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Charles W. Calomiris, Robert E. Litan

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Financial Regulation in a Global Marketplace

CHARLES W. CALOMIRIS
and ROBERT E. LITAN

RAPID TECHNOLOGICAL CHANGE, conglomeration, mergers, and globalization are rocking the financial industry here and abroad. In this paper we primarily address the implications of globalization for prudential regulation of firms in the financial industry. However, given the importance of the other three forces—and the extent to which they reinforce or are by-products of the trend toward globalization—we address them as well.

Our bottom line is that regulators at both the national and international level will have to respond increasingly to market-driven changes. In particular, as financial institutions delve into a wider range of products and activities, policymakers almost certainly will have to decide whether they want to establish a single regulator to oversee all types of financial activity or whether they will be content with the segmented regulatory system long in place in some countries, such as the United States. We note that a trend outside the United States seems to be under way toward creation of a single national financial regulator, independent of the central bank, a development we cautiously support.

The views expressed here are solely those of the authors and not necessarily those of any of the institutions or organizations with which they are affiliated. The authors acknowledge the excellent research assistance of Tatsuhide Kanenari and the helpful comments and feedback from Richard Herring and John Heimann.

More fundamentally, however, the central challenge that financial regulators, especially those supervising banking activities, will face is how to deal with the rapid and increasingly complex changes in the financial arena. Regulators are slowly—too slowly in our view—coming around to the view that they need help from the market to discipline financial institutions from taking excessive risks. We outline a plan for accelerating this process in the banking arena, although we are more circumspect about the need for international minimum standards for other types of financial institutions. We are more enthusiastic, however, about efforts to develop global accounting standards, which we believe would promote efficiency as well as safety and soundness of financial institutions in countries that use those standards. We argue that in accounting standards, and other areas of financial regulation, the advantages of harmonization must be balanced against the gains from regulatory competition, and we consider approaches that balance those considerations.

Reshaping the Financial Services Industry: A Quick Summary

The financial services industry in the United States historically has been segmented—by law and to some extent by custom—into different product lines, notably banking, insurance, securities, mutual funds, pension funds, and futures. During the past several decades, however, the walls that separate these segments have been steadily eroding, as market participants—with the blessing of federal regulators and state legislatures—have been exploiting cracks in the seemingly airtight separations erected by the Glass-Steagall Act of 1933 and the Bank Holding Company Act of 1956 in order to offer a broader array of financial products and services to customers. Indeed, even before the “financial modernization” legislation enacted by Congress in November 1999, the merger of Citicorp with Travelers coupled with the entry of various insurers into the thrift business (through the use or formation of “unitary” thrift holding companies) demonstrated that the “financial supermarket” is already here.

Competition has been the driver in this process, especially through its effects on regulators’ willingness to support regulatory reform. Competition forced regulators either to support the modernization trend or, by

opposing it, to oversee the declining importance of the segments they controlled.¹

Finance is also being transformed by technology, which itself has been contributing to the intensification of competition. This is not a surprising development, since financial services firms are among the largest purchasers of information technology software and hardware. The largest and most sophisticated financial players are using the new technology to develop a constant flow of new products and instruments, with different payment streams designed to appeal to investors with different appetites for risk. Yet perhaps the most powerful technology at work is the Internet, which is forcing all middlemen—of which financial services firms are among the most prominent examples—to rethink their business strategies. Among other things, the Internet greatly reduces search costs and thus squeezes the profit margins of financial product providers. In addition, it gives increasing numbers of investors virtually direct access to the capital markets at far lower costs and thus threatens not only to eliminate securities brokers (and other middlemen) but also to transform the way new securities are brought to the market and the way securities are traded.²

Aside from the Internet—which is a global phenomenon in itself—finance has been in the vanguard of globalization, driven by rapidly declining costs of communication and the continued desire of investors to diversify their risks. There are so many ways to document this trend that we single out just a few here: the rapid increases in cross-border bank lending (figure 1), cross-border transactions in bonds and equities (figure 2), and the volume of new stock issues by foreign issuers in U.S. securities markets in the 1990s (figure 3).

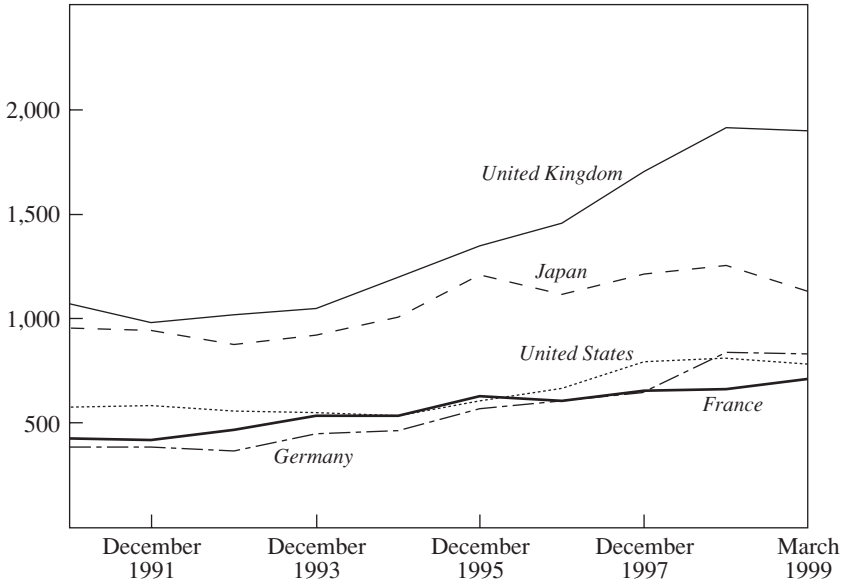
Just as financial instruments are moving across borders, so too are financial service firms themselves, reflecting the broader trend of increasing sums of cross-border foreign direct investment. U.S. banks, for example, collectively derive approximately 15 percent of their income from foreign operations, and for the five largest banks, the share of foreign profit is much higher at close to 45 percent.³ At the same time, many foreign financial institutions have become increasingly active in the U.S. market; foreign acquisitions of U.S. institutions through mid-1999

1. Calomiris (1998).

2. This subject was treated extensively in the 1999 issue of the *Brookings-Wharton Papers on Financial Services* (Litan and Santomero 1999).

3. Council on Foreign Relations (1999), p. 34.

Figure 1. Cross-Border Bank Lending among Major Industrial Countries, 1990–99
Billions of U.S. dollars

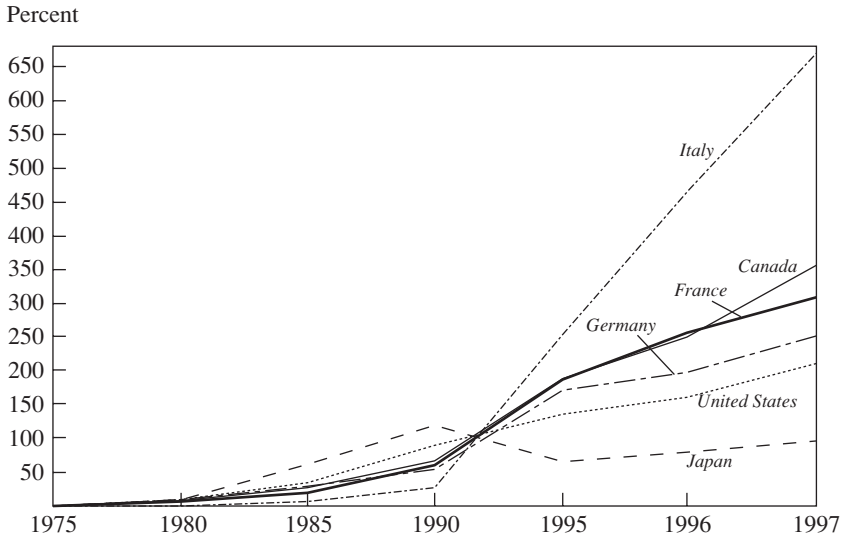


Source: Bank for International Settlements (1999).

totaled \$29.6 billion, six times the level of the same period in the preceding year.⁴

The reshaping of the financial services industry is reflected in, among other things, the emergence of major global financial powerhouses. Table 1 lists the top thirty international banking companies, in order of their market value at year-end. The table also indicates the total size of the institutions, as measured by balance sheet assets, as well as the asset ranking of each institution. This list understates the number and size of the new global *financial* powerhouses, since it does not include *nonbank* firms such as American International Group, Merrill Lynch, and Goldman Sachs, which are larger than many of the banking firms on this list. There is little correlation between the table's rankings by market value and by size, which indicates that financial institutions increasingly derive returns

4. Tania Padgett, "Foreign Companies Snapping up U.S. Institutions," *American Banker*, August 2, 1999, pp. 1, 30.

Figure 2. Cross-Border Transactions in Bonds and Equities as a Percentage of GDP, 1975–97^a

Source: International Accounting Standards Committee (1999).

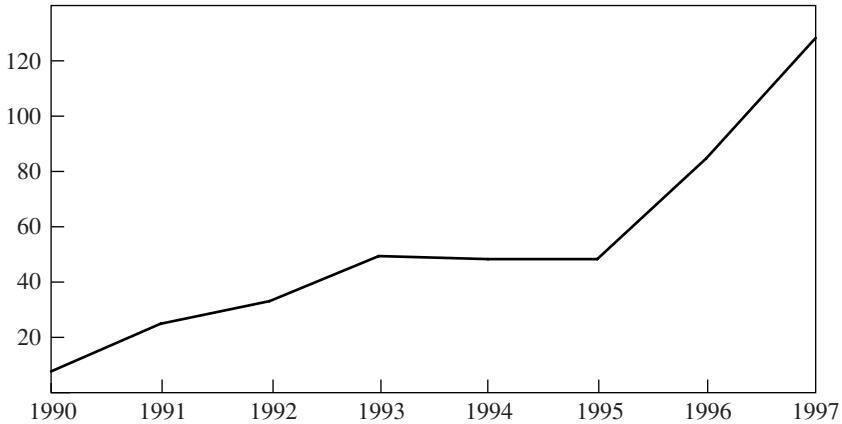
a. Gross purchases and sales of securities between residents and nonresidents.

from their knowledge and “financial brains” rather than from their sheer financial brawn. This is perhaps best illustrated by the fact that table 1 excludes such mega-mergers announced in 1999 as the combination of Dai-ichi Kangyo Bank, Fuji Bank, and the Industrial Bank of Japan. Once completed, this mega-merger will produce the world’s largest bank, measured by assets (but not by profits).

The mergers of financial institutions, and especially banks, in the United States, Europe, and Japan not surprisingly have aroused populist concerns about excessive concentration of financial power in the United States (it is unclear whether similar concerns have been voiced in Europe and Japan). From a purely antitrust perspective, these concerns have little basis, except to the extent that financial mergers lead to excessive concentration of power *within well-defined product or geographic markets*. Where this occurs, antitrust authorities in the United States and Europe, at least, have conditioned approval of these combinations on divestitures to address any potential competitive problems. Even in borderline cases where divestitures have not been mandated (but probably should be), over

Figure 3. Capital Raised in U.S. Public Securities Markets by Foreign Registrants, 1990-97

Billions of U.S. dollars



Source: International Accounting Standards Committee (1999).

the medium to long run competitive market forces and the potential for entry should undermine any remaining market monopolization. However, the formation of financial super-giants does pose important challenges for prudential regulation that are not so easily overcome.

Challenges for Prudential Bank Regulation

Each of the trends just described poses significant challenges to the way financial institutions, and especially banks, are regulated.

First, as the walls in the private sector that separate different types of financial products from one another come tumbling down, the question naturally arises: why shouldn't the same be true of the government bodies that regulate them? More pointedly, if banks are morphing into financial supermarkets with nationwide (if not global) reach, why shouldn't their activities be overseen by a single national financial regulator?

In fact, a number of countries already have answered this question in the affirmative. Between 1991 and 1996, Denmark, Sweden, and Norway each consolidated supervision of all major financial institutions in a single

Table 1. Top Thirty International Banking Companies, by Market Value, 1998 and 1999

Billions of U.S. dollars

<i>Bank</i>	<i>Country</i>	<i>Market value, as of June 30, 1999</i>	<i>Total assets, as of December 31, 1998</i>	<i>Asset rank</i>
Citigroup	United States	160.8	668.6	3
Bank of America	United States	127.9	617.7	4
HSBC Holdings	United Kingdom	99.3	482.9	8
Lloyds TSB Group	United Kingdom	73.8	279.3	17
Chase Manhattan	United States	73.1	365.9	13
Wells Fargo	United States	70.7	202.5	21
Bank One	United States	70.3	261.5	18
Bank of Tokyo-Mitsubishi	Japan	66.6	579.8	5
UBS	Switzerland	61.7	687.4	2
ING	Belgium	47.6	463.6	10
Credit Suisse Group	Switzerland	47.1	475.0	9
First Union	United States	45.6	237.4	20
National Westminster Bank	United Kingdom	44.4	...	
Sumitomo Bank	Japan	39.0	428.0	11
Banco Santander Central Hispano	Spain	35.9	182.0	22
Barclays	United Kingdom	35.6	365.1	14
Deutsche Bank	Germany	35.4	735.2	1
Fortis Group	Belgium	33.0	323.6	15
Abbey National	United Kingdom	31.7	295.6	16
ABN-AMRO Holdings	Netherlands	29.9	507.2	7
Banco Bilbao Vizcaya	Spain	28.7	157.3	23
Sanwa Bank	Japan	28.6	418.4	12
Bank of New York	United States	27.9	...	
Fleet Financial Group	United States	25.3	104.6	25
J. P. Morgan	United States	24.9	261.1	19
MBNA	United States	24.6	...	
Bank of Scotland	United Kingdom	24.4	99.4	26
National Australia Bank	Australia	24.3	149.6	24
U.S. Bancorp	United States	24.3	76.4	27
Bayerische Hypotheken und Vereinsbank Group	Germany	24.1	540.9	6

Source: *American Banker*, various issues.

agency. Japan recently did so as well, in large part because of the well-publicized failures of the Ministry of Finance to deal with the country's financial problems. But perhaps the most publicized move in this direction was taken by the United Kingdom in May 1997, shortly after the election of Tony Blair as prime minister. In one of his first official acts, Blair not only combined supervision of banking, securities, and insurance operations in a single agency, the Financial Services Authority, but also split off the banking supervisory function from the Bank of England.⁵ In 1998 Australia followed suit with a similar system, keeping responsibility for the payments system in the central bank but reorganizing the regulation of institutional safety and soundness and consumer protection, respectively, as separate functions within the new, consolidated supervisory agency.⁶

The decline of central bank control over banking is a natural consequence of the consolidation of financial supervision in a single agency, since central banks historically have no expertise in the businesses of insurance and securities with which banks in these countries are now allied. Nonetheless, the United States stands as an exception to the emerging trend: the Federal Reserve System argued (successfully) throughout the congressional debate over financial modernization that all newly authorized nonbanking operations must be carried out through nonbank subsidiaries of bank holding companies, which the Federal Reserve alone supervises. In addition, the Fed continues to maintain that its functions as the nation's monetary authority cannot be carried out effectively unless the agency also retains its role as a bank supervisor. We address this argument, among others, in the next section of the paper.

