REMARKS BY

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It is a great pleasure to be here today to share some thoughts on the opportunities and risks in today's financial marketplace, particularly those associated with derivatives, an issue very much in recent headlines. Within that context, my remarks will focus on two broad risk issues: the expanding number and sophistication of financial instruments and exposure to market risk, and whether changes in the financial system are altering the character of systemic risk, thereby weakening traditional safeguards. My specific observations refer, of course, to our experience in the U.S., but the issues clearly have global application.

The changing nature of the financial industry, especially developments in the derivative markets, is a theme that has received considerable attention. As you know, in recent years many of the largest banks have sought to increase their revenues by expanding their trading operations and by developing greater expertise in marketing and trading derivative products. This development, it seems to me, is a natural response by these institutions to financial and technological innovation and changing market demands. Large corporations that once looked to banks for financing now have alternative funding sources and turn to banks principally for other financial services, including assistance in managing market risks. Banks that have sufficient expertise to advise, innovate and make markets in complex financial products see this shift as providing them with new and important sources of noninterest revenues.

This trend is reflected clearly on banks' balance sheets and income statements. Trading account assets of U.S. banks, for example, have tripled from $67 billion at year-end 1991 to nearly $200 billion at year-end 1994. Off-balance sheet positions also continue to grow, whether measured by notional or replacement value, or by the credit equivalence measure specified by the Basle Capital Accord.

Revenues from trading and derivatives activities have grown commensurately and were key to helping some large institutions rebuild their earnings and capital as they recovered from credit-related difficulties of the past. 1993 revenues were particularly impressive, but rising interest rates caused most large trading institutions to experience sharply lower trading revenues in 1994. Nevertheless, the growing importance of trading-related revenues to overall profitability of many of the larger banking institutions is clear.

I think most of us would agree that the innovation of recent years is a good thing. The ingenuity that is the engine of such innovation truly is the industry's greatest strength. The development of new financial instruments and financing techniques has expanded the choices of savers and investors, reduced the costs of financial transactions, improved the allocation of financial resources, increased the competitiveness and efficiency of financial institutions and financial markets, and opened new avenues through which individuals and institutions can better diversify and hedge their risks. These are all welcome developments that should be encouraged. Too often, they are overlooked by people making broad generalizations about derivatives and banking markets.

Having said that, there is also little doubt -- at least in my mind -- that financial and technical innovation have also introduced new and highly complex elements of risk, increased the speed and volatility of financial markets and, in so doing, probably increased systemic risk. Financial service firms, eager to meet identified needs of customers and to reach for market share, too often create and market new products without fully considering the risks and potential consequences. Nearly every day we hear about a new financial product or a new twist on an old product, and each of these products carries with it risks that are as yet unknown.

Indeed, events of the past year suggest that the gap between the types of products and strategies in relatively common use and the capacity of many financial market participants to handle them has grown. By capacity I am referring to the nature and quality of risk measurement and management systems, the rigor and effectiveness of internal controls and, above all, the decision making and management supervision process. Concern about this gap applies to dealers and end-users alike.

Recent U.S. experience with "structured notes" and the sizable losses incurred by some investors in these instruments sound a warning bell for all of us. As you may know, "structured notes" are sophisticated debt securities whose cash flows are determined by an embedded option or by a formula based on one or more market indices. These features allow an underwriter to customize the note for an investor -- that is, to introduce a risk/return profile that is not offered by a standard floating- or fixed-rate debt security. It pays to look carefully at just what the "structured note" problem and other derivative trading strategies are telling us about risk and competition, and the challenges that face participants in our financial markets today.

The first lesson is that the traditional focus on credit risk may have provided investors in these instruments with a false sense of comfort about the overall risks involved. Insufficient attention seems to have been paid to market risk and inadequate resources devoted to information systems capable of properly identifying and monitoring market risk. In some cases, such as the Orange County municipal investment pool debacle, for example, there are also questions about the adequacy of disclosure of information on asset valuations and investment practices and whether sufficient clues about potential financial difficulties were provided.

The second lesson, which both the Orange County episode and the recent collapse of Barings poignantly illustrate, is that low probability events can have devastating, indeed fatal, consequences. These events should change the way industry participants and central bankers think about risk management. More than ever before, it is critical that a financial institution's internal safety net -- its risk management and internal control systems -- keeps pace with all the various risks presented by a dynamic financial environment, regardless of the institution's size.

With this in mind, there are several goals that every major financial institution should embrace in the near-term:

- First, the development and continuous enhancement of measurement and monitoring techniques for all types of risk, including market risk and credit risk resulting from either traditional lending activities or more complex trading and derivatives. The comprehensive assessment and management of risk is what good and effective risk management is about and is essential for effective stress testing and contingency planning capabilities.

