and equity) in a bank's trading account and all foreign exchange and commodity positions, whether or not they are in the trading account.

⁵⁴The qualitative requirements reiterate the basic elements of sound risk management. According to the final rule, the quantitative requirements are designed to ensure that an institution has adequate levels of capital and that capital charges are sufficiently consistent across institutions with similar exposures. These requirements call for each bank to use common quantitative standards when using its internal model to generate its estimate of VAR.

against actual daily trading results to determine how effectively the VAR measure has identified the boundaries of losses.⁵⁵ Banks must use the backtesting results to adjust the multiplication factor used to determine the bank required capital. Federal Reserve officials said that the VAR models have performed well, and noted that no banks have had model backtest results that have required multiplication factors higher than the minimum prescribed in the Market Risk Rule. The officials said that such performance was due, in large part, to the continual improvement of the banks' VAR methodologies and other requirements of the Market Risk Amendment, including the use of stress testing. Federal Reserve officials said that regulators actively monitor the rigor and adequacy of banks' internal VAR models in light of new and emerging products.

As part of their risk management reviews, the Federal Reserve and OCC have also overseen some aspects of core banks' economic capital models since the 1990s. Although that oversight has focused on risk management and not setting regulatory capital levels, Federal Reserve and OCC officials said that the experience had helped prepare them for oversight of Basel II regulatory capital models, as economic capital models and Basel II regulatory capital models were similar. For example, as discussed earlier, both measure risks by estimating the probability of potential losses over a specified time period and up to a defined confidence level, using historical loss data. According to these regulators, banks are generally using existing economic capital systems as a starting point to create their Basel II regulatory systems. Federal Reserve officials noted that because Basel II would establish common system requirements for regulatory capital purposes, in areas where banks have varying requirements for their internal modeling systems, such as how they define default, regulators will have greater comparability across systems. Further, some regulatory officials noted that overseeing models to set regulatory capital levels would involve increased regulatory scrutiny for model validation as well as greater market discipline, because banks would be required to publicly disclose aggregated information underlying the calculation of their risk-weighted assets.

The Federal Reserve and OCC also have existing supervisory guidance that describes the regulatory approaches for some aspects of their oversight of internal models, oversight that the regulators say has helped prepare them for oversight of models in a Basel II environment. Federal

⁵⁵See, *e.g.*, 12 C.F.R. Part 3, App. B § 4(e) (OCC).

Reserve Supervisory Letter 99-18 (SR 99-18), issued on July 1, 1999, directs supervisors and examiners to evaluate banks' internal capital management processes to judge whether these processes meaningfully tie the identification, monitoring, and evaluation of risk to the determination of the institution's capital needs. In addition, SR 99-18 requires examiners to consider the results of sensitivity analyses and stress testing conducted by the institution and the way these results relate to their capital plans. According to the letter, banks must be able to demonstrate that their capital levels are adequate to support their risk exposure, and examiners are to review the banks' analyses. Finally, SR 99-18 directs examiners to assess the degree to which an institution has in place, or is making progress toward implementing, a sound internal process to assess capital adequacy, including any risk modeling techniques used. Federal Reserve officials noted that, although challenges continue to exist, banks in general have made considerable strides in evaluating their internal capital adequacy and enhancing governance and controls around the process that produces such estimates. In some cases, work on the internal assessment of capital adequacy has highlighted the need for institutions to focus on fundamental risk management issues, such as risk identification, risk measurement, and internal controls.

Likewise, OCC Bulletin 2000-16 (2000-16) (May 30, 2000) articulates procedures for model validation: independent review of the models' logical and conceptual soundness, comparisons with other models, and comparison of model predictions and subsequent real-world events. OCC officials and examiners for two large U.S. banking organizations said they used 2000-16 to assess banks' processes for validating their economic capital models. One examiner, for example, noted that a review using 2000-16 led to requiring a bank to improve its documentation surrounding models it had created. According to another official, it also helped to promote greater understanding and awareness of the need for model validation to become an integral part of bank risk measurement and management systems. It further promoted greater consistency in supervisory assessments of bank model validation practices.

OTS and FDIC officials said they also have some experience working with models. OTS, the primary federal regulator of the remaining core Basel II institution, has policy staff and examination experience in interest rate risk modeling and validation processes. OTS created and maintains a Net Portfolio Value model, which allows users to create customized interest rate risk stress scenarios and incorporate emerging interest rate exposures and techniques, among other things. OTS officials said this oversight had helped OTS policy and examiner staff gain experience in overseeing the

use of models and validation processes. OTS officials also said that they have some recent experience reviewing economic capital models and validation for risk management purposes, though OTS's experience in this area has not been as extensive as the Federal Reserve's or OCC's. Although OTS has not analyzed market risk models, it will do so should the September 2006 amendments to the Market Risk Rule be adopted as proposed. FDIC, as noted earlier, will be involved in the Basel II implementation process as the deposit insurer for all of the Basel II banks, and FDIC officials said they could be the primary federal regulator for insured subsidiaries of core Basel II banks or possible opt-in banks. FDIC officials said that, in addition to its oversight of banks subject to the Market Risk Amendment, its examiners also have some experience working with a variety of credit risk and valuation models.

Regulators Plan to Integrate Basel II into Their Existing Supervisory Processes

The regulators plan to incorporate Basel II's additional supervisory requirements into their existing oversight processes and supervisory reviews.⁵⁶ Regulatory officials said that because they currently oversee risk modeling and capital adequacy activities, Basel II oversight is largely an evolution of existing supervisory strategies. The primary federal regulators' current supervisory processes for core banks were generally similar—risk-focused approaches that emphasize continuous monitoring and assessment of how banking organizations manage and control risks. Consistent with their current approaches, a team of examiners from the relevant primary regulator will continue to be in charge of the supervision of Basel II banks (core and opt-in banks), and teams from the Federal Reserve will continue to oversee all of the Basel II bank holding companies. Bank-specific examination teams are supported by other regulatory staff on specific technical issues, such as core credit, credit quantification, models and methodologies, and operational risk. As part of their examination process, examiners will continue to assess the banks' risks, identifying the business activities that pose the greatest risk, and validate the use and effectiveness of the bank's risk management practices. Risks may include credit risks, both commercial and retail (such as a bank's credit rating system), risks involving the bank's information technology system (such as data warehousing issues), or corporate governance risks (such as a bank's ability to provide adequate audit

⁵⁶Because only the Federal Reserve, OCC, and OTS will be the primary federal regulators of the core banks (at current asset levels), this discussion focuses on the examination procedures for those regulators. Once Basel II is implemented, FDIC may be the primary federal regulator for some opt-in banks.

coverage). Officials from two regulators noted that these risk factors are all part of banks' risk management processes and would have to be reviewed even in the absence of Basel II.

Based on their risk assessment, examiners develop and execute supervisory plans that set out the timetable and work schedule for the examiners for the year. The supervisory plans typically would include oversight of several aspects of risk management that will continue under Basel II. For example, examiners from two regulators noted they assess how banks validate their models, by reviewing how banks verify their own modeling processes (e.g., independent validation, sound governance, and internal controls), peer benchmarking studies, and comparisons to rating agencies. These examiners said they may also compare some models, test specific assumptions, and assess data and internal audit systems and procedures such as stress testing, use of scorecards (devices used to determine an obligor's default probability by associating it with a risk rating for the obligor) and internal ratings for loans. Finally, these examiners noted they review banks' businesses or products, such as equity derivatives, and conduct targeted exams that assess specific areas—for instance, collateral or asset management for credit, market and operational risk.

Regulators Are Taking Steps toward Eventual Qualification of Banks to Use the Advanced Approaches

Regulatory officials told us that they were taking steps toward eventual qualification of banks to use the advanced approaches once the final rule was in place but that this qualification work was preliminary because the rule was not final. A bank will be qualified when its primary federal regulator approves it and, after consulting with other relevant regulators, determines whether the bank's Basel II systems satisfy the supervisory expectations for these approaches. The NPR states that regulators will evaluate banks on their advanced internal ratings based systems for rating risk and estimating risk exposure; regulators will consider a bank's estimates of key risk characteristics, such as probability of default and loss given default (a process called quantification), ongoing model validation, data management and maintenance, and oversight and control mechanisms.⁵⁷ As part of this evaluation, regulators said the examination teams for each bank would develop a qualification strategy designed to help the team better understand the design of the bank's Basel II systems, drawing on existing supervisory tools and assessing compliance with the

⁵⁷71 Fed. Reg. 55830, 55911-12.

forthcoming U.S. rule and supervisory guidance. Regulatory officials said that the qualification process would be a series of targeted reviews tailored to each institution and determined by the results of specialized reviews and the bank's own independent testing. Regulatory officials also emphasized that qualification would be an ongoing process and that the final rule would require banking organizations to meet the qualification requirements on a continuous basis, subject to supervisory review. In addition, regulators plan to:

- Continue conducting discovery reviews of banks' Basel II systems and processes that will cover areas such as data collection and warehousing, wholesale and retail credit models, and the definition of default. Like examinations, these reviews assess risks and look at parts of a bank's risk management programs; but unlike examinations, they cannot include tests for compliance with Basel II requirements until a final rule is in place. Federal Reserve and OCC examiners told us that the goals of discovery reviews conducted before the rule was finalized are to understand the conceptual underpinnings of a bank's Basel II systems and evaluate the processes and models from a prudent risk management standpoint. These examiners said that discovery reviews could not result in formal evaluations of banks' Basel II progress because there was no final rule yet. But they noted that they would speak with banks whose approaches differed from what was currently proposed in Basel II.⁵⁸ Similarly, some regulatory officials and examiners told us that not having a final rule made it difficult to gauge the progress that banks were making and prevented them from determining what else banks might need to do to be Basel II compliant.
- Conduct reviews of each bank's Basel II implementation plans and the progress made in meeting them, called gap analyses, to identify additional work that the banks need to do. The NPR requires banks' implementation plans to detail the necessary elements of rolling out advanced approaches in both credit and operational risk. But without a final rule, regulators and banks have been working with informal implementation plans and gap analyses using previous regulatory guidance. Regulatory officials said the preliminary implementation plans were an essential feature of the qualification process, as they linked existing regulatory guidance with specific implementation activities and provided an initial basis for the development of supervisory plans related to the qualification process. For

⁵⁸However, such discussions would not be considered a supervisory issue because banks are not yet required to meet any Basel II requirements.

example, one examiner's review of a bank's gap analysis found that the bank needed to more fully define how it planned to estimate key risk characteristics. The examiner noted that the bank was proceeding to update its implementation plans across the other components of its commercial internal ratings-based portfolio. As a result of these efforts, regulators have developed gap analysis templates to guide examiners.