Continuing advances in technology have posed a different set of challenges for domestic and international regulation alike. The proliferation of financial instruments, coupled with innovative investing and trading strategies, keeps financial institutions several steps ahead of regulators who inevitably lag in gaining the requisite expertise required to assess the new risks. Indeed, U.S. regulators—and later the regulators of other indus-

5. Primary responsibility for each of the different segments, however, technically remains lodged in a subunit of the Financial Services Authority.

6. The Australian system bears some similarity to the proposal by Steven Wallman advanced in the 1999 *Brookings-Wharton Papers on Financial Services*, which would split responsibility for prudential matters, consumer protection, and avoiding systemic risk among the existing financial regulatory bodies within the United States. See Wallman (1999), pp. 207–27.

trial countries belonging to the Basel Committee—recognized as much when they recently decided to allow banks to use their own models for assessing trading risks rather than specifying a one-size-fits-all model for this purpose. At the same time, the rapid pace of technological change illustrates the limits of international bodies like the Basel Committee to prescribe detailed rules for bank supervision and regulation. It is difficult enough for regulators in each country, acting alone, to stay abreast of new developments. It is even more challenging for regulators from different countries to agree on common methods of doing so.

The complexity of the financial marketplace also poses significant uncertainties that complicate the lives of financial supervisors. Although it is beyond the scope of this paper to discuss the merits and drawbacks of the Federal Reserve's involvement in the private sector rescue of Long-Term Capital Management (LTCM), the near failure of LTCM dramatically highlighted the limited information and understanding that regulators, let alone supposedly sophisticated financial institutions, have about the risks involved in large derivatives transactions.⁷ Indeed, the Fed justified its intervention because of fears that a forced unwinding of LTCM's derivatives trades, coupled with defensive reactions to that process by other market participants, could cause undesirable systemic effects in the markets.⁸ Although lenders since reportedly have tightened up their lending to hedge funds (on their initiative and at the urging of bank regulators), it is a reasonable assumption that continuing advances in financial technologies, instruments, and trading strategies will leave regulators and private actors somewhat in the dark about the resiliency of the overall financial system in the face of sudden, negative shocks in the future. Securitization of bank loans poses similar problems, as it permits banks to generate hard-to-measure contingent liabilities through off-balance-sheet transactions.⁹

Meanwhile, the consolidation of the financial services industry—especially the emergence of a growing number of “mega” institutions—

7. Although it has been widely remarked that few observers saw an LTCM-style collapse coming, it is noteworthy that Stephen Figlewski presciently highlighted in *Brookings-Wharton Papers on Financial Services: 1998*—published three months before the LTCM episode—the uncertainties involved in modeling risks of derivatives transactions. See Figlewski (1998).

8. For an excellent guide to the events surrounding the LTCM affair, see Edwards (1999).

9. Jones (1998); Mingo (1998).

poses the risk that the regulatory authorities will deem a larger number of institutions, bank or nonbank, as “too big to fail.” More precisely, an institution is too big to fail if regulators feel compelled to bail out its uninsured depositors and other creditors should the institution run into financial difficulties. One observer who has voiced this fear, Thomas Hoenig, president of the Federal Reserve Bank of Kansas City, is skeptical that market discipline can prevent this result. Instead, he argues that the only remedy is more effective and watchful regulation.¹⁰ Recently, Federal Reserve Board Chairman Greenspan signaled that bank regulators would need to tailor capital standards for large, complex institutions, taking into account their own internal risk models to be sure, but at bottom adopting a micro-regulatory approach.¹¹ We have a very different view: if anything, faced with weakened institutions, regulators will be tempted to exercise forbearance (as bank regulators did with large money center banks in the 1980s). As we outline below, this result can and should be avoided, at least with respect to large banks, by relying on a system of credible market discipline implemented through a mandatory subordinated debt requirement.

The subjects of technology and consolidation bring us to the implications of globalization for financial supervision. The issue first surfaced in 1974 with the failure of a medium-size German bank, Bankhaus Herstatt, that had significant foreign currency exposures to other European and American banks. The bank’s failure triggered fears of a domino-like chain reaction of solvency problems in each of its major counterparties and briefly interrupted the markets for foreign exchange and interbank lending. The cross-border “externalities” of the Herstatt failure awoke the central banks of the Group of Ten (actually eleven industrial countries) to the need for at least coordinating the responses of bank supervisors in different countries and for setting some minimum ground rules for supervision. In 1975 these central banks formed the Standing Committee on Banking Regulation and Supervisory Practices—since named the Basel Committee—to agree on principles of bank supervision. The initial version of this “concordat” established the principle that the country of a parent bank has primary responsibility for ensuring its solvency and the solvency of its subsidiaries and branches in foreign countries. The concordat was revised

10. Hoenig (1999).

11. Barbara Rehm, “Let Banks’ Size, Risk Dictate Capital Rules, Greenspan Proposes,” *American Banker*, October 12, 1999, p. 2.

several years later to permit national bank supervisors (including central banks) to exchange sensitive information about their banks. Significant for the purposes of this paper, this revision also recognized the importance of supervising international banks on a “consolidated” basis, taking into account both banking and nonbanking activities.¹² We suspect that the Federal Reserve today relies on this concordat, among other things, to justify its oversight of the diverse activities of the emerging financial conglomerates in the United States.

By the 1980s the Basel Committee moved beyond attempts to coordinate the flow of information by setting minimum capital standards for banks. The committee was led to this result by the confluence of two forces. One was the significant deterioration during the 1980s of the financial condition of many large multinational banks that had outstanding, but unpaid, sovereign loans to developing countries. There was at least an unspoken fear that the failure of one or more of these institutions could have undesirable spillover effects across national borders. The other powerful force was the desire by U.S. banks in particular not to be subject to stiffer capital rules than those applying to their competitors overseas, especially banks in Japan, where the authorities allowed banks to count as an asset the value of appreciated equity they held in other companies (typically their large borrowers).

When it finally acted, the committee established “risk-based” capital standards for large, multinational banks that required assets in various categories to be supported by different percentages of capital. In fact, the committee defined two levels of capital, requiring that banks maintain Tier I capital (consisting primarily of common equity) of at least 4 percent of risk-weighted assets and a sum of Tier I and Tier II capital (where Tier II capital includes instruments such as preferred stock and subordinated debt) of at least 8 percent. The different risk weights meant that, at one extreme, bank investments in sovereign debt issued by Organization for Economic Cooperation and Development (OECD) governments required no capital backing, loans to other banks (which were subject to a 20 percent risk weight) required Tier I capital of just 0.8 percent of risk-weighted assets and total capital of 1.6 percent, investments in residential mortgages (carrying a 50 percent risk weight) required Tier I capital of

12. For a history of the Basel Committee and its early activities, through the mid-1990s, see Herring and Litan (1995), pp. 98–113.

2 percent and total capital of 4 percent, and most other loans had to be backed by the full 4 percent of Tier I capital and 8 percent of total capital.

The Basel Committee was aware that the initial standards were crude in that they took no account of other types of risk to which a bank was exposed, such as interest rate risk arising from the mismatching of maturities of assets and liabilities, managerial risks, and market risks. In the years since the initial standards were announced, the committee accordingly has attempted gradually to add refinements to deal with at least market risks. Most recently, in June 1999, the committee announced a sweeping proposal to overhaul the risk weights, which we discuss and criticize below. Even this proposal, however, stopped short of addressing a major conceptual flaw in the standards. By assigning different capital requirements to different asset “buckets,” the proposal took no account of the risks of a bank’s overall *portfolio*, which according to modern finance theory should be the central focus of regulatory attention.

It is noteworthy that the Basel standards were adopted by and so far apply only to the developed countries that participated in the process. In the mid-1990s, the G-7 countries called on the committee to stimulate improvements in banking supervision in emerging-market countries as well. Ironically, the committee released the results of its efforts in this area—its core principles for effective banking supervision—in September 1997, or just two months after a bank failure in Thailand triggered the Asian financial crisis. The core principles urge emerging-market countries to adopt and enforce minimum capital standards that are modeled on the Basel standards but modified to take account of the greater volatility in asset prices in those economies. This translates into a call for even higher minimum bank capital standards in most, if not all, emerging-market countries.

Several lessons can be drawn from the Basel process. First, just a few nations are the main driving forces behind the contents of the standards. It is conventional wisdom, for example, that the Basel Committee—which had been debating the original standards for several years in the 1980s without making significant progress toward consensus—was finally induced to adopt its original standards after the United States and the United Kingdom separately reached their own accord. Meanwhile, Germany was influential in gaining a discounted risk weight for mortgage loans (which survives to this day) and also held up the most recent proposal to ensure favorable treatment for its banks’ mortgages.

Second, concerns about ensuring a level playing field among banks from different countries have played as important a role in developing the standards as the desire to ensure safety and soundness. Indeed, policy-makers in the United States in particular were strongly motivated by their desire not to put American banks at a competitive disadvantage vis-à-vis foreign banks.

Third, the Basel Committee, composed of representatives of central banks, has displayed a clear tendency, through its adoption and continued adherence to risk weights for different categories of assets and off-balance-sheet obligations, to micro-manage the risk profiles of banks. We believe this bias against relying more heavily on market assessments should be corrected and, at the very least, not be reinforced, as would be the case if the recently proposed revisions to the Basel standards were adopted in their current form.

Fourth, whatever one may think of the standards themselves, the Basel process has one glaring and uncontroversial flaw: there is no international mechanism for enforcing the standards. The Basel Committee is, after all, just that—a committee—and not an international regulatory authority with supervening authority over national regulators. Indeed, the movement in many countries to separate central banks from the domestic bank regulatory process is further distancing the members of the Basel Committee (which is dominated by central bank representatives) from the regulatory implementation of bank capital standards within their own countries.

Nor is it likely any time soon that a supra-national regulator will come into being (despite the suggestions of some observers, such as Henry Kaufman, that one should).¹³ As a result, national members of the Basel Committee may pay fealty to the standards but, if they so desire for domestic reasons, ignore or fail to enforce them with vigor.

The problem of weak enforcement is perhaps best illustrated by the failure of regulators, until recently, to come to grips with banking problems in Japan. The Ministry of Finance had exercised forbearance in not forcing weakened Japanese banks to establish loan loss reserves commensurate with the market values of much of the loan portfolios. In following that course, the Japanese authorities followed the example of the United States

13. We do not support the Kaufman proposal. Regulatory competition among countries has furthered financial modernization in recent years. Regulatory monopolization could have the undesirable consequence of subverting global competition in the interest of facilitating regulation.

in the 1980s, when regulators and legislators engaged in forbearance extensively with the aim of allowing weak savings institutions and commercial banks time to recover. The policy was a clear failure for thrifts, and debate continues over its effectiveness for banks.¹⁴ In any event, in 1991 Congress was sufficiently persuaded that forbearance was a bad idea that it attempted to prohibit the practice by instituting a system of “prompt corrective action” that imposes progressively stiffer penalties on banks and their managers as capital declines.¹⁵

International Regulation of Nonbank Financial Services

Although not as well developed as the Basel process, several international initiatives have been under way for addressing cross-border issues raised by other financial services. The counterpart to the Basel Committee for the securities industry, for example, is the International Organization of Securities Commissions (IOSCO). IOSCO sets broad capital guidelines, encouraging national governments to base capital requirements on risk. These guidelines have been published in a series of technical papers that compare different national practices but do not set forth in numerical detail—as do the Basel standards for banks—the minimum capital required for securities firms in all member countries. IOSCO also has urged the world’s accounting bodies to develop a set of common accounting standards so that issuers can easily sell their stock in multiple markets around the world. We have more to say about this effort below.

