FEDERAL RESERVE BANK OF NEW YORK

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FEDERAL RESERVE BANK OF NEW YORK

February 12, 1987

To the Depository Institutions in the
Second Federal Reserve District

I am pleased to send you our seventy-second Annual Report, which this year presents a longer view of financial market structure.

E. Gerald Corrigan
President

Federal Reserve Bank

of New York

SEVENTY-SECOND ANNUAL REPORT

For the Year

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FINANCIAL MARKET STRUCTURE: A LONGER VIEW

E. Gerald Corrigan
President

In recent years the pace of change and innovation in financial markets and institutions here and around the world has increased enormously as have the speed, volume and value of financial transactions. The period has also seen a greatly heightened degree of aggressive competition in the financial sector. All of this is taking place in the context of a legal and a regulatory framework which is increasingly outdated and ill-equipped to meet the challenges of the day. This has led to a widespread sense of both frustration and concern—frustration with real and perceived competitive inequities growing out of the current situation; frustration with the inability to reach anything resembling a consensus as to what should be done; and concern that the fragility of the system has increased in part because the degree of operational, liquidity and credit interdependency has risen sharply.

In this setting, the Federal Reserve Bank of New York has undertaken a series of interrelated initiatives designed to enhance our understanding of these developments. This was done in order to help us better discharge our day-to-day responsibilities, but also in the hope that these efforts could contribute to a more coherent vision of the steps that might be taken over time to strengthen both the workings of the financial system and the functioning of the supervisory framework associated with banking and finance. These efforts have concentrated in three areas. First, the Bank, in cooperation with the G-10 central banks, completed and published a study, *Recent Innovations in International Banking* which, among other things, served as the catalyst for a two-day conference of about 80 international financial leaders—both public and private—which was held at the Federal Reserve Bank of New York in May 1986. Second, the Bank has also published a comprehensive study, *Recent Trends in Commercial Bank Profitability*, with emphasis on the role and viability of the traditional "bank" as the major credit intermediary, the operator of the payments mechanism, and the repository of the bulk of society's liquid assets. Finally, the Bank has undertaken a series of studies regarding the operation of large-dollar electronic payments systems with emphasis both on their

operational characteristics and the credit and liquidity risks they may pose for individual institutions and for the banking and financial system as a whole.

The purpose of this paper is to bring these elements together in a fashion that suggests a long-run approach to the structure of the financial system and the official supervisory apparatus associated with the system. The paper is divided into five sections. The first looks at recent patterns of behavior in banking and finance with emphasis on emerging trends which are of particular concern from the vantage point of the prospective stability of the system. The second attempts to set forth a view of the *functions* of the banking and financial system which are of particular importance from a public policy perspective. The third section looks at the broad public policy options that are available regarding the future evolution of the structure of the financial system. The fourth section lays out, in general terms, alternative approaches aimed at strengthening the structure and workings of large-dollar electronic payments systems—systems which have become the vehicle through which financial shocks can quickly be transmitted to a large number of institutions on a worldwide basis. The final section sets forth a general and longer-term proposal which could serve as a series of guideposts relating to the evolution of the financial structure in the years ahead. The paper concludes with a brief summary of its major proposals.

At first blush, the proposals contained in the paper appear controversial, if not radical, in scope and character. In fact, the proposals are financially conservative because they seek to better rationalize and strengthen the financial system in a manner that relies heavily on competitive and market forces, while at the same time providing greater continuity and flexibility in the workings of the public safety net surrounding banking and finance. Moreover, when looked at in the light of what has already occurred, and/or when compared to the available alternatives, the proposals are certainly not radical. This is especially so when it is recognized that movement toward any such structure would have to be phased in over a period of years. Most importantly, the package of suggested changes should produce a stronger and more flexible system than the one we have today or certainly the one we will have if we continue to permit the system to evolve by loophole exploitation, legislative inertia and the tendency for banking and financial activities to seek out the point of least supervisory resistance.

Banking and the Public Interest

The paper and its proposals take as a basic point of departure that, even in this age of deregulation, there are public interest considerations associated with the operation of

the banking and financial system that call for a higher degree of official supervision and regulation than is needed in other kinds of business enterprise. The specific emphasis of the broad public interest considerations associated with banking and finance—including, for example, concerns about concentration, conflicts of interest, investor or depositor protection and unfair competition—may and do change from time to time and from place to place. However, the fundamental considerations which give rise to public policy concerns about banking were recognized long ago and even in such libertarian treatises as Adam Smith's *The Wealth of Nations*. Indeed, it was in *The Wealth of Nations* that the issue of systemic risk in banking was put forward as the fundamental rationale for the regulation of banking even though, in Smith's words, such regulation is a manifest violation of natural liberty. Specifically, Smith wrote:

> "To restrain private people, it may be said, from receiving in payment the promissory notes of a banker, for any sum whether great or small, when they themselves are willing to receive them; or, to restrain a banker from issuing such notes, when all his neighbours are willing to accept of them, is a manifest violation of that natural liberty which it is the proper business of law, not to infringe, but to support. Such regulations may, no doubt, be considered as in some respect a violation of natural liberty. But those exertions of the natural liberty of a few individuals, which might endanger the security of the whole society, are, and ought to be, restrained by the laws of all governments; of the most free, as well as of the most despotical. The obligation of building party walls, in order to prevent the communication of fire, is a violation of natural liberty, exactly of the same kind with the regulations of the banking trade which are here proposed."

The debate about how best to adapt the contemporary legislative and regulatory framework associated with the financial system has been raging for some time. However, far too often that debate seems to be fueled by self-interest considerations as to whose ox will be gored or whose nest will be feathered by a particular change. While those competitive issues are present and must be taken into account, what is at stake is far more important, for it ultimately involves the stability and well-being of the system as a whole. Looked at in that light, my purpose in making this paper public at this time is, in part, an effort to focus the debate on the broader threshold issues associated with the structure and workings of the financial system and, in part, to suggest an approach that seeks to look not just at discrete pieces of the problem but rather to look at the

situation as an integrated whole. Thus, the paper is intended to sharpen the focus of the debate and thus enhance the likelihood that needed reforms will be forthcoming in a way that is sensitive to competitive considerations but also, and more importantly, that work in the direction of strengthening the system.

I. A SUMMARY VIEW OF THE CURRENT SITUATION

While it would be impossible to attempt to capture in a few pages all that is going on in the financial marketplace, the changes we are seeing are so profound and so complex that it does seem important—as a matter of perspective—to cite briefly some of the more significant influences and to summarize their implications.

- **Money and capital markets are now truly international in character**. Markets for U.S. Government securities, interbank lending and borrowing, foreign exchange trading—to cite a few examples—operate continuously and in enormous size around the clock and around the world. As a result, there is a greater danger that disruptions or problems in one institution, one segment of the market, or one geographic location can quickly be transmitted to other institutions, other segments of the markets or other geographic locations.

- **Barriers between classes of financial institutions are becoming increasingly blurred**. Indeed, at present the historic separation of banking and investment banking is being seriously challenged in both directions. Here at home, investment banks and securities companies are now major providers of "banking services;" they are direct suppliers of credit to a wide range of financial and nonfinancial clients; they offer to the public financial instruments which are very close substitutes for interest-earning demand deposits; in increasing numbers they own and operate "nonbank" banks which, among other things, provide access to the payments mechanism; and, finally, abroad, they are beginning to acquire traditional banking institutions. On the other hand, commercial banks have made major inroads into investment banking activities in the United States and in many instances own and operate full-blown investment banking affiliates abroad. This ad hoc breakdown of the separation of banking and investment banking is not something that can easily be reversed, especially in the face of its international dimensions.

- **The separation of "banking" and "commerce" more generally is also being increasingly challenged**. For a long period of time, there have been certain generally accepted "incursions" of nonfinancial business into banking and finance, as, for example, via the captive auto finance companies. In recent years, however, the nature and extent of the incursion of commercial firms' ventures into banking and finance have resulted in a situation which is not just a change in degree but rather is a change in kind. Combinations of major retailers and manufacturers with securities companies, insurance companies, thrift institutions and with nonbank banks are now commonplace. The once narrow financial activities of the captive financial companies of major manufacturing firms, in a number of cases, have expanded enormously such that several of these entities have become significant competitors to traditional financial institutions offering, as they do, a wide range of credit, investment banking and insurance services to corporate and household clients alike.

- **The nature and incidence of interest rate, exchange rate, and credit risk are changing** in ways that may have longer-term and cyclical implications that are not fully understood at the present time. In some instances, the ways in which, say, interest rate risk is shifted is conceptually straightforward as in the case of the floating rate loan which shifts interest rate risk from the intermediary to the borrower. In other cases—as with complex options, futures or swap transactions—price and credit risks may be redistributed in ways that are not fully understood by the parties to such transactions. While there can be no doubt that these devices provide a vehicle by which individual counterparties can protect themselves from certain contingencies, several other things are equally clear. For example, we know that there is no such thing as a perfect hedge, and we know that the system as a whole cannot be hedged. Stated differently, in the aggregate these devices cannot reduce risk and in some indirect ways may even increase systemic risk. Similarly, it is important to keep in mind that many of the devices now widely used to redistribute or transform price and credit risk have not been put to the test on a large scale over one or more full interest rate and business cycles nor have they been widely tested in the courts.

- **The securitization of the liabilities of households and businesses is spreading very rapidly**. This process of securitization generally takes two forms: the direct

issuance of securities or the packaging of "conventional" loans by banks and other intermediaries for sale to the market in the form of some kind of a pass-through or other security. The wave of securitization reflects two broad considerations: first, for many the cost of financing in the securities markets is less than the cost of bank financing; and, second, for intermediaries it has become desirable—whether for purpose of greater liquidity or to provide more flexibility within capital constraints—to off-load certain classes of assets by "securitizing" classes of debt instruments and selling them into the market.

However, in either case, the securitization process is one in which the traditional intermediary may maintain very sizable contingent credit or liquidity responsibilities for the securities in question. Indeed, one reason for the recent rapid growth in securitization is that in many instances the securities in question are issued with features by which at least some of the contingent liquidity or credit risk is assumed by the banking or other intermediaries. It is perhaps ironic that while many observers regard securitization as the greatest threat to the continued economic viability of the traditional bank intermediary, it is in no small way the standbys and guarantees of the banks that make the securitization process attractive to investors and issuers alike. That apparent anomaly notwithstanding, the rapid growth of securitization is having a profound impact on the credit origination process in the United States and elsewhere. Indeed, to the extent that securitization continues to grow rapidly and to spread to other categories and classes of credit, even larger questions will arise relating to the role of the intermediary, the size and implications of contingent claims on financial institutions and the capacity of the system to "workout" problems.

As an extension of the securitization process, the credit intermediation process is being "unbundled" into multiple discrete pieces with different entities having particular responsibilities for debt origination, debt placement, debt servicing, debt insuring, and debt liquidation. This unbundling process presumably reflects the benefits of specialization but it also raises questions as to how well the system as a whole can respond to credit and/or liquidity shocks.

- **At least for large banks, the rate of profitability in intermediation activities is under pressure.** Indeed, while the level of profits is generally rising, the rate of profitability—especially in traditional commercial lending activities—seems relatively low and under pressure. While some, and perhaps much, of this situation may be an outgrowth of asset quality problems arising in part from the extraordinarily

difficult economic environment of the past decade, a good part of it also seems to reflect structural factors as highlighted by the loss of the lending relationship with blue chip corporate borrowers. To some extent, the structural predicament of large banks may reflect the cost of being "regulated" institutions, but on examination, the direct costs of reserve requirements, FDIC insurance, etc., simply are not large enough to be decisive, especially when it is recognized that these features also produce benefits to traditional banks. Nevertheless, the force of events in the marketplace—including new and multi-faceted forms and sources of competition—is at least raising a question as to whether, over the long haul, traditional banking organizations can—within existing restraints—maintain the competitive edge needed to ensure adequate returns in a more complex and perhaps more risky environment.

- **Spreads and fees associated with at least some financial services may not be providing returns that are commensurate with risks.** Theoretically, underpricing cannot exist as a long-run condition. However, in the case of the theoretical model, underpricing is eliminated by a shrinkage in the number of suppliers brought on by economic losses and failures. At least at the moment, the opposite seems to be the case in banking and finance. Indeed, when one takes account of function rather than form and foreign as well as domestic competition, the current situation in banking and finance seems, if anything, to be one in which large numbers of firms seem to believe they can feather their own nests at the expense of someone else while that someone else has the same motivation but in the opposite direction. Regrettably, it would seem this process can only put further pressures on prices and spreads and thereby elevate the risk that the transition process will be disorderly—something that we must be especially sensitive to in banking and finance.

- **We are seeing a virtual explosion in financial transactions and short-run volatility in the prices of most classes of financial instruments.** It is difficult to judge just how large the daily flow of financial transactions is, but transactions observed daily by the Federal Reserve Bank of New York exceed $1 trillion, on average. While we can't be certain, it is entirely possible that transactions in the New York financial marketplace that bypass the New York Fed could easily be 50 percent of those we see such that total payments in the New York market may be approaching one-third or more of the annual GNP per day. Similarly, the extent of financial instrument price volatility is hard to pin down accurately. Surely, conventional statistical measures of price changes suggest that daily, weekly, monthly and quarterly

price volatility for many classes of financial instruments is greater than it once was. But those conventional measures do not fully capture the extent to which we now see intraday or even intrahour movements in financial asset prices that not long ago would have been unthinkable. Such price volatility can, of course, be the source of sizable trading profits but the opportunity for profit, of necessity, implies the opportunity for loss, and the event of large losses in a highly interdependent system can inflict serious damage on parties far removed from the initial point of loss.

- **Payment and settlement risk have increased sharply in recent years.** Insofar as the system as a whole is concerned, these risks are heavily concentrated in large-dollar electronic payments systems—primarily the Fed's own funds and securities transfer systems and the New York Clearing House CHIPS system—but they are also present in a series of domestic and international clearing and settlement systems. These large-dollar payments systems link together all major financial institutions on a worldwide basis—but especially the large banks and large securities houses—in ways that create operational, liquidity and credit interdependencies that stagger the imagination. Because they are so large, so fast and so interdependent, even temporary computer or mechanical failures can be highly disruptive beyond the institution where the breakdown originates. Needless to say, these large-dollar payments systems are even more sensitive to a major credit or liquidity problem of any direct participant. Indeed, either a major mechanical disruption or the inability of a major participant to meet its obligations could produce a problem that could spread quickly to many other participants and in the process bring on a major disruption in the financial markets generally.

