Monetary authorities throughout the world are bedeviled by new challenges posed by the changing financial system. The problems confronted by the Federal Reserve are similar in many ways to the problems confronted by the Bundesbank, Bank of Japan, the Bank of England, the Bank of Canada, and the Bank of Italy. Monetary policy used to be a rather staid profession in which the rules of the game were fixed and understood. Outsiders might not like the rules; policymakers themselves might not always play by the rules; but at least everyone knew the rules.

In contrast, today’s central banker must navigate in uncharted waters. The global financial system is changing so rapidly that the old rules of the game no longer universally apply. New financial instruments are developed almost monthly, the thrust toward deregulation of domestic financial systems proceed apace, and financial markets are becoming increasingly internationalized in their scope. The rewards from financial change are potentially large: increased equity and efficiency.

This change in the financial system also poses important risks, however. These risks will be intensified unless central bankers can successfully adapt to financial change. They must adapt both the implementation of monetary policy and the regulation of financial institutions to the new environment. One danger in such a fluid financial situation is that central banks will be guilty of “fighting the last war.” Therefore, in the United States and other major developed countries, the focus must shift from domestic financial innovation and deregulation to the global integration of financial markets and to the new financial instruments developed in those markets.

Fortunately, many of the changes in international markets are similar to those that we have experienced in domestic markets. There are parallels in today’s global financial system to our experience with the U.S. financial system. The Federal Reserve’s response, therefore, need not
be entirely novel, but it must be an adaption, even a metamorphosis. The causes and consequences of financial change are much the same now as they were a decade ago, but its scope has expanded substantially. Thus, the range of factors that must be taken into account by central banks must expand commensurately.

Domestic financial change

Changes in U.S. financial markets have reflected in large part the accelerating inflation in the 1970s. Initially, market interest rates pushed above regulatory ceilings on deposits and certain types of loans. Powerful incentives were created for the development of new unregulated financial instruments and channels of intermediation. The most dramatic: money market mutual funds offered by brokerage firms and other nondepository institutions. In just a few years, these funds attracted nearly $250 billion. High and variable market interest rates also increased the internal rates of return from the application of electronic management of money balances. Electronic funds transfer systems enabled one to economize on regulated accounts by reducing the cost of transferring to deregulated instruments.

To restore competitive balance and remove distortions in credit flows, regulators and legislators have progressively removed interest rate ceilings in recent years. The phaseout of interest rate ceilings on virtually all U.S. deposits was completed earlier this year. By placing greater reliance on market forces, deregulation has produced a more efficient financial system and improved the allocation of credit. Without regulatory and legal constraints on interest rates, credit now flows to the uses that are most productive.

Interest rate deregulation has changed the channels of monetary policy. In the 1960s and early 1970s, monetary restraint had its effect primarily by reducing the availability of credit from financial intermediaries. The sectors most affected by monetary constraint were those that had limited access to the open market. The boom-bust cycle in housing, for example, was largely a result of the drying up of mortgage credit during periods of monetary restraint, followed by a burst of pent-up demand when monetary conditions eased.

Financial innovation and deregulation have also altered the relationship of monetary growth to ultimate policy objectives. Traditional monetary aggregates rely on a sharp demarcation between financial assets. Such a sharp demarcation was appropriate when regulatory barriers imposed sharp breaks in the characteristics of financial assets. With those barriers now largely eliminated, both the supply of and demand for financial assets are continuums, without any obvious place to draw the line between monetary assets and nonmonetary financial assets. The blurring of distinctions between financial assets has been manifested in much less predictable changes in the growth rates of the monetary aggregates. The most pronounced change has been in the velocity of M1, which behaved erratically in 1982-83 and again over the last several quarters. Consequently, the interpretation of M1 growth has been more difficult, and the weight placed on this aggregate in policy implementation has been reduced. The Federal Reserve has been forced to look at a wider range of economic developments in determining the direction of monetary policy.

Deregulation has also heightened depository institutions’ exposure to interest rate risk. Fortunately, financial innovation redressing this problem has continued. New instruments and
markets that allow interest rate risk to be transferred to third parties have proliferated. The secondary markets for mortgage-backed securities, for example, have allowed depository institutions to continue to meet their customers’ demands for fixed rate mortgage credit by funding such assets from pension funds, life insurance companies, and other institutions that have a better access to long-term funds. The burgeoning financial futures markets offer additional opportunities for transferring interest rate risks. Futures markets have also facilitated the development of a variety of new risk management products such as interest rate swaps, which smaller banks and thrifts may find easier to use than futures markets themselves.

