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International Banking Activities: The Role of the Federal Reserve Bank in Domestic Capital Markets

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International Banking Activities: The Role of the Federal Reserve Bank in Domestic Capital Markets

Susan M. Phillips and Alan N. Rechtschaffen

Abstract

In synthesizing harmonious regulation with market sensitive monetary policies, regulators and central bankers can maintain global confidence and minimize systemic failure. The improvements in communications and transportation, the gains from technology and the miniaturization of the goods the world produces have fueled a growing volume of international trade. Financial institutions, in turn, have sought constantly to find more effective and efficient ways to facilitate and finance these activities, and at the same time manage the related risks. There are two clear areas of common interest which may serve as a guideline for central bankers, bank supervisors, and regulators developing compatible rules and regulations. Some of the greatest challenges to bank supervisors arise when organizations link banking activities with other financial or nonfinancial businesses. As capital markets become more important, they pose new challenges in the setting of monetary policy. Well-functioning capital markets require a sound legal and regulatory structure if investors are to have sufficient confidence to part with their funds for potentially long periods of time, especially given the impersonal nature of capital markets and the remoteness of issuers of securities from the holders of those securities. Capital markets can foster economic growth and efficiency by stimulating and mobilizing saving and thereby raising investment. In the United States, capital markets have had a major impact on banks. Capital markets may also discipline central banks in much the same way as the foreign exchange market. The central bankers may need to assess whether a large price move in the value of an asset or a group of assets is a result of economic fundamentals or whether it is bubble based on emotional reactions of market participants (or simply inadequate information).

Part I discusses the importance of compatible regulatory regimes. Part II discusses two clear areas of common interest which may serve as a guideline for central bankers, bank supervisors, and regulators developing compatible rules and regulations—maintaining healthy, responsive, and financially strong banking and financial systems, and building and maintaining an adequate legal and regulatory structure. Part III identifies some of the greatest challenges to bank supervisors, namely when organizations link banking activities with other financial or nonfinancial businesses. Part IV analyzes the role of the Federal Reserve in domestic capital markets. Part V discusses why well-functioning capital markets require a sound legal and regulatory structure. Part VI outlines the general economic implications of well-functioning capital markets. Part VII focusses on the

economic implications of these capital markets specifically for banks. Part VIII focusses on economic implications for monetary policy. Finally, Part IX identifies potential challenges of capital markets.

INTERNATIONAL BANKING ACTIVITIES: THE ROLE OF THE FEDERAL RESERVE BANK IN DOMESTIC CAPITAL MARKETS

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INTRODUCTION

The world financial markets have changed rapidly in the past decade. Global banking systems and international economies are more interconnected today than ever before. New innovations and tools of risk management increase the resiliency of world markets, but also the speed effecting transactions and the transmission of market effect around the world. In light of the changing financial landscape, regulators have been working to create harmonious regulations accommodating individual markets, while pursuing the common interest of global financial stability.

Well functioning banking systems and efficient capital markets require a sound legal and regulatory structure to maintain investor confidence. Central bankers and regulators must consider how their decisions will impact capital markets. Doing so will mitigate the effects on the world economy insofar as one market's problem may infect another market. In synthesizing harmonious regulation with market sensitive monetary policies, regulators and central bankers can maintain global confidence and minimize systemic failure.

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The analyses and conclusions set forth are those of the authors and do not necessarily indicate concurrence by Governor Phillips' colleagues on the Board of Governors, the Federal Reserve Banks, or members of their staffs.

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The globalization of the markets and the breadth of international conglomerate financial institutions is forcing international regulators to move towards harmonious regulatory systems. The United States is working with other countries to develop common standards for supervisory and regulatory systems for banks and large financial conglomerates.¹ Individual countries can adopt these standards to their particular institutional and legal situations.