- **Finally, it should also be recognized that many of the trends cited above have materialized in force over the past three or four years.** As such, they have not been tested over one or more interest rate or business cycles—cycles which at some point surely will reappear.

Summary

The speed and scope of change we are seeing in our financial markets and institutions have taken on a revolutionary character. But, revolutions do not occur in a vacuum—they have their causes. In this particular case, many of the causes are to be found in

patterns of economic performance here and around the world over the past decade or more. Over the same time frame, innovation has fostered the application of very sophisticated forms of mathematics and computer technology to the financial marketplace, making possible the design of new techniques, new instruments, and worldwide trading and funding strategies. These developments have worked to highlight longstanding differences in supervisory, tax, accounting and regulatory treatment of classes of institutions here and abroad, thereby further sharpening competitive differences and incentives for patterns of behavior which exploit loopholes and circumvent supervisory policies. Thus, while it is beyond debate that the process of change and innovation has brought with it important benefits, there persists a nagging sense of unease—a sense of unease that is prevalent among financial market practitioners themselves—that all is not well. To some considerable extent, that sense of unease seems to grow out of the concern that legitimate broad-based public interest considerations about the structure and stability of financial markets and institutions are being swept aside in a helter-skelter of events that lacks an underlying sense of direction and may be weakening the system.

In considering this crosscurrent of events and circumstances that is at work in the financial marketplace, there is one further point that should be raised. Namely, there is also the subtle danger that the developments we are witnessing—at least at the margin—are being reinforced by a belief that the public safety net associated with banking and finance will protect not just the system as a whole but also all of its individual component parts, including those who have acted in an irresponsible and undisciplined manner. To the extent that perception exists, it must be changed, for of all the freedoms contemplated by the current environment, the freedom to fail must be part of the equation.

II. FINANCIAL FUNCTIONS AND THE PUBLIC INTEREST

There can be no doubt that there are aspects of banking and finance which are cloaked with a public interest. Indeed, while the details differ from time to time and place to place, here and around the world, banking and finance are subject to a higher degree of official oversight or regulation than is the case for most classes of business enterprises.

In the United States, much of the focus of such official supervisory efforts is aimed at specific types of institutions which in turn reflects our historical bias in favor of specialized financial institutions. While that system worked very well for many years,

the progressive blurring of the lines of distinction among classes of institutions which took hold in earnest in the late seventies and has accelerated in the eighties has, to put it mildly, confused matters. Thus, in order to provide a framework for further analysis, it would seem useful to identify what it is about banking and finance *in functional terms* that really matters from a public policy perspective, without particular regard to what forms of institutions provide those functions. To the extent we can identify the functions we care about, it may be easier to form a coherent view as to how institutional arrangements can best be adapted to the public policy concerns associated with those functions without exclusive regard to the institutional trappings within which those functions take place.

There are two underlying functions of a banking and financial system: first, to provide an institutional framework which can efficiently bring together savers and investors and thereby facilitate an efficient allocation of scarce capital resources; and, second, to provide an efficient mechanism through which the payment flows needed to sustain economic growth and prosperity are maintained. In looking at the banking and financial system in this very broad light, several other things stand out. First, both of the fundamental functions of the financial system cited above imply the use of credit; that is, one party having the use of some other party's money. In turn, since the extension of credit is so vital to the financial system, the credit decision-making process must be rigorous and yet flexible, and it must provide a mechanism that can solve problems and supply liquidity without undue dependence on the central bank or other public bodies. Finally, because of these functions, the banking and financial system is the hub of the overall economic system through which changes in monetary policy influence the economy at large. Since this role has been discussed at such great length elsewhere, that particular aspect of banking and finance will not be treated in this discussion.

In order for a banking and financial system to be able to provide these basic functions, it must be equipped to perform certain more specific functions as outlined below.

The Need for Liquid Transaction Balances

The efficient working of a large modern economy clearly requires the presence of a stock of financial assets which are highly liquid *and* readily transferable, thereby facilitating the broad range of transactions needed to sustain the real and financial sectors of the economy. To be highly liquid, such assets must be available to the owner at very short notice (a day or less) at par. To be readily transferable, ownership rights in such assets must be capable of being readily shifted to other economic agents, also at par and in a

form in which they are acceptable by that other party. For many years, financial assets which satisfied these criteria were largely confined to currency and bank-issued demand deposits. To be sure, there were other financial assets—such as savings deposits—which were in practice (but not in law) payable on demand at par but even those assets could not be directly transferred to a third party.

The dictates of efficiency require, of course, that if we are to have this class of liquid transaction balances we must, as a practical matter, look to some form of institutional arrangement as the mechanism through which that degree of liquidity and transferability can be provided. In other words, there must be some kind of an institution which can gather liquid assets from households, businesses and others and convert them into a form in which they can serve an economic purpose when not being used by the owner, while at the same time insuring that they are available for use by the owner, on demand, to facilitate transactions. And, needless to say, the institution providing that service must be able to earn a high enough return to attract the capital resources needed to support such activities.

However, when an institution finds itself in a position in which a significant percentage of its liabilities is, in fact or in perception, payable or transferable on demand *and* when such liabilities represent the liquid savings of a diverse group of households, businesses and other enterprises, that institution takes on a very special burden and trust. In its simplest form, that special fiduciary burden means that the institution holding such liquid assets of the public must lend and invest such monies in a way that is safe and prudent, while at the same time earning sufficient profits to attract capital. If for any reason, but most often because of poor quality assets, the owners of such liquid claims conclude that the issuing institution cannot meet its obligations *or* third parties will not accept payment orders drawn on that institution, the institution in question is in severe difficulty for the holders of such liquid assets will, quite naturally, seek to reposition such assets in another, safer, institution. Taken one step further, if the owners of such claims begin to question the condition of a group of such institutions, the specter of highly destabilizing deposit runs and panics is raised. By extension, of course, all of this implies that public confidence in such institutions is the bedrock upon which such arrangements ultimately rest. If that confidence is undermined, liquidity strains—or worse—are inevitable.

As noted earlier, until fairly recently bank-issued demand deposits were the predominant form of these highly liquid assets held by the public at large. Dating back to the thirties, some threshold level of such deposits was federally insured in part to protect small depositors but also to mitigate destabilizing and confidence-shaking deposit runs. However,

over the past decade, the marketplace has successfully developed a range of new products which are very close functional equivalents of demand deposits.

The fact that financial markets and institutions have developed these close substitutes for demand deposits has, of course, important implications. For one thing, all of this has severely complicated the definition, measurement and control of the money supply. More to the point in the current context, however, it has also carried with it important competitive implications in that less-regulated or even essentially unregulated institutions are now able to compete directly with "banks" in the transaction account business. While added competition is generally to be welcomed, if the function of providing liquid transaction balances is central to the public policy interests associated with the workings of the financial system and the economy, that function should be of concern regardless of the class of institution within which it is housed.

The Operation of the Payments System

An economic system and a financial system can only be as efficient and as safe as its payments system. In turn, the efficiency and safety of the payments system rests importantly on the extent to which the maker or recipient of a payment for a good, a service, or a financial transaction has confidence that the payment can and will be honored since this process—by its very nature—entails timing gaps of varying lengths. In turn, these timing gaps necessarily imply that the process of making and receiving payment is the process of extending credit, even if that credit is extended only for a day or an hour. In short, the payments system as we know it today is a credit system.

In some instances, the party extending credit in the process of making payments is willing to do so because that party has detailed knowledge of the creditworthiness of the other party. But, in most transactions, that condition is not present—especially when an individual payment is part of a chain of payments—and yet the system works, and works remarkably well. The reason for this, of course, is that the millions of economic agents who daily make and receive payments look to others—and especially to banking and financial institutions—to provide the credit and control checks which they cannot reasonably be expected to provide on their own.

The payments mechanism in the U.S. can be viewed as having a "retail" and a "wholesale" component, a "paper" and an "electronic" component, and a "domestic" and an "international" component. All are important; all entail extensions of credit; and all are vulnerable to financial disturbances, especially disturbances growing out of

serious problems at individual financial institutions that are the conduits through which payments are made. Indeed, the failure—especially the sudden failure—of even small financial institutions inevitably raises very difficult questions bearing on the status of payments in the process of collection which are drawn on the failed or failing institution. However, while there are important questions bearing on the safety and reliability of "retail" and "paper" based payments systems, of greatest importance for the safety and stability of the financial system as a whole are those questions relating to the operation of "wholesale" or large-dollar electronic payments systems which increasingly entail foreign as well as domestic transactions and institutions.

The Large-Dollar Payments Systems

In the U.S. the size and speed of large-dollar electronic payments systems are staggering: daily payments over these systems are well in excess of $1 trillion or about one-quarter of the annual GNP. The vast majority of payments made over these large-dollar payments systems are associated with wholly financial transactions such as the buying and selling of funds among banks, purchases and sales of securities, purchases and sales of foreign exchange, etc. Also, since under current arrangements the vast majority of all dollar-denominated payments must ultimately be settled in the U.S., these large-dollar payments systems have a distinctly international character which link not just major financial institutions in the U.S. but all major financial institutions on a worldwide basis. The large-dollar payments systems in the U.S. are operated jointly by the commercial banking system and the Federal Reserve Banks. While there are thousands of banking institutions which have direct access to the payments system, there is a comparative handful of large organizations which accounts for a very sizable percentage of the hundreds of billions of dollars in transactions which flow through the large-dollar electronic payments system in the typical day.

As noted earlier, the operation of the large-dollar electronic payments system is centered in two institutions: the Federal Reserve Banks and the New York Clearing House Association. In addition, in recent years a number of other clearing arrangements for various classes of securities and financial instrument derivatives such as futures and options have been developed that would fit most definitions of "large-dollar payments systems" and entail clear elements of systemic risk. But as of now, the Fed system and CHIPS are by far the most important.

The New York Clearing House Association operates CHIPS, which is a provisional payments system used largely for making and settling dollar-denominated international payments. Daily payment flows on CHIPS average $450 billion. Peak volume days have entailed transactions of about $800 billion. These payments are made on a provisional basis during the course of the day subject to final settlement at the Federal Reserve Bank of New York late each afternoon.

The Fedwire system consists of the Federal Reserve's nationwide telecommunications system for the movement of funds and U.S. Government securities among foreign and domestic banks and thrifts operating in the U.S. The daily volume and value of payments made over Fedwire are enormous. For example, at the New York Fed alone, the daily average volume of funds and securities transfers approximate $400 billion and $250 billion respectively. Peaks in the neighborhood of $500 billion per day have been experienced on *both* the funds and securities wires.

Direct access to both CHIPS and Fedwire is limited to banking institutions while bank customers, whether they are securities firms, insurance companies, manufacturing companies, or households, gain access to the system only on the terms and conditions—including credit conditions—permitted by their depository institutions. For large users of these systems—whether through direct access of the banks or the indirect access of bank customers—access is via computer-to-computer linkages such that the speed with which payments are made and exposures incurred is enormous.

The day-to-day operation of these large-dollar payments entails very sizable amounts of credit exposure by all participants—including the Federal Reserve Banks—to a wide array of institutions in every part of the world. The amount and incidence of such exposure varies from one institution to another and is generally confined to relatively short periods of time, but the hard fact of the matter is that linkages created by the large-dollar payments systems are such that a serious credit problem at any of the large users of the systems has the potential to disrupt the system as a whole. Moreover, as we have seen, even a significant computer or mechanical problem at a major institution can be highly disruptive and, if extended over more than a day, could force these systems to grind to a halt, throwing into question contractual and other obligations associated with hundreds of billions of dollars in payments. Therefore, even with mechanical problems, but especially with credit problems, the large-dollar payments systems—because of their size, speed and interconnections—have the potential to trigger the feared chain reaction whereby a problem at one major institution can all too quickly cascade to other institutions and markets.

While the likelihood of such an event is remote, the fact remains that if such a problem were to develop, its consequences could be highly destabilizing to any number

of institutions and to the markets more generally. Thus, while there are important public policy issues associated with the safe and efficient operation of the "retail" and "paper" based aspects of the payments systems, the safe and uninterrupted operations of the large-dollar electronic payments system is absolutely indispensable to the safe and prudent operations of the banking and financial system and to the economy at large.

The enormous volume of payments made daily—most of which relate to wholly financial transactions and most of which are associated with a relative handful of financial institutions —are supported by a relatively small pool of "cash" balances in the system as a whole, balances which in relation to transactions volume are becoming even smaller. These cash balances include interbank demand deposits, the reserve balances held at the Fed by depository institutions and the demand balances held at banks by the nonbank users of the large-dollar electronic payments systems. Since the volume of transactions is such a large and growing multiple of the stock of cash balances in the system as a whole, the amount of credit associated with the operation of the system at discrete points in time is also large and growing. For example, the reserve balances held at Reserve Banks by individual banking organizations may turn over one hundred times per day or more while the aggregate intraday overdrafts can exceed $100 billion at specific points of time over the course of the day. This, of course, merely reinforces the point that the operation of the payments system—but especially the large-dollar electronic payments system—is essentially the operation of a credit system; a system in which the duration of exposures may be short but the amounts of exposures and the interconnections associated with them are very large indeed.

The Credit Decision-Making Process

The financial system is a credit system in that its very essence reduces to institutions making informed and objective decisions about the creditworthiness of those to whom credit is extended. An efficient financial system can bring together savers and borrowers in two principal ways. The first is via the traditional intermediation process whereby the financial institution makes loans and investments with the funds it has garnered through its deposit-taking, market borrowings and other sources of funding. Within this framework, the financial institution makes the credit decisions subject, of course, to the constraint that a pattern of faulty credit decisions will ultimately jeopardize its capacity to retain liabilities—especially demand-type liabilities.

The second mechanism for bringing together savers and borrowers is via the securities markets wherein debt or equity securities are sold directly to investors. In this context, however, the credit judgment is ultimately made by the individual investor with important assistance from underwriters and rating agencies and, as illustrated by recently enacted legislation governing the government securities market, an ever-widening network of investor protection regulations and financial backstops.