- Communicate with banks about Basel II issues. Regulatory officials emphasized that they were speaking with bank officials about the development of the bank's Basel II systems, including methodologies and processes. These discussions will continue until after the final rule is issued, and according to regulators, facilitate discovery and qualification work.

Regulatory officials emphasized that, without a final rule, their work on qualification was preliminary, although they said it did provide useful information about the status of banks' implementation efforts. For example, regulators observed that all core banks had draft implementation plans and have Basel II project management offices. But regulatory officials said that core banks varied in their degree of preparation to date, specifically, in the quality of their data and risk management systems. OCC officials said that some banks are more likely than others to make use of the potential 3-year implementation period between becoming a core bank and the first transitional floor period to fully develop their data and risk management systems.

Hiring and Training Supervisory Staff Is an Important Part of Regulators' Basel II Preparations, but Retaining Staff Is a Key Challenge

U.S. banking regulators have been preparing for Basel II by hiring additional supervisory staff, including examiners, with the necessary quantitative skills and by providing training specific to Basel II. Officials told us that although the skills needed to oversee Basel II implementation were similar to the skills needed for all risk management oversight, additional quantitative skills would be necessary. Regulatory officials emphasized that, like their supervisory processes, these hiring and training efforts were part of their evolving human capital plans and coincided with increased oversight of banks' models-based risk management approaches. Therefore, officials said, the specific impact of Basel II on human capital efforts was difficult to quantify. Regulatory officials stated that they had been building the skill sets required to oversee economic capital models as their responsibilities in this area increased and added that many of these efforts would be under way even in the absence of Basel II. And while several regulatory officials noted that they had hired some staff specifically for Basel II that they would probably not have hired otherwise,

Regulatory Cost Estimates of Basel II

Several regulatory officials emphasized the difficulty of separating costs for Basel II from costs that would have been incurred anyway as part of efforts to oversee banks' evolving risk management practices. Some officials also noted that they had few staff dedicated solely to Basel II efforts. However, in the regulatory impact study that it compiled for the Office of Management and Budget's review of the NPR, OCC estimated its own costs for training, guidance, and supervision at roughly \$7 million through 2005 and at approximately \$3 million annually between 2006 and 2011. In a similar regulatory impact study, OTS estimated its costs at roughly \$4 million through 2005, with another \$2 million probable for 2006. OTS officials said that future costs would be sensitive to the number of thrifts that opted into Basel II. While the Federal Reserve was not required to compile a similar cost estimate for the Office of Management and Budget, officials noted that its costs and OCC's were likely to be higher than the FDIC's and OTS's, given the number of Basel II banks for which the Federal Reserve and OCC were the primary federal regulator.

they said that not all staff involved in Basel II oversight needed to have specialized skills. Generalist safety and soundness examiners with traditional skill sets will continue to examine banks, including those under Basel II. National teams will, however, assist these examiners with the more technical aspects of the new capital regime.

Several regulatory officials noted that having staff with specialized skills in quantitative risk management models and quantitative analysis would be even more necessary under Basel II, while examiners would generally need good skills in credit, capital markets, and information technology. Regulatory officials said that they had set up national teams of staff with this specialized expertise and were providing training to both specialist staff as well as generalist examiners. Officials from all four regulators emphasized the importance of training to their Basel II implementation efforts. According to regulatory documentation and officials, supervisory staff have been trained in numerous areas, including model validation, internal control reviews, economic capital, operational risk, validation of credit rating and scoring models, QIS-4, and possible ways that banks could try to manipulate their Basel II systems.

Regulatory officials said that they faced several human capital challenges in implementing Basel II. First, several officials said that regulators would be challenged by the increased complexity of issues requiring examiner judgment under Basel II and the need to apply Basel II requirements consistently across banks. For example, examiners will need to review the rank ordering of ratings for loans in banks' two-dimensional ratings systems developed for Basel II and make greater use of debt-rating models that will require examiners to review management overrides and assess model validation.⁵⁹ OCC officials also noted that examiners currently have to exercise judgment on increasingly complex issues, including validating models and overrides, as banks increasingly use models. Federal Reserve officials said the key to successfully meeting this challenge will be high-quality training and effective supervisory guidance that incorporates comments from the industry. Second, several regulators said consistently applying Basel II across banks would also be a challenge, especially for the AMA approach to operational risk, because of the flexibility allowed under the NPR. OCC officials said that the forthcoming supervisory guidance and

⁵⁹Typically banks have rated loan quality along a single dimension, but Basel II requires that borrowers be rated in two areas, or dimensions, default probability and loss severity in the event of default.

a recent Basel Committee paper would help clarify the allowable range of practice.⁶⁰ Both OCC and the Federal Reserve noted that their national teams of quantitative experts should help regulators meet the challenge of consistent application across banks. Third, regulators said that hiring new personnel had been challenging and that retaining and continued training of supervisory staff presented ongoing challenges. For instance, increased competition for staff with these skills among the regulators themselves and between the regulators and industry made hiring and retaining staff more challenging. While some regulatory officials had some staffing concerns, they also expressed confidence that they could fulfill their new regulatory responsibilities from Basel II. Several regulatory officials also said that they would continue assessing staffing needs as Basel II moved forward and as the exact number of Basel II banks became clearer, they would be reassessing the ideal number of staff they needed with specialized skills.

Regulators Are Coordinating Domestically and Internationally, but Lack of a Final Rule Is a Complicating Factor

Regulators are coordinating their work with other U.S. regulators and with those in other countries in order to provide more effective and consistent oversight, but the lack of a final rule makes this coordination more complicated. The four regulators' strategic plans all place priority on this effort, and several regulatory officials from these agencies emphasized the importance of coordination, given the complexity of Basel II and the regulators' varied perspectives. Domestically, regulators use several mechanisms to coordinate with their counterparts, including an interagency steering group (which also coordinates with an association of state bank supervisors), joint supervisory work and examinations, interagency training, formal and informal examiner meetings, and outreach to banks. While examiners generally said that their Basel II

⁶⁰The NPR says that regulators will jointly issue supervisory guidance describing agency expectations for wholesale, retail, securitization, and equity exposures, as well as for operational risk. 71 Fed. Reg. 55842. The NPR notes that the regulators have previously issued for public comment draft supervisory guidance on corporate and retail exposures and operational risk. *Id.* n. 23. The forthcoming guidance will be designed to clarify the requirements of the NPR and help provide a consistent and transparent process to oversee implementation of the advanced approaches.

coordination efforts were effective, the delays in various stages of the rule-making process indicate some difficulties at the policy-making level.

U.S. regulators are also working to coordinate with regulators from other Basel II countries. For example, they are participating in the Accord Implementation Group, one of a number of subgroups that the Basel Committee formed to promote international consistency and address other Basel II issues. The United States, as a home regulator (a regulator overseeing domestic banks), communicates its qualification strategies and processes to host regulators (foreign regulators overseeing U.S. banks in their countries, or U.S. regulators overseeing foreign banks in the United States). For their home responsibilities, U.S. regulators coordinate supervisory work based on the Accord Implementation Group's home-host principles, including determining whether a bank's capital model for a global business is ready for Basel II. Home regulators will rely on the work of foreign host regulators that approve banks' local models and processes and will share appropriate information, such as regulatory memorandums, with host regulators. The United States is also a host regulator and as such will share appropriate sections of supervisory plans, scopes, and product memorandums regarding reviews of local models and processes. U.S. regulators are also participating in supervisory colleges, or working groups of supervisors that are formed on an as-needed basis to share information about and coordinate supervision of international banking organizations. One regulatory official noted that the colleges have been and will continue to be critical to the success of the international Basel II effort.

U.S. regulators face challenges regarding international implementation of Basel II, in part because the United States is implementing Basel II one year later than many other countries, including countries in the European Union. U.S. regulators are working with U.S. and foreign banks and regulators to address the implications of this so-called gap year. For example, in several instances, U.S. regulators are trying to evaluate the advanced systems of foreign banks' U.S. subsidiaries to provide foreign regulators with feedback on those systems to be used in foreign regulators' evaluations of banks attempting to become Basel II compliant in their home countries in 2007, before the United States implements Basel II in 2008. Similarly, according to U.S. regulatory officials, some U.S. banks operating abroad are prevented by their host supervisors from using advanced systems in the host jurisdiction before they are allowed to do so at home, and some U.S. regulatory officials said they are working with the foreign regulators in cases where U.S. banks want or need to use advanced approaches in the host jurisdiction prior to a final rule in the United

States. Further, as stated earlier, countries have a limited degree of national discretion, which, in part, requires U.S. and foreign regulators to address challenges that internationally active banks are experiencing due to differences between U.S. rules and those of other countries. U.S. regulators are working to find effective mechanisms for cooperation and information to resolve these issues, such as the supervisory colleges previously discussed. One regulatory official said that international home-host efforts could tend to focus on the global parent company but added that that regulator's focus was on making sure that the allocation of capital within that company was appropriate and covered the risk for the bank in the United States.

Regulators Face Impediments in Finalizing the Rule That if Left Unresolved Could Result in Ongoing Regulatory Ambiguity for Banks and Uncertainty about the Appropriateness of the Basel II Framework

Although U.S. regulators have committed to working together to issue a final rule and use prudential safeguards that would limit regulatory capital reductions during a parallel run and transition period, they face a number of ongoing impediments in agreeing on a final rule to implement Basel II. First, regulators have somewhat differing perspectives and goals, which fuels ambiguity and contributes to questions about the appropriateness of the Basel II framework. Second, a lack of transparency and ongoing ambiguity of some items in the NPR may contribute to ongoing questions about the appropriateness of Basel II as a framework. Finally, regulators will need to address banks' concerns regarding Pillar 3 disclosure requirements and the need to balance protecting proprietary information and providing for public disclosure of capital calculations to encourage market discipline.