I. *THE IMPORTANCE OF COMPATIBLE REGULATORY REGIMES*

The world financial markets have changed rapidly in the past decade. Technology and financial innovation have affected market practice. The improvements in communications and transportation, the gains from technology and the miniaturization of the goods the world produces have fueled a growing volume of international trade. Financial institutions, in turn, have sought constantly to find more effective and efficient ways to facilitate and finance these activities, and at the same time manage the related risks. As a result, there has been a dramatic growth in financial derivatives, strong support within the industry for new clearinghouses and netting procedures to reduce counterparty credit risk, and a growing need to clarify laws and regulations regarding financial contracts. Financial markets are far more closely linked today than they were even a decade ago.

The recent crisis in Asia demonstrates the interconnectivity of the world markets. Lending activities coupled with market losses contributed to bank difficulties and currency devaluation. Their results are felt globally. As the Asian markets devalued, the ripple effect touched investors from Wall Street to Main Street. In October 1997, the U.S. stock market suffered its most severe single day point decline in history, triggering circuit breakers and shutting down the New York Stock Exchange.

1. See Federal Reserve Press Release (Feb. 26, 1998), announcing the Basle committee's release of documents on the supervision of financial conglomerates: "The emergence of financial conglomerates and blurring of distinctions among the activities of firms in the banking, securities and insurance sectors has raised important supervisory issues . . ." that are addressed in these documents. The documents address such topics as capital adequacy and sound, prudential management principles, and describe possible frameworks for facilitating the exchange of information and enhancing cooperation between supervisors.

The U.S. stock market has recovered from that October 1997 price decline. The resilience of the U.S. market may, in large part, be attributed to lessons learned from the crash of 1987. While there is some controversy over whether the circuit breaker which shut down the market in 1997 intensified the frenzy or prevented it from declining further, it is clear that the financial landscape in the United States has changed significantly since 1987. Today, the market is better able to absorb global financial shockwaves, because the exchange infrastructure has been improved, larger volumes can be handled, capital standards have been strengthened, and inter-exchange communication systems have improved. In addition, new financial instruments and new methods for evaluating risk give market participants powerful new tools to manage market volatility.

Globally, regulators must respond to these new tools. To fully utilize their benefits, regulators need to approach regulation and supervision in new ways. One such example, developed by the Federal Reserve,² is their "pre-commitment" proposal, which would calculate capital requirements for market risk. Under the pre-commitment proposal, banks would be allowed to commit the maximum loss they will experience over the next quarter in their trading portfolio, and this amount would become their capital requirement. The proposal gives banks the incentive to establish the commitment in a prudent fashion through fines and disclosure if the commitment is violated.

The recent amendments to the Basle capital standards that

2. The Federal Reserve and its Board of Governors conduct activities in four general areas to facilitate a healthy global economy:

- Conducting the nation's monetary policy by influencing credit conditions;
- Supervising and regulating banking institutions to ensure the safety and soundness of the banking and financial systems;
- Maintaining financial stability and preventing systemic risk; and
- Providing financial services to the U.S. government, to the public, to financial institutions, and to foreign official institutions.

THE FEDERAL RESERVE SYSTEM: PURPOSES & FUNCTIONS 1 (8th ed. 1994).

Like the United States, most developed countries have a central bank whose functions are broadly similar to those of the Federal Reserve. The world central banks influence and shape the world economies.

The U.S. and world economies are linked in many ways. Economic conditions in the United States have broad influence on the production, trade, and financial stability of international financial markets. Not only do Federal Reserve policies shape and get shaped by international developments, but the U.S. central bank also participates in international affairs through regulation and direct market participation. *Id.* at 61.

allow the use of internal models for calculation of capital charges for market risk acknowledge that no single or specific technique is best for everyone.³ Each institution tailors its risk measurement and management process to its own needs. While adhering to basic principles, each institution determines for itself the proper incentives and techniques for managing its affairs. No two banks or banking markets are identical in their operations, structure, or historical development. Permitting a range of compatible responses to similar situations encourages experimentation, innovation, and growth. Although the use of internal models for regulating capital charges to date has been confined largely to market risk, eventually the concept may be expanded to credit risk. The modeling techniques and data are less developed for credit risk management than for market risk management.