For those who have access to the securities markets, the choice of raising funds via the intermediary or the securities markets is often a straightforward matter based on lowest cost. However, in looking at the system as a whole, things are not that simple. Access to securities markets for private borrowers does not occur in a vacuum; it is earned and importantly so through banking relationships. Moreover, securities markets are not particularly well-equipped for coping with severe liquidity strains or "workout" problems for individual borrowers. It is primarily for these reasons that bank intermediaries often provide the backup facilities that permit the securities markets to function as they do. Thus, in the most fundamental ways the credit intermediaries and the securities markets surely compete with each other, but they also complement each other in some essential respects. Moreover, while one can readily picture a financial system in which the role of the securities markets is very limited, one is hard pressed to visualize a contemporary financial system in which credit intermediaries are not a major feature of the financial and economic landscape. To put it directly, the credit intermediaries provide certain functions which cannot be as readily performed by the securities markets, at least as we know them.

Regardless of the precise way in which credit is extended, the stability of the system requires that the credit decision-making process be rigorous and objective and that it be able to screen out, or at least isolate, bad credits while at the same time reasonably insuring that economic agents with legitimate credit and liquidity needs have the capacity to borrow at reasonable costs. However, an effective credit apparatus must, by its nature, entail risk-taking and as an extension of that must also provide room for the extension of credit to borrowers in the face of adversity. Finally, an effective credit apparatus must also have the flexibility to solve problems when, as will be inevitable, they arise, in a manner which is not disruptive or destabilizing to the system as a whole. Among other things, this requires that the system have the capacity to absorb losses in an orderly way since some losses are an inevitable part of the risk-taking which is, and must be, part of the process of economic growth and innovation.

Looked at in this light, the credit decision-making process must be not only rigorous and objective, but it must also be continuous. The process does not end when a loan

is made or a security is issued but rather, it must remain operational—even in a different way—so long as the commitment, the loan, or the security is outstanding.

The Role of Commercial Banks

In the United States, as elsewhere, the commercial banking system has, historically, been at the center of the credit decision-making apparatus. For one thing, private firms or entities typically do not enjoy stand-alone direct access to the securities market without having first earned and demonstrated their creditworthiness in their conventional banking relationships. Indeed, even the recent wave of "securitization" which has broadened the population of those with direct access to markets is occurring in part because many of the securities in question are issued with some kind of a credit or liquidity backup facility in the commercial banks. The increased use of these backup facilities reflects another unique feature of the banking system. That is, because the bank historically carried the debt instrument on its books, and because it was—and is—the backup source of liquidity to its clients, the bank played the role not just as the originator of the credit, but also as the ongoing credit watchdog and the specialist in resolving credit problems in an orderly way once they arose. In contrast, when the credit extension process takes the form of securities issuance, the holder of the security does not typically have the same capacity to monitor the credit standing of the issuer over the life of the security. More importantly, because security holders tend to be diverse and large in number, such suppliers of credit have little capacity for after-the-fact problem-solving short of triggering default provisions which, of their nature, can give rise to disruptive proceedings.

Looked at in this light, the commercial bank's role as a credit intermediary was special not only because it originated credit subject to the quality constraint imposed by the presence of demand liabilities but also because its liability structure and its ongoing profitability required that its association with the credit decision-making process was both rigorous and continuous. The bank's business relationship with its customer gave it a strong comparative advantage in making credit judgments, in the first instance, but also in continuously monitoring the credit once it was extended and, where necessary and appropriate, in helping to overcome adversity by the classic "workout" of the problem loan. Looking at the stability of the system, the continuous association of the bank with the debtor—including the "workout" of problem situations—is just as central to the credit decision-making process as the initial extension of credit. More importantly,

if the functions of the credit watchdog, the workout specialist and the backup source of liquidity to others are essential to the stability of the system, some class of institution short of the central bank, regardless of what it is called, must be positioned to provide these functions in an otherwise profitable context.

To some unknown extent, traditional commercial banks have lost some of their comparative advantage in the credit decision-making process. The institutionalization of savings, the growth of credible debt rating services and the spread of technological and market innovation have produced a situation in which a broad range of institutions and market participants are able to make informed credit judgments even though, as noted earlier, many of those judgments are still indirectly resting on established banking relationships, including backup or contingent credit and liquidity arrangements. Because of this curious blend of circumstances, the bank's role as the originator and holder of credit to high-quality borrowers has been significantly undercut. Moreover, recent events illustrate that even lower credit quality borrowers have direct access to the credit markets—aided in some instances, ironically, by the bank backup facilities.

Striking a Balance

Therein lies the dilemma. On the one hand, the direct extension of credit via the securities market can be highly efficient, especially for high quality borrowers, but perhaps increasingly to others as well. On the other hand, traditional intermediation provides the process and the profits to grant credit and to monitor it over time, to provide a liquidity backstop short of the central bank and to solve problems in an orderly way when they arise. Thus, as events seem to work in the direction of unbundling the credit process there is at least a question as to whether that unbundling yields results which will preserve the integrity of the credit decision-making process *as a whole*, while still providing an institutional mechanism that can solve problems and provide liquidity in a manner consistent with the dictates of profitability and stability.

One thing, however, is clear: credit is central to the operation of the financial system and the payments system; as such, decisions to grant or to deny credit must be made consciously, objectively and rigorously. And, a credit system must have safety valves which permit the inevitable credit problems to be isolated from the system as a whole and worked out by those who have not just a financial interest in the workout but also have a perspective on what is good for the system as a whole. Achieving that balance

was never easy, but in today's high-speed and highly interdependent financial system, it is all the more difficult but, also all the more essential.

Seeking to achieve that necessary balance in current circumstances runs afoul of many practical difficulties but it also is hampered by an intellectual barrier. Namely, in looking at the three specific functions of the banking and financial system enumerated earlier which are of particular importance in a public policy perspective, there is something of a natural tendency to view them in isolation. That is, there is a tendency to say there is nothing unique or special about extending credit; nothing unique about making or receiving payments; or, nothing unique about issuing transaction or demand balances. The difficulty, of course, is that these functions cannot be looked at in isolation but rather, must be viewed as something of a trinity—the unifying force for which is that the system as a whole is a credit system in which very large amounts of claims on financial institutions must be satisfied on demand or on very short notice. Those claims include not just the stock of conventional "demand" deposits housed in depository institutions but also the hundreds of billions of dollars in debit and credit entries made daily that are now associated with our highly integrated financial markets on a worldwide basis. Therefore, each institution in the loop must, of course, satisfy itself that it is making all of its credit judgments in a rigorous and objective manner, but it must also have confidence that others to whom it may be indirectly exposed to are doing the same. For these reasons, and because the business of banking and finance is essentially the business of public and mutual confidence, the public at large and market participants more specifically have expected and demanded a degree of official surveillance over the system—a system in which credit and credibility is the unifying force.

III. FINANCIAL MARKET STRUCTURE: WHAT ARE THE ALTERNATIVES?

As discussed in the preceding section, there are certain functions of the financial system which are of particular importance to the smooth workings of the economy at large. The importance of these functions provides the basis for the public interest and public policy concerns historically associated with banking and finance, but they also help to

illustrate why the business of banking and finance is essentially the business of public confidence. Yet, as illustrated in the first section, developments in the marketplace are eroding the traditional role of specialized financial institutions which had been the hallmark of the banking and financial system in the United States. Moreover, these same market forces have almost certainly introduced new elements of risk and uncertainty into the financial system while rendering increasingly outdated important elements of the supervisory and regulatory structure surrounding banking and finance.

Thus, it is important to consider what options and alternatives may be available in seeking to fashion a more evenly competitive and, most of all, a more stable financial system. In the broadest sense, there would seem to be only four alternatives available. First, to resist, and indeed to seek to reverse, the forces of market change and innovation, thereby forcing practices and institutions back into the legal and regulatory framework of the past. Second, to stay on the present course of piecemeal change—some by regulation and judicial proceedings, a little by legislation, but much by a helter-skelter of events in the marketplace in the hopes that somehow that curious combination of forces will produce a result that makes sense from a public policy perspective and does not yield so many casualties along the way so as to undermine public confidence in the system as a whole. A third alternative would entail wholesale deregulation including, among other things, the systematic relaxation of (or elimination of) the separation of banking and commerce, the dismantling or scaling back of the public safety net associated with banking and a willingness to allow market forces, and market forces alone, to run their course at any, or virtually any, cost. Finally, the fourth broad alternative would entail moving in the direction of a more uniform and integrated approach to the operation and supervision of the banking *and* financial system while still preserving the distinction between "banking" and the remainder of the economy.

Re-regulation

The first of these alternatives is the easiest to discard because virtually all observers would admit that it cannot be done. Indeed, given the realities of contemporary markets—especially the technologically-driven globalization of banking and finance—attempting to systematically reverse what has already happened would be highly impractical both politically and substantively. That is not to say that certain selective measures are wholly beyond the realm of possibility, but rather to emphasize that technological and competitive forces that are now operating in a global context are simply too powerful to be overcome by a regulatory or legislative regime based on the past.

Muddling Through

The second alternative must have some attraction since that is what we are doing now. Indeed, the lack of consensus in the banking industry—to say nothing of banking and finance more generally—as to what should be done to better rationalize the structure of the system would seem to reflect a willingness, if not a desire, to "muddle through." Moreover, even the banking and financial authorities don't always agree on certain issues and, in these circumstances, the Congress itself seems paralyzed. Yet, on reflection, the inability to carve out a coherent course of action does not seem to reflect a deep-seated satisfaction with current arrangements nearly as much as it is an effort on the part of many to support *only* those changes which seem to meet the specific business strategies and perceived profit opportunities of individual institutions. In the current circumstances, the measure of effective lobbying is not what legislation gets passed, but what gets blocked.

When that approach is combined with a pell-mell push by market participants to force many activities through regulatory and statutory loopholes, the result is dangerous to the health of the system especially if such patterns of behavior implicitly assume that the public sector will take care of any serious problems that may arise.

Thus, "muddling through" is not the answer even for those who believe they are clever enough to exploit, for a time, the current situation to their own advantage. Indeed, in the aggregate, it is an obvious contradiction in terms to assume that each institution or even each class of institutions will be able to maximize its market share and its profits at the expense of the next firm or the next class of institution. And, as we are seeing today, such a market environment can produce competitive pressures to take on high-risk activities in a setting in which those same competitive pressures produce patterns of pricing which may not adequately compensate for the risks being carried.

Finally, the "muddling through" approach will also work to further accentuate already apparent competitive anomalies as well as gaps and inconsistencies in the regulatory/supervisory process. For example, if one looks at the types of firms that supply one or more of those special banking or financial functions outlined in the preceding section, the differences in the nature and scope of supervision are striking, to put it mildly. At the extreme, the activities of some such firms are hardly regulated at all, while others are regulated largely at the state level where pressures to provide a favorable regulatory environment in the interests of economic and job development are great. Still other firms are subject to multiple, if not redundant, forms of supervision that can directly impinge on the relative cost of providing certain services. These differences in regulatory

treatment of different classes of institutions providing essentially similar services carries with it obvious problems of competitive inequities. But it also contains the potential for greater risks to the system in a setting in which the authorities may not be well positioned to make prompt and informed decisions in the face of problem situations or may be inhibited in calling for higher (and more costly) standards of prudential behavior.

Wholesale Deregulation

The third broad alternative available is to allow unbridled market forces to run their course. That would entail, among other things, permitting any financial institution to offer any service it wishes and, more importantly, permitting the full range of commercial firms to own and control the full range of banking and financial firms. Conceptually, such an approach would be quite radical. For one thing, it collides head-on with the widely held view that "banking" and commerce should be separated *insofar as ownership and control of "banking" institutions are concerned.* However, when one takes account of the changing patterns of ownership and control of thrift institutions, insurance companies, securities companies (to say nothing of nonbank banks) and when one takes account of the fact that several of the largest manufacturing companies in the U.S. already own very large and increasingly diversified financial subsidiaries, it is clear that we are already witnessing something of a breakdown in the separation between "banking" and commerce.

In the current circumstances, the problems in the thrift industry and the presence of the nonbank bank loophole may be particularly relevant insofar as the future distinction between "banking" and commerce is concerned. Indeed, the legitimate need for fresh sources of capital in the thrift industry and the politically attractive case for "consumer banks" threaten to encourage a further and potentially systematic breakdown of the separation of "banking" and commerce. All of this takes place, of course, in a context in which it is argued that there can be "exceptions" to the rule. In fact, however, there is a point at which multiple exceptions to a rule create a new rule. To put it differently, we may be approaching a point where, as a practical matter, the distinction between banking and commerce could be irreversibly breached. If that point is reached, it potentially implies, as a matter of logic, that (1) either the "safety net" surrounding banking will have to be extended, at least to an extent, to those who own and control "banks," (2) that the "safety net" should be eliminated altogether, or (3) that the "bank" must be fully insulated from the balance of the business entity.

The question of whether, *or the extent to* which, a middle ground can be struck between these extremes while at the same time permitting commercial firms to own banks ultimately reduces *to the extent to which affiliates* and subsidiaries of the same business entity can *in fact and appearance* be operated independently of other parts of the firm and from the firm itself. Absent such independence, concerns about conflicts of interest, unfair competition, concentration of economic power, and breaches of fiduciary responsibilities can only increase, and increase sharply. In practice, unless that separation is complete and virtually fail-safe, it would be difficult, if not next to impossible, to see how the workings of the official supervisory and safety net functions could be applied only to selective parts or functions of the corporate entity as a whole.

Obviously, it is not possible to design a system in which the potential for problems in these areas is not present to some degree. However, what is at issue is the extent to which the potential for problems is present and the extent to which the supervisory apparatus can readily deal with such problems when they arise. Indeed, if banking subsidiaries cannot be fully "walled-off" from the balance of a commercial enterprise, the supervisory dilemmas can become very acute. On the one hand, if there are substantial economic benefits from linking banking and commercial enterprises, then efforts to achieve that separation by regulation would, almost certainly, fail or, if somehow successful, would remove the very economic incentives for such combinations in the first instance. Beyond that, unless the separation is fail-safe, it is difficult to see how a part of such an entity can have a call on official sources of liquidity and capital unless, at the very least, the authorities have some supervisory influence over the entity as a whole. Leaving aside for a moment questions of conflicts of interest and the like, the acid test of the corporate separateness doctrine arises not in fair weather but in times of stress and strain.