Another effect of deregulation has been a blurring of distinctions between financial institutions. Thrift institutions have gained increased asset powers and have been authorized to offer consumer checking accounts. In recognition of the increased similarities among financial institutions, the Federal Reserve now counts one-half of thrift deposits along with commercial bank deposits in determining market shares. Securities firms have also offered bank-like assets in the form of money market mutual fund shares, and commercial banking organizations have pressed the limits of the traditional separation between commercial banking and investment banking by acquiring firms that offer mutual funds and other security services. The Board of Governors has urged that Congress reexamine U.S. banking laws to ensure that financial institutions that perform similar functions are subject to similar regulations.

Deregulation in the United States has occurred in the context of a general orientation toward the principles of open competition, freedom of action, and minimum government intervention in the marketplace. Even so, there are always vested interests that resist change. Much of the argument over banking powers has revolved around whether banks have been gaining or losing market share to nonbank institutions. There is no obvious economic reason why this should be the criterion by which the appropriateness of financial liberalization is judged. But one cannot ignore the fact that existing resource allocations reflect responses to the past legal and regulatory frameworks and that there will always be cries of foul when the rules of the game are circumvented or changed. We have also faced transitional problems associated with the existing portfolio positions of financial institutions and have encountered conflicts in objectives in the process of deregulation. The goals of efficiency and stability are both served best in the long run by financial reform. In the short run, however, the dislocations caused by deregulation have led to questions about the safety and soundness of the banking system and even about the overall stability of the financial system.

The combination of regulatory liberalization and market innovation has enabled financial institutions in the United States to engage in a variety of activities where risks are high or not easily assessed. Although this may tend to have favorable effects on competitiveness of markets and on the efficiency of capital allocation, it may also have negative consequences for the safety and soundness of institutions. Moreover, the U.S. deposit insurance system encourages institutions to take on greater risks without incurring a commensurately higher funding cost. In responding to the increased risks—as we did by imposing minimum capital guidelines for commercial banks—there is always a danger of intensifying pressures for banks to engage in novel activities outside the scope of our regulations. One reason banks have increased their off-balance sheet lending is to avoid the minimum capital guidelines that we earlier established. In response, the Board of Governors recently proposed a new supplemental capital standard that takes account of the off-balance sheet risk exposure as well as the risk inherent in more traditional bank portfolios.
The institutional strains—and indeed even fail-
ures—of the past few years have led to some
greater caution in our approach to financial
deregulation of late. It would be an exaggeration
to refer to this as reregulation, however. There
is no thought that we are going to retrace the
ground that we have traversed along the road of
deregulation. We believe that our economy
benefits greatly from having highly competitive,
flexible, and innovative financial markets. What
is needed is a realistic approach to reform that
preserves the elements essential to stability.

The developments outlined above have
dominated Federal Reserve monetary policy and
regulatory policy over the past decade or so. In
the past few years, however, a number of new
developments increasingly required our attention.
These developments are the international counter-
parts to the domestic innovation and deregulation
of earlier years. Foreign central banks have also
been required to turn their attention to the con-
sequences of the globalization of financial
markets. In such a rapidly changing international
financial environment, there is a danger that cen-
tral banks will lag behind the markets. Continued
preoccupation with domestic innovation and
deregulation without regard to the international
aspects of financial change would lead ultimate-
ly to inadequate methods of monetary policy im-
plementation and outmoded regulatory fram-
eworks for ensuring the safety and soundness of
the global financial system.

**International financial change**

Stimulus for international financial change has
come from the confluence of several related
developments. Deregulation of domestic markets
both in the United States and elsewhere has been
a catalyst for international financial change. Vol-
atility of interest rates and exchange rates has also
increased the incentive to find new ways for both
lenders and borrowers throughout the world to
limit their risk exposure. The unprecedented size
of international capital flows accompanying global
imbalances in international trade has spurred
development of new financial techniques and in-
struments for channeling funds across national
boundaries. At the same time, the move to a
floating exchange rates system expedited the
elimination of exchange controls that had
previously hindered the international flow of
funds. As in the case of domestic financial
change, the technological revolution has provided
increasingly sophisticated methods of transferring
funds from lenders to borrowers at a low cost.