Capital standards help to ensure the financial strength of internationally active banks while promoting greater competition. Simply put, firms in need of international financial services will utilize domestic or foreign financial institutions to the extent their prices are competitive and their financial stability can be assured. As a result, regulators are recognizing the need to harmonize laws and regulations in order to promote economic growth and to deal with important and often increasingly complex matters that are of common interest to the global financial community. Without some conformity, the inconsistency and incompatibility of rules and regulations across countries may make it costly and difficult, if not impossible, for some firms to engage in global business activities. Such barriers are detrimental to the efficiency of international trade and finance generally.

The difficulty is the precise nature and level of conformity that is necessary to maintain an efficient and equitable world financial system. It may be less important that the regulators standardize particular banking laws and regulations than it is for them to pursue similar goals. While international regulators act independently to develop domestic regulation and supervisory structures, they can keep international rules sufficiently similar and compatible by employing a market-based incentive. Incon-

3. See Daniel P. Cunningham, *Memorandum for ISDA Members ISDA Netting Opinions*, PRACTICING LAW INSTITUTE, PLI Order No. B4-7212 (1994), 1017 PLI/CORP 147, 149 (discussing amended Basle Capital Accord).

sistent regulation can work against local institutions, businesses, or consumers by making banks less competitive internationally or by withholding from their customers the benefits that competition can bring. Regulatory regimes are likely to be more effective in the long run for financial institutions and for domestic economic growth if they are market-compatible.

II. *AREAS OF COMMON INTERESTS*

There are two clear areas of common interest which may serve as a guideline for central bankers, bank supervisors, and regulators developing compatible rules and regulations. First, maintaining healthy, responsive, and financially strong banking and financial systems will facilitate the growing needs of local domestic economies. Second, building and maintaining an adequate legal and regulatory structure will permit international institutions to compete safely on an equal and nondiscriminatory basis, both domestically and abroad.

Promoting sound risk management is a goal that international regulators and bank supervisors should pursue more aggressively in considering new banking policies and regulations. Underlying laws and regulations should be compatible with underlying economics and market demands. To the extent that central bankers can continue building on "best" or sound banking practices in designing rules and regulations, they will be working toward a common end. As regulators work together identifying those practices and deciding how to apply them as supervisory or regulatory standards, they will also be strengthening relations that can prove invaluable in times of market stress.

Supervisors and, if necessary, legislators must craft regulations and laws that are both consistent with internationally recognized standards and accommodative of local customs and economic needs. In developing market-compatible regulations, regulators should rely, as much as prudently possible, on market discipline and on banks' internal incentives to perform well. This approach requires that the public have information about the risk exposures of banks and their procedures for managing those risks. Regulators can encourage this process by requiring or encouraging banks to disclose information to the markets that is both relevant and comparable among institutions.

Whether such disclosures are imposed by official regula-

tions or evolve through more subtle efforts, supervisors can help guide the process by considering carefully the kinds of information the private sector needs and that banks should use to manage risk. Even in the United States, where surveys show that voluntary disclosure is relatively good and accounting transparency is advanced, supervisors make available to the public required data collected on regulatory "call" reports.⁴

In countries where disclosure practices are minimal at best, bank regulators may be able to perform a particularly important role by requiring appropriate regulatory reports and then publicly disclosing some, if not most, of the information banks report to them. By fueling market information in this way, regulators may stimulate greater investor interest in banks and the growth of local capital markets. Improved disclosure practices by banks may instill a cultural acceptance of disclosure and, in turn, spill over to other industries. One thing is certain—investors dislike uncertainty. By shedding light on a bank's condition, risk exposure, and risk management approaches, some of that uncertainty should disappear.