The International Association of Insurance Supervisors (IAIS) is the most recently formed international financial regulatory body, launched in 1994. It too has a broad membership, consisting of insurance regulators from more than 100 countries. Like its banking and securities counterparts, the IAIS started cautiously, facilitating the exchange of information about

14. Kane (1989); Hanc (1997); Litan (1997).

15. It may be argued that, in the case of the Japanese banks, the market has helped to enforce the Basel standards by imposing a premium on interbank lending to these banks. To a limited extent, this is true. At the same time, however, the market also widely expects the Japanese government ultimately to back the deposit liabilities of the Japanese banks, and so any existing interbank premiums are lower than they otherwise would be. To this extent, therefore, market discipline is undermined by the presence of government guarantees—a problem that exists in virtually all developed countries where the government, explicitly or implicitly, backs the deposits of its largest banks.

best insurance regulatory practices among national regulators. In October 1996, however, the organization began to develop some common insurance regulatory principles. It has since issued a number of papers setting out broad concepts for regulators in both developed and emerging-market countries. Although it is at work on the subject, IAIS has not yet issued minimum prudential standards for insurers, analogous to those that the Basel Committee has designed for banks. It is safe to say that if IAIS reaches consensus on these standards, it too will face the same problems that the Basel Committee and IOSCO have encountered in ensuring that national regulators enforce the standards.

As part of various initiatives following the Asian crisis, the G-7 finance ministers took one other step in February 1999 worth noting. They created the Financial Stability Forum, consisting of representatives from the finance ministries, central banks, and relevant national supervisors of the G-7 countries, as well as representatives of each of the international regulatory bodies just mentioned (Basel Committee, IOSCO, and IAIS) and the international financial institutions (World Bank and International Monetary Fund). The stated purpose of the forum is to identify vulnerabilities affecting the global financial system and actions that might address them, as well as to facilitate coordination among the various national regulatory bodies in the event of future crises. It is too early to assess how influential or successful the forum will be.

Finally, although not directly involved in prudential regulation, the activities of the International Accounting Standards Committee (IASC) ultimately may turn out to be among the most important of the international activities affecting the safety and soundness of financial institutions. Accounting standards are the unsung heroes of financial systems: without accurate information about the condition of firms, investors and lenders will be unable to allocate capital among projects and firms efficiently.¹⁶ The IASC, whose members consist of professional accounting bodies from around the world, was formed in 1973. Its purpose is the most ambitious of all of the international bodies just surveyed: to develop a common set of accounting principles accepted by securities exchanges and regulators in all countries. In short, IASC's objective is not to create *minimum* accounting standards, but to create *harmonized* standards.

16. Summers (1999).

In fact, IASC is well on its way to achieving this objective. IASC has completed virtually all of the standards it set out to develop, and these standards are now accepted by most of the world's stock exchanges, including those in Europe, Singapore, Australia, and Japan. The notable exceptions are exchanges in Canada and the United States—where the Securities and Exchange Commission (SEC) continues to require the use of generally accepted accounting principles (GAAP) but permits foreign issuers to reconcile their statements prepared under IASC standards to GAAP. This has not gone unnoticed. In 1996 Congress required the SEC to report on the outlook for the completion of international accounting standards that would be acceptable for offerings and listings by foreign corporations in our markets. Two years earlier, IOSCO set out a similar objective when it announced that it would consider recommending the use of IASC standards, once completed, for use in cross-border listing and trading.

Because the SEC plays an integral role in IOSCO, the commission effectively will determine when IOSCO makes its recommendation. Furthermore, because greater efforts are made in the United States than elsewhere to ensure that issuers are complying with accounting standards, if and when the SEC does accept IASC standards, it is likely that, as long as the enforcement efforts of other countries lag those of the United States, the SEC will become the de facto worldwide accounting enforcement body.

An Agenda for Prudential Financial Regulation in the United States and the European Community

Before outlining what we believe is an appropriate direction for global or multinational financial regulation in the future, we discuss briefly an appropriate agenda for prudential regulation both within the United States and the European Union (EU). There are both practical and political reasons for this. As leaders in the global markets, the United States and the EU take actions that set powerful precedents for what should happen worldwide. At the same time, both jurisdictions face important regulatory challenges, which must be confronted regardless of what happens internationally and also are very much related to one another.

As the financial world comes to be heavily influenced, if not dominated, by international conglomerates offering a full menu of financial services,

tensions between regulatory structures in different countries are likely to become increasingly evident. Whereas European nations, Australia, and Japan have moved toward consolidating financial supervision in a single agency, distinct from the central bank, the United States remains an exception. Not only is the Fed heavily involved in bank supervision—and indeed has been given broader regulatory purview over new nonbanking activities that Congress has authorized for financial holding companies—but the American financial regulatory system remains highly fragmented. Functional responsibilities for securities, futures, and banking activities are divided up not only among federal regulators (three in the case of banks), but among the states as well. Insurance, which increasingly is international in scope, is regulated only at the state level in the United States.

Europe has its own regulatory issues to address as well. Although most national members of the EU have moved toward consolidated *supervision within each country*, financial supervision has yet to be consolidated at the EU level itself. Instead, financial supervisors in EU member states operate under a regime of informal coordination. The same is true of supervisory authorities within EU countries that are separate from their national central banks. EU law allows supervisors to exchange information with the monetary authorities but leaves the degree of cooperation between the two to be resolved at the discretion of each member state.

The decentralization of EU regulatory and supervisory authority (where, since 1992, EU-based financial institutions operate throughout the EU under a single passport) stands in sharp contrast to the consolidation of monetary policy authority within the European Central Bank (ECB). Indeed, on the surface, the ECB would appear to be an appropriate vehicle for centralizing regulatory and supervisory authority over financial conglomerates. But that move would be inconsistent with the trend at the member level to divorce the role of central banks in monetary policy from their supervisory function.¹⁷ Major questions about the ECB's role, therefore, remain unanswered. For example, the ECB has yet to specify its role as a lender-of-last-resort to deal with systemic crises. It is frequently heard that the ECB has this authority implicitly under its charter, but ambiguity remains.

In short, three separate but related questions naturally arise when looking at prudential regulation of financial institutions in both the United States and Europe:

17. Danthine, Giavazzi, Vives, and von Thadden (1999).

—To what extent is it desirable to consolidate regulation and supervision across financial activities pursued by the same enterprise?

—Within national or regional boundaries, should regulatory functions be monopolized? Should *all* financial conglomerates be supervised and regulated by a *single* national regulator (in the case of the United States) or by a single pan-European regulator (in the case of the EU)?

—If so, should that regulator be the central bank or an entity independent of the central bank?

There are several arguments for consolidating supervision and regulation across activities so that only one regulator has responsibility for any one financial conglomerate. First, the subject matters of regulation—solvency and consumer protection—are similar across financial products and services, and thus there may be economies of scope (or at least not very large diseconomies of scope) in having a single regulator.

Another motive for combined regulation is the need to limit risk transference among related affiliates. Links among related entities can make the health of one subsidiary dependent on the fortunes of another. A prudential bank regulator will want to enforce lending limits from government-insured banks to nonbank subsidiaries or affiliates (as under sections 23a and 23b of the Federal Reserve Act in the United States) as a means of limiting the abuse of government safety net protection by subsidiaries and affiliates. Those rules allow regulators to enforce inter-affiliate lending restrictions to prevent banks from extending too much credit to weakened affiliates.

The safety net argument, however, does not imply a need for the *same* regulatory body to have responsibility for *all* aspects of supervision and regulation. Enforcing prudential bank standards requires only limited oversight of bank affiliates (essentially regulating and monitoring financial flows among them). In particular, one should not exaggerate the extent of externalities between bank and nonbank affiliates or derive from those supposed externalities a need for “umbrella” regulation. Would a failure of, say, the insurance affiliate of a large banking conglomerate cause a panic run on the affiliated bank? Does that risk warrant limits by bank regulators on the risks taken by insurance affiliates?

In general, we would answer “no” to both questions. Banks would be safe from runs as long as regulators enforce bank capital standards and the limits on inter-affiliate financial flows and make that clear to uninsured debt holders of banks. The need to police inter-affiliate transactions does

not, by itself, justify more intrusive “umbrella” regulation of the affiliates themselves. Many aspects of nonbank affiliate activity—professional standards for brokers and dealers, rules governing trading, and disclosure rules for securities offerings—might be better left to a different regulator. Indeed, there may be competitive advantages to allowing firms to choose among various potential regulators, to the extent that separating regulatory functions is feasible.

That consideration brings us to our second question—whether “consolidated” regulatory and supervisory authority should be vested in a single, monopolist regulator or in competing regulators (each of which, for example, might be the prudential regulator of different conglomerates). A benefit of regulatory monopoly is the avoidance of regulatory “turf wars,” such as the struggle in the United States between the Treasury Department and the Federal Reserve over the appropriate location of nonbanking operations (whether in bank or holding company subsidiaries) or the haggling between the Commodity Futures Trading Commission (CFTC) and the SEC over the range of products that fall under the purview of each authority. Such turf battles create undesirable regulatory risks, which raise the costs of financial services (by limiting the activities banks are willing to pursue in their subsidiaries or by encouraging complicated offshore booking of transactions to avoid regulatory risks in the over-the-counter market).

There are powerful arguments, however, against vesting all regulatory authority for financial institutions in a single regulator. One regulator can become ossified in its approach to regulation, especially in a dynamic industry such as the financial services industry. Thus the problems associated with turf fights between regulators have to be weighed against the potential advantages of regulatory competition. Kenneth Scott has made a persuasive case even for dual bank regulation in the United States, which allows banks to choose between having a state or a national charter. He argues that the competition between state and national regulators leads to more regulatory flexibility.¹⁸ Financial historians lend empirical support to that argument.¹⁹ Critics respond that competition between regulators might result in a “race to the bottom,” or a so-called competition in laxity. This debate remains unsettled, at least in the academic literature.

18. Scott (1971).

19. James (1978); White (1983).

The case in favor of regulatory competition, however, is especially strong for nonprudential supervision and regulation. Roberta Romano argues that in the areas of disclosure, professional standards, and the like, competition among regulators will produce more efficient regulatory standards.²⁰ Regulatees have strong incentives to choose efficient sets of rules, because doing so attracts more customers from competitors. In prudential regulation of government-insured banks, the same argument applies, but only so long as banks face market discipline that penalizes bank choices of inefficient (permissive) regulatory authorities. Where uninsured bank debt holders (and therefore banks) do not pay the price for the inadequacies of safety net regulation, a regulatory race to the bottom (to maximize taxpayer subsidies for risk taking) is conceivable if regulatory competition is allowed.²¹ Our proposal for incorporating market discipline into the prudential capital standards outlined below therefore has an advantage in addition to reducing safety net losses under the current regime; it enhances the desirability of opening up the bank regulatory process to greater competition.

Will these normative considerations about the proper way to organize regulatory authority guide the actual process of regulation? Not exactly. The compromise reached between the Treasury and the Federal Reserve Board in October 1999—which helped to pave the way for the financial modernization bill enacted shortly thereafter—resolved the turf war between the two regulators over where new financial activities would be located and how they would be regulated on quasi-political grounds.

Specifically, the compromise allows securities underwriting and agency activities to be carried out by bank subsidiaries or affiliates. Insurance underwriting and real estate development can only be conducted by an affiliate and thus a subsidiary of a financial holding company. Merchant banking is off-limits to bank subsidiaries for five years, and thereafter, the Fed and the Treasury will jointly decide whether to lift that prohibition. Furthermore, from the outset, both agencies would share responsibility for determining

20. Romano (1998).

21. Of course, the fiscal costs to taxpayers of funding the race to the bottom would act as a constraining influence. Nevertheless, the time horizon of politicians and regulators is often limited, and they may be more interested in currying favor in the short run with the bankers they regulate than in protecting the long-run interests of taxpayers.

what is a “financial” activity that can be carried out by either a bank subsidiary or an affiliate.

To some extent, it can be argued that the division of activities between bank subsidiaries and affiliates reflects an assessment of the comparative riskiness of those activities. Arguably, securities underwriting and various agency activities are less risky than insurance underwriting and real estate development, and for that reason, the Fed (through its influence on the Congress) most likely agreed to having them carried out within bank subsidiaries. At the same time, the power-sharing arrangement between the Fed and the Treasury for deciding what is “financial” and when banks can enter merchant banking clearly was a purely political compromise.

In the end, therefore, the financial modernization bill left regulatory responsibilities in the United States largely untouched. Each of the constituent parts of financial conglomerates will continue to be regulated separately. Importantly, however, the Fed will have the equivalent of “backstop” consolidated supervision over those holding companies that are also engaged in insurance underwriting and real estate development, but will not have such authority over banks that locate their new authorities as subsidiaries. Furthermore, the unitary thrift holding companies that were grandfathered by the bill will continue to have no consolidated regulator, while the SEC and the CFTC will continue to oversee the securities and futures markets, respectively.

Meanwhile, the key question in Europe is not whether single national financial regulators will emerge—they already have—but whether regulators will act on a pan-European basis. Our prediction is that as European financial markets become more integrated, pressures will grow to consolidate supervision over financial conglomerates doing business within Europe in a single regulator. If those pressures produce a single pan-European regulator, should that regulator be the ECB?

This question brings us to the third question we posed about regulatory structure: should central banks play important roles as regulators and supervisors of financial conglomerates? We think there are strong arguments against entrusting the regulation of financial conglomerates to central banks, which apply with equal force to the ECB and the Fed.

First, and most important, to the extent that central banks have any regulatory or supervisory expertise, it is confined to the banking industry. No central bank, to our knowledge, regulates or supervises nonbank financial institutions. In principle, the ECB (or the Fed) could acquire the rele-

vant nonbank expertise if the regulatory institutions now charged with that responsibility (principally insurance and securities regulators) were folded into the central bank. Given the entrenched bureaucratic interests (backed by the regulated industries) in having these nonbank regulators remain independent, however, we view the possibility of a central bank “regulatory takeover” as highly remote in the United States. We are less confident this is true for Europe, however.