Looked at in that light, experience with problems in the banking and financial sector tells us, in a rather convincing manner, that affiliates find it very difficult to disavow each other or their parents and vice-versa in times of stress. This tendency seems to reflect at least two major considerations; first, when one part of a financial entity has problems, the marketplace generally attributes those problems to the entity as a whole; and, second, when that great intangible—public confidence—is so central to the "going concern" value of the enterprise, overt decisions to "cut and run" simply do not come easily. Strength surely begets strength, but weakness even more surely begets weakness.

In short, the blending of "banking" and commerce raises a host of potential problems ranging from its consequences for the impartiality of the credit decision-making process to the operation and reach of the supervisory system and the public safety net more

generally. In considering these potential problems, some would suggest that the concerns are remote and that adequate regulatory protections can be put in place to protect against actual problems arising. These arguments are made with particular vigor in the context of a partial blending of banking and commerce as, for example, with the nonbank bank or the "consumer" bank. The problem with this line of reasoning, however, is that once that partial blending of banking and commerce gains momentum, it will be very difficult to contain, absent a supervisory and regulatory framework which would be so cumbersome as to be ineffective or, if effective, would defeat the purpose of the combination in the first place. In short, if there are reasonable alternatives to the blending of banking and commerce, those alternatives should be actively and fully pursued before accepting the view that blending the two is desirable.

A Better Alternative

Fortunately, there is still another alternative: namely that we accept the blurring between classes of financial institutions and financial functions but seek to preserve the distinction between banking and finance, broadly defined, on the one hand and commerce, more generally, on the other. This fourth and, in my view, clearly preferred alternative is discussed in greater length in the fifth section. That discussion takes as its point of departure that (1) certain "banking" functions are indeed special; (2) because they are special, a federal safety net surrounding banking and finance is both appropriate and necessary, and (3) the distinction between banking and finance on the one hand and commerce more generally on the other should—to the maximum extent possible—be preserved in a context in which competitive inequities among financial firms are narrowed and the strength and stability of the banking and financial system are enhanced.

Seeking to preserve a distinction between "banking" and commerce is neither new nor is it unique to the United States. This tradition was evident in colonial America and to a greater or lesser degree has been a feature of banking structure throughout the history of the United States. Similarly, while there are differences in banking structure from country to country, current practices in the major industrial countries suggest of a general preference in the direction of maintaining such a distinction.

Despite the burden of history and despite the general preference in many other countries to avoid combinations of banking and commerce, there are those who would view the call for such a separation as unnecessary and unworkable. Most who would take such a view would not seriously disagree with the proposition that certain "banking"

functions are "special" but rather would argue either that (1) the interrelationship between those special functions is not all that important (e.g., if an institution takes "demand deposits" and confines its lending to certain types of loans but not others, all is well) or (2) that these special functions can be protected by regulation and by a fail-safe firewall between affiliates of the same company. As outlined earlier, both of these propositions seem to me highly questionable. Yet, it remains true that the choice of moving in the direction implied by these arguments is there. Looked at in that light, the debate really comes down to a debate as to what kind of risks do we, as a nation, want to incur as a matter of public policy.

The question of whether the nation will be better served by seeking to maintain a distinction as to who can own and control "banking" institutions would seem to stand or fall on three central questions: first, is a halfway house in which some commercial firms can own and control at least some banks, while others cannot, workable without having to extend the supervisory oversight function—in important ways—to all who would wish to own and control depositories? Second, can the official safety net apparatus—including liquidity support from the central bank—be available to part of a firm without, at least by implication, it being available to the firm as a whole? And, finally, will the all important impartiality of the credit decision-making process—including associated questions of concentration, conflicts and unfair competition—be better served by preserving such a separation?

As noted earlier, one's judgment as to those questions, and therefore one's judgment as to the risks associated with scuttling the separation doctrine, come down importantly to how one views the so-called corporate separateness doctrine. In this regard, it is interesting to note that Walter Wriston has said:

> "If the National Bank Act was amended to say that everything a bank holding company can do, the national bank can do, I'd be extremely happy. It would simplify administration and would make it perfectly clear to the customers that our $7 billion of capital is behind everything that we do."

Furthermore, Wriston notes:

> "For example, it is inconceivable that any major bank would walk away from any subsidiary of its holding company. If your name is on the door, all of your capital funds are going to be behind it in the real world. Lawyers can say you have separation, but the marketplace is persuasive, and it would not see it that way."

Summary

Taking a broad view, our choices as to the future shape and structure of the financial system are quite limited. Indeed, while the details can be varied somewhat from alternative to alternative, the practical and philosophical options are few. As of the moment, we are "muddling through" without dire visible consequences. But, that approach is not sustainable. Since "re-regulation" cannot provide a satisfactory and practical solution and since "wholesale" deregulation seems to entail unacceptable risks from the vantage point of public policy, the clear choice seems to me to be one in which we seek to maintain a distinction between banking and finance on the one hand and the balance of the economy on the other. Such an approach is outlined in some detail in Section V.

IV. THE LARGE-DOLLAR ELECTRONIC PAYMENTS MECHANISM

While many have seen the need for strengthening the structure of the financial system, the case for enhancing the reliability and safety of large-dollar electronic payments systems seems to me also compelling. Moreover, it happens that this objective *could* be realized in a setting that can also help rationalize the overall structure of the financial system. The ensuing discussion sets forth alternative approaches to strengthening the reliability and safety of large-dollar electronic payments systems. One such alternative could also complement a longer-term approach to restructuring the financial system which is the focus of the next section.

As discussed earlier, the large-dollar electronic payments mechanism plays a vital role in the day-to-day, hour-by-hour functioning of the financial system. The fact that these systems are able to process tens of thousands of transactions daily aggregating well in excess of $1 trillion is testimony to their effectiveness, but it also underscores the urgency of insuring that these systems are as reliable as possible and are capable of dealing with operational, credit or liquidity shocks.

Indeed, because the systems are so very large and because of the nature of the credit, liquidity and operational interdependencies they create, any major disruption in the workings of the large-dollar payments systems can quickly impair the workings of

many institutions and the markets generally. Even significant computer problems at any one of the dominant participants in the system can give rise to very serious problems for markets and for institutions generally. And operational problems of a potentially serious nature occur with some frequency. These problems present their own challenges but they are incidental compared to the kinds of problems that would arise if the system were once again confronted with a serious credit shock such as the Herstatt problem of 1974.

As things now stand, these large-dollar electronic payments systems represent the instrumentalities through which a major operational, liquidity or credit shock can quickly spread to any number of institutions domestically and internationally, thereby amplifying the initial problem.

The Case for Strengthening Current Arrangements

There are several features of the current arrangements which give rise to particular concerns regarding the workings of the system. Among them are the following:

- **First**, a sizable fraction of large-dollar payments is provisional for at least periods of many hours. The absence of finality in such payments implies that countless institutions and their customers may be at risk in the event of serious problems at another institution. Indeed, the nature of payments chains is such that even institutions that are not direct counterparties to the troubled institution can be impaired by such an event.

- **Second**, the operational characteristics of the system as a whole and of many of its key component parts do not provide adequate levels of compatibility, reliability, and backup capabilities. As an extension of this, the operational systems for most, if not all, of the system's major component parts have little or no capability to serve as substitutes for each other. And, the operating systems in place at virtually every major participant lack both the capability to bypass other component parts that may be experiencing operating problems and the ability to dislodge payment instructions and transactions which may be "trapped" in their own systems when they are down. To put it bluntly, the system as a whole is a hodgepodge of facilities, equipment, software and controls that have little in common with each other and, in many instances, are facilities which were not designed or built with the degree

of operational reliability that should be required by today's pace of financial transactions. The system as a whole is only as reliable as its least reliable major component part.

- **Third**, the speed and the around-the-clock, around-the-world nature of financial markets make it inevitable that huge amounts of credit exposures are incurred in the course of making and receiving payments. The extent of those credit exposures—and the intricate web of interdependencies they create—are exacerbated by the fact that, as noted above, hundreds of billions of dollars in payments are provisional for at least much of the business day.

- **Fourth**, there is a major question as to whether the "conventional" approach to establishing fees for such services—tempered as it is by strong competitive forces—provides the suppliers of such services, including the Federal Reserve, with returns that adequately compensate them for the credit risks incurred. Nor may such fees provide the returns needed to finance adequate levels of investment in operational systems and controls, including backup systems.

- **Fifth**, there is no convenient mechanism or authority in place to bring about needed reform in the operation of the system as a whole. The Federal Reserve has, through a variety of initiatives, made significant inroads in this regard, as have other federal bank supervisory agencies. However, there is some doubt as to whether these efforts can go far enough and fast enough, especially since some major participants are entirely outside the reach of the federal bank regulatory apparatus and, at the extreme, are beyond our national boundaries.

Looked at in this light, greater attention to and investment in improving the reliability and safety of those large-dollar electronic payments systems seems to me essential. The needed enhancements in these systems will require a blend of public and private initiative. The Federal Reserve, as the ultimate source of liquidity and finality of payment, must be involved in this process; but so too must the private firms whose initial credit decisions and operating systems provide the linkages which permit the system to reach out and encompass thousands of institutions—financial and nonfinancial alike—around the country and around the world.

That blend of public and private participation must, among other things, provide a vehicle that can muster the resources needed to create a system in which the degree of operational reliability is materially enhanced while also establishing a framework of

operational rules and guidelines in which private participants have a major voice so as to provide reasonable assurances that the dictates of efficiency as well as safety will be well served.

Objectives and Alternatives

What is needed is an approach which would aim at the following objectives: (1) a further major shift in the direction of making payments final when they are made; (2) a significant strengthening in operational reliability; (3) a strengthening of the system's capacity to absorb shocks; (4) a major role in both the design and operation of the system for its private sector participants; and (5) providing all participants with a proprietary interest in the success of the system.

These objectives are clearly ambitious and will, at the very least, require concerted effort on the part of many over a period of time. As with any complex problem involving the specific interests of a large number of individual institutions, there are several ways in which one could go about the process of achieving these goals. The most obvious alternative would entail an extension of initiatives which are already underway in the Federal Reserve and in the private sector. Such an approach would entail at least five major elements, as follows:

- Within the broad framework of Fedwire operations as we know them today, the Federal Reserve Banks would embark on a further program of upgrading their operational and back-up systems aimed at achieving state-of-the-art processing capabilities including the capacity of individual Reserve Banks to provide backup and bypass capabilities for each other.

- As a condition for access to Fedwire, the Federal Reserve would require a comparable degree of operational reliability, backup, and bypass capabilities among the major banking institutions that are direct participants in the system.

- Since there probably are limits as to how far efforts to reduce daylight overdrafts can go, the current daylight overdraft control program would have to be augmented by some combination of clearing balance requirements for major users of Fedwire and explicit charges for daylight credit although the latter could have serious adverse side consequences.

- All same-day settlement, private sector large-dollar payments systems would be required by regulation to implement procedures to ensure settlement finality in order to obtain Federal Reserve same-day net settlement privileges.

- Finally, private sector participants in the system would continue to have a strong informal and advisory role but would remain outside the final decision-making process.

Approaches along these conventional lines could produce important gains relative to current arrangements. However, whether enough could be achieved and whether enough could be achieved rapidly enough is a matter of considerable conjecture—especially in a setting in which transaction volumes and counterparty risks (including their international dimensions) are rising rapidly and many major participants are at least one step removed from the reach of the Federal Reserve in terms of both supervision and access to the system of final payments.

Because there is a major question in my mind as to whether this "conventional" approach is up to the task, consideration should also be given to another, and more sweeping, alternative. That more sweeping alternative would entail an explicit recognition that certain of these large-dollar payments systems are in the nature of a public good or utility and should be so structured and operated.

One approach which would be consistent with that view would center on the establishment of a "National Electronic Payments Corporation" to be jointly owned and operated by the Federal Reserve and major private sector participants in the large-dollar electronic payment network. As envisioned, all funds and U.S. government securities payments made via this entity would be final payments in the form of debit and credit entries to accounts on the books of the Reserve Banks. Such arrangements could also be structured in a manner in which access to such payments facilities could be made available to certain nonbank financial firms in accordance with the proposed restructuring of the financial system set forth in the next section of this paper. In this context, and for purposes of illustration, the appendix to this paper sets forth in somewhat greater detail how such a "National Electronic Payments Corporation" might be structured, including how that approach could be coupled with the discussion which follows. While this particular approach is, no doubt, controversial, one thing should not be; namely, that important enhancements to the safety and reliability of large-dollar payments are needed and are needed sooner rather than later.

V. FINANCIAL MARKET STRUCTURE—A LONGER VIEW

Building on the earlier discussion, this section seeks to lay out an approach to a long-term view of the structure of financial markets in the United States. The approach suggested is intended as a broad objective rather than a precise formulation of near-term legislative or regulatory strategies. Indeed, given the current state of affairs, and even assuming there was a complete consensus as to what should be done to better rationalize financial market structure, any far-reaching set of structural initiatives would have to be phased in over a period of time. However, if that evolution of the financial system is to have an underlying cohesion that makes sense both from a competitive *and* a public policy perspective, it is essential that there be broad-based agreement as to what the structure should look like so that there is a "model" which can be used as a yardstick against which to evaluate the reasonableness of specific changes over the transition period.

Guiding Principles

In considering what might constitute a desirable long-term view of financial market structure, important weight was given to six broad guiding principles, as follows:

- **First,** the separation of "banking" from commerce should be preserved.

- **Second,** in the interest of competitive equity and supervisory harmony, the regulatory costs associated with special "banking" functions should, to the fullest extent possible, be neutralized or eliminated across classes of institutions.

- **Third,** the approach should provide scope for achieving the benefits of greater competition in the marketplace for financial services while preserving the important public benefits growing out of an appropriate degree of supervisory oversight of the system.

- **Fourth,** supervision should take account of function, not merely institutional form.

- **Fifth,** the structure of the system should incorporate principles of "volunteerism" whereby individual firms can choose their position on the financial landscape

based on their own corporate strategies and their own assessments of the costs and benefits of one form of corporate organization over others.

- **Sixth**, and most importantly, the approach should strengthen the stability and soundness of the system in part by providing greater room for self- and market discipline but also by enhancing the strength and flexibility of the official supervisory apparatus where necessary.