Regulators' Differing Perspectives and Goals Fuel Ambiguity

Each federal regulator oversees a different set of institutions and represents an important regulatory perspective, which has made reaching consensus on some issues more difficult than others. U.S. regulators generally agree on the broad underlying principles at the core of Basel II, including increased risk sensitivity of capital requirements and capital neutrality. In a 2004 report, we found that although regulators communicate and coordinate, they sometimes had difficulty agreeing.⁶¹ As we reported, in November 2003 members of the House Financial Services Committee warned in a letter to the bank regulatory agencies that the discord surrounding Basel II had weakened the negotiating position of the United States and resulted in an agreement that was less than favorable to

⁶¹GAO, *Financial Regulation: Industry Changes Prompt Need to Reconsider U.S. Regulatory Structure*, GAO-05-61 (Washington, D.C.: Oct. 6, 2004).

U.S. financial institutions. However, regulatory officials also told us that the final outcome of the Basel II negotiations was better than it would have been with a single U.S. representative because of the agencies' varying perspectives and expertise.

These differing regulatory perspectives have contributed to difficulty achieving a final rule and agreeing to specific operational details as well as contributing in part to delays of the Basel II implementation process and ongoing questions and unresolved issues. For example, officials from FDIC—the deposit insurer and regulator of many smaller banks—while acknowledging the limitations of Basel I for the largest banks, have expressed concerns regarding required capital levels under Basel II and potential competitive inequities between large and small banks in the United States, if small banks are required to hold more regulatory capital than large banks for some similar risks. FDIC officials have also expressed some serious reservations about the availability of sufficient data underlying certain aspects of the models, as well as the calibration of the models themselves. Officials from the Federal Reserve and OCC—as the regulators of the vast majority of core banks—while acknowledging the uncertain impact on capital requirements and data limitations, have highlighted the limitations of Basel I, the advances in risk management at large banks, the safeguards in the NPR to ensure capital adequacy, and regulator experience in reviewing economic capital models. OTS officials, noting the thrift industry's mortgage-heavy portfolios, have emphasized the potential limitations on risk sensitivity imposed by the leverage ratio. Specifically, they noted the potential impact on mortgages because, as discussed previously, required capital for high-quality mortgages could fall significantly under Basel II making the leverage ratio a potential regulatory capital floor for some institutions.

As U.S. regulatory officials work to finalize Basel II, overcoming these differences will likely be an ongoing challenge. While regulatory officials said that they would work collaboratively to address comments on the NPR, how they will reconcile potentially differing view points is not clear. Further, while officials have said that they will monitor progress and modify the Basel II rule as necessary during the transition period to ensure that capital requirements are appropriate for credit, operational, and market risks, they have not specified how that monitoring will take place or under what circumstances regulators will revisit the rule. Given these differences, failure to take steps to clarify remaining questions and improve the transparency through regular public reporting of the process going forward would result in ongoing questions and ambiguity about Basel II as a viable framework for regulatory capital.

Lack of Transparency and Ongoing Ambiguity Contribute to Questions about the Overall Appropriateness of the Basel II

Although regulators have developed a set of safeguards that reduce the chances of significant reductions in required regulatory capital during the planned parallel run and transitional period, regulatory officials and others remain uncertain about the potential impact of the final Basel II framework on the safety and soundness of the banking system. Specifically, some regulatory officials are concerned about the use of banks' models under Basel II because, while these models have been used for internal risk assessment and management for years, with the exception of certain market risk models, they are relatively unproven as a regulatory capital tool. Others are concerned about potential drops in required regulatory capital once the parallel run and transition period have been completed. Regulatory concerns regarding possible large drops in aggregate levels of minimum required risk-based capital were reinforced after QIS-4 showed large reductions in minimum regulatory required capital for credit risk using inputs from the banks' models. As a result, U.S. regulators have disagreed on how and how quickly to implement Basel II. And some industry observers have questioned whether to proceed at all.

Further, regulators have requested comments on over 60 questions in the NPR. For example, as stated earlier regulators have asked for comment on whether banks should have the option of using a U.S. version of the standardized approach rather than the advanced approach and for how long. However, at the time of this review, the NPR did not discuss what form a standardized approach would take in the United States or whether it would mirror the international Basel Accord. Similarly, regulators have not explained how they plan to calculate the 10-percent reduction in aggregate minimum regulatory capital compared with Basel I and what would happen if the 10-percent reduction was triggered, other than it will warrant "modifications to the supervisory risk functions or other aspects of this framework." Under one scenario, for example, aggregate minimum required capital could potentially fall by over 10 percent in an economy in which borrowers were very unlikely to default, triggering a reexamination of Basel II by federal regulators, according to the NPR. However, this 10-percent reduction might not be an indicator of a fundamental flaw in the Basel II framework but rather a cyclical movement that could be reversed in bad economic times—that is, if Basel II is intended to be on average equal to Basel I over the business cycle. But this interpretation is only one possible interpretation of capital neutrality. Alternatively, a 10-percent reduction could indicate a problem if average (i.e., through the cycle) capital requirements were falling significantly relative to Basel I capital levels during less favorable economic conditions.

While several officials said that they would prefer not to define how the regulators will assess the 10-percent trigger explicitly, and instead use their own discretion in maintaining capital levels, bank officials have expressed interest in knowing how the trigger will function. Moreover, it is unclear what would happen if a 10-percent reduction relative to Basel I were triggered. For example, would banks have to recalibrate their models, would a floor be imposed, or would a multiplier be added, and how would economic conditions be factored into the determination process? Part of this process will have to include determining appropriate levels of aggregate required capital and acceptable cyclical variation. However, the NPR does not clearly state the regulators' views on these issues or their plans for making such determinations. Without additional clarity in the final rule, these issues will result in ongoing uncertainty for banks and lingering questions about required capital levels and how Basel II's implementation in the United States will affect banks' regulatory capital levels.

Questions about Reliability of Bank Data Remain an Issue

As mentioned, the appropriateness of the capital requirements generated by the Basel II models depends in part on the sufficiency of the data inputs used by banks, though views vary about some data requirements for their portfolios. For example, officials at several core banks had differing views about whether the 2001 recession represented a sufficiently stressed economic period for calibrating their models. Specifically, officials at one bank said that the 2001 recession was a sufficiently stressed period to meet data requirements for their portfolios, but officials at another bank were uncertain, and officials at a third bank stated that 2001 was likely not sufficient. Because the 2001 recession was relatively mild by historical standards, stressed scenarios and parameters based on it could underestimate the risk associated with future downturns. Officials at several banks stated that they already used or would use internal and external data to capture time periods prior to 2001. Officials at several banks also told us that a supervisory formula for calculating "downturn" loss given default was helpful where they had insufficient default data; and many banks had also purchased, or planned to purchase, external data covering a longer time period to help estimate the effect of downturns on their parameter estimates.

However, to address these data sufficiency challenges and their effect on the ability of core banks to use the advanced approaches for all portfolios, regulators will have to decide whether and how to qualify banks to move to the advanced approaches when adequate data to assess the risks of certain portfolios is limited. The NPR, for example, requests comment on how to address the limited data availability and lack of industry

experience with incorporating economic downturn conditions into LGD estimates. Given the importance of bank data requirements, lack of clarity in the final rule could result in ongoing questions about the reliability and sufficiency of the results generated by the banks' models. For example, without clarification, banks' varying interpretations of the rule could result in capital requirements that are not comparable or that increase reliance on examiner judgment through the supervisory review process (Pillar 2), thereby resulting in negotiations about capital adequacy between a bank and its regulator.

Questions about Pillar 3 Disclosure Requirements Remain

Finally, regulators will need to resolve banks' concerns regarding Pillar 3's disclosure requirements, since officials from some banks said that those disclosures could be costly but of questionable value. Officials from some core banks raised the possibility that they would need to make significant investments to meet public disclosure requirements under Pillar 3 but that the usefulness of the disclosures was uncertain. Some officials were concerned that the information required might be too detailed or complex for the markets to understand in a useful way. For example, officials at a few banks noted that because banks used different methodologies to manage risk, comparing disclosures across organizations would be difficult. Similarly, another official pointed out that comparing disclosures from banks in different countries would also be difficult if the banks were not operating under the same rules. Still, other officials were concerned that proprietary or strategic business information would be made public. However, officials from a few banks noted that the disclosures could help the markets better understand a bank's risk profile. Regulators will need to determine if the banks' concerns merit changes to the disclosure requirements.

Conclusions

Basel I has served regulators and banks well for many years and for many smaller institutions, it is expected to continue to do so. However, for a group of large, complex banking organizations it increasingly fails to adequately align regulatory required capital and risks. Basel II represents a fundamental shift in the regulatory capital framework by seeking to leverage banks' risk management systems and internal models for use in estimating risk more precisely than the broad risk buckets used under Basel I, thereby helping to strengthen the safety and soundness of the banking system. Effective capital adequacy regulation requires balancing the costs to business of holding capital and the need to provide protection to depositors and the federal deposit insurance fund.

Given the limitations of Basel I, the goal of better aligning regulatory capital with risks, and the use of safeguards during the parallel run and transition period to ensure that a large drop in capital does not occur, we support the regulators' plans to continue to finalize the Basel II rule and proceed with the parallel run and transition period in order to determine whether the Basel II framework can be relied on to adequately capture risks for regulatory capital purposes. It is appropriate for the regulators to proceed for several reasons.

- First, it will provide the regulators with critical information they currently lack to assess the appropriateness of the Basel II framework relative to Basel I.
- Second, the proposed rules, issued in September 2006, contain important safeguards that will help prevent large declines in regulatory capital. The safeguards will help mitigate any risk to the system by requiring capital to be held based on current Basel I rules during the parallel run and allowing only limited reductions during each of 3 transition years, which will vary depending on when a bank is qualified.
- Third, maintaining the current leverage ratio and PCA will further guard against any large declines in bank capital.
- Finally, foreign regulators are moving to Basel II creating potential competitive disadvantages for U.S. banks vis-à-vis foreign banks.