Second, the central bank has an inherent conflict of interest if it is charged both with conducting monetary policy and supervising financial institutions. As Clive Briault, director of Central Policy at the new Financial Services Authority in the United Kingdom, has persuasively argued, weakness in the financial sector can tempt a central bank with supervisory authority over financial institutions to pursue a looser monetary policy than it would otherwise follow, imparting an inflationary bias.²² Also, central banks may be tempted to use their regulatory authority as a macroeconomic tool and so compromise their proper regulatory objectives. For example, in the 1980s many banks held large amounts of developing-country debt, and it is widely believed that regulators exercised forbearance in applying capital standards because they feared the potential macroeconomic consequences of exposing the banks’ financial weakness to the public. Meanwhile, during the Brazilian crisis in 1998, some believe that large banks were pressured to roll over existing debts to reduce the risk of exchange rate collapse in Brazil, again in pursuit of a wider macroeconomic objective.

Third, a central bank’s supervisory failings can detract from the credibility of its monetary policies. In the limit, these failings can lead political authorities to rein in the independence of the central bank. On the heels of its embarrassing lapses in the failures of the Bank of Commerce and Credit International and of Barings, the Bank of England may have anticipated that danger, which may explain its quiescence in having its bank supervisory authority transferred to the new Financial Services Authority. Meanwhile, in the United States, the Federal Reserve suffered unusually strong criticism from Congress over its intervention in the rescue of LTCM. Had the Fed’s chairman, Alan Greenspan, not been held in such high repute by the Congress, the president, and the public, Congress might have been able to use that intervention to support limiting some of the Fed’s cherished independence.

22. Briault (1999), p. 27.

We have seen only two counterarguments for having central banks involved in bank supervision. One is the claimed need to have ready access to financial information about specific banks should they ask for lender-of-last-resort assistance. A related defense is that central banks will find it much easier to twist the arms of banks to lend to specific sectors (or firms) in the middle of a financial crisis when the banks know that they must also submit to the regulatory supervision of the central bank. A prime example is when the Federal Reserve strongly encouraged U.S. banks to continue lending to large securities houses immediately after the October 1987 stock market crash.

We believe that these are weak pillars on which to rest the case for prudential supervision being carried out by central banks. First, it is controversial whether central banks should be involved at all in extending credit *to specific banks in a crisis*. Many economists argue that the monetary authority can discharge its lender-of-last-resort responsibilities, without creating problems of moral hazard, by providing general liquidity support to the *market as a whole* through normal, open market operations (which is what the central bank did after the October 1987 stock market crash, for example).²³ The counter to that view is that the discount window can provide useful, targeted “pass-through” assistance to nonbank credit markets, as occurred during the Penn Central crisis of 1970.²⁴ But even if the discount window is worth preserving, to the extent the central bank needs financial information quickly about specific banks, such data are only a phone call away. In the United States, for example, the Fed could rely on either the Office of the Comptroller of the Currency (OCC) or the Federal Deposit Insurance Corporation (FDIC) for such information. It is hard to believe that the Fed would be denied such information from either organization; if it were truly needed, the information would be at the Fed’s fingertips.

As for the supposed need to vest central banks with “arm-twisting” authority, we emphasize that arm-twisting can be used to pressure banks into policies that are contrary to the proper goals of prudential regulation. Furthermore, arm-twisting is not necessary to encourage banks to pass through liquidity during a financial crisis. Bank access to inexpensive

23. See Goodfriend and King (1988); Bordo (1990); Kaufman (1991, 1992); and Schwartz (1992).

24. Calomiris (1994).

funds (discount lending, specifically earmarked for pass-through, as during the Penn Central crisis) is a sufficient inducement for banks to pass through liquidity.

Ideally, bank regulation should be done by competing, independent agencies (one could envision the creation of a more politically independent OCC to regulate national banks and a more politically independent FDIC to regulate state banks, with banks choosing between the two by selecting their type of charter). The sole purpose and sole interest of these ideal regulators would be to perform their regulatory tasks properly. In the end, however, we would be surprised if the regulatory role of central banks in Europe or the United States were determined on the basis of the kind of analytic arguments we have just made. In the United States, the prospect of removing regulatory power from the Fed seems remote. In Europe, it is potentially important that the only significant pan-European official financial body now in place is the ECB. That it may not have all of the relevant expertise today probably will not stop the powers-that-be from eventually giving the central bank at least what might be labeled “backstop” regulatory authority over all of the activities of financial conglomerates.

By “backstop” authority we have in mind that the existing national regulators would continue to act as the front-line supervisors of the financial intermediaries over which they now have authority. However, the central bank would reserve the right to step in with its own more intensive examinations of the bank, or nonbank, portions of financial conglomerates it believed to be weakly capitalized (in Europe, where universal banking is much the norm, the conglomerates and the banks are one and the same). Over time, if certain banks run into trouble with some of their nonbanking operations, we would expect the ECB to become increasingly aggressive about stepping in—call it creeping “*über*-regulation,” if you will. We further suspect that the same would be true in the United States for whichever regulatory body ends up with primary supervisory authority over nonbanking operations—the OCC, the Fed, or even a new independent regulator (as the United Kingdom has done).²⁵

25. At this writing, the establishment of a new regulatory body, independent of either the Treasury or the Fed, is highly remote. But reform of the regulatory structure for banks in the United States may some day attract greater political interest.

To sum up, our consideration of the likely trends in the structure of regulation lead us to several key conclusions.

First, a good case can be made for consolidating some financial regulation and supervision, but that case does not imply mandatory consolidation of all dimensions of regulation or the creation of a regulatory monopolist. In particular, it may be desirable to require all the *prudential bank* regulation and supervision of any *particular* conglomerate to be carried out by a single regulator, including enforcement of limits on financial flows between banks and nonbank affiliates. But one should not leap too quickly from that conclusion to argue for mandatory consolidation of nonprudential regulation or the creation of regulatory monopolies.

Second, the argument for competition among regulators (chosen by conglomerates to regulate them) strikes us as important and worthy of greater attention than it has received. Particularly in the areas of nonprudential regulation, competition among regulators—in setting and enforcing rules for securities offerings, broker and dealer professional standards, and laws governing trading on and off foreign exchanges—is likely to lead to the adoption of efficient regulatory standards.

Third, the case for allowing prudential bank regulators to compete (to generate similar efficient gains from competition) is strengthened if market discipline can be incorporated into bank capital standards. If so, then uninsured bank creditors (and thus banks) would internalize the benefits of efficient prudential regulation, and a race to the bottom in prudential standards would be avoided. However, if market discipline is lacking, competition among regulators with discretion to either set or enforce prudential standards could exacerbate risks of safety net abuse. Below we discuss a means to establish that market discipline.

Fourth, although there may be large potential advantages from “harmonizing” standards—especially accounting standards, securities disclosure requirements, professional standards, and so forth—we do not think harmonization should be (or needs to be) mandated. If different regulatory standards compete with each other—that is, if firms are free to choose which kinds of accounting standards or disclosure standards they wish to operate under and if those decisions are made clear to the public—then greater regulatory efficiency would result. In fact, we believe there is a good chance not only that harmonization ultimately would result from this competitive process but also that the gains from standardization probably would accelerate the adoption of a single best-practice technique. We

return to this theme at the end of the paper with specific recommendations about rules governing the use of accounting standards.

Fifth, it is desirable to separate financial regulation from monetary policy, and thus we support moving regulatory authority out of central banks.

Sixth, developments within the United States and the EU suggest that, nonetheless, consolidation of regulation is taking place and that central banks' regulatory powers are at least as likely to increase as to shrink.

International Prudential Financial Regulation: Next Steps

However the regulatory issues within Europe and the United States ultimately are resolved, the international financial agenda will continue to be dominated by efforts to refine the existing international bank capital standards (the Basel standards) as well as by efforts to institutionalize similar standards for the insurance and securities industry. Indeed, at this writing, the Basel Committee is accepting comments on a proposal to revise the minimum bank capital standards, with an announced intention to take final action later in 2000. Given the fact that the Basel standards are the most developed of the global financial standards, we concentrate in this section on proposed revisions to the banking standards, although we also offer some concluding thoughts about ongoing efforts in other arenas.²⁶

Recognized Shortcomings of the Basel Standards and Attempts to Address Them

The Asian financial crisis as well as recent developments in the financial marketplace have exposed several problems with the Basel standards, as the committee itself has recognized. One of the most widely recognized shortcomings is the fact that the current standards assign only a 20 percent risk weight to short-term interbank lending, even when conducted in currencies other than that of the country in which the borrowing bank resides. In retrospect, many observers believe that the lower risk weight attached to such lending encouraged large internationally active banks,

26. Our comments on the Basel standards and our recommendations for improvements draw heavily on an extensive statement of the Shadow Financial Regulatory Committee on this subject released in March 2000. See Shadow Financial Regulatory Committee (2000).

especially those from Japan that were already in weak condition, to lend excessively in short maturities to borrowers in Southeast Asia and Russia.

A related, recognized shortcoming is that the current standards assign a zero risk weight to all sovereign debt of countries that belong to the OECD. Although the recent Asian crisis did not involve sovereign debt, such debt did play a role in the Mexican financial and currency crisis of 1994–95.

A third recognized problem with the current standards is that, apart from the 50 percent risk weight they give to mortgage loans and the 20 percent weight they assign to interbank lending, they assign 100 percent risk weights to all other types of lending, regardless of differences in risk. In other words, loans to highly leveraged companies or risky commercial real estate projects are weighted no differently than loans to the safest companies or individuals. By this criticism we do not mean to imply that the risk weights ought to be fine-tuned, but rather we simply wish to make the point that as long as a system of risk weights is used, it inevitably will be arbitrary and tend not to reflect accurately commercial realities.

A fourth problem that has troubled the Basel Committee for some time is the ease with which banks can “game” the standards—that is, reshuffle their balance sheets so as to minimize regulatory capital. One increasingly popular way for banks to do this is through asset securitizations, which remove loans from balance sheets and thereby lower the amount of required capital but still may entail some sharing of risks by the banks.²⁷

Finally, the Basel Committee has been troubled by the increasingly rapid pace of change in the markets as well as the increasing complexity of banking operations. For this reason the committee abandoned its effort in the early 1990s to specify particular models for calculating capital requirements to reflect interest rate risk of bank portfolios and instead allowed banks themselves to choose their own “internal” models.²⁸ Accordingly,

27. Jones (1998); Mingo (1998).

28. A similar motivation is behind staff proposals of the Federal Reserve to have banks “pre-commit” to set aside certain amounts of capital for trading risks, with penalties assessed on banks that experience losses in excess of those pre-commitments (Kupiec and O’Brien 1995). At this writing, however, the Federal Reserve Board appears to have shelved the pre-commitment idea.

the committee has appeared interested in incorporating some types of market signals into any revisions of its standards.

In June 1999 the committee outlined a series of proposed changes to the standards that ostensibly are designed to meet each of these concerns.²⁹ The proposal has several major elements:

—To address the interbank lending problem, the committee proposed tying the capital charge for short-term foreign currency loans to a specific bank to the credit ratings assigned by rating agencies to the sovereign debt issued by the government in the country where the borrowing bank is located. Accordingly, lending banks would be required to set aside more capital when depositing money in banks in high-risk countries than when depositing funds in banks in countries where sovereign debt carries a lower risk weighting.

—To remedy the problem posed by uniformity of risk weightings, the committee proposed varying the risk weights on assets according to the credit ratings assigned to the borrowing companies. The highest-quality loans would receive a 20 percent risk weight, the lowest-risk loans would carry a 150 percent risk weight. An open question is whether the committee will adopt the German suggestion to provide a risk weight discount for commercial real estate loans in particular, if a country can demonstrate a low-risk track record for such loans.

—To reduce the gaming of the risk weights by banks, the committee proposed incorporating into the standards risk weights on securitizations based on the ratings assigned to securitized assets.

—The committee is also considering allowing banks to use their own internal models of risk to set their capital requirements. This would extend the committee's policy of using internal modeling of risks to set capital requirements, which was adopted for bank trading activities in 1996.

Significantly, the committee did not propose any changes in the *levels* of the standards themselves. Banks must still have Tier I capital of at least 4 percent of risk-weighted assets and total capital of at least 8 percent of such assets. Instead, the common theme behind the proposed changes is the attempt to inject market discipline into risk-based capital standards by using the assessments of *ratings agencies* to determine minimum capital requirements.

29. Basel Committee on Banking Supervision (1999).

Shortcomings of the Proposed Changes to the Basel Standards

Although the Basel Committee is to be commended for attempting to address the problems with the current standards that the committee itself recognizes, we strongly believe that the proposed changes, however well intentioned, are insufficient and conceivably may even worsen the pre-existing problems.

First, the committee's proposal retains the "risk bucket" approach to setting the capital standards. This approach continues to ignore the fact that the true riskiness of a bank's assets can only be determined by an *overall* view of the portfolio of assets, liabilities, and off-balance-sheet risks, rather than by a simple summing of the credit risks of individual investments. Proper assessments of the risks of bank assets reflect correlations among the credit risks of individual assets, the interest rate risks of assets and liabilities, trading risks, and other risks, and the correlations of risks among these categories. Moreover, although it may not be evident on the surface, the proposed refinements of the risk weights based on ratings may introduce even more arbitrariness into the process than now exists. On what basis, for example, can it be said that credits rated AAA- or AA- deserve a risk weight of 20 percent, or 7.5 times lower than that of credits rated below B-, which would be assigned a risk weight of 150 percent under the proposed system? The relative rankings of the risk categories are as arbitrary as the existing system, which lumps all types of loans together in a single risk class.