The framework visualized would contemplate four categories of banking and financial firms, the first of which would be the thousands of "stand-alone" banks, thrifts, or other "financial" firms including broker/dealers, insurance companies, finance companies, etc. For the most part, these institutions would be unaffected by the direct impact of these proposals. However, over time, these proposals would, in all likelihood, give rise to some degree of consolidation and, almost certainly, some degree of product diversification even among smaller institutions. Nevertheless, one can reasonably postulate that even over the long run, we would continue to have a very large number of small- to medium-sized specialized banks, thrifts and other "financial" institutions.

Categories of Institutions

Apart from those institutions the proposal contemplates three major categories of diversified financial institutions as follows:

- **First**: bank (or thrift) holding companies having one or more nonbank financial subsidiaries. Such companies *could* own and control one or more banks or thrifts—as later defined—and *could*, in time, engage in a broad range of "financial" services including banking, insurance and securities services, but *could not* be owned or controlled by a nonfinancial-commercial concern nor be engaged in "nonfinancial" activities.

- **Second**: financial holding companies whose overall activities are wholly financial in nature but which *choose not* to own or control deposit-taking institutions. *If* such firms also *choose not* to be owned or controlled by commercial concerns they *could*, at their *own option* and under certain circumstances, obtain direct access to the payments system and limited direct access to the discount window. In return, they would be subject to some form of consolidated prudential supervision

and could be subject to an interest-earning liquidity reserve to be held at a Federal Reserve Bank. Of course, a financial holding company *could* also, *at its option*, acquire depositories thereby becoming a bank holding company with payments systems access and discount window access available to the depository on normal terms and conditions.

- **Third**: nonbank financial companies that are owned and controlled by a commercial concern. Such companies and their parents could *not* own or control banks or thrifts, could *not* have any direct access to the payments system and could *not* qualify for credit or liquidity assistance from the central bank but *could* offer nonbank financial services as well as be engaged in any nonfinancial activities they might choose.

Definition of Terms

In order to illustrate the details of how such a scheme might work, it is necessary to define certain terms and introduce certain concepts. These terms and concepts are outlined below.

- **Definition of bank and thrift**: A depository institution would be defined as any institution that holds *transaction **deposits*** as defined below and makes loans of *any* kind. All such institutions would be eligible for federal deposit insurance. Commercial banks would be distinguished from thrift institutions in that the latter would have an asset test whereby some large percentage of assets would be devoted to housing.

  As an extension of this approach, the prohibition against paying interest on demand deposits would be lifted in part for competitive reasons but also in order to discourage the enormous volume of day-to-day transaction flows that arise as economic agents seek to, in effect, circumvent the prohibition against paying interest on demand deposits.

- **Transaction *deposits***: A workable definition of transaction deposits which is functionally rather than institutionally driven is central to the structure of the system. The most straightforward such definition is any liability which can be drawn down by the depositor at par within 24 hours without prior notice and the proceeds of

which can be paid to third parties by instruction of the depositor. Such transaction ***deposits*** would be *subject* to reserve requirements and the deposits of any institution holding such deposits would be eligible for federal deposit insurance.

- **Transaction *accounts***: Nonbank financial entities would be free to offer *noninsured* transaction *accounts*, such as money market mutual funds with check-writing features. The key distinction between a transaction ***account*** and a transaction *deposit* would be: first, that there be a strict and low limit on the number of transactions against transaction accounts in a given period of time; and second, that the principal amount of the transaction account may be subject to capital losses or gains. Of course, such transaction accounts would not have federal deposit insurance.

  Because such transaction ***accounts*** would remain very close substitutes for transaction ***deposits***, they would be subject to reserve requirements even though the presumption would be that such authority would be used only in extraordinary circumstances—circumstances which are even less likely to arise in a setting in which the prohibition against paying interest on demand deposits is lifted and interest may be paid on required reserves as discussed below.

  The Federal Reserve Board would have cease-and-desist authority to prevent a nonbank entity from issuing transaction ***deposits*** and similar authority to prevent a commercial entity from issuing transaction ***accounts*** or deposits although some room might be provided to permit a nonbank financial affiliate of a commercial firm to offer certain such accounts.

- **Required reserves**: Any depository issuing transaction ***deposits*** would be subject to reserve requirements as would nonbank issuers of certain transaction ***accounts*** although, as noted above, reserves would not, in normal circumstances, be extended to transaction accounts. Resulting required reserve balances should be interest-earning at some rate modestly below the federal funds rate.

  If transaction accounts—including those issued by nonbank financial firms—are *subject* to required reserves *and* depositories can ***pay interest on demand deposits***, the competitive problem associated with close substitutes for transaction ***deposits*** would be narrowed appreciably.

  As a corollary to this and as discussed later, the proposal would also contemplate the elimination of required reserves on nonpersonal time deposits which would

also work in the direction of further narrowing competitive disparities among classes of financial institutions. However, this change would in all likelihood have to be coupled with the introduction of something along the lines of the liquidity reserve concept outlined below.

- **Financial services**: Following a phase-in period, all bank, thrift and financial holding companies could offer a full range of financial services including securities and insurance activities subject, of course, to their ability to meet financial and other regulatory standards associated with specific activities. By the same token, any financial holding company could, at its option, own insured banks, thereby becoming a bank holding company. As discussed later, the scope of financial services would be defined by a newly established supervisory board. Given the definition of financial services, individual businesses would be free to choose their places on the financial landscape, and, over time, could shift from one category to another via acquisition or divestiture.

- **Access to the payments system**: The concepts outlined here would be compatible with two approaches to the question of access to the payments system. The first and more conventional approach would continue to limit access to depositories as defined above. However, because financial holding companies could at their option own depositories, the depository affiliates of such a firm would in those circumstances have "normal" access to the payments system. Subject to this very important difference, and to the evolution of policies regarding efforts to better control payment and settlement risk, under this approach the Federal Reserve Banks would continue to provide payments services to depository institutions in much the fashion and under the same general terms as it does today.

  An important variation on this basic alternative could arise in the context of efforts to establish something along the lines of the "National Electronic Payments Corporation" described in the previous section and in the appendix. Specifically, such a corporate entity could be structured in a manner that would permit certain financial holding companies to own shares in such an entity thereby obtaining direct access to the payments system. Presumably, this option would only be available to financial holding companies whose payments flows were large and such access would also have to be coupled with some form of access to the discount window. Of course, in combination, access to the payments system and even limited access to the discount window would also have to be conditioned on some form of consolidated supervisory oversight by the Federal Reserve.

- **Liquidity reserve:** All institutions that are major direct users of large-dollar electronic payments systems would be subject to a liquidity reserve requirement to be held at the Federal Reserve Banks. The liquidity reserve would be some very small percentage of total exposures (on- and off-balance sheet). The liquidity reserve would earn a market rate of return and would be used as a working transaction balance subject to any evolving prudential payment risk policies. However, there would be a strong presumption that some fraction of the total liquidity reserve would be held as a nonworking balance available only to meet emergency situations.

  For example, if something like the hundred or so largest banking and financial institutions were subject to the liquidity reserve requirement—keeping in mind that such liquidity reserves would earn a full market rate of interest—the total amount of such balances at the Fed might be in the area of $50 billion. Something like one-third of such balances might be nonworking balances, while the remainder could be used as working transaction balances much as required reserve balances are today. Indeed, for depository institutions that are subject to required reserves, the working fraction of the liquidity reserve could be combined with the traditional reserve balance for day-to-day *operational* purposes.

  The immediate result of the liquidity reserve proposal would, other things being equal, significantly reduce intraday credit exposure in the payments system. But, the presence of such balances at the Fed would also mean that the system as a whole would have a greater store of liquidity which could be brought to bear in a variety of circumstances, thereby providing a liquidity cushion short of the discount window. Of course, in case of need, the Fed would still provide its traditional lender of last resort function subject, of course, to traditional conditions.

- **Access to the discount window**: Access to the discount window could also become a two-tiered arrangement. For chartered and insured banks and thrifts, discount window access would remain as it is today, both in regard to "normal" liquidity use of the window and as regards seasonal and other special discount window access.

  However, in a context in which selective financial holding companies had direct access to the payments system via the equity interests in a National Payments Corporation, such institutions might also have access to the discount window in

extraordinary circumstances. There would, however, be no presumption whatsoever that such firms would have "normal" access to the window as would be the case for banks. And, even extraordinary usage of the window would be subject to customary collateral and other terms as well as being granted on the premise that the liquidity reserve cushion will be utilized prior to the discount window.

The Alternative Structure

To summarize the discussion this far, the exhibit on page 40 summarizes the major characteristics of the three classes of institutions discussed earlier. In considering the exhibit, it might be most useful to focus first on the differences between the classes of institutions. For example:

- **Commercial-financial conglomerates** may, of course, engage in any commercial enterprise they choose and may also engage in nonbank financial activities. A nonbank financial affiliate of a commercial concern might also issue certain types of noninsured transaction accounts, subject to appropriate restraints. However, commercial-financial conglomerates may not own or control a bank or thrift, are barred from any direct access to the payments system and may not receive liquidity assistance from the central bank. This approach would mean—as a matter of logical consistency—that commercial firms that now own insured thrifts and nonbank banks should be required to divest such holdings. While a very long divestiture period could be provided, divestiture is ideally preferable to grandfathering.

- **Financial holding companies** would differ from commercial-financial conglomerates in that (1) they could not be owned by a commercial firm; (2) they could offer noninsured *transaction accounts*; (3) they could, under one alternative and at their option, obtain access to the large-dollar payments system and in that process gain limited access to the discount window; and, in such circumstance, would be subject to interest earning liquidity reserves. It should also be stressed that a financial holding company could also, *at its option*, choose to own and control insured banks and thrifts thereby voluntarily shifting its status to a bank or thrift holding company. By the same token, a financial company could be acquired by a commercial concern but, having done so, would have to forego access to the payments system, etc.

The Alternative Structure

	Bank-Thrift Holding Co.	Financial Holding Co.	Commercial-Financial Co.
Owned by commercial firms	No	No	Yes
Offer full range of *nonbank* financial services	Yes	Yes	Yes
Own and control full range of commercial enterprises	No	No	Yes
Own and control federally insured depositories	Yes	No[1]	No
Issue transaction ***deposits***	Yes	No	No
Issue noninsured transaction ***accounts***	Yes	Yes	No[2]
Pay interest on transaction accounts or deposits	Yes	Yes	No
Subject to required reserves on transaction accounts and deposits	Yes	Yes	No
"Normal" access to payments system	Yes	No	No
"Normal" access to discount window	Yes	No	No
Access to large-dollar final payments system	Yes	Yes[3]	No
Subject to liquidity reserves	Yes	Yes[3]	No
Limited access to discount window	Yes	Yes[3]	No

[1] A financial holding company could, at its option, acquire insured depositories, thereby becoming a bank holding company and in the process obtain access to the payments system and the discount window.

[2] Subject to certain limitations, a financial affiliate of a commercial concern might be authorized to issue certain noninsured transaction *accounts*.

[3] Within the context of something along the lines of the National Electronic Payments Corporation (see Appendix).

- **Bank and thrift holding companies** would differ in two ways from financial holding companies. While still fully independent from commercial concerns and free to offer the full range of financial services they could—(1) own insured banks and thrifts which in turn would have "normal" access to both the payments system and the discount window; and (2) they would be subject to liquidity reserves where payments flows were large relative to capital. Of course, and as discussed later, there would be differences in supervisory treatment of bank/thrift holding companies versus purely financial holding companies.

While the differences among classes of institutions that emerge under this proposal are important, what is more important is the manner in which the framework as a whole departs from current arrangements. Looked at in that light, there are several major differences which should be singled out:

- **First,** the existing legal barriers preventing various classes of financial institutions from engaging in various types of financial activities would be largely eliminated. As a consequence, individual firms would be free to choose their own position on the financial landscape, including exercising the choice to remain a traditional bank, thrift, etc. Of course, in order for firms to move into new financial enterprises, they would have to meet various supervisory and regulatory requirements. However, affiliations among banks, thrifts, insurance companies, securities companies and other wholly financial firms would not be precluded as a matter of law. The structure would thus have much in common with the post-Big Bang environment in London as well as the structures in several major European countries and the environment under consideration at present in Canada.

- **Second,** because commercial firms could not own and control insured depositories (even though they could own nonbank financial firms), the separation of "banking" from commerce would be better preserved than under current and prospective arrangements.

- **Third,** under appropriate and limited circumstances, financial holding companies might gain access to the payments system and to the discount window. Such firms would, as part of that process, be subject to a degree of consolidated supervision by the Federal Reserve and would be subject to interest-earning liquidity reserves.

- **Fourth,** in one alternative, a joint Federal Reserve/private sector large-dollar payments corporation would be created. Bank and thrift holding companies—depending on

the volume of their payments flows—would be required to join the Corporation while financial holding companies could join at their option. All payments made through the Corporation would be final and irrevocable.

- **Fifth,** bank, thrift, and financial holding companies that are major direct users of large-dollar payments systems would be subject to interest-earning liquidity reserves held at the Fed.

- **Sixth,** to a very significant degree, the question of where an individual firm falls on this financial landscape would no longer be a matter of chance or accident but rather a matter of their own choice. In that most fundamental sense, the system is voluntary even though that ultimate choice will be conditioned by each firm's assessment of the trade-offs associated with particular mandatory features of one form of organization or the other.

Supervisory Considerations

Needless to say, sweeping changes in the structure of the financial system such as those outlined above would—even if phased in over a period of time—require important changes in the supervisory apparatus. However, because the system will go through a period of transition and evolution, it will not be necessary, or for that matter desirable, to immediately restructure the entire federal and state regulatory apparatus governing financial institutions until some experience is gained with the financial structure as it unfolds. However, even during the transition period, certain changes would have to be made. Those necessary interim changes would include the following:

- **First,** the Federal bank regulatory agencies should proceed with the implementation of risk-based capital adequacy standards for banking organizations. This step is important because it (1) makes sense on its merits; (2) will permit greater harmony in capital adequacy standards on an international scale; and (3) will permit authorities to take direct account of off-balance sheet activities. However, it also creates a framework in which, over time, it may be more possible to apply similar capital requirements to similar classes of activities regardless of whether those activities happen to be carried out in a bank, a subsidiary of a bank or bank holding company, or even in a nonbank financial entity. Moreover, such an approach to capital adequacy,—especially if accompanied by "zones" above some regulatory min-

imum—could provide a rigorous initial set of threshold criteria that firms would have to pass in order to be able to engage in new financial services of a higher risk nature or profile. Ideally, this implies that competitive inequities growing out of diverse capital standards for different types of institutions engaged in the same functional types of activities can be narrowed and, in the process, the inhibitions of regulators to call for higher levels of capital also reduced. While reaching that ideal will not come quickly or easily, the necessary first step is to try to achieve a basic structure which is at least conceptually compatible with the goal.