While it is important that key prudential standards be sufficiently robust and somewhat consistent among countries, certain variations in the details and applications of these standards can be useful. As with private markets, some level of competition among regulators can stimulate improvements and change. Some may say that the United States takes regulatory competition to an extreme. However, doing so demonstrates the advantages that derive from accommodating different approaches and permitting financial institutions alternative ways to do business. The U.S. banking laws offer some choice in charter and regulatory administration which provides financial institutions with more freedom and expanded powers than they would likely have received with a single regulator.

Supervisors must be careful, however, as they try new or different techniques, that they not impair their oversight efforts or relax them beyond prudent bounds. In such global markets as we have today, weak or ineffective supervision in either large or

4. A "call report" is the informal name for the Report of Condition and Income. The call report must be filed by all banks, bank holding companies, savings and loan associations, and Edge Act and agreement corporations with the appropriate federal regulatory agency. Daniel P. Cunningham, *An Introduction to OTC Derivatives*, PRACTISING LAW INSTITUTE, PLI Order No. B4-7062 (1994), 848 PLI/CORP 121, 169.

small countries can have far reaching consequences. It is important for supervisors to be able to rely on their counterparts in other countries to administer agreed-upon standards of financial institution safety and soundness.

III. *FINANCIAL CONGLOMERATES*

Some of the greatest challenges to bank supervisors arise when organizations link banking activities with other financial or nonfinancial businesses. Financial conglomerates that often combine banking, insurance, and securities activities are not currently allowed to provide a full array of financial services in the United States, but they may do so abroad.

The existence of such firms (and the fact that some of them are headquartered in this country) has resulted in regulators and supervisors in the United States working with counterparts abroad to discuss oversight arrangements and to develop ways to deal with matters in times of crises. This laborious process is complicated by the diverse regulatory structures, both here and abroad, involving banking, securities, and sometimes insurance regulators.

These discussions often raise difficult issues, because they tend to break new ground in supervision or affect long-standing legal or institutional structures. For example, for countries that require separation of banks and commerce, what approach should be taken regarding nonbank or nonfinancial activities of companies that own banks? In the context of these conglomerates, what should "consolidated supervision" mean? Within the context of consolidated supervision, how can the traditional safety-and-soundness approach used by bank supervisors be reconciled with the disclosure/self-regulatory approach used by many securities regulators? Moreover, do the diverse operating structures of conglomerates imply an extension of the safety net that virtually all governments currently extend to banks? The challenges of promoting a more consistent bank supervisory and regulatory process worldwide requires regulators to go beyond official descriptions of regulatory and oversight regimes and to dig deeper to understand how laws are interpreted and how individual banking agencies monitor and enforce safe banking.

Different countries necessarily have different banking and financial systems that face unique combinations of exposures

and business risks. Even within the United States where there is a relatively uniform supervisory approach for all banks and a general risk-based capital standard, various banks' operating practices, activities, and capital bases are quite diverse, and oversight efforts take those differences into account. Small banks recognize the greater risks they face from their lack of size and diversity, and have consistently maintained higher capital ratios than do money center banks, but they also have less formal procedures and internal controls simply because their staffing and operations are so much smaller. A uniform set of rules within a given country can and should be implemented differently to recognize banks' different sizes and scopes.

IV. *THE ROLE OF THE FEDERAL RESERVE IN THE DOMESTIC CAPITAL MARKETS*

While the role of capital markets differs considerably by country, capital markets are becoming increasingly important to global financial stability. Experience demonstrates that as financial systems in market economies evolve, capital markets tend to become more prominent. As capital markets become more important, they pose new challenges in the setting of monetary policy.