These are not just technical objections. By failing to measure accurately individual asset and overall portfolio risks, the current and proposed standards do not encourage banks to target the appropriate amount of capital to back the risks they are taking. In turn, when insufficient capital is maintained, bank failures become more likely, with attendant costs to the financial system and taxpayers. In fact, a recent study of the Basel standards confirms that they have failed to limit bank default risk, have not provided an accurate reflection of bank asset risk, and, indeed, have encouraged banks to assume greater leverage than before the standards were put into place.³⁰

Second, banks' decisions to accumulate capital in response to shocks are particularly weakened by inaccurate standards that encourage "gaming" and "regulatory arbitrage." Without credible policies to ensure ade-

30. Wagster (1999).

quate risk-based capital, in the wake of adverse shocks to bank capital, banks face incentives to increase risk and reduce capital—precisely at a time when they should be moving to bolster their capital, inaccurate risk weights encourage the opposite behavior. For example, one interesting, but totally artificial, way for banks to “game” the proposed credit-rating-based system is to have a borrower whose bonds are normally “junk rated”—and thus require a 150 percent capital risk weight—give up its ratings, which then entitles it to a 100 percent risk weight. The same company, with no rating, would require less bank capital to be attached to its loan.³¹

Third, by constantly refining the risk weights, the Basel Committee encourages rent-seeking by financial institutions attempting to influence the capital standards, which results in distortions such as mortgage loans receiving a 50 percent risk weight discount.

Fourth, and perhaps most important, the proposal contains nothing new to ensure that member countries actually *enforce* the standards, a major drawback to the existing standards. For example, the proposal to allow banks to move toward the use of internal models for setting capital requirements might be desirable if credible penalties for model misspecification were feasible. But if internal standards are reported only to regulators, and if regulators can forbear from imposing penalties, then that new approach to setting capital standards has no more promise than the existing system. Admittedly, this is not an easy issue to address through the committee structure itself, since the committee is not, and probably never will be, a supra-national regulator with authority to penalize the supervisors of individual countries. However, the committee could establish rules that are relatively immune to government unwillingness to enforce standards. Indeed, this is where a credible system of market discipline can play a vital role.

Fifth, the notion that credit ratings accurately reflect “the market” is illusory. Ratings are not market-driven products, but instead are assessments of credit quality by a rating agency’s analysts. Ordinarily, ratings may be reliable indicators because inaccurate ratings (failures to foretell risks) lead investors not to rely on ratings agencies and thus reduce rating agencies’ fees. But when ratings are employed to satisfy regulatory requirements, ratings are provided primarily in the interest of issuers, not investors, which can create a conflict of interest.³² Indeed, there is evidence

31. Oxford Analytica/Citibank (1999).

32. Partnoy (1999).

suggesting that the use of private ratings in securitizations has produced something of a race to the bottom in ratings.³³ At the very least, policymakers should think long and hard about erecting an entire regulatory edifice on the weak foundation of the credit rating system.

Finally, as long as the Basel Committee clings to the notion that individual loans or off-balance-sheet instruments each must be assigned a separate risk weight, it will inevitably be forced to play “catch-up” to ongoing market developments. As we have noted, the financial arena is marked by constant change. Attempts every few years to refine the standards—whether by single national regulators or especially by committees of national regulators—inevitably and always will lag fast-paced market developments.

A Better Prudential System: Harnessing the Market

There is a better way for regulators to proceed. It is by using bona fide market assessments both to simplify the approach to capital regulation and to provide the enforcement backbone that the Basel standards currently lack.

The solution we have recommended in its broadest terms is not new, but some of its details are.³⁴ Simply put, we propose that the Basel Committee not merely allow (as is currently the case) but actually *mandate* that large banks above a certain size threshold finance a certain portion of their assets by long-term, uninsured subordinated debt.

—By *long term* we mean debt with remaining maturity of more than one year, with some fraction of outstanding debt maturing regularly (so banks are required continuously to test their mettle in the marketplace). Unlike depositors, subordinated debt holders cannot redeem their instruments until they mature (although they can sell them in the secondary market).³⁵

—By *uninsured* we mean debt that is credibly unprotected by the government, de facto as well as de jure. Holders of these instruments would not be protected by deposit insurance. Moreover, subordinated debt would

33. Cantor and Packer (1994).

34. Calomiris (1997, 1999); Litan and Rauch (1998); Shadow Financial Regulatory Committee (2000).

35. To strengthen the role of subordinated debt as a buffer of loss, one could also limit withdrawal at maturity when yields on new offerings are high, as suggested by the Shadow Financial Regulatory Committee (2000).

be exempted from too-big-to-fail protection, even if other “uninsured” bank debts were protected.³⁶

—By *subordinated* we mean instruments that stand behind depositors and the FDIC in line for repayment should the bank fail (although not necessarily behind other creditors, such as suppliers). Indeed, because holders of subordinated debt have no upside other than the interest they are promised, they are likely to be less risk seeking than shareholders. In addition, the requirement that banks constantly issue some amount of such debt to the market differentiates the instruments from equity, which typically is not offered at regular intervals. For these reasons, a properly constructed subordinated debt requirement actually provides a *more effective* means of market discipline for banks than does equity.³⁷

This last point runs against much conventional wisdom, which holds that equity alone should count as “true” capital because its holders are not promised a given return, as is the case for subordinated debt. Indeed, the Basel standards themselves reflect this view, precluding subordinated debt from counting toward the Tier I requirement (of 4 percent), but allowing it to make up at least half of the supplemental Tier II requirement (that is, up to 2 percent of risk-weighted assets if total Tier II capital stands at 4 percent).

One additional feature of our suggested requirement would substantially strengthen subordinated debt as a regulatory tool. A flexible ceiling could be placed on the interest rate that banks can pay on qualifying subordinated debt—specifically, the rate could be no higher than, say, the

36. Under the Federal Deposit Insurance Corporation Improvements Act of 1991 (FDICIA), the FDIC can only protect uninsured deposits with supernumerary votes by various regulatory authorities approving such action. Even if such an action were taken on uninsured *deposits*, we believe it is remote at best that the regulatory authorities would extend protection to holders of subordinated debt and other creditors. Non-deposit creditors are sophisticated investors and cannot “run” in the same way that depositors can. Thus, it is hard to see how protection of non-depository debt could be justified by the standard arguments used to defend deposit insurance (that is, avoidance of systemic risk and losses to small depositors). Furthermore, FDICIA requires that all banks pay (in proportion to their share of nationwide deposits) for any protection extended under the act’s systemic risk provisions. The prospect of imposing such a tax on many innocent banks merely to protect holders of subordinated debt should be a sufficient incentive for policymakers who are otherwise inclined to invoke the systemic risk provisions to stop short of protecting subordinated debt. Still, to be sure that subordinated debt could not be bailed out—an essential requirement if it is to act as a source of market information and discipline—we propose that it be exempted both from explicit too-big-to-fail protection and from implicit protection through government assistance to banks via “least-cost resolution.” For details, see Shadow Financial Regulatory Committee (2000).

37. See also Benston (1992).

average rate for BBB-rated securities. Although we have expressed reservations about *company-specific* ratings, our concerns do not apply to an *average* interest rate spread for all securities of a given rating. The purpose of the interest rate spread ceiling is to provide an *automatic mechanism* for constraining a bank's growth should the market determine its securities to be excessively risky. We believe that a hard quantity restraint of this type, which uses the signals from markets as a regulatory tool, would provide an effective source of discipline, especially for banks judged to be highly risky and that might otherwise be tempted to issue very-high-yielding securities in the pursuit of high-risk, go-for-broke investments.

Banks perceived as offering junk debt in the marketplace could also be made automatically eligible for prompt corrective action, as in the United States under the Federal Deposit Insurance Corporation Improvements Act of 1991 (FDICIA). Doing so would further limit regulatory forbearance by punishing banks that violate subordinated debt requirements and thus would provide powerful incentives for troubled banks to rein in risks in the wake of capital depletion. The automaticity of market-based enforcement of a subordinated debt requirement of the type we are recommending would address perhaps the central weakness of the existing Basel standards: the absence of an effective enforcement mechanism. Because the subordinated debt requirement is based on clear, observable rules, it would eliminate problems associated with forbearance. Regulators may try to pretend that weak banks are stronger than they appear to market participants, but markets would provide independent assessments, and regulators would be pressured to accept those market assessments if they persisted. Regulators would not be able to avoid interventions mandated by FDICIA—suspension of dividends, constraints on growth, and so forth—for weak, undercapitalized banks.

Moreover, because holders of subordinated debt would have no other upside than the interest to which they are entitled, they would have strong incentives to encourage banks (and likewise the banks would have strong incentives to respond) to provide timely, relevant financial information that is not now being required by rules of the Financial Accounting Standards Board (FASB). In particular, we suspect that over time investors in subordinated debt will strongly encourage, if not demand, FASB to require U.S. banks to report their assets and liabilities at market values rather than book values and to do so not merely as footnotes to their balance sheets, as is now the case. Similarly, we suspect that pressures will mount

for more disclosure of the nature and extent of the risks to which banks are exposed on account of their derivatives activities (for example, through more detailed disclosure of the concentration or dispersion of counterparties). Indeed, the subordinated debt requirement would strengthen many of the initiatives to improve financial accounting standards: accounting standards, after all, are only useful if market participants have an incentive to rely on accurate information to gauge performance and risk. Subordinated debt would provide that incentive, which is often lacking in today's banking systems.

To be sure, a variety of design issues must be resolved before implementing any subordinated debt requirement. Although these are discussed in greater detail in Shadow Financial Regulatory Committee (2000), we briefly note a few of these topics here.

One is the universe of banks to which the requirement should apply. Given the costs of issuing subordinated debt frequently, the costs of monitoring bank issuers, and the relative thinness of the existing bank market—less than \$100 billion in bank debt of this type is now outstanding—we believe the prudent course is to start by applying it to relatively large banks, say those with at least \$10 billion in assets. An institution of that size would be required, therefore, to have \$200 million in subordinated debt outstanding at any time. The size threshold for the requirement could be ratcheted down over time as the market for the debt deepens.

We also recommend that, at least initially, the debt be sold in minimum amounts of \$100,000—or instruments designed to be purchased by institutional investors (which could include pensions and mutual funds). A minimum size requirement would help to ensure that governments are not tempted to resort to bailouts since the investors at risk presumably are sophisticated and fully able to assess the risks of purchasing the debt.³⁸

We believe that any subordinated debt requirement can be easily incorporated into the existing Basel framework. The least disruptive approach

38. We also believe there is a case to be made for imposing certain restrictions on the purchasers of the subordinated debt, in order to ensure that the market provides accurate signals. Thus, in an ideal world, we would prohibit banks from purchasing each other's debt (as a *quid pro quo*), and we would have regulators ensure that the debt is purchased by disinterested third parties at arm's length. These prohibitions could be enforced by requiring subordinated debt holders to disclose their holdings to the regulatory authorities (either the SEC or the appropriate bank regulator). At the same time, we recognize the compliance costs and administrative difficulties that may be entailed in imposing such a regulatory regime on the purchasing of subordinated debt and thus are tentative about this particular design element.

would be to convert the voluntary use of subordinated debt now in Tier II to a mandatory 2 percent minimum requirement (with the other features already described). Ideally, however, we believe the distinction between the two tiers of capital should be abolished altogether, and thus the 2 percent could apply to the overall capital requirement (irrespective of the amount of preferred stock or common shares outstanding). Indeed, if we are right that subordinated debt is actually *superior* to equity as a source of effective market discipline, then there is no reason in principle why the required percentage eventually should not be larger than 2 percent, especially when account is taken of the fact that interest paid on the debt is tax deductible for the bank and dividends are not.³⁹

Thinking more ambitiously, in light of the flaws in the current proposed systems of risk weights identified, we believe that there is a strong case for scrapping the system of risk weights entirely. If this were done, then the capital requirements would be reduced to a simple leverage standard, with required capital (including subordinated debt) expressed as a percentage of assets and off-balance-sheet risks. We recognize the difficulties in valuing off-balance-sheet items, but we note that their precise measurement is not as important as it may appear. The reason is that subordinated debt holders will have strong incentives to require banks to make appropriate disclosures about their off-balance risks. Those banks that are now “gaming” the current standards by moving their assets off balance sheet would find it harder to do if they were also subject to the constant discipline of the debt markets. Furthermore, banks would have little to gain by gaming capital standards with securitizations. Doing so would reduce the mandated quantity of subordinated debt but raise the market yield on subordinated debt—thus risking a regulatory intervention in response to an excessively high yield. Accordingly, so long as some amount of subordinated debt is outstanding in the market and must continue to be placed (whether to finance new assets or replace retiring debt), the requisite discipline would be there.

A subordinated debt requirement also would eliminate the need for the Basel Committee to continue attempting to update its standards in

39. We are not recommending that a bank only issue capital in the form of subordinated debt. There have to be some beneficial owners of a bank and thus some common equity. Indeed, we expect that, because subordinated debt will provide banks a strong incentive to limit their default risk, bank equity capital could rise in the presence of a subordinated debt requirement.

response to ongoing market developments. Instead, the marketplace would assume the job of the committee. New instruments, trading strategies, and activities would be subject to the constant test of the marketplace, without the need for changing or inventing new risk weights.

We note with interest that the agreement reached in October 1999 between the Federal Reserve and the Treasury over the appropriate role for operating subsidiaries in financial modernization included, among other provisions, a requirement that in order for any of the fifty largest banks in the United States to own any type of financial subsidiary it must have an outstanding issue of long-term debt that is rated in one of the three highest rating categories by an independent rating agency. Furthermore, the debt must be held by third parties (not affiliates of the bank) and be unsecured.⁴⁰

This requirement is a move in the right direction. It recognizes the important role that long-term debt can play in providing market-based discipline. It also recognizes that, at least initially, only the largest banks should be required to have long-term debt outstanding. If such a requirement is appropriate for large banks seeking to own any type of financial subsidiary, there is no reason why it—or something close to the proposal we have outlined—should not be extended to large banks under any circumstances.⁴¹

What about International Prudential Regulation of Nonbanks?