- **Second,** the establishment of a "Financial Services Oversight Board" would be necessary in order to insure that the definition of "financial services" was uniformly applied to bank, thrift and financial holding companies. Absent that commonality, a meaningful distinction between "banking/finance" and "commerce" could not be maintained, and prudential and other competitive disparities would quickly emerge between classes of institutions. While such an oversight board could be structured in a number of ways, it would seem that the board should be comprised of the heads of the appropriate agencies, even though much of its work could be carried out by deputies or by self-regulatory organizations. Whatever its precise structure, it would seem very important to construct the board in such a way that decisions could be reached only by some formulation of a "super-majority."

- **Third,** any *bank, thrift or financial holding company* that has access to the Fed's discount window and access to the large-dollar electronic payments system would be subject to a degree of consolidated supervision by the Federal Reserve. The focus of such supervision would be aimed at (1) ensuring that activities were financial in nature; (2) ensuring that the institution maintains an appropriate degree of financial and managerial strength consistent with the nature and scope of its overall activities; (3) ensuring that intracompany and affiliate transactions are consistent with law and regulation; (4) ensuring that broad financial standards, such as capital adequacy standards, are being satisfied by the entity as a whole as well as by its component parts; and (5) ensuring that adequate safeguards against excessive concentration are maintained.

  For bank holding companies, these arrangements would differ from current ones only in that the supervisory standards and procedures would have to be adapted to an environment in which bank holding companies are more diversified. However, in a context in which the incentives for loophole exploitation have been appreciably

narrowed, and in a context in which the emphasis of such supervision is on financial strength, there should be some considerable room for supervisory simplification.

For the relative handful of thrift holding companies that might be subject to a degree of supervisory oversight by the Federal Reserve, the discharge of those responsibilities could be undertaken jointly with or perhaps even largely delegated to the Federal Home Loan Bank Board.

Financial holding companies that choose to acquire depositories or financial holding companies that have direct access to large- dollar electronic payments systems would, for the first time, be subject to a degree of consolidated supervision by the Federal Reserve. While much of that supervision would, de facto, be carried out in a day-to-day setting by present regulators, certain broad prudential financial standards would be applied to the consolidated entity by the Federal Reserve.

- **Fourth,** as implied above, the component parts of bank, thrift, financial, and commercial-financial holding companies would be subject to functional supervision as appropriate, but in most respects in much the fashion as they are today. Thus, the primary supervisor of a bank, a securities company, an insurance company or other affiliate would be largely unchanged except for the fact that all supervisory efforts will have to adapt to the changing financial environment as symbolized by greater diversity of activities on- and off-balance sheets, greater speed and complexity and greater elements of interdependency among financial institutions.

In summary, a change in the financial structure along the broad lines discussed earlier carries with it, by implication, the need to alter the supervisory system to at least ensure that all bank, thrift and financial holding companies are subject to the same rules regarding the types of financial services they may engage in and to provide for a degree of common consolidated supervision by the Federal Reserve for those holding companies that have access to the discount window and to the large-dollar electronic final payments system. Within that general framework, much of the day-to-day supervision can be conducted on a functional basis, but in time consistent supervisory standards would have to be developed governing the specific conditions under which bank, thrift or financial holding companies could engage in new financial activities. As experience is gained with the operation of the system, it will in all likelihood be possible to further adapt the supervisory structure in more fundamental ways. However, as noted above,

it would probably be short-sighted, if not counterproductive, to attempt to prematurely attempt such a fundamental restructuring of the regulatory apparatus until we have a better idea as to how the financial system itself evolves.

While a framework of this nature raises many questions that are not addressed here, it does seem to generally respond to the guiding principles mentioned on pages 33 and 34. Indeed, while no structure can do all we may wish, moving in this broad direction provides some clear advantages relative to the other options available as discussed in Section III. However, there are drawbacks to the proposal; for one thing, it can raise questions about the monetary control process but, on reflection, those questions are there in any event; for another, the proposals, in the aggregate, would reduce Federal Reserve payments to the Treasury; for another, it would be difficult to phase in even over a period of time; for another, it raises some difficult questions regarding the maintenance of a balance of competitive equity between nonbank financial companies that are affiliates of banks or financial holding companies on the one hand, and affiliates of commercial firms on the other; for still another, it entails a willingness to abandon certain time-honored traditions such as the separation of banking and investment banking; and, finally, it will probably encounter strong political opposition from certain quarters. However, if we are to better rationalize and strengthen the system, and if we are to build into it a greater measure of safety and stability, then we must have a goal or a target in mind that can best meet the blend of public and private objectives that are associated with the structure and operation of the financial system.

Related Issues

There are at least four major related issues that arise in this broad context that have not been treated in this discussion. The first is interstate banking. The framework suggested here can be considered independently of interstate banking although there is something to be said for joining the issues at some point. However, at present, it would appear that initiatives at the state and regional level are generating major inroads to the issue of interstate banking. Permitting things to evolve in that manner for a period of time seems quite reasonable, especially if those developments are accompanied by some future trigger mechanism at the federal level which would permit full interstate banking even if the trigger date were set well into the future.

The second issue, which was referred to in passing, is the matter of the status of the thrift industry in the face of its capital requirements. As things now stand, the acquisition

of troubled thrifts by commercial firms—among others—is viewed by many as a necessary source of capital to the industry. That, of course, would be incompatible with the nature of the "separation" approach suggested here. Ideally, one would hope that the need for such arrangements could be avoided by such devices as the recapitalization of the Federal Savings and Loan Insurance Corporation and by an environment in which banks and other financial firms could more readily acquire thrifts. However, if the capital needs of the thrift industry were such to necessitate some exception, it should occur in the context of a very strict "thrift test" such that thrifts acquired by commercial firms would be, in fact, home mortgage lenders and little else.

Third, the approach suggested brings into sharper focus the status of foreign banking entities operating in the United States. At the very least, it would imply that any foreign entity that is a major user of the large-dollar payments system might be required to operate in the U.S. as a full banking affiliate of its foreign parent rather than as a branch, agency or Edge corporation, thus ensuring that capital and liquidity resources are available here in the United States and also providing for a higher level of supervisory parity with domestic institutions within the United States.

Finally, and perhaps most importantly, these proposals do not systematically come to grips with these same structural, stability and supervisory issues on an international scale—at least among major financial centers such as London, Tokyo, New York and a few other such centers. Every one of the major issues raised in this paper—ranging from large-dollar electronic payments, to access to the lender of last resort—has an international counterpart issue. What this means, of course, is that much greater harmony in structural, supervisory, accounting and tax policy as they apply in international banking and financial matters is needed and needed badly. That higher level of international harmony will not come quickly or easily. But, it will be all the more difficult to achieve so long as our system here in the U.S. is in such a state of flux. Indeed, reforming our system in a manner that makes sense from an internationally competitive view is a prerequisite to dealing with many of these other issues. Looked at in this light, moving along the lines suggested here would constitute a large step in the direction of establishing the conditions that would permit a higher degree of success in achieving that necessary degree of greater international harmony in financial structure, supervision and stability.

SUMMARY AND CONCLUSIONS

The proposals set forth in this paper are designed to provide an overall and integrated framework to guide the much-needed restructuring of the banking and financial system

in the United States. As such, they are designed more as a conceptual framework than they are as a precise legislative or regulatory agenda. Taken as a whole, the proposals rest heavily on three premises: first, that banking and finance ought to be subject to a higher degree of official supervision and regulation than most other forms of business enterprise; second, that any effort aimed at reform should have as its primary objective measures that can work in the direction of enhancing the safety and stability of the system; and third, that efforts aimed at reform must realistically take account of market realities as they bear on competitive forces impacting classes of institutions and activities both here and abroad.

In considering the approach suggested here, it should be abundantly clear that no set of proposals—no matter how well-conceived—can achieve a perfect balancing of the many competing considerations that are at issue in seeking to forge a more coherent approach to financial market structure. Similarly, any approach—narrow or broad—will inevitably entail arbitrary distinctions at the margin. However, these considerations should not stand in the way of moving forward with an integrated and comprehensive effort aimed at reform while recognizing that subsequent events may well require further refinement and adaptation.

In that spirit, the proposals set forth in this paper can be summarized as follows:

- **First,** the approach would maintain a basic separation between banking and commerce while permitting firms engaged in providing financial services to operate in a broad range of banking and financial product and service markets. That is, common corporate ownership of banks, thrifts, insurance companies, and securities companies would be permitted—subject to appropriate regulatory restraints—as would combinations of commercial firms and nonbank financial concerns. However, under no circumstances could a commercial firm own and control an insured depository. On the other hand, securities, insurance or other financial concerns could own and control insured depositories, thereby becoming bank or thrift holding companies. The approach is fully consistent with the view that "banks are special" while at the same time sensitive to the market realities associated with the provision of financial services in a contemporary setting here and abroad.

- **Second,** the approach recognizes that competitive realities require that artificial distinctions between classes of financial institutions offering functionally similar financial services must be narrowed, especially as they pertain to those financial services which are of particular concern from a public policy perspective. Accordingly, the proposals would:

- eliminate the prohibition against paying interest on transaction deposits.
- provide for the payment of interest on required reserves.
- make all transaction ***accounts*** subject to required reserves.
- eliminate required reserves on nonpersonal time deposits.
- establish an interest-earning liquidity reserve applicable to all major direct participants in the large-dollar electronic payments network.
- broaden the class of institutions that have some form of direct access to the payments mechanism and the discount window.
- broaden the class of integrated financial institutions that are subject a degree of consolidated official supervision by the Federal Reserve.

- **Third,** the approach would also usher in a greater degree of more balanced competition in the marketplace for banking and financial services. Indeed, by permitting combinations of financial and banking entities in a setting in which commercial firms may continue to offer a full range of nonbank financial services, the thrust of competitive forces would be driven more by market considerations. However, all of this would take place in a framework in which the supervisory apparatus associated with banking and finance would be preserved and enhanced. And, it would also be possible to phase in such arrangements over a period of time in a manner not unlike that in which regulation Q ceilings were reduced and then eliminated over a period of time under the provisions of the 1980 Monetary Control Act.

- **Fourth,** official supervision would increasingly take account of function, not merely form. This goal is achieved in several ways, including by virtue of the steps outlined in the second item above. Beyond those particular suggestions, the approach also contemplates:

  - the adoption of risk-based capital standards for U.S. banking organizations which would permit a convergence in such standards between U.S. banks and foreign banks *and* over time would also be conceptually compatible with the goal of achieving a greater degree of convergence in capital requirements as among like classes of activities in banks and other financial entities.

- the creation of an interagency "Financial Services Oversight Board" to insure, among other things, that a uniform definition of financial services is applied to all classes of banking and financial entities.
- that component parts of bank, thrift and financial holding companies would be subject to direct supervision on a functional basis in much the same fashion as is the case today.
- that any financial organization that has access to the discount window and is a major user of the large-dollar electronic payments system would be subject to a degree of consolidated supervision by the Federal Reserve.
- that, as a general matter, supervisory standards will have to further adapt to contemporary practices of banking and financial firms.

- **Fifth,** taken as a whole, the proposals provide for a high degree of choice or "volunteerism" on the part of individual business enterprises. That is, any firm that wishes to be in the business of providing banking or financial services has clear options available to it depending on how that firm weighs the costs and benefits of one corporate form versus others. Beyond that, and within each major category of enterprise, the firm would have considerable discretion—subject, of course, to appropriate regulatory restraints—to choose the specific types and forms of services it might wish to provide. And, it would also be possible for firms to shift from one category to another recognizing, of course, that shifting from the status of a bank holding company to a financial/commercial enterprise would require prompt divestiture of banking interests.

While all of the above considerations are important, the acid test of the approach is whether it would work in the direction of reducing systemic risk while at the same time leaving ample room for market discipline to play its necessary and appropriate role. Insofar as the stability of the system as a whole is concerned, there are several aspects of these proposals which clearly work in the direction of reducing vulnerabilities. For example:

- the narrowing of artificial distinctions among classes of financial institutions would work in the direction of reducing inhibitions on the regulatory side in calling for stronger prudential standards in such areas as capital adequacy.
- The incentives to move activities offshore or to the point of least supervisory purview would be reduced.

- The payment of interest on demand deposits and reserves would reduce the incentives for intraday and day-to-day churning in financial markets.

- The liquidity reserve would dramatically increase the cushion of cash balances in the system, thereby reducing intraday credit exposure and providing a thicker liquidity cushion—short of the central bank—for individual institutions and for the system as a whole.

- More open access to the payments system and finality of payment in large-dollar electronic payments systems would reduce the systemic risks in the payments system while also working in the direction of isolating problems at their source which, in turn, would provide a degree of greater flexibility in official responses to problems if and when they arise. In addition, adopting the concept of the National Payments Corporation would accelerate and facilitate the efforts and investments needed to strengthen the operational reliability of such systems thereby reducing the danger of destabilizing problems of an operational nature.

- providing for a degree of consolidated supervision of diversified financial firms would appreciably narrow a major gap in the official supervisory network.

In considering the factors outlined above, the most difficult question is not whether they will work in the direction of strengthening the system but rather whether they might work too well. By that, of course, I mean that there is always a danger that they will be perceived merely as extending the "safety net" and thus running the risk that the result will be a further erosion of discipline in the marketplace, since market participants may conclude that the safety net will protect not just the system but all of its component parts, even those who have acted in an irresponsible or undisciplined, fashion. That perception, to the extent it does or might exist, must be changed. To put it directly, the freedoms contemplated by the current market environment must include the freedom to fail. And, by extension, the financial system must be a system in which discipline operates through prior restraints—saying "no" to unduly risky activities and transactions—and not by falling into situations in which restraint and discipline are achieved only as a by-product of instability and failure.