While Basel II seeks to establish a closer relationship between regulatory capital and risk for the largest and most internationally active banking organizations, there are many issues that will require ongoing supervision and monitoring, including the ability of these banks' models to adequately measure risks for regulatory capital purposes and the regulators' ability to oversee them. For example, the Basel II models are driven by low-frequency catastrophic events that are inherently difficult to estimate, which creates challenges for regulators both in developing appropriate models and supervising models developed by banks. Regulators already face resource constraints in hiring and retaining talent that are more binding than the resource constraints faced by the banks they regulate and this issue is likely to become more significant under Basel II. Yet, it is a critical point because under Basel II regulators' judgment will likely play an increasingly important role in determining capital adequacy. We recognize that these issues and others need to be addressed, and moving forward is not without risks. However, as mentioned, the proposed safeguards and retention of the leverage ratio should help mitigate

potential negative effects from moving forward while allowing the banks and regulators to gather information to assess the appropriateness of the Basel II framework.

As the regulators finalize Basel II, clarification of a number of issues would make the final rule more transparent, the impact on capital more predictable, and the treatment of portfolios with insufficient data more consistent. Specifically, the proposed rule is ambiguous on a number of important issues that, if left unresolved, could continue to result in regulatory ambiguity for banks and concerns for industry observers, including (1) what regulators plan to do when banks have limited data available, especially for new financial products or portfolios that lack data on the impact of a major economic downturn, and how they will ensure that portfolios with insufficient data are treated prudently and consistently, such as considering options like a higher risk-weight or substituting Basel IA or the Basel Committee's standardized approach for these portfolios; (2) how regulators will calculate the 10-percent aggregate reduction in minimum regulatory capital and what would happen if this is triggered; and (3) the criteria for determining an appropriate average level of aggregate capital and appropriate cyclical variation in regulatory capital. Also, to address growing concerns from some large banks about Basel II becoming an expensive compliance exercise, the regulators have requested comments on many technical issues, as well as whether banks should have the option of using a U.S. version of the standardized approach. However, it is uncertain from the NPR what form a standardized approach would take, whether it would mirror the international Basel Accord, and how long banks would be able to use it.

Although the regulators have been operating in accordance with the Administrative Procedure Act in their Basel II rule-making process, the process could benefit from increased transparency to respond to broader questions and concerns about transitioning to Basel II in the United States. Specifically, the differing perspectives the regulators bring to the Basel II negotiations make it difficult for them to explicitly define the criteria they plan to use to judge Basel II's success. This difficulty has, in turn, resulted in considerable uncertainty about, and some opposition to, Basel II among industry and other interested parties and stakeholders. As a result, although the regulators have indicated that they plan to revise the framework as needed during the transition, publicly reporting results of the parallel runs and comparisons of Basel II and Basel I results for core banks is particularly important given concerns about implementing Basel II in the United States. Going forward, public reports could be used to provide greater transparency on a number of issues and could help allay

concerns among banks and industry stakeholders about the transition to Basel II. Issues that would benefit from greater transparency include (1) the results of coordination and communication efforts among SEC and the banking regulators; (2) changes to the Basel II rules during the transition period and the safeguards, if any, that regulators believe are appropriate in the absence of the transitional floors; and (3) updates to supervisory guidance incorporating Basel II rule changes. Without added transparency, the implementation will continue to generate questions and concerns about the adequacy of the proposed framework. Moreover, regulators have not articulated whether the safeguards will be retained at the end of the parallel run and transition period if the new capital framework results in significant declines in regulatory required capital or significant changes in the regulatory approach.

Finally, Basel II raises a number of competitiveness concerns that warrant further study and review. First, how Basel II will impact U.S. banks' competitiveness internationally remains unknown. But this issue will continue to be an ongoing concern, especially if the U.S. implementation of Basel II results in higher regulatory required capital or greater compliance costs for U.S. banks than for foreign banks. Second, competitiveness issues also exist between U.S. institutions such as investment banks and commercial banks. SEC, which has implemented the Basel Accord for consolidated supervised entities, plans to revisit its rules based on the Federal Reserve's interpretation of Basel II as applied to financial holding companies. Finally, Basel II also raises competitiveness concerns between large and small U.S. banks. Lower capital requirements for some assets could provide large banks with a competitive advantage; however, retaining the leverage ratio will help maintain the domestic competitive landscape. Going forward, regulators will need to monitor the ability of U.S. banks to compete internationally and balance their competitiveness with the need to protect the public interests. Moreover, the Basel IA NPR, as proposed, attempts to mitigate potential competitive inequities created by Basel II between large and small U.S. banks by leveling the playing field to some degree. However, these competitive concerns will continue into the transition period, and it is too soon to tell whether these concerns are justified or whether they will be adequately addressed by Basel IA.

Recommendations

To help reduce the uncertainty about the impact of Basel II on required levels of regulatory capital, improve the transparency of the process, and address the impediments regulators face in moving to Basel II, we are making the following four recommendations. We recommend that, as part

of the process leading to the parallel run and during the proposed transition period(s), the heads of the Federal Reserve, FDIC, OCC and OTS take, at a minimum, the following steps:

- Clarify and reach agreement on certain issues in the final rule, including
 - How to treat portfolios at Basel II banks that may lack the data to meet regulatory standards for the advanced approaches. To ensure that portfolios with insufficient data are treated prudently and consistently, regulators should consider options such as a higher risk-weight, or substituting Basel IA or the Basel Committee's standardized approach for these portfolios.
 - How to calculate the 10-percent reduction in aggregate minimum regulatory capital and what will happen if the 10-percent reduction is triggered.
 - What the criteria will be for determining an appropriate average level of required capital and appropriate cyclical variation in minimum required capital.
- Issue a new NPR before finalizing the Basel II rule, if the final rule differs materially from the NPR or if a U.S. standardized approach is an option in the final rule. While this step may add months to the process, the additional time may help provide more transparency and allow banks and stakeholders to provide feedback before the rule is finalized.
- Issue public reports at least annually on the progress and results of implementation efforts and any resulting regulatory adjustments. This reporting should include an articulation of the criteria for judging the attainment of their goals for Basel II implementation and for determining its effectiveness for regulatory capital-setting purposes. These reports should also include analyses of (1) the results of the parallel runs and transition periods and a comparison of Basel II and Basel I results for the core banks and (2) the effect(s), if any, of Basel II or differences between U.S. and international rules on the competitiveness of U.S. banks.

Finally, at the end of the last transition period, we recommend that the regulators reevaluate whether the advanced approaches of Basel II can and should be relied on to set appropriate regulatory capital requirements in the longer term. Depending on the information collected during the transition, any reevaluation should include a range of options, including consideration of additional minor modifications to U.S. Basel II

regulations as well as whether more fundamental changes are warranted for setting appropriate required regulatory capital levels.

Agency Comments and Our Evaluation

We provided the heads of the Federal Reserve, FDIC, OCC, OTS, SEC, and the Department of the Treasury with a draft of this report for their review and comment. We received written comments from the Federal Reserve, OCC, FDIC and OTS in a joint letter, and Treasury. These comments are summarized below and reprinted in appendixes IV through VII. The banking agencies and SEC also provided technical comments that we incorporated in the report where appropriate.

In its comments, the Federal Reserve said it concurred with our initial finding that Basel I is particularly inadequate for large banking organizations and agreed with our conclusion that the regulators should continue their efforts to finalize the U.S. Basel II capital rule and proceed with the parallel run and transition periods. In commenting on our conclusion that the U.S. Basel II process has lacked transparency, the Federal Reserve commented that it and the other regulators have attempted to be as transparent as possible in their implementation efforts, consistent with the letter and spirit of the Administrative Procedure Act. However, the Federal Reserve commented that it understood that the Basel II proposals contain a considerable amount of ambiguity and that it expects to reduce this ambiguity as it works with the other regulators to finalize the Basel II rule. We agree that the regulators have been operating within the parameters of the Administrative Procedure Act in their rule-making process, but they have been less transparent with regard to broader questions and concerns about transitioning to Basel II in the United States. Especially going forward, additional public reporting would be useful to provide greater transparency on a number of issues and could help allay concerns among banks and industry stakeholders about the transition to Basel II. In addition, the Federal Reserve concurred with our recommendations and said it will seek to implement them.

Similarly, in its comments, OCC said it appreciated our recognition of the limitations of Basel I for large and/or internationally active banks and welcomed our conclusion that the regulators should finalize the rule and proceed with the parallel run and transition period. OCC commented that its position has been that the regulators should move forward on Basel II with strong safeguards in place during a transition period and assess the need for adjustments during this period before removing any safeguards. OCC also noted that U.S. proposals leave two existing U.S. capital safeguards in place that are not temporary—the leverage ratio and the

prompt corrective action framework. OCC also said it welcomed our recommendations, which it, along with the other regulators, will consider as part of the overall review of comments received on the NPR. With regard to our recommendation on whether a new NPR might be necessary before proceeding to a final rule, OCC said it believed that will ultimately depend on whether actual changes made to the NPR in the subsequent version of the Basel II rule are sufficiently different so as to require another round of notice and comment and that it was premature to make that determination until all comments had been received and evaluated and the regulators decide what changes to make. OCC also pointed out that further delay could have ramifications for international competition and said it will ensure that the rule-making process complies with the letter and spirit of the Administrative Procedure Act.

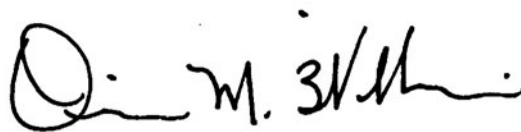
In their joint letter, FDIC and OTS commented that Basel II efforts to improve the risk sensitivity of capital requirements for large, complex banks has been rooted in the regulators' shared objectives and said that ensuring the achievement of these shared objectives will remain of paramount importance to the regulators' deliberations and review of comments on the NPR. They also said that the regulators share a commitment to maintaining a safe and sound banking industry and that retention of the existing leverage ratio and prompt corrective action framework, and other safeguards in the NPR, underscore that commitment. In addition, they commented that, given the considerable costs and complexity of the advance approach and its attendant uncertainties and risks, FDIC and OTS noted that serious consideration should be given to the implementation of a U.S. version of the Basel II standardized approach as an option for all U.S. banks. Similar to OCC, FDIC and OTS also said they will consider our recommendations as part of the overall review of the comments received on the NPR.