- Second, the development of a fully independent risk management staff and a strong internal control environment. It is essential that skilled personnel are hired not only for the trading floors and risk management staffs, but also for back office internal audit functions. In this regard, pay scales and other rewards for these staffs must be made more comparable than I believe is the case today at most institutions.

- Third, is the critical assessment by the board of directors and senior management of an institution's appetite and tolerance for risk, and ensuring that risk management and internal control systems are commensurate with that level of risk. Well-identified and well-used internal communication mechanisms and a clear pathway straight up the chain of command are essential.
- Fourth, and equally important, is the monitoring of the institution's financial performance, in context of its actual risk profile. This requires a sound, comprehensive, but readily understandable, management reporting system.

With the aim of promoting these important goals at banks headquartered in the New York area, supervision staff at the Federal Reserve Bank of New York have for some time held a series of meetings with officials at several money-center institutions to discuss several trading- and derivatives-related issues. Based in part on these discussions, we believe that the banking industry -- working together -- must strengthen its collective risk management and internal control systems, including related accounting, reporting and disclosure practices. In this effort, we look to the major market participants to play a leadership role in helping to define the best practices for the industry. The derivatives study by the Group of Thirty issued over a year ago was an excellent starting point. Also, a voluntary Code of Conduct addressing key risk management, internal control and market and sales practice issues has been drafted and currently is under consideration by various financial market industry groups. I commend both of these initiatives.

Regarding the credit-related risks of trading, we are encouraging the large banks to enhance the measurement and monitoring of the credit exposures that arise from their trading activities. This includes both refining the measurement of potential credit risk and the daily monitoring of that risk. Given the size and complexity of these banks' derivatives businesses, we believe a state-of-the-art reporting system capable of monitoring both actual *and* potential credit exposures on a daily basis is essential for appropriate credit management and to the development of effective stress testing and contingency planning capabilities. We understand that efforts are currently being made at many of the large trading banks to develop systems for the daily monitoring of actual and potential credit exposures.

Such strong credit monitoring systems are critical to managing the recent rapid growth in trading-related credit exposures. Given the potentially global repercussions of large, unanticipated credit problems brought on by market losses -- the recent collapse of Barings is a stunning example -- it is essential that banks be able to monitor their actual and potential credit exposures across businesses and counterparties on virtually a real time basis. The Barings problem demonstrates how quickly losses from market risks can give rise to credit risks at counterparties. This is true notwithstanding that the credit supporting the trading may involve margining and collateral agreements. Such agreements can, of course, help to mitigate and manage credit risk when customers lack publicly disclosed or audited financial statements and when the customer's portfolio is actively managed and constantly changing. However, for margin agreements to be fully effective in controlling risk, the underlying credit process must reflect the same strong internal checks and balances found elsewhere in the bank and effective collateral monitoring systems must be in place. It is our view that rigorous stress and contingency testing are crucial elements of managing credit and market risks to which banks should devote more attention, especially in light of the often sudden and severe impact on market prices of singular and unexpected events.

Our review last year of the current margining practices at a number of the major U.S. banks that we oversee suggested that there was room for improvement. To this end, we communicated with the major domestic and foreign banks in the New York area urging them to review their credit monitoring systems for their institutional customers and to satisfy themselves that those systems are founded on sound and effective credit and internal control practices. We have been pleased with the responsiveness of these institutions to these issues and we continue to monitor that progress.

Regarding public disclosure, it is my view that there is an urgent need to achieve dramatic progress toward enhancing the information available about major market participants -- and here I would go much farther than most and include any large market participant, dealer or end-user. Moreover, I am convinced that we have within our grasp the analytical tools to achieve this needed progress. The same analytic tools used by financial firms for internal risk management purposes are also of potential value in providing a clear external picture of the risk profile of a firm.

Specifically, we at the New York Fed see the major challenge to be the enhancement of credit and market risk disclosure. The major trading institutions headquartered in New York now provide extensive information on actual credit risk exposure in their annual reports, and we have encouraged these institutions to tackle potential credit and market risk in the future. In order to achieve the kind of benchmark standards for disclosure that the Group of Thirty achieved for risk management, notions of what is proprietary information and what should be in the public domain will have to change. One thing is already clear: knowing the appetite for taking risk and the ability to control it at individual firms is essential to understanding the risks of being a shareholder, a creditor, or a counterparty.

In this regard, I strongly encourage all financial market organizations and other institutions to approach the issues of accounting and disclosure as users of financial statements rather than as issuers; what we all need to know about others to be comfortable should drive the debate, rather than concerns about our own disclosures. It is self-evident that a full appreciation of risk cannot be developed without sufficient information. Thus, there is little question in my mind about the urgency of achieving dramatic progress in the areas of financial accounting and disclosure. A striking aspect of the markets over the past year or so has been the recurrent episodes of tremendous uncertainty as to the exact nature of market forces at work and the size of overhanging positions. This uncertainty provided a fertile ground for rumors about forced liquidation of holdings and the financial health of individual firms, and created the potential for volatile and disorderly markets.