"Capital markets" are markets for equity and debt instruments with maturities of several years or longer. The proceeds of capital market offerings typically are used to finance longer-term projects. A well-functioning capital market tends to be characterized by a liquid and deep secondary market, one that offers readily available information on prices and relatively narrow bid-ask spreads as well as a capacity to absorb very large buy or sell orders. Public capital markets trade registered securities on organized exchanges, using specialists who attempt to discover prices that match buy and sell orders for a security, or on over-the-counter markets, using dealers who stand ready to buy or sell a security at posted bid and ask prices. Private capital markets also exist in which issuers place equity or debt instruments directly with investors, sometimes with the assistance of an agent. Increasingly in recent years, capital market participants have issued and traded securitized assets involving pools of loans (or leases) that have been originated and may continue to be serviced by banks and other traditional lenders.

Strengthening capital markets are large, well-informed investors, such as pension funds and other professional asset managers, capable of making sound investment decisions. Such investors, seeking to maximize risk-adjusted returns, have a strong incentive to scrutinize carefully alternative investment opportunities and select the most promising ones. Such a process facilitates the most efficient use of scarce capital resources.

V. *INFRASTRUCTURE*

Well-functioning capital markets require a sound legal and regulatory structure if investors are to have sufficient confidence to part with their funds for potentially long periods of time, especially given the impersonal nature of capital markets and the remoteness of issuers of securities from the holders of those securities. In addition to establishing clearly the rights and responsibilities of the contractual parties of a security, a good legal system provides the means for enforcing financial contracts. Well-developed bankruptcy codes that specify rules for dealing with enterprises that cannot meet their financial obligations are also an important feature of a sound legal infrastructure. In general, a well-designed legal and regulatory infrastructure not only fosters confidence but also permits more effective market discipline by investors.

In the United States, a special set of laws applies to securities transactions, and these are administered primarily by the Securities and Exchange Commission ("SEC"). These laws relate to registration of securities offerings, require substantial disclosure by issuers, and carry sanctions for providing fraudulent information. Securities law also seeks to enhance investor confidence by restricting insider trading.

A further aspect of a strong capital market infrastructure is the capacity to handle order flows, a sound clearing and settlement system, and a reliable and efficient payment system. A sound clearing and settlement system enables the transaction to be completed at low cost with a low risk of failure. The payments system, often taken for granted in the United States, assures that domestic and international transactions can be effected with finality and minimum risk.

Finally, credit rating agencies enhance the capital markets infrastructure by distilling a great deal of information into a sin-

gle credit rating for a security. That rating reflects the informed judgment of the agency regarding the issuer's ability to meet the terms of the obligation. Such information is frequently critical to potential investors and could not be acquired otherwise, except at substantial cost.

VI. ECONOMIC IMPLICATIONS

Capital markets can foster economic growth and efficiency by stimulating and mobilizing saving and thereby raising investment. Well-functioning bond and equity markets tend to reduce intermediation costs and thus raise returns to those who save and reduce financing costs for those undertaking investment projects. They can promote efficiency by ensuring that scarce capital resources are allocated toward their most productive uses. In part, the longer-term nature of capital markets facilitates higher levels of output and growth to the degree that more longer-term and perhaps riskier projects with high returns are able to be financed.

Portfolio diversification allows investment in riskier individual securities by reducing risk exposure to a portfolio by such individual assets. In this way, higher returns can be pursued without incurring all the risk of a single risky asset. In recent years, mutual funds in the United States have become a popular vehicle for acquiring a diversified portfolio of equities or bonds. Mutual funds have provided diversified portfolios at relatively low cost and have added various conveniences for investors such as ease of conversion to other assets and ease of liquidation for cash.

In addition to risk reduction through diversification, shifting of risk associated with capital market positions can be achieved through markets for derivatives, such as standardized futures and options contracts on organized exchanges and customized products offered on over-the-counter markets. For example, a holder of a portfolio of equities can acquire some protection against a downside movement of equity prices by taking a short position in equity index futures or by purchasing a put option in an equity index future. Dealers in securities are generally willing to play a more active market-making role and thereby contribute to the development of capital markets when there are markets for such risk-shifting instruments. In general, markets

for derivative instruments facilitate the transfer of risk to those most willing and best able to take on risk.