The manifestations of international financial
change are everywhere apparent. The securitiza-
tion of debt, which has led in the domestic U.S.
market to mortgage-backed securities and in-
creased use of commercial paper in lieu of directly
negotiated loans, is also increasingly important
in international markets. As recently as five years
ago, syndicated bank credit accounted for more
than half of the total borrowing on international
capital markets. Last year it accounted for only
about 15 percent. Traditional bank credit has thus
been supplanted by issuance of bonds and notes
in the international markets. The most rapidly
growing instrument has been floating rate notes,
which have more than tripled their market share
in the past five years and now account for one-
fourth of the total borrowing on international
capital markets. Futures, options, and swap trans-
actions have also grown very rapidly.

Moreover, the currency denomination of inter-
national borrowing has changed substantially in
recent years. The share of international borrowing
denominated in U.S. dollars has declined from
over 80 percent in the early 1980s to just over
60 percent last year. The share denominated in
yen, sterling, and the ECU has more than doubled
over this same period, and dual currency issues
have grown substantially.

The competition for a share of the international
financial market has expedited the liberalization
of domestic financial markets. Deregulation of the London Stock Exchange scheduled for later this year and consideration of establishing an offshore banking facility in Tokyo are examples of what might well be called competitive deregulation. Governments recognize that unnecessary restrictions on financial transactions put their markets at a competitive disadvantage in attracting international financial business. The blurring of distinctions among U.S. financial intermediaries therefore has its counterpart in the blurring distinction among the currency denomination and the geographical location for international financial transactions. In both cases, the segmentation of financial markets that once existed is quickly disappearing. Borrowers seek the cheapest source of funds and lenders seek the highest return on funds without regard to the classification of the financial intermediary, the country in which that intermediary does business, or the currency in which the transaction is denominated.

Interest rate and exchange rate swaps are used to convert loans initiated in international markets to the currency denomination and maturity favored by the borrower. These swaps allow the interest rate and exchange rate risk to be shifted to the parties most willing—and, one hopes, most able—to bear such risk. Banks that arrange swaps are also subject to increases in credit risk, but that risk is often not apparent because swaps are an off-balance sheet form of financing.

Increased off-balance sheet financing is one example in which international financial change poses new challenges for financial regulation. The risk incurred by banks in their off-balance sheet lending should be offset by increased capital in order to maintain the safety and soundness of the system. Accordingly, the Federal Reserve recently published for public comment a supplemental capital standard that would take account of such off-balance sheet risk exposure in determining the appropriate level of capital for U.S. banks. The Board of Governor’s proposal is intended to be consistent with the guidelines used in other developed countries.

New challenge for central banks

This proposal is an example of the need to take account of the regulatory structure in foreign countries in developing U.S. financial regulations, which is essential to maintaining competitive equity and efficiency. When U.S. banks and other financial firms compete in a world financial market, regulation of U.S. firms cannot ignore comparable regulation of foreign competitors. The Monetary Control Act and the Garn-St Germain Act aimed to provide a level playing field among U.S. financial institutions; the same principle applies in international markets. Arthur Burns once warned of the danger of a "competition in laxity" among regulators of U.S. financial institutions. Without international cooperation among financial regulators, a similar competition in laxity could threaten the stability of the international financial system. The Federal Reserve, the Federal Deposit Insurance Corporation, the Federal Home Loan Bank Board, the

Increased cooperation and consultation among central banks are necessary to meet the challenges posed by the internationalization of the financial services industry.

Securities and Exchange Commission, and other U.S. regulators could take a parochial view by liberalizing U.S. financial regulations relative to those abroad to provide a competitive advantage for U.S. banks and securities firms. But it would be myopic to believe that such an advantage would not lead to comparable relaxation of foreign regulations. For the same reason that trade barriers invite retaliation and a trade war, competitive relaxation of financial regulations could invite an
unhealthy battle among nations to gain market share in the global financial markets. Both regulators and international financial institutions must devise ways to ensure the safety of the international financial system while retaining a system that is open for innovation.

Self regulation is one avenue for ensuring equitable and efficient monitoring of international financial markets. Self regulation is a well-established means of monitoring the actions of securities firms in the United States. The National Association of Securities Dealers establishes rules and oversees the performance of member firms. In addition, the U.S. banking and the thrift industries have recently taken tentative steps toward establishing the mechanisms for self-regulatory bodies. Self regulation will also be an integral part of the oversight of the deregulated securities industry in the United Kingdom. Under the Financial Services Bill currently before Parliament, membership in a self-regulatory organization is one way to obtain authorization for a firm to conduct securities business. As the competition among financial firms turns increasingly from internal domestic markets to world markets, it seems natural to expect that international self-regulatory bodies will evolve. A meeting of the top financial institutions that operate in the world’s major financial centers would be a useful first step for developing ways in which existing self-regulatory organizations can be melded into an international organization for the oversight of global financial markets and of firms that participate in those markets.