It is tempting to say, for competitive equity reasons, that if the banking regulators can set common or at least minimum capital standards for the firms they regulate, then the equivalent bodies for nonbanks—notably

40. National banks that are between the 51st and 100th largest must meet either the rating requirement or a comparable test jointly agreed on by the Federal Reserve and the Treasury. No rating requirement would apply to other banks.

41. A common reaction to our proposal is to note that existing subordinated debt issues by many large bank holding companies in the United States currently meet or exceed our minimum requirement. We emphasize that this does not imply that our requirement is unnecessary, for two reasons. First, our proposed subordinated debt would be more limited in its contractual form than the debts currently outstanding, in order for it to better serve its role as a credible source of market discipline. Second, under current law, banks are free to stop issuing subordinated debt if they choose to do so. Experience suggests that as a bank's condition deteriorates it will reduce its reliance on market-priced debt if that is an option. Our minimum requirement forces banks to stay in the market even when their condition deteriorates and thus ensures that market discipline is present when it is needed most.

IAIS for insurance and IOSCO for securities—should do the same. In our view, that is not a sufficient rationale for having international minimum solvency standards for these other activities.

The key reason is that although level-playing-field arguments were an important *political* force behind the Basel capital standards, the more substantive basis for developing international bank standards is that there are potentially significant cross-border spillover effects if large banks in some countries fail. It is true that a growing number of firms in these industries are operating worldwide, suggesting the need for *cooperation* among national supervisors. But the global operations of these firms mean that the orderly resolution of claims following a failure may be facilitated by common legal rules across countries. In the absence of cross-border contagion effects or intricate cross-border financial linkages among different firms, there is no justification for mandating minimum international solvency standards designed to prevent such failures.⁴²

Indeed, there are grounds for questioning the need for *domestic*, much less international, government-imposed capital standards for nonbanking industries in the first place. In virtually all other sectors of the economy, the amount of capital backing the assets of firms is determined in the marketplace. In particular, firms balance the tax advantages of debt (whose interest costs are deductible at the firm level but taxed at ordinary income rates when received by investors) against the increasing risks of insolvency, and thus the costs of debt and equity increase, as leverage increases. In the case of banks, however, deposit insurance distorts the decision-making process. In particular, it essentially eliminates the role of insured depositors as monitors of the health of banks and thus tilts owners and decisionmakers toward increasing leverage and asset risk and reducing the amount of capital they devote to the enterprise. Government-imposed minimum capital standards help to rectify this imbalance and serve as a bulwark for the deposit insurance funds, and ultimately taxpayers, to absorb losses that banks may incur. In addition, capital standards provide dynamic incentives for owners of banks (and their managers) to avoid taking excessive risks at the expense of the insurer (and taxpayers).

42. The claim-sorting process is a more generic one that applies to banks as well and may call for greater harmonization in bankruptcy codes across countries and possibly other reforms (see Group of Thirty 1998). The issue of how to clean up failed institutions is a subject outside the scope of this paper, however, which deals only with prudential regulation aimed at preventing such failures in the first place.

In contrast, there is no government-provided insurance of liabilities of securities firms and insurance companies. There are industry-supported funds in each case, but the Securities Investor Protection Corporation (SIPC) for securities firms is designed only to protect customers against fraud or theft by securities firms and not against insolvency. Insurers' guarantee funds, meanwhile, exist in virtually every state, and these are true insolvency protection mechanisms. These funds are not backed by state or federal taxpayers, as is the case with federal deposit insurance for banks and thrift institutions (although it is possible to argue that such protection is implicit).

Given the absence of taxpayer liability for losses, should we let the market determine capital levels for securities firms and insurers, subject to existing antifraud and disclosure laws that now apply to all firms under securities laws? The only conceivable argument we can see for answering this question in the negative is to help protect unsophisticated investors or consumers who are unable either to locate or to read the financial information that insurers and securities firms are required to publish. This rationale is fundamentally different from the main (if not exclusive) rationale that applies to bank capital requirements.

In any event, the consumer protection argument is not sufficient, in our view, to motivate new international capital standards for two reasons. First, consumer protection standards rightfully vary from country to country. Citizens, through their governments, should have the freedom to choose the levels of protection they want. Second, the consumer protection argument neglects the fact that unsophisticated investors are protected by the vigilance of informed investors in securities and insurance firms, to the extent that those firms are forced to finance their activities with funds from informed outsiders.

An important issue, however, looms for Europe's universal banks in particular—the regulation of financial conglomerates that offer a full range of financial services under one roof, without separate corporate organizations for what have come to be known as “banking,” “insurance,” and “securities” products. This, of course, is the model for many European financial giants, although it is unlikely to be adopted in the United States (or even Japan, where financial reform still assumes that nonbanking organizations are conducted either in separate subsidiaries of banks or in parent corporations with bank subsidiaries). Universal banks are technically subject to the bank capital standards of the relevant jurisdiction, and

if the central bank of that jurisdiction is a member of the Basel Committee, then the Basel capital standards presumably apply.

We believe that the “risk bucket” approach of the current Basel standards, which sets capital standards primarily on the basis of the asset-side investments of the organization, is especially problematic for these universal banks. The risks of the insurance and securities businesses are very different from those of banks, and so an approach to capital that effectively assumes that all risks of the organization can be assessed on the basis of its assets and not the other fundamentals of the various businesses does not appear well suited for these banks. A far better approach is to use the kind of market discipline mechanism we have already outlined for large banks—one that relies on subordinated debt—and then allow investors and the information intermediaries whom they trust to assess the risks of the universal banks.

This still begs the question of whether the current level of the Basel standards that now applies to banks (8 percent) is sufficient and whether it should be different for universal banks. The figure of 8 percent is arbitrary and unlikely to be the right number for narrow or universal banks. Historical data on banks and current data on the capital structure of large unregulated finance companies (which maintain on average an 11 percent capital-to-assets ratio) suggest that 8 percent may be too low, but at this time it is hard to know what the right lower bound for bank capital ratios should be. In the presence of a subordinated debt requirement, however, that lack of knowledge would be less a problem than it is under current capital standards. In the presence of credible market discipline, banks would face a strong incentive to set capital levels appropriately (to avoid high yields on their subordinated debt), and so we are not very concerned about the inability to prejudge what the right minimum capital level should be for banks (whether universal or narrow in scope).

Finally, apart from the ongoing debate over capital standards for financial institutions, we believe that potentially the most important international financial development is the near completion of international accounting by IASC. Global financial markets demand global financial reporting rules. During this decade, U.S. residents dramatically increased their holdings of foreign stocks, while more foreign companies listed their shares on U.S. stock exchanges.

To date, the SEC has been giving mixed signals about its willingness to bless the IASC core standards, indicating, on the one hand, that it would

consider allowing foreign (and domestic) companies to use IASC standards in our securities markets, but stressing, on the other hand, that important differences between the IASC standards and GAAP remain. As is well recognized, the SEC confronts a dilemma: if it rejects the adoption of international standards, it will frustrate a potentially important initiative, but if it accepts international standards that are widely perceived in this country to be weaker than GAAP, American companies will complain that they are put at a competitive disadvantage when raising funds in our equity markets and making acquisitions.

Accounting harmonization would have clear benefits. Although harmonized accounting standards may not necessarily facilitate the job of national financial supervisors directly, they would facilitate comparisons by *investors and lenders* of the financial health of firms from different countries. In a global market, to the extent that suppliers of capital can make apples-to-apples comparisons of the financial health of institutions from different countries, then capital not only will be allocated more efficiently, but the process of market discipline—to the extent it is not undermined by government guarantees—also will be made more effective in the process. This, in turn, will facilitate the task of financial supervisors, especially in an environment of rapid technological change.

Nonetheless, the SEC is worried about accepting foreign accounting standards that could be construed to be “weaker” than prevailing U.S. standards embodied in GAAP. Furthermore, American businesses—like the U.S. banks that wanted a level playing field for capital standards—strongly object to being bound by different, and arguably tougher, standards if foreign companies gain the right to issue their stocks in our market without having to comply with GAAP.

One way the SEC could escape its dilemma would be to permit all firms (both U.S. and foreign) *to choose between the two different accounting standards*. That would not result in immediate harmonization of standards, but, as argued above, we believe that, in the long run, permitting competition among regulatory standards would encourage harmonization and efficiency in accounting standards (and other rules). Another way out for the SEC would be to require that all firms maintain both sets of accounts. That may be a desirable way to increase information and comparability, but the cost of that approach would be the increased costs of preparing and disseminating dual accounts. It is hard for us to judge the size of those costs, and so we conclude that either permitting companies to choose between

the two, or mandating that companies maintain both, is a desirable way to resolve the existing dilemma. Which approach is best depends on the costs of creating and disseminating duplicate accounts.

Our purpose here is not to delve deeply into the details of international accounting standards, a subject explored by Gebhardt in this volume. Rather, we highlight the potential importance of harmonized accounting standards for improving the safety and soundness of financial institutions, in particular, and point to accounting standards as an obvious example of an area where regulatory competition is likely to produce long-run gains in both harmonization and efficiency.

Conclusions

Financial markets and institutions increasingly are global. Should regulation also be global? In general, we think not. We have suggested an approach to financial regulation that emphasizes differences between prudential and nonprudential regulation (*vis-à-vis* the gains from regulatory consolidation), places more reliance on regulatory competition, seeks to avoid conflicts of interest for central bank regulators, and puts much greater emphasis on discipline by the market rather than by regulators. Furthermore, we argue that the only strong case for minimum solvency standards for financial institutions exists with respect to banks and that policymakers should not rush to create international bank-like solvency systems for nonbanks.

Over the longer run, regulators, investors, and consumers will profit from regulatory harmonization—in accounting and disclosure standards in particular—but this process is best achieved by permitting competition among standards, rather than by prejudging the relative efficiency of different standards and mandating harmonization on that basis. If securities regulators around the world, including those in the United States, will accept competition in accounting and other standards, there will be much greater competition among national exchanges for listings, leading to lower prices for investors and more efficient capital markets. And, to the extent that bank regulators rely more heavily on subordinated debt to help discipline bank behavior, they will encourage private participants to demand more useful and relevant information from banks than even these international standards must require.

Comments and Discussion

Comment by Richard J. Herring: This ambitious paper provides a useful and timely overview of the trend toward the formation of financial mega-conglomerates and poses the important question, “Do global mega-conglomerates require global regulation?” I would like to approach this question from a slightly different perspective, asking first, “What is the appropriate size of a regulatory domain?” and, second, “To what extent and under what circumstances is international regulatory cooperation likely?” Then I will conclude with a discussion of the authors’ promising policy proposals.

The literature on federalism offers several insights about the appropriate size of the regulatory domain.¹ Four considerations help to determine the appropriate size of the regulatory domain. Each may vary with the motive for regulation, which may include protecting consumers, enhancing the efficiency of financial markets, achieving social objectives such as promoting homeownership, fighting organized crime, or guarding against systemic risk.

—*The extent of externalities.* If regulation is to be effective in correcting externalities, the jurisdictional boundaries should correspond to the scope of negative externalities. Calomiris and Litan argue that the strongest case for international regulation can be made with respect to systemic risk.²

1. See, for example, Mashaw and Rose-Ackerman (1984) and the discussion in chapter 3 of Herring and Litan (1995).

2. The globalization of organized crime may provide another externalities-based rationale for global regulation, but this issue is outside the scope of this already ambitious paper.

—*The prevention of mutually destructive competition among regulators.* This issue is sometimes posed as a prisoner’s dilemma among national regulators in which international cooperation among regulators could enable all national regulators to attain their objectives more effectively. I am generally skeptical about this rationale. It is certainly true that international financial integration has undermined the capacity of individual countries to tax financial transactions, to demand arbitrarily high levels of consumer protection, or to allocate credit to preferred borrowers, but national preferences about such regulation differ markedly. It is by no means clear that national regulatory “prisoners” would choose to cooperate. The main exception may be prudential regulation. The authors are troubled by the possibility that international regulatory competition in this sphere may lead to a mutually destructive race to the bottom. I am less concerned because I believe that safety and soundness are a benefit that users of financial services value in an international context.³

—*Economies of scale and scope in the administration of regulations.* Regulation requires the production, transmission, and interpretation of information relevant to the regulated entity’s activities. The international reach of the activities of mega-conglomerates means that at least some of this information will be collected beyond national regulatory domains. To the extent that there are substantial fixed costs in the collection and interpretation of the data, there may be gains from centralizing this function in an agency with a comparable global reach. Similarly, to the extent that investments in the collection and interpretation of data reduce costs in regulating a broad range of activities, there may be gains from expanding the regulatory domain across borders and financial activities.

—*The trade-off between the benefits of harmonized regulation and the benefits of regulatory competition.* Uniform international regulations reduce the costs of regulatory compliance for international institutions and

3. The main example of destructive competition in laxity of regulation involves state regulators of thrift institutions in the United States in the 1980s. But this example has doubtful relevance to the international sphere. State regulators were able to compete in laxity of regulation because they benefited from national deposit insurance that led depositors to ignore the safety and soundness implications of regulations. In contrast, international investors will evaluate national prudential standards in conjunction with implicit and explicit national deposit insurance. Although some countries may be able to compensate for weak prudential regulation with strong deposit insurance, when bank losses become large relative to the government’s ability to make good on the guarantee, depositors will run, as they did during the recent Asian financial crises.

are more likely to generate predictable outcomes when problems are taken to court. This benefit should not be dismissed lightly in a world where an international mega-conglomerate may be subject to reporting requirements from several hundred different regulatory authorities. But a regulatory monopoly is likely to suffer from many of the same defects as an industrial monopoly.⁴ The possibility for users of financial services to shift among differently regulated financial institutions and the opportunity for regulated firms to shift among regulators provide a useful protection against arbitrary or excessively burdensome regulation and are likely to result in more efficient regulation. There are dynamic benefits as well. Competition stimulates innovation. In an era of rapid technological advance and financial innovation, competition among regulators is more likely to lead to a dynamically efficient regulatory framework in which regulated institutions can adjust flexibly to the changing needs of their clients.