In its comments, Treasury agreed that there are a number of significant Basel II implementation challenges and uncertainties for the large, complex banking organizations that will be subject to Basel II requirements and for federal banking regulators. Treasury stated its view that the regulators needed to reach a consensus on the major requirements of a final rule soon after the NPR comment period closes for Basel II and IA if the United States is going to meet the January 2008 goal for Basel II implementation. Treasury noted that further delay would add to uncertainty and potentially create burdens for domestic and foreign banks. Treasury also expressed concern with our recommendation to issue a new NPR before finalizing the Basel II rule, saying that the overlapping comment period for Basel II and Basel IA, which is similar to the

standardized approach for credit risk in the international Basel Accord, provides commenters the ability to opine on implementation and other issues and options. We realize that an additional NPR would further delay the Basel II process; however, under certain circumstances an additional NPR would be a necessary step to provide more transparency to the process and to ensure that the final rule is comprehensive and that the implications are fully considered. In response to comments on this recommendation from the Federal Reserve, OCC, and the Treasury, we have clarified the wording of our recommendation to more clearly state the need for a new NPR if the regulators intend to issue a final rule that is materially different from the NPR or if they intend to provide a U.S. standardized approach.

We are sending copies of this report to interested congressional committees, the Chairman of the Federal Reserve Board, Chairman of the Federal Deposit Insurance Corporation, the Comptroller of the Currency, the Director of the Office of Thrift Supervision, the Chairman of the Securities and Exchange Commission, and the Secretary of the Treasury. We will also make copies available to others on request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions regarding this report, please contact Orice M. Williams at (202) 512-5837 or williamso@gao.gov or Thomas J. McCool at (202) 512-2642 or mccoolt@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix VIII.

Handwritten signature of Orice M. Williams in black ink.

Orice M. Williams, Director
Financial Markets and Community Investment

Handwritten signature of Thomas J. McCool in black ink.

Thomas J. McCool, Director
Center for Economics

Appendix I: Scope and Methodology

The objectives of this report were to describe (1) the developments leading to the transition to Basel II, (2) the proposed changes to the U.S. regulatory capital framework, (3) the potential implications of Basel II's quantitative approaches and their potential impact on required capital, (4) banks' preparations and related challenges, and (5) U.S. regulators' preparations and related challenges.

For all our objectives, we reviewed a variety of documents, including regulators' statements; congressional testimony; the international Basel II Accord (entitled "International Convergence of Capital Measurement and Capital Standards: A Revised Framework") and other documents from the Basel Committee on Banking Supervision, such as the 1988 Basel Capital Accord (Basel I); the Basel II and Basel IA Notices of Proposed Rulemaking (NPR);¹ the Basel II and Basel IA Advance Notices of Proposed Rulemaking (ANPR);² literature from the Congressional Research Service, bank trade associations, academic articles, and our previous reports on banking regulation. We also interviewed senior supervisory officials at the Board of Governors of the Federal Reserve and the Federal Reserve Bank of New York (Federal Reserve), Office of the Comptroller of the Currency (OCC), Federal Deposit Insurance Corporation, Office of Thrift Supervision, and the Securities and Exchange Commission (SEC). We interviewed a former U.S. regulatory official, a foreign banking regulatory official, a state regulator and an association of state banking regulators. In addition, we interviewed officials from all core and a selected group of opt-in banks, two bank trade associations, an international banking association, and two credit rating agencies. Finally, we attended several conferences held by regulators and trade associations that included discussions related to Basel II.

To describe the developments leading to the transition to Basel II and the proposed changes to the U.S. capital framework, in addition to the foregoing, we reviewed a variety of documents, including the Market Risk Amendment and official comments on the Basel II and Basel IA ANPRs.³

¹71 Fed. Reg. 55380 (Sept. 25, 2006) (Basel II NPR); 71 Fed. Reg. 77446 (Dec. 26, 2006) (Basel IA).

²68 FR 45900 (Aug. 4, 2003) (Basel II ANPR); 70 FR 61068 (Oct. 20, 2005) (Basel IA ANPR).

³In 1996, the United States and other Basel Committee members adopted the Market Risk Amendment to Basel I, which requires capital for market risk exposures arising from banks' trading activities.

As noted throughout the report, the rules for Basel II and Basel IA in the United States were not yet final when we completed our audit work, limiting our ability to assess the potential impact of regulatory changes. To describe the potential implications of Basel II's quantitative approaches and their potential impact on required capital, we used data from the fourth quantitative impact study, Moody's Investors Service, and regulatory, bank, and academic studies to analyze and illustrate how proposed regulatory changes could affect capital requirements for a variety of assets under a variety of economic conditions. For example, we combined risk parameter estimates from those sources to estimate Basel II credit risk capital requirements for externally-rated corporate exposures and mortgages and compared those estimates to required capital under the leverage ratio. We analyzed the advanced internal ratings-based approach to credit risk and advanced measurement approaches to operational risk based on the proposed rules, academic studies, Basel Committee documents, and our interviews with core and opt-in bank officials, and regulators.

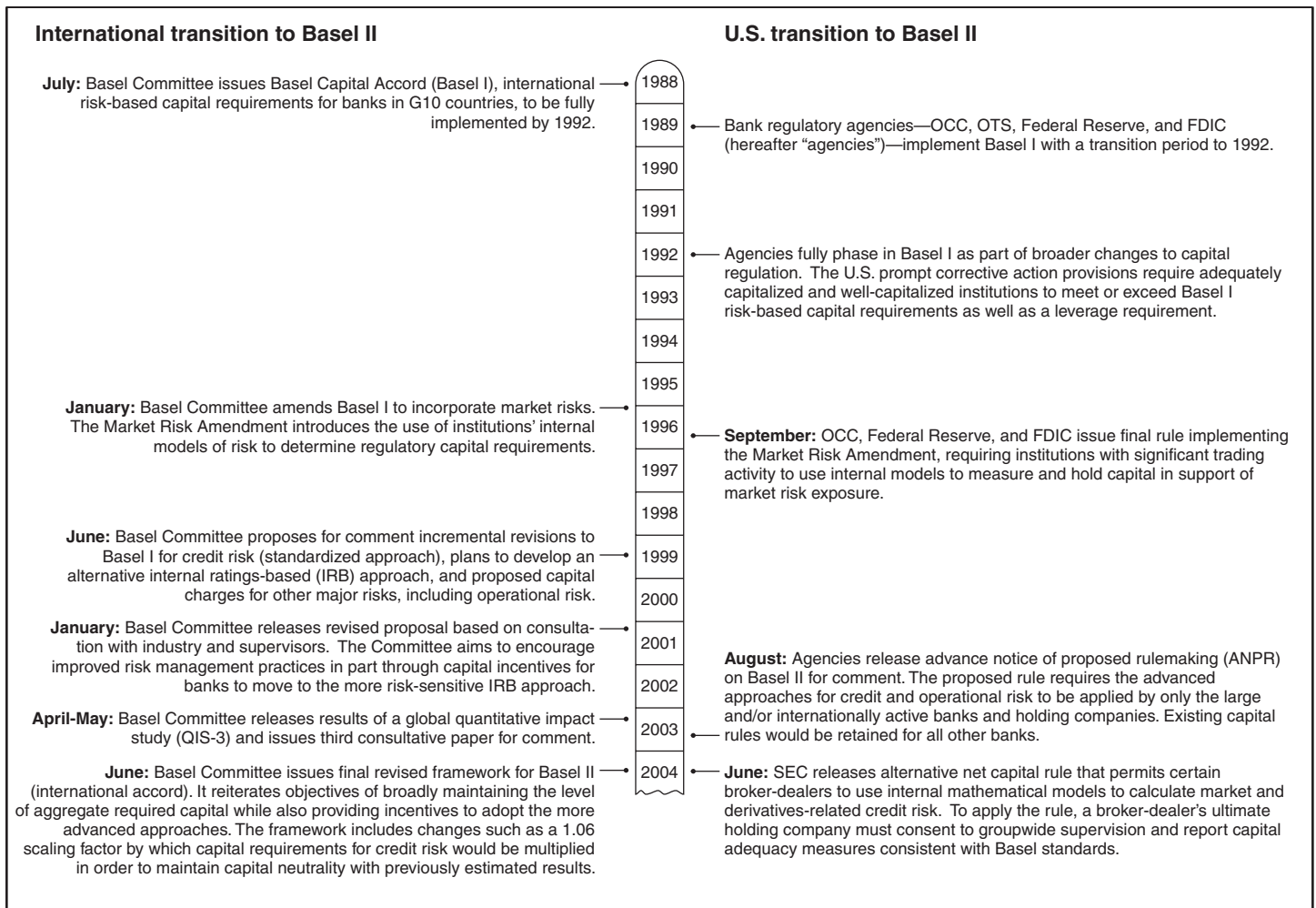
To describe banks' preparations and related challenges, as stated previously, we interviewed officials from each of the likely core banks. To identify the likely core banks, we used data available from public regulatory filings to determine those whose total assets and/or foreign exposure met the proposed criteria in the Basel II NPR as of December 31, 2005. We also collected information through interviews and written data collection instruments from a sample of five possible opt-in banks, selected on the basis of input from the regulators and bank associations, size, and primary federal regulator.

To describe regulators' preparations and challenges, we reviewed a variety of documents as listed above, as well as other documents from the federal banking regulators, such as the Federal Reserve's Supervisory Letter 99-18 (SR 99-18), OCC's Bulletin 2000-16, the Market Risk Rule, and regulators' strategic and annual performance plans.⁴ At the Federal Reserve and OCC, we also interviewed bank examiners for two of the largest U.S. banking organizations and reviewed examination reports to understand how regulators oversee risk management processes at core banks and how the regulators are planning to incorporate Basel II into their examinations and oversight processes.