All of us know that there is no greater enemy of the marketplace than a loss of confidence -- whether in major market participants or in the market mechanism itself. And while the financial system thus far has withstood the turmoil without great damage, I think it would be a tremendous mistake for us to ignore the clear message we received about the inadequacy of information available to market participants. When even generally well-regarded firms can be the subject of sudden and intense doubt, we overlook the implications at our own peril.

I want to emphasize that I agree with the view that this is an international, and not merely a national, problem. In September, the G-10 central banks, through the Bank for International Settlements, released a discussion paper regarding disclosure of market and credit risk by financial intermediaries. The observations and recommendations presented in this paper, known as the Fisher Report, provide a good foundation for discussion and, ultimately, progress on enhancing public disclosure practices. With similar efforts being undertaken in the private sector, I think it reasonable to expect significant progress in designing a coordinated framework for fuller and more meaningful disclosure within the year.

Also critical to any financial institution's well-being -- and particularly those with large trading and derivatives businesses -- are effective internal control systems. This is a subject that we at the Federal Reserve take very seriously and one that we have recently been reemphasizing, particularly in our conversations with large banks. Of course, effective internal controls have always been centrally important to sound banking. This point becomes entirely clear if we consider for a moment the basic purposes of internal controls:

- to provide reasonable assurance that the bank's and its customers' assets are safeguarded, that its information is timely and reliable, and that errors and irregularities are discovered and corrected promptly;

- to promote the bank's operational efficiency; and,

- to ensure compliance with managerial policies, laws, regulations, and sound fiduciary principles.

With these purposes in mind, it is clear that the success of any banking organization depends in a very real way on the rigor and effectiveness of its internal controls. And never has this been more true than today. As the activities of commercial banks have become increasingly diverse and complex, internal controls have become critically important to the monitoring and management of risk and to the successful execution of banks' business strategies more generally.

I want to emphasize this point as strongly as I can, as I know that there is a clear and powerful temptation for management to focus its attention and resources on those areas and those individuals that generate profits for the institution, especially during "hot-hand" or streak periods. It is easy to be lulled into focusing on the front office aspect of your operation, but if something goes wrong in the back office it can quickly become the most important part of your business. If there was any question about this reality, Barings has just provided us all with a rather compelling example of what can happen when internal controls are either insufficient or not enforced. With this in mind, it is essential that sufficient resources, staff and managerial attention are devoted to the back office and internal audit functions, as well as to the trading floors and risk management staffs. And, in an increasingly competitive environment in which banks are struggling to reduce costs and improve efficiency, special care must be taken to ensure that such efforts do not jeopardize the rigor and effectiveness of an institution's control apparatus.

The other broad issue I want to address is whether changes in the financial system are altering the potential for systemic risk and weakening traditional protections against it. Generally, we think of two sources of systemic risk. The first is the failure of a major market participant and the potential disruption to markets and to other counterparties that such a failure could cause. As I noted earlier, continued progress in developing risk management systems at all major market participants, as well as comprehensive capital requirements, can help to reduce this risk.

One of the most important safeguards we have against systemic risk is the appropriate management of liquidity risk -- both funding liquidity and the management of market access more generally. Clearly, the marketplace over the last 20 years has been unforgiving for those whose capital and liquidity become strained. But I am concerned that a long period of ample liquidity may have led market participants to under-estimate the value of liquidity and the speed with which it can dry up. As trading volumes have risen, the potential demands for collateral and credit lines to support payment and settlement mechanisms in stress scenarios have grown. Finally, the recent months have reminded all of us that market liquidity and the ability to adjust positions can deteriorate quickly when markets are under stress.

A second potential source of systemic risk is a market dynamic in which a large initial price move can be deepened and sustained by positive feedback mechanisms, such as margin calls, program trading, dynamic hedging of options, or steps taken to control losses in leveraged positions, all the more when many market participants follow similar strategies. Last year, for example, rumors and press reports suggested that some leveraged market participants were being forced to liquidate to meet margin calls. This reportedly is just what happened to the managers and investors of at least one hedge fund, with consequences that were felt in the mortgage-backed and Treasury markets. Ultimately, it is these broader markets that bear the brunt of major market disturbances, as investors under stress seek liquid marketplaces to adjust their positions.