Capital markets further enhance efficiency by disciplining managers of enterprises to pursue effective business strategies and to hold down costs. Managers seeking access to capital markets need to convince an array of investors that they have a business plan that will generate sufficient earnings to service debt or provide at least adequate returns to equity holders. By reducing uncertainty about earnings prospects, through disclosure of business plans and relevant financial data, managers can gain better access to financing and lower financing costs. The need to tap capital markets can be a powerful motivation for managers to tighten their focus and strengthen their operations and balance sheets.

Not only do capital markets impose discipline on business enterprises, they also can impose discipline on governments with outstanding debt held by the public. The desire to have ready access to capital markets and to lower financing costs provides incentives for public leaders to be fiscally responsible by managing resources in the public sector more effectively through careful scrutiny of public spending and holding spending in line with revenues. Such fiscal discipline is less likely when the government can count on the central bank to acquire its debt.

A noteworthy result of well-functioning capital markets is better information about issuers and readily available information on prices reflecting the collective judgment of market participants about the earning potential and risk of the issuer. Such information helps to guide resources to their most valued uses. Modern electronic technology is making this type of information more readily available to investors at diminishing costs.

VII. *IMPLICATIONS FOR BANKS*

In the United States, capital markets have had a major impact on banks. By providing an attractive alternative to bank financing, capital markets redirect financing away from the banking system. An implication for commercial banks is that they must adjust more promptly their credit terms to movements in market conditions to be competitive with capital markets. The process leads to a closer integration of commercial banks with

the markets, however, and this enhances the central bank's indirect methods to influence the credit markets.

Depending on the legal structure of the commercial banking system, commercial banks can play a role in the distribution and funding of capital market instruments. In universal banking systems, such as those common in Europe as well as in differing forms in Argentina, Brazil, Mexico, and Venezuela, commercial banks are permitted to underwrite and trade a full array of bonds and equities. In contrast, in the United States and other countries including Chile and Colombia, legal restrictions have been placed on underwriting and trading of securities. The Glass-Steagall Act in the United States generally has limited such activity of commercial banks largely to U.S. government securities, certain state and local government securities, and money market instruments. The Glass-Steagall Act probably gave some impetus to the development of capital markets in the United States by restricting the role of banks in providing longer-term financing of business. Nonetheless, commercial banks have played an important role in underwriting the types of debt they have been permitted to underwrite and have more recently become involved in certain securities that previously had been prohibited, although their role remains limited.

Commercial banks have also been involved in securities markets in other ways. They have provided credit guarantees to some issuers to enhance the credit rating of the security and have provided backup lines of credit to better ensure that the issuer will have liquidity at maturity to repay fully and on time. Furthermore, they have become quite creative in developing loan syndications to provide debt financing in amounts that might be too large for any one bank to absorb.

Securitization has been an especially important development for commercial banks. Through securitization, a bank can continue to originate mortgage and consumer loans and collect a servicing fee, but the banks do not have to hold these loans on their balance sheets or fund them permanently. Yields on pools of securitized loans compete with those on other capital market instruments, and thus banks must price the loans they originate (those that are candidates for securitization) in line with rates in the market, another important force acting to tighten the linkage between loans and open capital market developments.

The securitization option has enabled banks and near banks to continue to originate loans, even when their ability to fund loans has been impaired. For example, in the late 1980s, savings and loan institutions, which had been the primary providers of residential mortgage credit, faced an asset-quality crisis that curtailed their ability to finance mortgages permanently, which in earlier times would have been very disruptive to the mortgage market and to the economy. These institutions, however, along with other underwriters of mortgage credit including banks which traditionally had not been a major source of mortgage loans, were able to continue to provide financing by making such loans, securitizing them and then selling them to originators of pools who then placed them with investors. Similarly, asset-quality problems affecting commercial banks and the need to rebuild capital positions in the early 1990s limited the ability of commercial banks and other lenders to finance consumer loans. The availability of the asset-backed securities market for consumer loans permitted lenders to continue to originate them and to sell them as pools. Institutions such as insurance companies, pension funds, and mutual funds have acquired these securities. In sum, securitization involving the capital markets has tended to protect loan markets against shocks affecting lending institutions, while enabling those institutions to continue making loans to their customers and collect servicing income on them.