Calomiris and Litan are well aware of this trade-off and consequently advocate minimal harmonization of regulation. Because they are concerned that systemic risk can lead to costly international spillovers and they are concerned about the possibility of a destructive competition in laxity of regulation, they make a case for harmonizing minimum prudential standards, while at the same time encouraging regulatory competition in other aspects of financial regulation. This is an appealing solution, but it is easier to describe than to implement. As table 1 highlights, most regulatory measures serve a number of different regulatory objectives. Disclosure requirements, for example, can be justified as a means of increasing market discipline to reduce systemic risk as well as a way of protecting consumers and enhancing the efficiency of financial markets. For this reason, it is difficult to harmonize regulatory measures for one regulatory purpose without constraining competition among regulators for other regulatory objectives as well.

Nonetheless, the European Union (EU) under the second banking directive has tried to achieve a trade-off between the benefits of regulatory harmonization and competition that is very similar to what the authors advocate. After harmonizing basic safety and soundness regulations in all member countries, the European Union adopted principles of mutual recognition and a single European passport that allows a bank chartered under the rules in any member country to open branches in any other mem-

4. Kane (1988).

Table 1. Regulatory Measures and Objectives

<i>Regulatory measures</i>	<i>Systemic risk</i>	<i>Consumer protection</i>	<i>Efficiency enhancement</i>	<i>Broader social objectives</i>
Antitrust enforcement and competition policy		✓	✓	✓
Asset restrictions	✓			✓
Capital adequacy standards	✓	✓		
Conduct of business rules		✓	✓	✓
Conflict of interest rules		✓	✓	
Customer suitability requirements		✓		
Deposit insurance	✓	✓		
Disclosure standards	✓	✓	✓	
Fit and proper entry tests	✓	✓	✓	
Interest rate ceilings on deposits	✓			✓
Interest rate ceilings on loans		✓		✓
Investment requirements				✓
Liquidity requirements	✓	✓		
Reporting requirements for large transactions				✓
Reserve requirements	✓	✓		
Restrictions on geographic reach				✓
Restrictions on services and product lines	✓			✓

ber country. This creates a competitive dynamic among national regulators in the European Union in which each national regulator can compete for greater market share by providing the most efficient regulatory framework without raising concerns about a mutually destructive degradation of prudential standards. The European Union was able to achieve this degree of international cooperation, which includes a limited amount of centralized, supra-national policymaking and enforcement, because of the overarching political aims of the fifteen member countries. It is doubtful that a more heterogeneous group of countries, without similar political ambitions, could achieve a comparable degree of cooperation.

The useful review of efforts to achieve international cooperation that Calomiris and Litan provide indicates that international efforts have fallen short of the EU accomplishment. Table 2 ranks levels of international cooperation by the degree of national sovereignty relinquished. Normally cooperation proceeds in stages from lower to higher levels. As the authors note, the International Association of Insurance Supervisors has advanced from level one, sharing of information, to level two, agreement on con-

Table 2. Degrees of International Cooperation

<i>Rank^a</i>	<i>Type of cooperation</i>
1	Exchange of information
2	Agreement on concepts, procedures, and best practices
3	Collaborative contingency planning
4	Negotiation of minimum acceptable standards
5	Harmonization of regulations
6	Joint enforcement of harmonized regulations
7	Centralized, supranational policymaking and enforcement

a. In order of amount of national sovereignty relinquished.

cepts, procedures, and best practices. The International Organization of Securities Commissions (IOSCO) has advanced from levels one and two to level three, collaborative contingency planning, with the adoption of the Windsor Declaration, which establishes protocols to prevent international transmission of crises in securities markets. The new Financial Stability Forum, building off the work of the other international groups, appears to have started at level three. Only in the sphere of banking regulation, with the work of the Basel Committee, has international cooperation advanced to level five, actual international harmonization of regulations. But, as the authors emphasize, even the Basel Committee has been unable to advance to level six, the joint enforcement of harmonized regulations.

What factors determine the extent of international cooperation? Cooper draws some interesting lessons from the history of international cooperation in public health that appear to have equal relevance for banks.⁵ He finds that international cooperation is more likely (1) the smaller the number and the more homogeneous the countries that must agree, (2) the broader and deeper the international consensus on policy objectives and potential gains from cooperation, (3) the broader and deeper the international consensus on the probable consequences of policy alternatives, and (4) the stronger the infrastructure for decisionmaking. From this perspective, it is not surprising that international cooperation started first and has proceeded farthest in the banking sector. First, because banks headquartered in the Group of Ten countries (plus Luxembourg and Switzerland) account for a very large proportion of international banking transactions, cooperation among these relatively homogeneous countries could have a decisive impact on international banking conditions. Second, bank super-

5. Cooper (1989).

visory authorities in all major countries share a concern with financial stability, and a series of banking disasters beginning with the collapse of Herstatt in 1974 have demonstrated that banking crises can pose a serious threat to financial stability that international supervisory cooperation could diminish. Third, despite major differences in regulatory regimes among the Group of Ten, bank regulators in each member country share the view that minimum capital standards are an important bulwark of financial stability. Finally, the Basel Committee on Banking Supervision could draw on the well-established institutional infrastructure of the Group of Ten central bank governors who have met monthly in Basel for many decades.

International cooperation within the Basel Committee proceeded from an initial exchange of information to agreements on concepts, procedures, and best practices in banking supervision. This led naturally to collaborative contingency planning. The Basel Concordat set out a sharing of supervisory responsibilities between host and home countries, which ultimately was restated as a set of minimum acceptable standards for the supervision of internationally active banks. Finally, with the Basel Accord, the committee agreed on a harmonized approach to capital regulation with a common definition of capital and procedures for evaluating capital adequacy along with minimum acceptable standards.

These considerations help to explain why international cooperation in insurance and securities regulation has lagged behind cooperation in banking regulation. Perhaps because the world economy has been spared a serious disruption attributable to international spillovers from the collapse of a securities or insurance firm, there is less agreement on the potential gains from international cooperation or the consequences of failing to cooperate. Regulation of securities firms and insurance companies is much more diverse than bank regulation, including official and self-regulatory bodies and financial exchanges. The number of policymakers that must be consulted and reach agreement is much larger and more diverse. And because neither securities regulation nor insurance regulation is generally lodged in the central bank, neither the International Association of Insurance Supervisors nor IOSCO can draw on the long tradition of central bank cooperation (although the International Association of Insurance Supervisors meets at the Bank for International Settlements).

Since international cooperation is most advanced in bank regulation, Calomiris and Litan devote most of their attention to the Basel Accord and the recent proposed revision to it. They emphasize several defects in

the Basel Accord. First, the emphasis on grouping assets in risk buckets is fundamentally flawed because it ignores portfolio effects that are critical for assessing a bank's risk of insolvency. Second, the risk weights assigned to the various risk buckets are arbitrary and do not reflect market assessments of risk; therefore, the risk weights may distort bank behavior, as the Basel Committee itself has admitted. Calomiris and Litan, however, take a dim view of the committee's attempt to correct this problem by relating risk weights to ratings by independent agencies. Third, the Basel Accord omits several other sources of risk such as operational risk and liquidity risk that may be an important source of insolvency exposure. Fourth, the Basel Committee cannot keep pace with financial innovations, and distortions arising from the arbitrary risk weights may lead to financial innovations that increase risk. Fifth, the Basel Accord limits the use of subordinated debt to satisfy minimum capital requirements. Sixth, there is no rationale for the specified 8 percent minimum acceptable capital requirement. And, finally, enforcement of minimum capital standards is left entirely to the discretion of national supervisory authorities who are free to employ a wide variety of accounting gimmicks to avoid recognizing a decline in capital adequacy.

Although the Basel Committee has stated that it favors greater reliance on market discipline to meet capital adequacy standards, the committee's new proposal has little to say about how this might be accomplished. Calomiris and Litan remedy this shortcoming by proposing that greater reliance be placed on the issuance of subordinated debt. In particular, they recommend that internationally active banks be required to issue subordinated debt equal to no less than 2 percent of their risk assets with new issues at regular intervals subject to a cap on the permissible interest differential above the risk-free rate. I have considerable sympathy with their approach.⁶

It is only a slight exaggeration to say that Calomiris and Litan favor outsourcing prudential supervision to the market. Their approach holds the promise of correcting all of the defects they identified in risk-adjusted capital requirements. The artificial risk buckets that have been designated by the regulatory authorities will not distract market participants. They will

6. I have also advocated greater reliance on subordinated debt in work with Bob Litan (Herring and Litan [1995]) and participated in the drafting of the Shadow Financial Regulatory Committee (2000) white paper arguing for a subordinated debt requirement for internationally active banks.

take a portfolio view in pricing subordinated debt because that is what matters for the risk of insolvency. Similarly, the Basel Committee need not struggle to adjust the risk weights to reflect changing financial conditions because market participants will monitor banks on a continuous basis and will price subordinated debt with a view toward the overall risk of insolvency. Similarly, the market will discipline harmful regulatory arbitrage that increases an institution's risk of insolvency by charging a higher premium on its subordinated debt. What matters to market participants is not the officially specified minimum acceptable capital requirement. If market participants believe that a bank needs to hold more than the official 8 percent ratio to achieve an acceptable risk of insolvency, new issues of subordinated debt will be priced above the permissible premium until the bank increases its capital position or reduces its exposure to risk. Moreover, enforcement of minimum capital requirements will be more even-handed and consistent across countries because market participants are not likely to be misled even if regulators attempt to disguise a deterioration of capital positions through accounting gimmicks.

The subordinated debt requirement also deals with the problem of mega-conglomerates where the traditional approach of assessing capital requirements against risk buckets is particularly inadequate. Market participants will take an overall view of a mega-conglomerate's risk of insolvency, just as they do with regard to nonfinancial institutions, and will price its subordinated debt accordingly.

The authors believe that a subordinated debt requirement would improve disclosure. Financial institutions would have an incentive to make more meaningful disclosures of their risk exposures in order to obtain lower risk premiums on their issues of subordinated debt. Similarly, market participants are likely to increase the demand for harmonization of accounting information that will enable them to compare risk exposures of internationally active banks more readily.

The authors make the strongest possible case for the adoption of a subordinated debt requirement. But even if one is skeptical about whether all of these benefits can be fully realized, their central point is surely correct. No matter what degree of international cooperation the national authorities ultimately achieve, supervisors will always lag behind the marketplace. In principle, impersonal market forces, unencumbered by the complex bargaining that is intrinsic to any international bureaucratic process, should be able to monitor the insolvency exposure of mega-conglomerates

more efficiently and discipline institutions that take excessive risks. Calomiris and Litan deserve praise for having shown a practical way these potential benefits could be realized.

Comment by John G. Heimann: I would like to make a number of comments and, first, to say where I agree and then where I disagree. I think the paper is terrific. I agree with much in the conclusions. However, I find much to fault in reaching those conclusions. I will deal with the conclusions first.

I agree that the market is the best regulator. Supervisors and regulators are bloodhounds chasing greyhounds. The bloodhounds may have the scent, but the greyhounds are over the hill in the next county. That is reality. It is not a knock on supervisors and regulators; it is just that they do not have the resources to keep up with the private sector. Therefore, the market is the best regulator. And I think the concept of subordinated debt is excellent. It is worth a try.

Let me tell you a story. When I first became comptroller of the currency, there was a problem, and the examiners figured it out. After we had a long discussion, the head of the department of economics said, and I quote, “I know it works in practice, but the important thing to determine is whether it works in theory.” I know subordinated debentures work in theory; the question is whether they will work in practice. That does not mean it is not worth a try. But if it is applied, will it work for the smaller banks, which do not have markets for their securities? In the United States, at least, we have loads and loads of smaller banks. Something has to be done about them, because the market is not going to regulate them using subordinated debentures, and this approach certainly does not apply in the developing countries or most of the developing countries, which represent a lot of the world and most of its people.

So that is problem number one, which brings me to the last point that was discussed—the need for international accounting standards, which I wholeheartedly support. The first part is useless unless you have accounting standards that mean something that everybody understands and unless you have transparency and disclosure.

Maybe it is a chicken and egg question. In some countries, the concept of subordinated debentures works very well because they have generally accepted accounting principles or international accounting standards, but in many countries, they do not. Without those standards, the concept of

subordinated debentures has limited application, although, theoretically, it is terrific and should work in practice.

Now, let me go where I disagree. When it comes to nonbank financial institutions, the financial system of the world is inextricably intertwined. American International Group was mentioned, and you know their role in the derivatives market. AXA has control of many financial institutions, and so does Alliance. You can talk about a Morgan Stanley or a Goldman Sachs or a Merrill Lynch, with their enormous balance sheets, all in marketable securities and all heavily in derivatives. Do we have to wait? You cannot let these institutions just go merrily on their way and say that the market is going to take care of them.

Look back on the situation with Drexel Burnham Lambert, which was resolved. But how was it resolved? What actually happened? Its primary regulator—the Securities and Exchange Commission—did not resolve the liquidation. The Federal Reserve Bank of New York stepped in and resolved it. They understood what to do about mortgage-backed securities and derivatives.

The role of nonbank financial institutions is growing. Global financial intermediation is enormous. It is pervasive. And to say that we have to wait for something to come apart is just bad policy. Probably what will happen is that some big nonfinancial institution will get into trouble.