In this regard, I see a critical need to address the risk of settlement failure in foreign exchange caused by temporal gaps, known as Herstatt risk. Herstatt risk is especially troublesome because it goes beyond national borders and affects the financial system globally. As you may know, Herstatt risk derives its name from an incident in Germany in 1974 which caused foreign exchange counterparties to Bankhaus Herstatt to incur substantial losses. Bankhaus Herstatt, having completed its foreign currency transactions in Europe, was closed down at the end of a German business day, but before completing its U.S. dollar transactions. Consequently, counterparties due to receive dollars were not paid. In the days following Herstatt's closure, payments that normally flowed through the major international payment systems were significantly disrupted.

In the twenty years since Herstatt, many important changes have been put in place that have improved the settlement process in foreign exchange transactions, even as the foreign exchange markets and the global financial system have undergone dramatic shifts. But we are still far from eliminating settlement risk in foreign exchange transactions.

Finding a more satisfactory solution will require a lot more change -- change in technologies, change in operations and change in the mindset of some market participants. An important contribution has come from the work of the New York Foreign Exchange Committee, which has tried to find a solution to Herstatt risk and open a dialogue with central bankers and the markets about the issue. Last October, the Committee released a study on the ways banks have viewed settlement risk traditionally. The study also included recommendations about how private-sector market participants can help themselves reduce this risk.

Let me recap three of the most compelling conclusions of the study:

First, and most importantly, the study found that the duration of settlement risk is much longer than anyone previously thought. The internal procedures of each bank are the largest source of the duration of settlement risk. The study also showed clearly that these internal procedures can be altered by the banks themselves in order to reduce their settlement exposures.

Second, the study found that netting is a powerful tool for active market makers. Legally binding netting of payments enables market makers to reduce significantly the enormous sums that are at risk on any given day.

Third, for most firms, the current finality rules for local payments are an important factor in determining the extent of the settlement risk. In fact, for firms operating with close-to-the-current-best industry practices, settlement risk could be decreased if full intra-day finality were to prevail. When it does, final payments could, if necessary, be made and reconciled much sooner. This change, in turn, would shorten the duration of settlement risk.

I found the Committee's approach fundamentally sound and its conclusions quite thought-provoking. They show how much the private sector can do on its own to reduce foreign exchange settlement exposures by implementing many types of procedures that are already in existence. The Committee used its findings to develop over a dozen recommended "Best Practices" to help the industry and individual banks reduce Herstatt risk. The report's recommendations were put forth in order to motivate individual banks to act and to promote a dialogue on the issues involved. My intention today is not to endorse or reject any specific Committee proposal. I do, however, think they are worthy of discussion and consideration.

Clearly, resolution of these concerns can be achieved only through a high level of international cooperation and agreement. My goal is to make substantial progress in this regard during my tenure as chairman of the Payment and Settlement System Committee established by G-10 central bank governors. I'd like to think that the combination of private and public attention to this issue could mean the elimination, or at least the near-elimination, of Herstatt risk. After 20 years, that goal is long overdue. There is little question that the foundations have been laid, but now must be built upon and enhanced to reflect the growing complexities of our financial system.

We at the New York Fed have worked closely with industry representatives as they have developed netting agreements for foreign exchange, and we have followed closely the efforts of private market participants to develop a foreign exchange clearing house. The Federal Reserve's decision to open Fedwire for extended hours beginning in 1997 could allow the private sector greater opportunity to develop payments arrangements that bridge the temporal gap that is the source of Herstatt risk. Besides foreign exchange, I see the complex web of settlement arrangements for securities in the major countries, and the related global custody arrangements, as other areas with rich potential for further strengthening of the payments infrastructure.

Let me conclude by making clear that my message today regarding the critical importance of effectively managing risk through comprehensive risk management systems, greater transparency and rigorous internal controls is not intended only for those institutions on the cutting edge of financial engineering. It applies to all size institutions, from the large to the not-so-large, whether they are involved in conventional lending, trading, trust activities, securities lending or private banking, and to all buyers as well as sellers of sophisticated products. All too often we have heard institutions say they were unaware that they were in a "risk" business and therefore had not considered the implementation of effective risk management systems and controls a priority. This thinking must change. Risk is inherent in all aspects of financial transactions and it is imperative that management philosophies, systems and controls evolve and adapt to this reality.

One final observation: central bankers and the international banking community share a common stake in the effective functioning of international financial markets. This stake has never been more important in view of the highly integrated nature of these markets and the speed with which disturbances in one country's markets can impact markets in other countries. At the end of the day, while our perspectives of the risks and challenges may differ, our objectives as supervisors and your objectives as business executives and bankers are the same, pointing toward maintaining a vibrant and strong financial system over the long-term. We want to encourage financial market innovation without compromising the elements which are essential to sound and orderly markets. Experience has shown repeatedly that prudent risk management and controls need not hamper creativity.

Thank you for the opportunity to address you today.