Government regulatory authorities cannot rely entirely on private, self-regulatory organizations to ensure the safety of the international financial system, however. Central banks have a unique role to play in maintaining the integrity of the world payments and credit systems. Because of this unique role, central banks also have a unique responsibility to ensure consistency of financial regulations across national boundaries. Consultations already take place under the auspices of the Bank for International Settlement. Such consultations are crucial because achieving consistency in regulation of international financial markets can be exceedingly complex.

The desirability of more uniform capital standards among countries, for example, is complicated by the diversity of laws and customs that govern each nation’s financial institutions. European banks, for example, rely heavily on provisioning rather than accounting capital as a cushion against risk. This difference makes it difficult to agree on what capital levels are in fact comparable. Despite such difficulties—indeed, because of such difficulties—discussions among central banks are essential for understanding the effect of foreign financial regulations and for achieving greater uniformity over time.

The rapid pace of financial innovation presents additional problems for the regulation of international financial markets. A large and growing proportion of international financial transactions employ instruments and methods that have only been developed within the last few years. As an example of the intricacy of international financial lending agreements, a U.S. bank recently led a syndicate that offered in the Euroguilder market a floating rate note issue that involved sale of an interest rate cap in addition to currency and interest rate swaps. Such complicated financial deals would have been unthinkable only a few years ago. Many of the instruments that were used to put together this offering have only become important in the past two or three years. There is some question about how well regulators—and indeed the involved financial institutions—understand the risk implications of these instruments, especially during periods when interest rates are rising.

Many of the more complicated types of financial arrangements in international financial markets entail contingent risk of a kind with which we have little experience. The subtle and com-
plicated credit risks banks incur in off-balance sheet financing could come to the fore if interest rates, exchange rates, or other factors change substantially. What are the potential implications for the liquidity of the bank in such a circumstance? What are the ramifications for the other parties involved in the transaction if the bank could not meet its contingent obligation? These are the types of questions with which central banks must increasingly concern themselves in the years ahead.

As central banks strive to solve the many regulatory and prudential challenges posed by the globalization of financial markets, they must also be concerned about the implications for monetary policy implementation. The deregulation of domestic financial markets in the United States and elsewhere led to increased importance of interest rates rather than credit availability as the primary channel for monetary policy in the late 1970s. Elimination or relaxation of exchange controls and other aspects of financial liberalization that increased the international mobility of capital have increased the importance of exchange rates as a channel of monetary policy in the 1980s. World financial markets increasingly conform to the economist's paradigm of instantaneous arbitrage among financial markets. Differences in the expected rate of return among assets denominated in different currencies are quickly eliminated by international financial transactions, not only those of the conventional type but also unconventional transactions that are not recorded in capital flows. The resulting change in exchange rates alters the international competitiveness of producers in various countries. The burden of monetary restraint thus falls increasingly on tradeable goods sectors rather than interest-sensitive sectors. The timing and magnitude of changes in output, employment, and prices that result from exchange rate changes can be very different from those that were obtained when monetary policy worked through the level of interest rates or availability of credit. Central banks have too little experience with the new and more complicated channels of monetary policy to confidently predict the timing and magnitude of the effects of monetary policy actions.

Central banks must thus contend with these complications to monetary policy implementation while at the same time devising improved methods for regulatory and supervisory policies. In all of these areas, increased cooperation and consultation among central banks and among financial institutions operating in world markets are necessary if we are to meet the challenges posed by the internationalization of the financial services industry.

The decade ahead thus promises to be a most challenging period for the Federal Reserve and for central banks throughout the world. They no longer have the luxury of familiarity with extant financial institutions and markets. Yet the stakes are too high to rely on trial and error. It is, therefore, imperative that central banks throughout the world share information, consult with each other about the possible consequences of monetary policies among countries, and devise innovative approaches to the supervision and regulation of financial institutions.

The "last war" both in the United States and in most other industrial countries was deregulation and innovation in domestic financial markets. The challenges of the next war are more difficult, however, because they entail deregulation and innovation in international financial markets. The complexity of the problems grows geometrically as the number of currencies, the number of financial instruments, the diversity of financial institutions, and the geographic location of major financial centers increases. By adopting forward-looking policies, central banks can ensure a world financial system that is more efficient, more equitable, and more sound. The rewards of financial change can be realized without suffering unduly from the attendant risks.