VIII. *IMPLICATIONS FOR MONETARY POLICY*

Capital markets may also discipline central banks in much the same way as the foreign exchange market. Should capital markets begin to lose confidence in the central bank's determination to hold the line on inflation, risk premia would tend to rise and prices of capital markets securities would fall as would the foreign exchange value of the currency. In these circumstances, the central bank will be inclined to rebuild confidence by pursuing a more restrictive monetary policy. Moreover, the awareness that financial markets function best in an environment of stable prices or low inflation tends to compromise the central bank's resolve to curb inflationary pressures and maintain an environment of relatively stable prices.

Capital markets also tend to alter the transmission of mone-

tary policy and can complicate the manner in which the central bank affects the availability and cost of finance. As more financing moves from the banking system to capital markets, the central bank's ability to exert direct control over credit markets through its influence over commercial banks diminishes. In these circumstances, the central bank must rely more on indirect methods of monetary control involving financing costs in open markets. Given that the more interest-sensitive sectors of the economy—housing and business investment—respond to longer-term interest rates as well as equity values, in situations where direct controls on credit, deposit, and lending rates have been removed, it is thought that monetary policy affects spending decisions importantly by changing the cost of finance in capital markets. Indeed, the central bank relies specifically on the efficiency of capital markets to transmit monetary policy impulses.

The increasing importance of capital markets in the U.S. financial system, especially securitization, has put more pressure on banks and other lenders to adjust their lending terms more promptly and more fully in line with movements in open market rates. Capital markets are forward-looking. As such, a change in the monetary instrument, currently the federal funds rate, may impact capital market prices depending on the perception of market participants. Should, for example, market participants come to see a rise in the federal funds rate as portending further increases, the impact on longer-term interest rates and equity prices will be greater than if they were to see no further action or even a reversal of this tightening in the near term. Indeed, the experience of the United States suggests that when monetary policy moves in a new direction, say the first tightening action after a period of easing or no policy change, the markets react more vigorously than when the same amount of tightening follows the initial move, evidently because there is more of a tendency to extrapolate further moves.

The members of the Federal Open Market Committee ("FOMC") must take this kind of reaction into account and the corresponding implications for financial markets and the economy when contemplating reversing the direction of policy. For example, preemptive or prompt and bold action to curb inflation, resulting in more restraint than market participants had been expecting, could lower expectations of future inflation.

This lowered expectation could decrease the cost of capital generally.

Forward-looking markets attempt to anticipate FOMC policy actions in advance of the actions themselves. Thus, we will frequently get a noticeable response in capital markets to a large surprise in the monthly labor market report or some other economic news bearing importantly on the direction of the economy, inflation, and associated policy measures. Some view this as a self-regulating feature of capital markets in the U.S. financial system today. For example, if economic reports suggest that spending in the economy is stronger than previously thought, interest rates throughout the maturity spectrum may rise. The increases in rates on capital market instruments will tend to curb spending in the more interest-sensitive sectors, keeping the economy closer to a sustainable path. What tends to be overlooked in such analyses, though, is the underlying reassessment of the prospective course of monetary policy that occurs among market participants. In other words, the market response has built in a tighter stance of monetary policy going forward, and, were the central bank not to validate those expectations, the market reaction to such news would undergo change, thus diminishing this self-regulating feature.

In view of the importance of capital markets in the United States, the Federal Reserve must monitor a much broader set of institutions and markets than when financing principally took place through the banking system. The Federal Reserve tracks developments in the markets for corporate bonds, commercial paper, mortgage pools, asset-backed securities, U.S. government bonds, and bonds of state and local governments and the equity market.