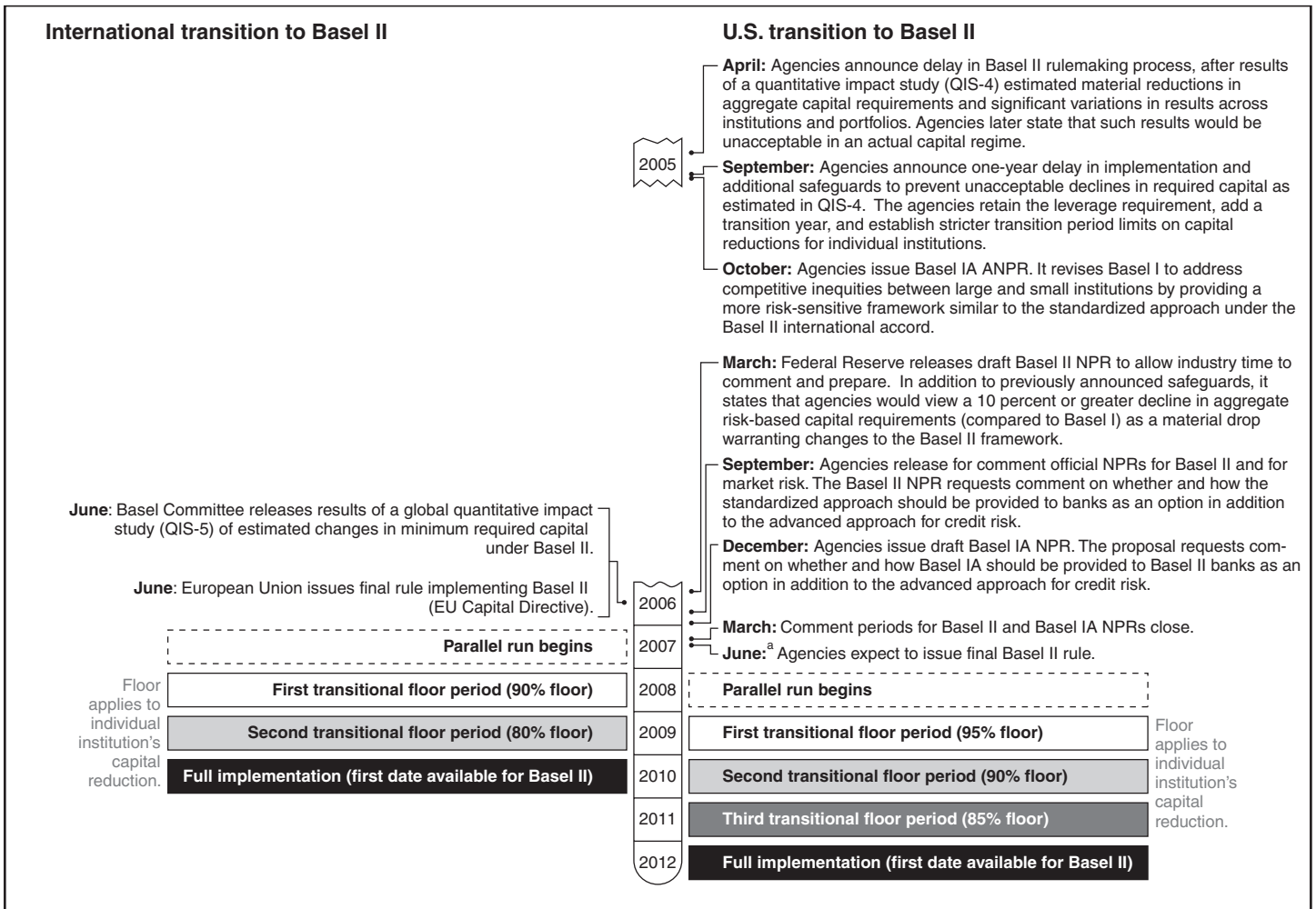
⁴61 Fed. Reg. 47358 (Sept. 6, 1996).

We conducted our work in Washington, D.C.; Chicago, San Francisco, and New York, between April 2006 and January 2007 in accordance with generally accepted government auditing standards.

Appendix II: U.S. and International Transition to Basel II



Appendix II: U.S. and International Transition to Basel II



Source: GAO.

Note: Dates shown for both the international and U.S. parallel run and transition periods are for the advanced risk measurement approaches.

^aDenotes estimated date.

Appendix III: Basel II Descriptive Overview

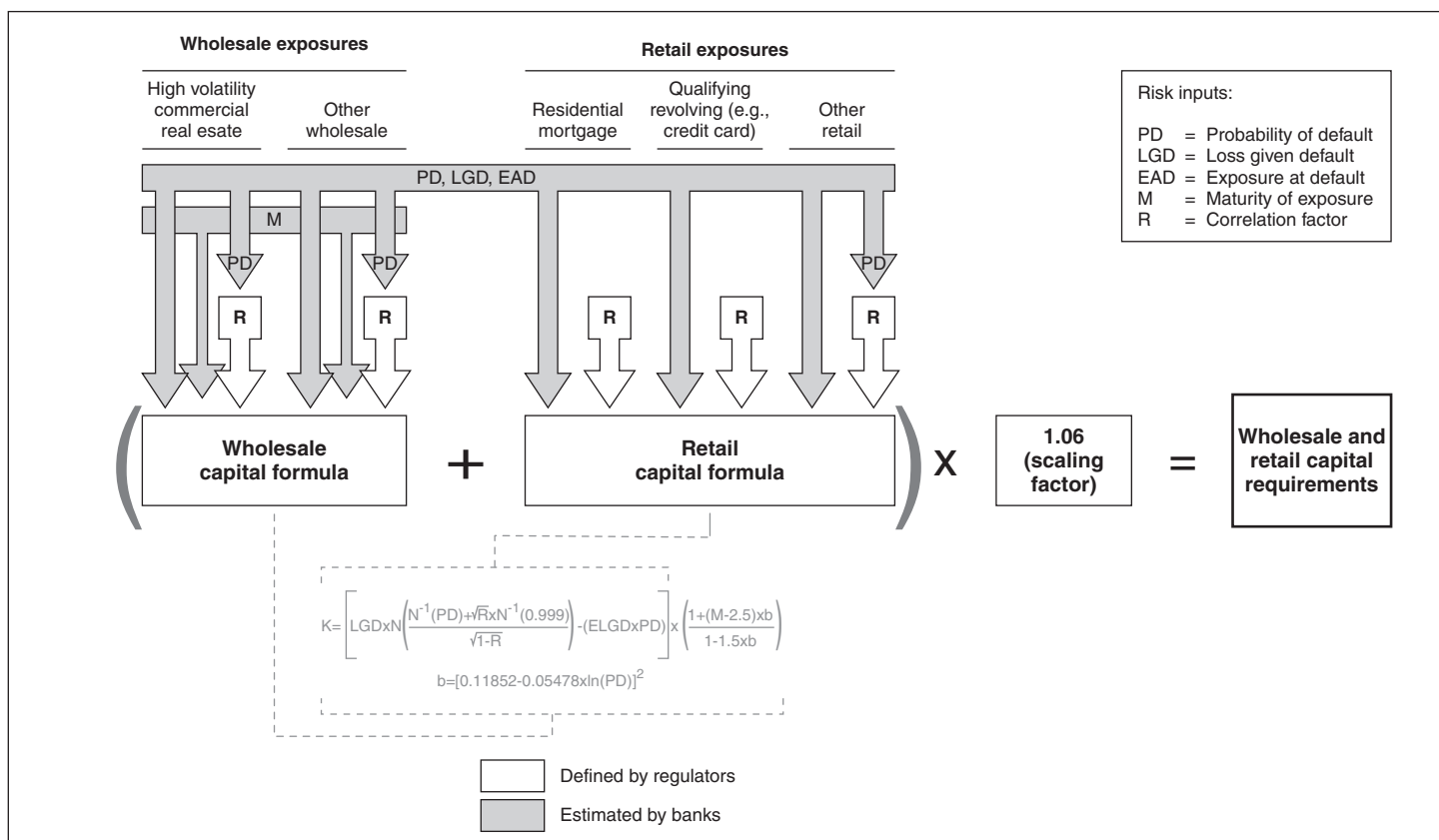
Pillar 1: Minimum Capital Requirements

Pillar 1 of the U.S. Basel II proposal features explicit minimum capital requirements, designed to ensure bank solvency by providing a prudent level of capital against unexpected losses for credit, operational, and market risk. The advanced approaches, which are the only measurement approaches currently proposed in the United States, will make capital requirements depend in part on a bank's own assessment, based on historical data, of the risks to which it is exposed.

Credit Risk

Under the advanced internal ratings-based (A-IRB) approach, banks must establish risk rating and segmentation systems to distinguish risk levels of their wholesale (most exposures to companies and governments) and retail (most exposures to individuals and small businesses) exposures, respectively. Banks use the results of these rating systems to estimate several risk parameters that are inputs to supervisory formulas. Figure 7 illustrates how credit risk will be calculated under the Basel II A-IRB. Banks must first classify their assets into exposure categories and subcategories defined by supervisors: for wholesale exposures those subcategories are high-volatility commercial real estate and other wholesale; for retail exposures those subcategories are residential mortgages, qualifying revolving exposures (e.g., credit cards), and other retail. Banks then estimate the following risk parameters, or inputs: the probability a credit exposure will default (probability of default or PD), the expected size of the exposure at the time of default (exposure at default or EAD), economic losses in the event of default (loss given default or LGD) in expected and "downturn" (recession) conditions, and, for wholesale exposures, the maturity of the exposure (M). In order to estimate these inputs, banks must have systems for classifying and rating their exposures as well as a data management and maintenance system. The conceptual foundation of this proposal is that a statistical approach, based on historical data, will provide a more appropriate measure of risk, and capital, than a simple categorization of asset types, which does not differentiate precisely between risks. Regulators provide a formula for each exposure category that determines the required capital on the basis of these inputs. If all the assumptions in the supervisory formula were correct, the resulting capital requirement would exceed a bank's credit losses in a given year with 99.9 percent probability. That is, credit losses at the bank would exceed the capital requirement with a one in one thousand chance in a given year, which could result in insolvency if the bank only held capital equal to the minimum requirement.

Figure 7: Computation of Capital Requirements for Wholesale and Retail Credit Risk under Basel II



Source: GAO analysis of information from the Basel II NPR.

Notes:

This figure focuses on wholesale and retail nondefaulted exposures, an important component of the total credit risk calculation. The total credit risk capital requirement also covers defaulted wholesale and retail exposures, as well as risk from securitizations and equity exposures. A bank's qualifying capital is also adjusted, depending on whether its eligible credit reserves exceed or fall below its expected credit losses.

Banks may incorporate some credit risk mitigation, including guarantees, collateral, or derivatives, into their estimates of PD or LGD to reflect their efforts to hedge against unexpected losses.