Often, too big to fail is raised. People raise this when they want to prove a point of moral hazard. I think this debate has become meaningless because too big to fail was never a thoughtful policy. It was a clever phrase turned into policy that, in turn, has become an accepted concept.

The question should be whether there is any financial institution in the world that is too big to disappear. The answer to that should be no, there is not. It depends on what you mean by disappear. If you want market discipline, some institutions will be disciplined, and they will be denied access, and they will cease to function, so there should be no institution that is too big to disappear. It is a question of how it disappears. Too big to fail raises specters in the minds of politicians and the public alike and muddies the water. I hope that we get rid of too big to fail and start talking about too big to disappear because if you use that phrase, it changes a lot of what you can do in these situations.

The second point is that there is no international mechanism for enforcing standards. This is a very personal point of view, of course. Why not allow the market to enforce the standards? Why do banks lend in countries

that have rotten accounting standards? I do not worry about investors so much. They are supposed to know that if they buy equities, they have to take the ups and the downs. But why do banks lend in markets where the accounting standards are horrible, there is no legitimate transparency, and disclosure has little value? If you want market discipline, creditors and investors have got to take a loss of some sort. That does not happen now, and it is partially the regulator's fault.

The next question is whether to consolidate supervision. My answer is yes. That anyone can argue against consolidated supervision is a mystery to me, so I do not bother about that.

Regarding cross-functional activities, does all supervision have to be under one supervisor? Not necessarily. It can be functional. By that I mean that the specialized supervisors can do that piece of the supervision, but in the final analysis, someone has to oversee the whole institution, not as the regulator, but as the supervisor of the whole.

Regulators should be absolutely independent, and that is a must. This ability also depends on which country you are in and how independence is maintained.

Everyone is applauding the financial modernization bill, and I think it is terrific. It is a very big step in the right direction, except for one thing. It puts a lot of banking supervision into the Treasury Department, a political agency whose head could be fired by the president. That does not mean that I have any questions about the present incumbents, but we are building a system for the next fifteen to fifty years. Who knows who the secretary of the treasury is going to be twenty-five or fifty years from now? Who knows who the comptroller will be?

We in the United States have been arguing that countries should have independent banking supervision. We fought to convince the International Monetary Fund to support that. Then we go in the opposite direction. I do not hear anybody talking about that. I suppose everyone is so happy to have a bill that they overlook some of its worrisome long-term implications.

Banking supervision should be independent. If we cannot have an independent agency for banking supervision in the United States, which clearly does not seem feasible, then the Federal Reserve should be the supervisor because it is independent. Placing banking supervision in the Treasury Department will eventually be a problem. It always has been in every single country. We are not immune to that, and it is going to cause us a real headache later on.

I do not have any problems with competition among regulators. Does that include offshore centers? What kind of competition are we talking about? Are we talking about different techniques that are interesting nuances in financial systems in the world as it changes? Some countries issue licenses like crazy under a regulatory guise so that companies can operate above and beyond prudential standards, whatever those standards are. I have problems with that.

And, finally, on international cooperation, Herring did a super job, but he left one thing out: trust. If you want to know the secret of the Basel Committee, it is all of those things he listed plus trust. The men and women on the Basel Committee—I should say that I sit on that committee as chairman of the Financial Stability Institute—trust each other; they know each other; they understand the problems; and they help each other. When there are problems occurring in their countries, they can—off the record—call up the supervisor, whom they know. They have had dinner with him; they have chatted about their children. They can call him up and say, “Hey, Harry, I have got a real problem here, can you help me?”

So trust means that they get together and know each other and are able to make this kind of thing work. It does work at the Basel Supervisory Committee, but there is no other group like that in the world.

General Discussion: Edward Ettin expressed his hope that within a relatively short time span, the internal risk ratings that are being developed by several large U.S. commercial banks can be translated into standardized risk ratings that can be used for slotting risk for capital allocation. The supervisors in the meantime will need to test whether their methodology and its application to internal management systems are done correctly. Although he does not think the technology is there yet, Ettin believes that it eventually will evolve into full credit models that will be applied by both large and individual banks.

George Vojta remarked that before shifting directly to the risk-adjusted models, it is important to allow the industry at least to perfect an operating risk module that makes sense, because development work remains to be done on the areas not fully covered by the risk-adjusted guidelines in the industry. Vojta further questioned the marginal utility of risk-adjusted measures when there is too much risk concentration, making the appropriate action impossible. For instance, if a banking institution with a trillion-dollar balance sheet discovers, after risk adjustment analysis, that it is too exposed to a certain industry by \$50 billion, it is probably impos-

sible to reduce the exposure to a manageable level in a short period of time. In such a case, what is the point of risk adjustment analysis if it is not affecting anything significant?

Myron Kwast questioned the necessity for the authors' suggestion of a mandatory subordinated debt policy. He argued that the market for the subordinated debt of the largest banking organizations already works fairly well. Firms that are relatively high risk tend not to issue debt when their risk profiles go up and there is a substantial amount of uninsured bank liabilities in the market. He expressed his concerns that a mandatory subordinated debt policy would impose some costs and limit firms' ability to manage their capital structures.

Charles Calomiris responded by explaining that when banks experience severe shocks to their capital, their next decision is whether to shrink their assets or to change the composition of their financing to increase the amount of insured financing. The paper proposes having banks maintain an amount of uninsured debt proportional to assets so that they have to liquefy their assets and reduce the risk of their assets in response to an adverse capital shock.

Calomiris also pointed to the benefits of consolidated supervision. It is important, for instance, that bank regulators supervise banks to see if they are violating restrictions against unlawful transactions between affiliates, under sections 23(a) and 23(b) of the Federal Reserve Act. However, he emphasized that the paper does not advocate a single agency acting as a consolidated supervisor. Instead, it suggests that there are some benefits to regulatory competition. Furthermore, even in a regime of consolidated supervision and universal banking, it is not necessary for that regulator to supervise every aspect of a universal bank's activities, whether in its affiliates or subsidiaries, but only the aspects that relate to reasonable prudential concerns.

Finally, in connection with the authors' discussion of global accounting standards, Gregory Udell asked whether it might be possible to list foreign companies that do not meet the U.S. GAAP requirements, but instead to limit their trading on the exchange to sophisticated investors or institutional investors in a 144(a) type of setting. He argued that such a system would at least protect small investors.

References

- Bank for International Settlements, Monetary and Economic Department. 1999. "Quarterly Review: International Banking and Financial Market Developments." Basel (June).
- Basel Committee on Banking Supervision. 1999. "A New Capital Adequacy Framework." Basel: Bank for International Settlements (June).
- Benston, George J. 1992. "The Purpose of Capital for Institutions with Government-Insured Deposits." *Journal of Financial Services Research* 5 (April): 369–84.
- Bordo, Michael D. 1990. "The Lender of Last Resort: Alternative Views and Historical Experience." *Federal Reserve Bank of Richmond Economic Review* 76 (January–February): 18–29.
- Briault, Clive. 1999. "The Rationale for a Single National Financial Services Regulator." FSA Occasional Paper 2. London: Financial Services Authority (May).
- Calomiris, Charles W. 1994. "Is the Discount Window Necessary? A Penn Central Perspective." *Federal Reserve Bank of St. Louis Review* 76 (May–June): 31–55.
- . 1997. *The Postmodern Bank Safety Net: Lessons from Developed and Developing Economies*. Washington: AEI Press.
- . 1998. "Universal Banking 'American Style.'" *Journal of Institutional and Theoretical Economics* 154 (March): 44–57.
- . 1999. "Building an Incentive-Compatible Safety Net." *Journal of Banking and Finance* 23 (October): 1499–519.
- Cantor, Richard, and Frank Packer. 1994. "The Credit Rating Industry." *Federal Reserve Bank of New York Quarterly Review* 19 (Summer–Fall): 1–26.
- Cooper, Richard N. 1989. "International Cooperation in Public Health as a Prologue to Macroeconomic Cooperation." In *Can Nations Agree? Issues in International Cooperation*, edited by Richard N. Cooper and others, 178–254. Brookings.
- Council on Foreign Relations. 1999. *Safeguarding Prosperity in a Global Financial System: The Future International Financial Architecture*. Report of an Independent Task Force.
- Danthine, Jean-Pierre, Francesco Giavazzi, Xavier Vives, and Ernst-Ludwig von Thadden. 1999. "The Future of European Banking." Monitoring European Integration 9. London: Centre for Economic Policy Research.
- Edwards, Franklin R. 1999. "Hedge Funds and the Collapse of Long-Term Capital Management." *Journal of Economic Perspectives* 13 (Spring): 189–210.
- Figlewski, Stephen. 1998. "Derivatives Risks, Old and New." In *Brookings-Wharton Papers on Financial Services: 1998*, edited by Robert E. Litan and Anthony M. Santomero, 159–218. Brookings.
- Goodfriend, Marvin, and Robert G. King. 1988. "Financial Deregulation, Monetary Policy, and Central Banking." In *Restructuring Banking and Financial Services in America*, edited by William S. Haraf and Rose Marie Kushmeider, 216–53. Washington: American Enterprise Institute.

- Group of Thirty. 1998. *International Insolvencies in the Financial Sector: A Study Group Report*. Washington: Group of Thirty.
- Hanc, George. 1997. "The Banking Crises of the 1980s and Early 1990s: Summary and Implications." *History of the Eighties: Lessons for the Future*, vol. 1, 3–86. Federal Deposit Insurance Corporation.
- Herring, Richard J., and Robert E. Litan. 1995. *Financial Regulation in the Global Economy*. Brookings.
- Hoenig, Thomas M. 1999. "Financial Industry Megamergers and Policy Challenges." Speech presented by the president of the Federal Reserve Bank of Kansas City to the European Banking and Financial Forum, Prague, March 25.
- International Accounting Standards Committee. 1999. "Statistics." September 29, 1999, www.iasc.org.uk/frame/cent1_9.htm.
- James, John A. 1978. *Money and Capital Markets in Postbellum America*. Princeton University Press.
- Jones, David. 1998. "Emerging Problems with the Accord: Regulatory Capital Arbitrage and Related Issues." Working Paper. Federal Reserve Board (July).
- Kane, Edward J. 1988. "How Market Forces Influence the Structure of Financial Regulation." In *Restructuring Banking and Financial Services in America*, edited by William S. Haraf and Rose Marie Kushmeider, 343–82. Washington: American Enterprise Institute.
- . 1989. *The S&L Insurance Mess: How Did It Happen?* Washington: Urban Institute Press.
- Kaufman, George G. 1991. "Lender of Last Resort: A Contemporary Perspective." *Journal of Financial Services Research* 5 (October): 95–110.
- . 1992. "Lender of Last Resort, Too Large to Fail, and Deposit-Insurance Reform." In *The Reform of Federal Deposit Insurance: Disciplining the Government and Protecting the Taxpayers*, edited by James R. Barth and R. Dan Brumbaugh Jr., 256–58. Harper Business.
- Kupiec, Paul H., and James M. O'Brien. 1995. "A Pre-Commitment Approach to Capital Requirements for Market Risk." Finance and Economics Discussion Series 95-36. Federal Reserve Board, Division of Research and Statistics, Division of Monetary Affairs (July).
- Litan, Robert E. 1997. "Comments on Lessons of the 1980s: What Does the Evidence Show?" *History of the Eighties: Lessons for the Future*, vol. 2, 65–70. Federal Deposit Insurance Corporation.
- Litan, Robert E., with Jonathan Rauch. 1998. *American Finance for the 21st Century*. Brookings.
- Litan, Robert E., and Anthony M. Santomero, eds. 1999. *Brookings-Wharton Papers on Financial Services: 1999*. Brookings.
- Mashaw, Jerry L., and Susan Rose-Ackerman. 1984. "Federalism and Regulation." In *The Reagan Regulatory Strategy: An Assessment*, edited by George C. Eads and Michael Fix, 111–45. Washington: Urban Institute Press.
- Mingo, John J. 1998. "Policy Implications of the Federal Reserve Study of Credit Risk Models at Major U.S. Banking Institutions." Working Paper. Federal Reserve Board (October).

- Oxford Analytica/Citibank. 1999. "Global Banking Brief." New York (September).
- Partnoy, Frank. 1999. "The Siskel and Ebert of Financial Markets? Two Thumbs Down for the Credit Rating Agencies." Working Paper. University of San Diego Law School (March 8).
- Romano, Roberta. 1998. "Empowering Investors: A Market Approach to Securities Regulation." *Yale Law Journal* 107 (June): 2359–430.
- Schwartz, Anna J. 1992. "The Misuse of the Fed's Discount Window." *Federal Reserve Bank of St. Louis Review* 74 (September–October): 58–69.
- Scott, Kenneth. 1971. "Risk and Regulation in Banking: Some Proposals for Federal Deposit Insurance Reform." *Stanford Law Review* 23: 857.
- Shadow Financial Regulatory Committee. 2000. *Reforming Bank Capital Regulation*. Washington: American Institute Press.
- Summers, Lawrence H. 1999. "Distinguished Lecture on Economics in Government: Reflections on Managing Global Integration." *Journal of Economic Perspectives* 13 (Spring): 3–18.
- Wagster, John D. 1999. "The Basel Accord of 1988 and the International Credit Crunch of 1989–92." *Journal of Financial Services Research* 15 (March): 123–43.
- Wallman, Steven. 1999. "The Information Technology Revolution and Its Impact on Regulation and Regulatory Structure." In *Brookings-Wharton Papers on Financial Services: 1999*, edited by Robert E. Litan and Anthony M. Santomero, 207–27. Brookings.
- White, Eugene N. 1983. *The Regulation and Reform of the American Banking System, 1900–1929*. Princeton University Press.