If inhibitions about running the risks of permitting even large institutions to fail are to be reduced, we must have confidence that individual failures can be handled swiftly, effectively and with force, while not triggering more generalized problems. Achieving that objective will not be easy in today's highly interdependent banking and financial

markets. At the very least, it means that the authorities must have the information and the expertise to quickly fashion solutions to problem situations. Stated differently short-term liquidity support operations which buy time to fashion permanent solutions to problems must not slip into long-term bailouts of those responsible for the problem. Finally, it must be recognized that the initial burden of responsibility for the well-being of the system must lie with the prior restraints exercised by the management of banking and financial institutions.

Looked at in this broad light, the proposals contained in this paper may rightfully be viewed as building blocks, since an indispensible part of that larger objective entails efforts to better rationalize the system itself while adapting—even if slowly at first—the regulatory and supervisory apparatus associated with the system in ways that can foster greater strength and greater flexibility. That process of reform and adaptation cannot be delayed further, for to do so would only increase the risk that distortions would magnify and raise the specter of coping with today's somewhat latent problems in a less hospitable economic and financial environment somewhere down the road.

APPENDIX

In the discussion of possible enhancements to the large-dollar electronic payments systems contained in Section IV, one of the alternatives mentioned centered on the concept of a "National Electronic Payments Corporation." Such a concept would, of course, represent a major change from current arrangements but is deserving of serious consideration, especially if financial transaction volume continues to grow at anything resembling the experience of the past several years. It would, among other things, provide a vehicle that could more easily muster the hard-dollar investment needed to upgrade and harmonize processing systems (including backup systems), but it could also be structured to serve the objectives cited on page 31 while at the same time complementing the proposed change in financial market structure outlined in Section V.

While such a corporation could be structured in any number of ways, the discussion which follows outlines one possible approach for purpose of illustration.

1. The Corporation would be jointly owned and operated by the Federal Reserve and by those banking and/or financial concerns making *equity* investments in the corporation. While private participants would have a major role in the design and operation of the system, the Federal Reserve would have a majority and controlling ownership interest in the Corporation because the Federal Reserve's discount window apparatus would, subject to collateral and other constraints, provide the backup liquidity needed to ensure payment finality.

2. The Corporation would have a board of directors with the chairman and a simple majority of such directors drawn from the Federal Reserve. Private sector directors would be carefully selected to ensure broad representation by class, size and location of shareholding institutions. The board of directors would have, subject to a degree of oversight by the Federal Reserve Board, broad policy-making authority ranging from the promulgation of policies governing minimum standards for backup facilities to procedures governing daylight overdrafts.

3. Payments made via the Corporation would be limited to transactions drawn on accounts at the Federal Reserve Banks, including funds transfers of reserve and liquidity balances and transfers of book-entry U.S. government securities.

4. All payments made through the Corporation would be final and irrevocable upon receipt, with the Corporation and ultimately the Federal Reserve providing the liquidity to ensure finality. Finality of payment means that once institution "A" (or its customer) has received a payment from institution "B," those funds are final and irrevocable. Thus, even if within a matter of minutes the sending institution ("B" in the above example) failed, the receiving institution would have "good" money and the problems growing out of a sudden failure would be concentrated at the source of the problem—the failed institution. Clearly this arrangement does not solve problems arising from a sudden systemwide credit shock, but it does go a long way toward localizing a specific problem within the troubled or failed institution.

5. The Corporation would have a large initial equity capitalization perhaps as much as several hundred million dollars with capital contributions roughly pro rata between the Federal Reserve and private shareholders as a group. The initial equity investment in the Corporation would be used largely to upgrade or if necessary build a wholly new telecommunications network with multiple layers

of backup and bypass capabilities such that operational reliability would be as close to fail-safe as possible.

6. The Corporation would be profit-making in that transaction and account fees would be established such that all shareholders—public and private—would earn a "market" rate of return on their equity investments. Assuming some "market" driven dividend payout ratio, the retained earnings of the Corporation would be used exclusively (1) to fund research and development on payments technology and (2) to build contingent capital resources.

   The fee schedule adopted by the Corporation's board of directors would be subject to approval by the Federal Reserve Board. Needless to say, the transaction cost for large-dollar payments under this arrangement would be higher than they are today but they would, in effect, be financing a materially better and safer system and providing a market rate of return on equity investments of shareholders, including the Federal Reserve Banks.

7. The private sector would be expected to develop, in a fully competitive environment, clearing and settlement services for *all* classes of securities, financial instruments and derivative financial instruments except those funds and U.S. government securities transactions that can be effected directly on the books of the Federal Reserve Banks. To the extent that these private sector providers of such clearing and settlement services wish to have *same day* net settlement services on the books of the Reserve Banks, the rules governing such services would be established by the Corporation's board of directors.

8. As discussed in Section V, because each of the private shareholders in the Corporation would be subject to interest-earning liquidity reserves the liquid resources available to cope with problems would be materially greater than is the case today. Indeed, as visualized, the cash balances of financial institutions on the books of the Federal Reserve Banks would increase from their current level of $35 billion to about $85 billion.

9. Finally, because the hub of the operating systems would be at the Reserve Banks—as would the cash and securities balances—the Reserve Banks would routinely have the hands-on operating experience as well as instant access to information needed to objectively and impartially solve problems—especially problems of a liquidity or credit nature—if and when they arise.

While this description of a National Electronic Payments Corporation should be viewed as conceptual, it could provide the necessary vehicle to (1) muster the equity investment needed to materially upgrade and streamline the crucial operational systems and backup systems needed to enhance the reliability and integrity of the large-dollar electronic payments systems; (2) achieve a major step forward in providing finality of payments; (3) augment the cash and liquidity balances associated with the operation of the system; (4) provide a vehicle through which public and private institutions can work together in securing a safer and more efficient payments mechanism; and (5) establish a vehicle which can materially reduce the susceptibility of the system to shocks whether they be operational, liquidity or credit in nature. But, in a larger context, these arrangements could also help to facilitate a generalized restructuring of the financial system as outlined in Section V.

Financial Statements

STATEMENT OF EARNINGS AND EXPENSES FOR THE CALENDAR YEARS 1986 AND 1985 (In dollars)

	1986	1985
Total current earnings	5,555,360,431	5,851,363,158
Net expenses	212,628,002	208,566,877
Current net earnings	5,342,732,429	5,642,796,281
Additions to current net earnings:		
Profit on sales of United States Government securities and Federal agency obligations (net)	21,891,327	33,056,598
Profit on foreign exchange (net)	486,745,710	295,250,560
All other	1,135	22,049
Total additions	508,638,172	328,329,207
Deductions from current net earnings	12,498,114	1,160,787
Net additions	496,140,058	327,168,420
Assessments by the Board of Governors:		
Board expenditures	24,112,100	19,025,200
Federal Reserve currency costs	53,649,878	52,739,089
Total assessments	77,761,978	71,764,289
Net earnings available for distribution	**5,761,110,509**	**5,898,200,412**
Distribution of net earnings:		
Dividends paid	27,204,022	25,607,747
Transferred to surplus	26,560,650	42,930,900
Payments to United States Treasury (interest on Federal Reserve notes)	5,707,345,837	5,829,661,765
Net earnings distributed	**5,761,110,509**	**5,898,200,412**
SURPLUS ACCOUNT		
Surplus—beginning of year	439,440,700	396,509,800
Transferred from net earnings	26,560,650	42,930,900
Surplus—end of year	**466,001,350**	**439,440,700**

STATEMENT OF CONDITION

In dollars

Assets	DEC. 31, 1986	DEC. 31, 1985
Gold certificate account	3,145,946,460	3,276,825,394
Special Drawing Rights certificate account	1,489,000,000	1,354,000,000
Coin	14,120,224	16,102,893
Total	4,649,066,684	4,646,928,287
Advances	134,250,000	2,060,475,000
United States Government securities:		
★Bought outright	64,078,918,598	59,304,687,096
Held under repurchase agreements	13,691,465,000	3,528,905,000
Federal agency obligations:		
Bought outright	2,538,623,843	2,744,267,910
Held under repurchase agreements	2,313,535,000	1,693,395,000
Total loans and securities	82,756,792,441	69,331,730,006
Other assets:		
Cash items in process of collection	1,311,198,153	1,338,272,704
Bank premises	32,247,470	30,546,080
†All other	4,378,765,998	3,233,873,931
Total other assets	5,722,211,621	4,602,692,715
Interdistrict settlement account	(5,576,252,155)	(3,210,013,157)
Total Assets	**87,551,818,591**	**75,371,337,851**

★ Includes securities loaned—fully secured	1,447,575,000	1,419,795,000

† Includes assets denominated in foreign currencies valued at market rates.

STATEMENT OF CONDITION

In dollars

Liabilities	DEC. 31, 1986	DEC. 31, 1985
Federal Reserve notes (net)	61,693,101,848	53,847,800,939
Reserves and other deposits:		
Depository institutions	14,639,122,344	8,153,348,889
United States Treasury—general account	7,587,759,178	9,350,978,604
Foreign—official accounts	173,759,073	366,626,943
Other	517,660,394	495,725,063
Total deposits	22,918,300,989	18,366,679,499
Other liabilities:		
Deferred availability cash items	1,157,759,287	1,484,943,003
★All other	850,653,767	793,033,010
Total other liabilities	2,008,413,054	2,277,976,013
Total Liabilities	**86,619,815,891**	**74,492,456,451**
Capital Accounts		
Capital paid in	466,001,350	439,440,700
Surplus	466,001,350	439,440,700
Total Capital Accounts	**932,002,700**	**878,881,400**
Total Liabilities and Capital Accounts	**87,551,818,591**	**75,371,337,851**

★ Includes outstanding foreign exchange commitments valued at market rates.

Changes in Directors and Senior Officers

CHANGES IN DIRECTORS. In December 1986, the Board of Governors of the Federal Reserve System appointed John R. Opel a Class C director for a three-year term beginning January 1, 1987, and designated him *Chairman* of the board of directors and *Federal Reserve Agent* for the year 1987. Mr. Opel, Chairman of the Executive Committee of International Business Machines Corporation, New York, N.Y., had been serving as a Class B director of this Bank since January 1981. As a Class C director, he succeeded Clifton R. Wharton, Jr., then Chancellor of the State University of New York System, who had been serving as a Class C director since January 1983 and as *Deputy Chairman* since January 1985. As *Chairman* and *Federal Reserve Agent,* Mr. Opel succeeded John Brademas, President of New York University, who had been serving in that position since January 1983. Dr. Brademas continues to serve as a Class C director.

Also in December, the Board of Governors appointed Virginia A. Dwyer *Deputy Chairman* for the year 1987. Miss Dwyer, formerly Senior Vice President-Finance with American Telephone and Telegraph Company, New York, N.Y., has been serving as a Class C director since January 1985. As *Deputy Chairman,* she succeeded Dr. Wharton.

In December 1986, member banks in Group 2 elected Alberto M. Paracchini a Class A director for a three-year term beginning January 1, 1987. Mr. Paracchini, Chairman of the Board and President of Banco de Ponce, Ponce, Puerto Rico, succeeded T. Joseph Semrod, Chairman of the Board of United Jersey Bank, Hackensack, N.J., who had served as a Class A director since January 1984. In February 1987, member banks in Group 2 elected John A. Georges a Class B director for a three-year term ending December 31, 1989. Mr. Georges, Chairman of the Board of International Paper Company, New York, N.Y., succeeded Mr. Opel as a Class B director.

Buffalo Branch. In December 1986, the board of directors of this Bank redesignated Mary Ann Lambertsen *Chairman* of the Branch board for the year 1987. Mrs. Lambertsen, Vice President-Human Resources of the Fisher-Price Division of The Quaker Oats Company, East Aurora, N.Y., has been a director of the Branch, and *Chairman* of the Branch board, since January 1986.

At the same time, the board of this Bank appointed Harry J. Sullivan a director of the Buffalo Branch for a three-year term beginning January 1, 1987. Mr. Sullivan, President and Chief Executive Officer of Salamanca Trust Company, Salamanca, N.Y., succeeded Herbert Fort, President and Chief Executive Officer of The Bath National Bank, Bath, N.Y., who had served as a Branch director since January 1984.

Also in December, the Board of Governors of the Federal Reserve System reappointed Matthew Augustine a director of the Buffalo Branch for a three-year term beginning January 1, 1987. Mr. Augustine, President and Chief Executive Officer of Eltrex Industries, Inc., Rochester, N.Y., has been serving as a Branch director since January 1986, when he was appointed to serve the unexpired portion of the term, ending December 31, 1986, of Laval S. Wilson.

CHANGES IN SENIOR OFFICERS. The following changes in official staff at the level of Vice President and above have occurred since the publication of the previous *Annual Report:*

Effective July 1, 1986:

Terrence J. Checki, Adviser, was appointed Vice President and assigned to the Foreign Relations Function with supervisory responsibility for the Developing Nations Staff.

Cathy E. Minehan, Vice President, formerly assigned to the Check Processing Function, was assigned as the officer in charge of the Electronic Payments Function.

John F. Sobala, Assistant Vice President, was appointed Vice President and assigned as the officer in charge of the Check Processing Function.

Jorge A. Brathwaite, Vice President, Electronic Payments, resigned from the Bank effective July 25, 1986. Mr. Brathwaite had joined the Bank's staff in 1968 and became an officer in 1975.

Edward J. Geng, Senior Vice President, Dealer Surveillance, resigned from the Bank effective August 8, 1986. Mr. Geng had rejoined the Bank in September 1982, having originally joined the Bank's staff in 1957 and having resigned in 1969.

Effective October 1, 1986, the Research and Statistics Function was restructured as the Research and Statistics Group. Peter Fousek, Executive Vice President and Director of Research, was assigned as the officer in charge of the Group. Within the Research Function, M. Akbar Akhtar, Vice President and Assistant Director of Research, was assigned responsibility for macroeconomic policy studies, and Edward J. Frydl, Vice President and Assistant Director of Research, was assigned responsibility for financial policy studies. Richard J. Gelson, Vice President, was assigned as the officer in charge of the Statistics Function.

Jeffrey R. Shafer, Vice President, who had been on a leave of absence since January 1984, resigned from the Bank effective November 1, 1986. Mr. Shafer had joined the Bank's staff as an officer in 1981.

Stephen G. Thieke, Senior Vice President, was assigned supervisory responsibility for the Dealer Surveillance Function, under Peter D. Sternlight, Executive Vice President in charge of the Open Market Group, effective January 1, 1987. In addition, Mr. Thieke's supervisory responsibility for the Open Market Function continues.