In contrast to Basel I, required capital by the A-IRB approach, as previously described, will depend on the risk characteristics of a particular asset rather than on broad risk weights for entire asset categories, as in Basel I. For example, mortgage loans vary significantly in quality, and the capital requirement will depend on the probability of default, along with the other inputs, while the capital requirement for most mortgages is fixed under Basel I.

Operational Risk

To determine minimum required capital for operational risk, banks would be able to use their own quantitative models of operational risk that incorporate elements required in the NPR. To qualify to use the advanced measurement approaches (AMA) for operational risk, a bank must have operational risk management processes, data and assessment systems, and quantification systems. The elements that banks must incorporate into their operational risk data and assessment system are internal operational loss event data, external operational loss event data, results of scenario analysis, and assessments of the bank's business environment and internal controls. Banks meeting the AMA qualifying criteria would use their internal operational risk quantification system to calculate the risk-based capital requirement for operational risk, subject to a solvency standard specified by regulators, to produce a capital buffer for operational risk designed to be exceeded only once in a thousand years.

Market Risk

Regulators have allowed certain banks to use their internal models to determine required capital for market risk since 1996 (known as the Market Risk Amendment or MRA). Under the MRA, a bank's internal models are used to estimate the 99th percentile of the bank's market risk loss distribution over a 10-business-day horizon, in other words a solvency standard designed to exceed trading losses for 99 out of 100 10-business-day intervals. The bank's market risk capital requirement is based on this estimate, generally multiplied by a factor of three. The agencies implemented this multiplication factor to provide a prudential buffer for market volatility and modeling error. The OCC, Federal Reserve, and FDIC are proposing to incorporate their existing market risk rules and are proposing modifications to the market risk rules, to include modifications to the MRA developed by the Basel Committee, in a separate NPR issued concurrently with the proposal for credit and operational risk. OTS is proposing its own market risk rule, including the proposed modifications, as a part of that separate NPR.

Regulatory officials generally said that changes to the rules for determining capital adequacy for market risk were relatively modest and not a significant overhaul. The regulators have described the objectives of the new market risk rule as including enhancing the sensitivity of required capital to risks not adequately captured in the current methodologies of the rule and enhancing the modeling requirements consistent with advances in risk management since the implementation of the MRA. In particular, the rule contains an incremental default risk capital requirement to reflect the growth in traded credit products, such as credit default swaps, that carry some default risk as well as market risk.

Pillar 2: Supervisory Review

The Pillar 2 framework for supervisory review is intended to ensure that banks have adequate capital to support all risks, including those not addressed in Pillar 1, and to encourage banks to develop and use better risk management practices. Banks adopting Basel II must have a rigorous process of assessing capital adequacy that includes strong board and senior management oversight, comprehensive assessment of risks, rigorous stress testing and validation programs, and independent review and oversight. In addition, Pillar 2 requires supervisors to review and evaluate banks' internal capital adequacy assessments and monitor compliance with regulatory capital requirements. Under Pillar 2, supervisors must conduct initial and ongoing qualification of banks for compliance with minimum capital calculations and disclosure requirements. Regulators must evaluate banks against established criteria for their (1) risk rating and segmentation system, (2) quantification process, (3) ongoing validation, (4) data management and maintenance, and (5) oversight and control mechanisms. Regulators are to assess a bank's implementation plan, planning and governance process, and parallel run performance. Under Pillar 2, regulators should also assess and address risks not captured by Pillar 1 such as credit concentration risk, interest rate risk, and liquidity risk.

Importantly, the Pillar 2 of the international Basel II framework is already largely in place in the United States. For example, Pillar 2 allows supervisors the ability to require banks to hold capital in excess of the minimum, an authority that federal regulators already possess under prompt corrective action provisions.

Pillar 3: Market Discipline in the Form of Increased Disclosure

Pillar 3 is designed to encourage market discipline by requiring banks to disclose additional information and allowing market participants to more fully evaluate the institutions' risk profiles and capital adequacy. Such disclosure is particularly appropriate given that Pillar I allows banks more discretion in determining capital requirements through greater reliance on internal methodologies. Banks would be required to publicly disclose both quantitative and qualitative information on a quarterly and annual basis, respectively. For example, such information would include a bank's risk-based capital ratios and their capital components, aggregated information underlying the calculation of their risk-weighted assets, and the bank's risk assessment processes. In addition, federal regulators propose to collect, on a confidential basis, more detailed data supporting the capital calculations. Federal regulators would use this additional data, among other purposes, to assess the reasonableness and accuracy of a bank's minimum capital requirements and to understand the causes behind

changes in a bank's risk-based capital requirements. Federal regulators have proposed detailed reporting schedules to collect both public and confidential disclosure information.

Appendix IV: Comments from the Board of Governors of the Federal Reserve System



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

SUSAN SCHMIDT BIES
MEMBER OF THE BOARD

January 26, 2007

Ms. Orice M. Williams
Director
Financial Markets and Community Investment
U.S. General Accountability Office
Washington, DC 20548

Dear Ms. Williams:

The Federal Reserve appreciates the opportunity to review and comment on a draft of the GAO's report on the U.S. implementation of the Basel II capital accord (GAO-07-253).

The Federal Reserve concurs with the report's initial finding that the Basel I capital rule is particularly inadequate for large banking organizations and increasingly fails to align regulatory capital requirements with risk for large and internationally active banking organizations. The report usefully discusses several of the principal flaws of the Basel I framework for large banking organizations: its simple, non-granular risk-bucketing system; its limited recognition of credit risk mitigation techniques; its lack of explicit coverage of operational risk; and its limitations in reflecting financial market innovations (such as securitization and derivatives). In addition, the report acknowledges that the Basel I framework has not kept pace with the more advanced risk measurement practices at large banking organizations.

The Federal Reserve also agrees with the report's conclusion that the agencies should continue their efforts to finalize the U.S. Basel II capital rule and proceed with the parallel run and transition period to Basel II. As noted in the report, finalization of the U.S. Basel II rule would be appropriate for at least the following reasons: (i) the parallel run and transition period will generate crucial information for the agencies in their future assessments of the strengths and weaknesses of the Basel II rule for the U.S. banking system; (ii) Basel-II transitional floors will prevent each bank's regulatory capital requirements from declining precipitously during the transition period; and (iii) any further delay in the U.S. implementation of Basel II creates potential competitive disadvantages for U.S. banks as compared to foreign banks. The report further indicates that small U.S. banking organizations have raised concerns that the proposed bifurcated implementation of Basel II in the United States may create competitive inequities between small and large U.S. banking organizations. The agencies have issued a Basel IA proposal for smaller U.S. banking organizations to help address these potential competitive inequities. Of course, we intend to review and analyze carefully all public comments on the outstanding

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Basel II and Basel IA proposals before making any final decisions about the new regulatory capital framework.

The report also concludes that the U.S. Basel II implementation process has lacked transparency or clarity and, as a consequence, there is uncertainty about and some opposition to the Basel II framework. The Federal Reserve and the other Federal banking agencies have attempted to be as transparent and clear as possible in our Basel II implementation efforts, consistent with the letter and spirit of the Administrative Procedure Act. In the past few years, these efforts have included issuing for public comment proposed Basel II wholesale credit and operational risk supervisory guidance and an advance notice of proposed rulemaking in September 2003; issuing for public comment proposed Basel II retail credit supervisory guidance in October 2004; issuing two interagency press releases in 2005 on the timeframe and scope of our Basel II implementation efforts; issuing public results of our 4th Basel II quantitative impact study in February 2006; issuing for public comment a Basel II notice of proposed rulemaking (NPR) in September 2006 (with an extensive 6-month comment period); and hosting numerous meetings with bank trade associations and individual banking organizations throughout 2006 to discuss the NPR. The agencies also expect to issue all the Basel II supervisory guidance for a second round of public comment in the near future. Many of these actions went far beyond our obligations under the Administrative Procedure Act to provide the public (including the banking industry) with fair notice of our rulemaking activities.

Notwithstanding these significant efforts by the agencies to promote the transparency of the U.S. Basel II implementation process, we understand that the outstanding Basel II proposals contain a considerable amount of ambiguity. The agencies expect to reduce this ambiguity substantially as we work to finalize the Basel II rule. Moreover, during the transition period, as we acquire additional experience with the new regulatory capital framework, we expect to be able to further reduce any residual uncertainties that remain in the Basel II rule. Of course, there are limits on how specific and concrete the agencies can make the Basel II rule. Basel II has been designed to be an adaptable regulatory capital framework; as such, many of the ultimate requirements of any final Basel II rule will take the form of general principles in order to preserve the risk measurement and management flexibility of banking organizations.

In addition, the report makes a number of recommendations to the agencies about how to improve the transparency and clarity of the U.S. Basel II implementation process going forward. The Federal Reserve concurs with these recommendations and will seek to (i) provide additional clarity about how the Basel II rule would treat portfolios for which a bank does not have sufficient historical performance data (or an acceptable and reliable risk parameter quantification methodology); (ii) clarify the criteria we will use for determining an appropriate average level of required capital, and appropriate cyclical variation in required capital, in the U.S. banking system; (iii) issue a second Basel II NPR if the agencies decide to permit Basel II banks to use a standardized option or if the agencies intend to issue a final Basel II rule that would differ substantially from the Basel II NPR; (iv) issue periodic public reports on the U.S. Basel II implementation process during the parallel run and transition periods; and (v) re-evaluate, at the end of the transition period, whether the advanced approaches of Basel II provide an appropriate regulatory capital framework for U.S. banking organizations. Indeed, with respect to the

**Appendix IV: Comments from the Board of
Governors of the Federal Reserve System**

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final recommendation, we expect to perform such an evaluation not only at the end of the transition period but also during the transition period.

Federal Reserve staff has separately provided GAO staff with technical and correcting comments on the draft report. We hope that these comments were helpful.

Thank you for your efforts on this important matter. The Federal Reserve appreciates the professionalism of, and the careful analysis performed by, the GAO's review team.

Sincerely

A handwritten signature in cursive script, reading "Susan Schmidt Fied".

Appendix V: Comments from the Office of the Comptroller of the Currency



Comptroller of the Currency
Administrator of National Banks

Washington, DC 20219

January 26, 2007

Ms. Orice M. Williams
Director, Financial Markets and Community Investment
United States Government Accountability Office
Washington, DC 20548

Dear Ms. Williams:

We have received and reviewed your draft report titled "Risk-Based Capital: Bank Regulators Need to Improve Transparency and Overcome Impediments to Finalizing the Proposed Basel II Framework." The report fulfills a statutory mandate resulting from concerns about the possible effects of updating risk-based capital rules.