Related to the Federal Reserve's monetary policy responsibilities, the Federal Reserve also has responsibilities as a central bank for financial stability. At a time when a disruption in one sector of the financial system—be it the banking system or capital markets—threatens to spill over to other sectors of the financial system as well as to the economy more broadly, the Federal Reserve can play a constructive role by attempting to contain the disturbance through the provision of liquidity, be it through the discount window or open market operations, and through cooperation with other regulators. Thorough knowledge of the financial system and the various interconnections is key to this re-

sponsibility. Direct responsibility for at least some banking supervision is also vital in meeting responsibilities for monetary policy, financial stability, and payment systems. Through their role as banking supervisors the Federal Reserve acquires essential hands-on knowledge of the functioning of the financial system as well as key players in the system. Such knowledge is especially important in times of domestic or international emergency or financial crisis.

IX. POTENTIAL CHALLENGES OF CAPITAL MARKETS

The central bankers may need to assess whether a large price move in the value of an asset or a group of assets is a result of economic fundamentals or whether it is bubble based on emotional reactions of market participants (or simply inadequate information). When the central bankers believe that a bubble has developed, they must decide whether the price increase can or should be addressed directly with monetary policy actions, or whether monetary policy should only be used when the bubble is causing the economy to veer above a sustainable growth path, with undesirable implications for inflation. Also, a bursting bubble means that a sharp drop in asset prices and disruption to the financial system, including the banking system, is possible, and these prospects require special vigilance by the central bank.

Emerging financial markets can be especially vulnerable to "herd behavior" by investors, in part because of inadequate investor information or because those markets may be less liquid or deep and more subject to sharp revisions in investor expectations. When interest rates are low in industrial countries, investors may seek returns in riskier investments, such as those in emerging markets, but they may also flee those markets when they perceive the risk has increased or when the business cycle turns up in their home industrial country and domestic interest rates rise. In addition, short-term investors may be attracted to a market where the central bank is straining to maintain a fixed exchange rate and is defending it through relatively high interest rates, believing that they can get out before a devaluation occurs. Such occasions also highlight the importance of timely provision of relevant information to capital market participants,

to limit the possibilities that they will not be surprised by negative developments.

CONCLUSION

Deep and resilient capital markets have enhanced the efficiency of international financial systems, provided businesses and other borrowers with more financing options, and improved the financing of investment for economic growth. While capital markets pose new sets of challenges for central banks, they have generally complemented their efforts to achieve the goals of maximum sustainable economic growth and price stability.

It seems clear that as financial markets continue to become more integrated, bank regulators around the world will be seeing more of each other than they have in the past. Even in countries that have no internationally active domestic banks, authorities need to ensure that the banks operating in their markets are sound and subject to adequate supervision, whether by home or host authorities.

Banks operating imprudently without proper supervision or in the absence of capital market disciplines are most likely to mis-measure their risks, mis-price their products, and disrupt the markets. Detecting and deterring such institutions does not require us to have uniform regulatory or supervisory systems, but it does require a certain level of cooperation and coordination among supervisors, transparency, and a material level of consistency in international regulatory regimes.

The U.S. regulatory regime suggests that achieving and maintaining an appropriate convergence takes time. As managers of large financial institutions develop more sophisticated and more comprehensive risk management systems, they are paying less attention every day to the peculiar legal structure of their organizations. Regulators need to understand how banking organizations manage and control risks, as well as the full implications of their practices. By doing so, central bankers and international regulators can do much to insure the financial safety of depository institutions and protect the global economy from systemic failure, while still recognizing and accommodating the business needs of banks and market participants.

In developing laws and regulations, international regulators and central bankers need to work together. More impor-

tantly, perhaps, they need to understand the market forces and incentives that banks and capital markets face. In pursuing a common goal of incentive compatible regulation, international supervisors and regulators may develop regulatory systems that are both compatible among countries and less intrusive to the institutions they oversee.