Effective February 1, 1987:

Robert T. Falconer, Vice President, resigned from the Bank. Mr. Falconer had joined the Bank's staff in 1971 and became an officer in 1978.

Edwin R. Powers, Vice President, Administrative Services, retired. Mr. Powers had joined the Bank's staff in 1940 and became an officer in 1967.

Directors of the Federal Reserve Bank of New York

DIRECTORS	*Term expires Dec. 31*	*Class*
ROBERT W. MOYER President and Chief Executive Officer, Wilber National Bank, Oneonta, N.Y.	1987	A
LEWIS T. PRESTON Chairman of the Board, Morgan Guaranty Trust Company of New York, New York, N.Y.	1988	A
ALBERTO M. PARACCHINI Chairman of the Board and President, Banco de Ponce, Ponce, Puerto Rico	1989	A
JOHN F. WELCH, JR. Chairman of the Board, General Electric Company, Fairfield, Conn.	1987	B
RICHARD L. GELB Chairman of the Board, Bristol-Myers Company, New York, N.Y.	1988	B
JOHN A. GEORGES Chairman of the Board, International Paper Company, New York, N.Y.	1989	B
VIRGINIA A. DWYER, *Deputy Chairman* Former Senior Vice President-Finance, American Telephone and Telegraph Company, New York, N.Y.	1987	C
JOHN BRADEMAS President, New York University, New York, N.Y.	1988	C
JOHN R. OPEL, *Chairman and Federal Reserve Agent* Chairman of the Executive Committee, International Business Machines Corporation, New York, N.Y.	1989	C

DIRECTORS—BUFFALO BRANCH	
ROSS B. KENZIE Chairman of the Board, Goldome FSB, Buffalo, N.Y.	1987
JOSEPH YANTOMASI UAW Consultant, United Auto Workers, Region No. 9, Buffalo, N.Y.	1987
R. CARLOS CARBALLADA President and Chief Executive Officer, Central Trust Company, Rochester, N.Y.	1988
MARY ANN LAMBERTSEN, *Chairman* Vice President-Human Resources, Fisher-Price Division of The Quaker Oats Company, East Aurora, N.Y.	1988
DONALD I. WICKHAM President, Tri-Way Farms, Inc., Stanley, N.Y.	1988
MATTHEW AUGUSTINE President and Chief Executive Officer, Eltrex Industries, Inc., Rochester, N.Y.	1989
HARRY J. SULLIVAN President and Chief Executive Officer, Salamanca Trust Company, Salamanca, N.Y.	1989

MEMBER OF FEDERAL ADVISORY COUNCIL—1987	
JOHN F. MCGILLICUDDY Chairman of the Board, Manufacturers Hanover Trust Company, New York, N.Y.	1987

Officers of the Federal Reserve Bank of New York

E. GERALD CORRIGAN, *President*

THOMAS M. TIMLEN, *First Vice President*

SAM Y. CROSS, *Executive Vice President*
Foreign

PETER FOUSEK, *Executive Vice President and Director of Research*
Research and Statistics

JAMES H. OLTMAN, *Executive Vice President and General Counsel*
Administrative Services; Legal; Management Planning

PETER D. STERNLIGHT, *Executive Vice President*
Open Market

AUDIT

JOHN E. FLANAGAN, *General Auditor*
ROBERT J. AMBROSE, *Assistant General Auditor*
LORETTA G. ANSBRO, *Audit Officer, Audit Analysis Department*
EDWARD J. CHURNEY, *Manager, Auditing Department*

ADMINISTRATIVE SERVICES GROUP

JAMES H. OLTMAN, *Executive Vice President and General Counsel*
JEROME P. PERLONGO, *Manager (Night Officer)*

ACCOUNTING

RALPH A. CANN, III, *Vice President*
LEON R. HOLMES, *Assistant Vice President*
DONALD R. ANDERSON, *Manager, Accounting Department*
JANET K. ROGERS, *Manager, Accounting Department*

SERVICE

JOHN M. EIGHMY, *Vice President*
RONALD E. LONG, *Assistant Vice President*
PAUL L. MCEVILY, *Manager and Assistant Secretary*
JOSEPH C. MEEHAN, *Manager, Building Services Department*
JOSEPH R. PRANCL, JR., *Manager, Food and Office Services Department*
JASON M. STERN, *Manager, Administrative Support Services Department*

AUTOMATION AND ELECTRONIC PAYMENTS GROUP

ISRAEL SENDROVIC, *Senior Vice President*

DATA PROCESSING

PETER J. FULLEN, *Vice President*
RONALD J. CLARK, *Assistant Vice President*
GEORGE LUKOWICZ, *Assistant Vice President*
JAMES H. GAVER, *Manager, General Purpose Computer Department*
PETER M. GORDON, *Manager, Telecommunications Operations Department*
JOHN C. HEIDELBERGER, *Manager (Evening Officer)*
KENNETH M. LEFFLER, *Manager, Analytical Computer Department*

ELECTRONIC PAYMENTS

CATHY E. MINEHAN, *Vice President*
CAROL W. BARRETT, *Vice President*
H. JOHN COSTALOS, *Product Manager for Securities Services*
HENRY F. WIENER, *Assistant Vice President*
DANIEL C. BOLWELL, *Electronic Operations Officer*
ANDREW HEIKAUS, *Manager, Funds Transfer Department*
PATRICIA HILT-LUPACK, *Manager, Securities Transfer Department*

SYSTEMS DEVELOPMENT

SUSAN C. YOUNG, *Vice President*
OM P. BAGARIA, *Assistant Vice President*
BARBARA R. BUTLER, *Assistant Vice President*
PATRICIA Y. JUNG, *Assistant Vice President*
VIERA A. CROUT, *Manager, Common Systems Department*
CHRISTOPHER M. KELL, *Systems Development Officer*
HARRY Z. MELZER, *Manager, Data Systems Department*
MONIKA K. NOVIK, *Manager, Data Systems Department*

Officers *(Continued)*

BANK SUPERVISION GROUP

FREDERICK C. SCHADRACK, *Senior Vice President*

BANK EXAMINATIONS

CHESTER B. FELDBERG, *Senior Vice President*
GEORGE R. JUNCKER, *Chief Compliance Examiner*
ROBERT A. O'SULLIVAN, *Chief Financial Examiner*
JOHN M. CASAZZA, *Assistant Chief Examiner, Domestic Banking Department*
ARTHUR L. CASTRO, *Examining Officer, Multinational Banking Department*
JAMES K. HODGETTS, *Examining Officer, Domestic Banking Department*
BARBARA A. KLEIN, *Examining Officer, International Banking Department*
A. JOHN MAHER, *Assistant Chief Examiner, Specialized Examinations Department*
THOMAS P. MCQUEENEY, *Assistant Chief Examiner, International Banking Department*
GERALD P. MINEHAN, *Assistant Chief Examiner, Multinational Banking Department*
ERIC K. TARLOW, *Assistant Chief Examiner, Compliance Examinations Department*
WALTER W. ZUNIC, *Examining Officer, International Banking Department*

BANKING APPLICATIONS

CHESTER B. FELDBERG, *Senior Vice President*
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BENEDICT RAFANELLO, *Assistant Vice President*
DONALD T. VANGEL, *Assistant Vice President*
JAMES P. BARRY, *Manager, Supervision Support Department*

BANKING STUDIES AND ANALYSIS

J. ANDREW SPINDLER, *Vice President*
LEON KOROBOW, *Adviser*
BETSY BUTTRILL WHITE, *Assistant Vice President*
DONALD E. SCHMID, *Manager, Bank Analysis Department*

ECONOMIC ADVISER

RICHARD G. DAVIS, *Senior Economic Adviser*

EQUAL EMPLOYMENT OPPORTUNITY

DONALD R. MOORE, *Equal Employment Opportunity Officer*

FOREIGN GROUP

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FOREIGN EXCHANGE

MARGARET L. GREENE, *Senior Vice President*
DAVID L. ROBERTS, *Assistant Vice President*
PETER S. HOLMES, *Foreign Exchange Trading Officer*
WILLENE A. JOHNSON, *Manager, Foreign Exchange Department*

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GEORGE W. RYAN, *Vice President*
GEORGE R. ARRINGTON, *Manager, Foreign Relations Department*
FRANCIS J. REISCHACH, *Manager, Foreign Relations Department*

Developing Nations

TERRENCE J. CHECKI, *Vice President*
CARL W. TURNIPSEED, *Assistant Vice President*
GEORGE H. BOSSY, *Manager, Developing Nations Staff*

International Capital Markets

CHARLES M. LUCAS, *Vice President*
ANDREW T. HOOK, *Senior International Economist*
CHRISTOPHER J. MCCURDY, *Senior International Economist*

LEGAL

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DON N. RINGSMUTH, *Associate General Counsel*
THOMAS C. BAXTER, JR., *Counsel*
JOYCE E. MOTYLEWSKI, *Counsel*
MARYSUE SULLIVAN, *Counsel*
DONALD L. BITTKER, *Associate Counsel*
JOHN S. CASSIDY, *Associate Counsel*
JEFFREY F. INGBER, *Secretary and Associate Counsel*
BRADLEY K. SABEL, *Associate Counsel*
RALEIGH M. TOZER, *Associate Counsel*
WEBSTER B. WHITE, *Associate Counsel*

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ROBERTA J. GREEN, *Vice President*
KATHLEEN A. O'NEIL, *Assistant Vice President*
FRANKLIN T. LOVE, *Manager, Credit and Discount Department*

Officers *(Continued)*

MANAGEMENT PLANNING GROUP

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PERSONNEL

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EVELYN E. KENDER, *Manager, Personnel Department*
ELAINE D. MAURIELLO, *Manager, Personnel Department*
ROBERT C. SCRIVANI, *Manager, Personnel Department*

PLANNING AND CONTROL

ROBERT M. ABPLANALP, *Vice President*
NATHAN BEDNARSH, *Manager, Management Information Department*
NIRMAL V. MANERIKAR, *Manager, Management Information Department*

OPEN MARKET GROUP

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DEALER SURVEILLANCE

STEPHEN G. THIEKE, *Senior Vice President*
EDWARD J. OZOG, *Assistant Vice President*
BARBARA L. WALTER, *Assistant Vice President*
GARY HABERMAN, *Manager, Dealer Surveillance Department*

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MARY R. CLARKIN, *Vice President*
JOAN E. LOVETT, *Assistant Vice President*
KENNETH J. GUENTNER, *Manager, Open Market Department*
ANN-MARIE MEULENDYKE, *Manager, Open Market Department*

OPERATIONS GROUP

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CASH PROCESSING

JOSEPH P. BOTTA, *Vice President*
MARTIN P. CUSICK, *Assistant Vice President*
THOMAS J. LAWLER, *Manager, Operations Support Staff*
CHARLES E. ROCKEY, *Manager, Paying and Receiving Department*
LILLIE S. WEBB, *Manager, Currency Verification Department*

CHECK PROCESSING

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FRED A. DENESEVICH, *Regional Manager (Cranford Office)*
STEVEN J. GAROFALO, *Assistant Vice President*
ANGUS J. KENNEDY, *Regional Manager (Utica Office)*
ANTHONY N. SAGLIANO, *Regional Manager (Jericho Office)*
MATTHEW J. PUGLISI, *Manager, Check Adjustment and Check Processing Departments*

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CATHERINE G. MARZI, *Manager, Safekeeping Department*
JOHN J. STRICK, *Manager, Savings Bond Department*

PRICING AND PROMOTION

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BRUCE A. CASSELLA, *Bank Services Officer*
MICHELE S. GODFREY, *Bank Services Officer*

PAYMENTS SYSTEM STUDIES

ERNEST T. PATRIKIS, *Deputy General Counsel*
A. MARSHALL PUCKETT, *Payments System Adviser*

PUBLIC INFORMATION

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RICHARD H. HOENIG, *Assistant Vice President*
MARGARET E. BRUSH, *Manager, Public Information Department*

Officers *(Continued)*

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EDWARD J. FRYDL, *Vice President and Assistant Director of Research*
PAUL B. BENNETT, *Senior Research Officer*
WILLIAM J. GASSER, *Senior Research Officer*
JOHN WENNINGER, *Senior Research Officer*
CHRISTINE M. CUMMING, *Research Officer and Senior Economist*
EDNA E. EHRLICH, *Research Officer and Senior Economist*
*A. STEVEN ENGLANDER, *Research Officer and Senior Economist*
CHARLES A. PIGOTT, *Research Officer and Senior Economist*
LAWRENCE J. RADECKI, *Research Officer and Senior Economist*
*DOROTHY M. SOBOL, *Research Officer and Senior Economist*

STATISTICS FUNCTION

RICHARD J. GELSON, *Vice President*
SUSAN F. MOORE, *Assistant Vice President*
NANCY BERCOVICI, *Manager, Statistics Department*
ROBERT W. DABBS, *Manager, Statistics Department*
GERALD HAYDEN, *Manager, Data Reporting Support Department*

*On leave of absence.

SECRETARY'S OFFICE

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PAUL L. MCEVILY, *Manager, Service Function, and Assistant Secretary*
THEODORE N. OPPENHEIMER, *Assistant Secretary*

SECURITY CONTROL GROUP

HERBERT W. WHITEMAN, JR., *Vice President*

ELECTRONIC SECURITY

RICHARD P. PASSADIN, *Security Officer*

PROTECTION

ROBERT V. MURRAY, *Assistant Vice President*
WILLIAM J. KELLY, *Manager, Protection Department*

SECURITY CONTROL

JOHN CHOWANSKY, *Security Control Adviser*

OFFICERS—BUFFALO BRANCH

JOHN T. KEANE, *Vice President and Branch Manager*
PETER D. LUCE, *Assistant Vice President*

BANK SERVICES AND PUBLIC INFORMATION; PERSONNEL; PROTECTION

ROBERT J. MCDONNELL, *Operations Officer*

BUILDING OPERATING; CHECK; SERVICE

DAVID P SCHWARZMUELLER, *Operations Officer*

CASH; CENTRAL OPERATIONS; CREDIT, DISCOUNT, AND FISCAL AGENCY

GARY S. WEINTRAUB, *Cashier*

THE SECOND FEDERAL RESERVE DISTRICT