We appreciate the GAO's recognition of the limitations of Basel I for large, complex and/or internationally active banks. The OCC believes that the continued safety and soundness of our banking system demands that we move away from our current simplistic risk-based capital system for large, internationally active banks to one that substantially enhances risk management and more closely aligns capital with risk. The draft report acknowledges the crucial role of Basel II in the development and utilization of enhanced risk management systems in our largest banks.

In this context, we very much welcome your straightforward statement in the report that GAO "support[s] the regulators' plans to continue to finalize the Basel II rules and proceed with the parallel run and transition period in order to determine whether the Basel II framework can be relied on to adequately capture risks for regulatory capital purposes." This has been the essence of the OCC's position on Basel II: move forward to finalize the rules; begin implementation with strong temporary safeguards in place during a transition period; and assess the need for adjustments to the framework during that transition period before removing the temporary safeguards. Of course, we also note that the proposals leave in place two existing U.S. capital safeguards that are not temporary and are in addition to the capital required internationally by the Basel II framework: the leverage ratio, and the additional capital effectively required by the prompt corrective action framework (*i.e.*, the additional capital required to be designated "well capitalized," as nearly all U.S. banks are).

The draft report contains various statements and recommendation for the banking agencies to consider in the assessment of comments on the Basel II notice of proposed rulemaking (NPR).

**Appendix V: Comments from the Office of the
Comptroller of the Currency**

Several of these statements and recommendations concern the approach to safeguards and the transition period just described. In particular, the draft report:

- Describes and supports certain of the safeguards contained in the NPR that limit potential reductions in regulatory capital during the parallel run and transition periods;
- Recommends that the agencies improve transparency during the transition period by issuing public reports on the progress and results of implementation; and
- Recommends that, before the end of the transition period, the agencies undertake an analysis to determine whether changes are needed to the Basel II rule.

In addition, the draft report:

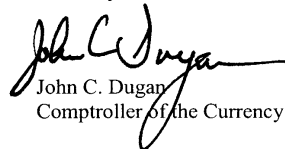
- Highlights competitive equity issues associated with the U.S. rulemakings, including the need for the agencies to ensure that capital adequacy regulations not be a significant source of competitive inequality, both domestically and among internationally active banks; and
- Recommends that the agencies clarify and reach agreement on certain provisions of the NPR that are ambiguous or unclear.

We welcome these and the other substantive comments and recommendations made in the draft report, which we and the other banking agencies will consider as part of the overall review of comments received on the NPR.

With respect to your comment about whether a new NPR might be necessary before proceeding to a final rule, we believe that will ultimately depend on the whether the actual changes made to the NPR in the subsequent version of the rule are sufficiently different so as to require another round of notice and comment. It is of course premature to make that determination until all the comments have been received and evaluated and the agencies decide what changes will be made. We also note that further delay resulting from an additional NPR could itself have ramifications for international competition. In any event, we will ensure that the rulemaking process remains compliant with both the letter and the spirit of the Administrative Procedure Act.

I appreciate this opportunity to provide the OCC's comments on the draft report, and I extend my thanks for the professionalism with which you and your staff have conducted this review. Technical comments were provided to your analysts separately.

Sincerely,


John C. Dugan
Comptroller of the Currency

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Appendix VI: Comments from the Federal Deposit Insurance Corporation and the Office of Thrift Supervision

Federal Deposit Insurance Corporation Office of Thrift Supervision

January 25, 2007

Ms. Orice M. Williams
Director
Financial Markets and Community Investment
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Williams:

The Federal Deposit Insurance Corporation and the Office of Thrift Supervision appreciate the opportunity to comment on the GAO's draft report, *Risk-Based Capital: Bank Regulators Need to Improve Transparency and Overcome Impediments to Finalizing the Proposed Basel II Framework*. This letter summarizes our agencies' overall reaction to the report. Technical comments on the report have been provided by our respective staffs.

The report rightly notes that the agencies share a number of important regulatory objectives. The Basel II effort to improve the risk-sensitivity of capital requirements for large, complex banks has been rooted in these shared objectives. As summarized in the report, these objectives include:

- To further strengthen the soundness and stability of the international banking system;
- To maintain sufficient consistency that capital adequacy regulation will not be a source of competitive inequality among internationally active banks;
- To promote the adoption of stronger risk management practices by the banking industry; and
- To broadly maintain the aggregate level of minimum capital requirements, while also providing incentives to adopt the more advanced risk-sensitive approaches of the revised framework.

As noted in the report, the agencies also share the goal of avoiding unintended consequences, such as the creation of a significant competitive disadvantage for any class of banks.

Ensuring the achievement of these shared objectives will remain of paramount importance to the agencies' deliberations and review of comments on the Notice of Proposed Rulemaking (NPR). While the agencies sometimes approach issues from different perspectives, as the report notes, we share a commitment to maintaining a safe

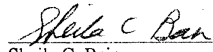
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Deposit Insurance Corporation and the Office
of Thrift Supervision**

and sound banking industry. The retention of the existing leverage requirements and Prompt Corrective Action framework, and other safeguards contained in the NPR, underscore that commitment.

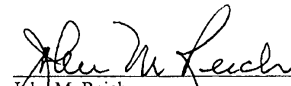
The report notes that the implementation of the advanced approach is not without risk, and that its ultimate impact on the safety-and-soundness of the U.S. banking system is uncertain. Given the considerable costs and complexity of the advanced approach and its attendant uncertainties and risks, our agencies believe serious consideration should be given to the implementation of a U.S. version of the Basel II standardized approach as an option for all U.S. banks. Our decisions in this regard will benefit greatly from the comments we receive on this and other issues.

The report makes a number of recommendations that our agencies will consider as part of the overall review of comments received on the NPR. Our agencies appreciate the professionalism of the GAO's review team and the significant efforts that went into the development of these recommendations.

Sincerely,



Sheila C. Bair
Chairman
Federal Deposit Insurance Corporation



John M. Reich
Director
Office of Thrift Supervision

Appendix VII: Comments from the Department of the Treasury



UNDER SECRETARY

DEPARTMENT OF THE TREASURY
WASHINGTON, D. C.

January 26, 2007

Orice M. Williams
Director, Financial Markets and Community Investment
United States Government Accountability Office
411 G Street, NW
Washington, DC 20508

Dear Ms. Williams:

Thank you for providing the United States Department of the Treasury the opportunity to comment on the Government Accountability Office's (GAO) report entitled "Risk-Based Capital: Bank Regulators Need to Improve Transparency and Overcome Impediments to Finalizing the Proposed Basel II Framework."

In general, the GAO draft report provides a comprehensive overview of the Basel II process and U.S. implementation efforts. As the draft report noted, the Basel II process is important for encouraging ongoing improvements in bank risk management and measurement processes, and in making regulatory capital requirements more risk-sensitive for U.S. banking institutions.

We agree that there remain a number of significant Basel II implementation challenges and uncertainties for the large complex banking organizations subject to Basel II requirements and for the federal banking regulators. Despite these challenges, we believe that the federal banking regulators should reach a consensus on the major requirements of a final rule soon after the Basel II and Basel IA comment periods end in late March. Reaching such a consensus and providing key implementation information to relevant banking institutions as soon as possible thereafter is essential if the U.S. is going to meet the January 2008 goal for Basel II implementation. In that regard, we note that the U.S. implementation schedule is already one year behind other member countries of the international Basel Committee on Banking Supervision. Further delay will add to uncertainty and potentially create burdens for both domestic and foreign banks. While regulators retain appropriate discretion in implementing Basel II to ensure that the proper safeguards remain in place, given that other countries are moving forward, it is incumbent upon the federal banking regulators to also move forward with Basel II implementation.

Finally, we would note that the GAO draft report recommended that the federal banking regulators issue a new notice of proposed rulemaking (NPR) before finalizing the Basel II rule given the number of open-ended questions and the potential option of providing the Basel II standardized approach to all U.S. banks. We are quite concerned about further delaying this important process. We also note that the simultaneous proposal of the Basel IA NPR (which is similar to the standardized approach to credit risk option in the international accord) and the Basel II NPR for notice and comment, provide commenters with the ability to opine on

**Appendix VII: Comments from the
Department of the Treasury**

implementation and other issues and options. In addition, we note that the extended time period toward full implementation of Basel II (a parallel-year run in 2008 and three-year transition period) provides ample opportunity for the federal banking regulators to fully consider the impact of Basel II and related issues.

Again, we would like to thank you for this opportunity to provide our views on your draft report. Please let us know if you have any additional questions.

Sincerely,



Robert K. Steel
Under Secretary for Domestic Finance

Appendix VIII: GAO Contacts and Staff Acknowledgments

GAO Contacts

Orice M. Williams (202) 512-5837 or williamso@gao.gov
Thomas J. McCool (202) 512-2642 or mccoolt@gao.gov

Staff Acknowledgments

In addition to the contacts named above, Barbara I. Keller (Assistant Director); Emily Chalmers; Michael Hoffman; Austin Kelly; Clarette Kim; James McDermott; Suen-Yi Meng; Marc Molino; and Andrew Nelson made key contributions to this report.

Related GAO Products

Deposit Insurance: Assessment of Regulators' Use of Prompt Corrective Action Provisions and FDIC's New Deposit Insurance System, [GAO-07-242](#). Washington, D.C.: February 15, 2007.

Financial Regulation: Industry Changes Prompt Need to Reconsider U.S. Regulatory Structure, [GAO-05-61](#). Washington, D.C.: October 6, 2004.

Risk-Focused Bank Examinations: Regulators of Large Banking Organizations Face Challenges, [GAO/GGD-00-48](#). Washington, D.C.: January 24, 2000.

Risk-Based Capital: Regulatory and Industry Approaches to Capital and Risk, [GAO/GGD-98-153](#). Washington, D.C.: July 20, 1998.

Bank and Thrift Regulation: Implementation of FDICIA's Prompt Regulatory Action Provisions, [GAO/GGD-97-18](#). Washington, D.C.: November 21, 1996.

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