FINANCIAL MARKET INNOVATIONS -- PRACTICAL CONCERNS

Remarks by

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It is a privilege to address this association of market practitioners and market scholars, with its long history of interest in the financial markets, on the highly topical subject of derivatives. The intense interest these instruments have received has shown few signs of abating. I believe there are good reasons for this continued interest, although the reasons may lie less in specific concerns about the core derivatives markets than in concerns about the broad set of financial changes that derivatives have come to symbolize.

I highlight three among these financial changes. The first is the ability of any bank, securities firm, pension fund or corporation to radically alter its financial risk profile by unbundling and restructuring its risks through the derivatives markets. The second is the instantaneous global availability of information and the ability of market participants to act promptly on it, at low cost, with the aid of high-speed

communications. The third is the intermediation of the substantial financial wealth that has accumulated over the past four decades. This wealth flows through a great variety of financial firms and advisors, which in turn are subject to a patchwork of reporting and regulatory regimes and, in not a few cases, outdated laws and regulations.

Taken together, these changes create a trading world that is far more global, fast-paced and difficult to understand than the financial marketplace that this organization grew up with in the 1940s and 1950s. Moreover, today's trading world is no longer neatly separated from more traditional financial activities, such as commercial banking or mutual fund management, just as the derivatives markets cannot be separated from the cash markets. The concepts and the strategies of traders find wide application throughout our financial system. We are not going to be able to get the genie back into his bottle.

Several reports about derivatives have been written in the last year, in a very positive effort to evaluate their contribution to the enormous changes in the financial landscape. We are just short of the first anniversary of the publication by the Group of Thirty of its seminal report, Derivatives: Practices and Principles; reports from the Bank of England and the Deutsche Bundesbank appeared about the same time. All through 1993 and so far in 1994, members of Congress have addressed questions, raised concerns, and commissioned reports about the risks of derivatives and the measures both market participants and we, as central bankers and financial regulators, are taking to address them. Most recently, the GAO issued its long-awaited report, concluding

a two-year study of derivatives. These reports have gone far in taking the mystery out of the derivatives markets--an essential contribution--but they also indicate that our understanding of the derivatives markets is still evolving and deepening.

The major concerns reflected in each of these reports can be grouped into three broad categories which I'd like to address this evening. The first is the ability of financial firms and others active in sophisticated marketplaces to manage their risks well and the ability of their supervisors to ensure that they do so appropriately. The second is the adequacy of information available to financial market participants, investors, creditors, and counterparties to make informed, rational decisions. This is a question both of efficiency and of equity. The third is the capacity of the financial system to absorb shocks, whether they emanate from here or abroad, and the ability of the monetary and supervisory authorities to take steps to contain spillover effects, when necessary.

These concerns seem to have gained in relevance in light of the difficult markets of this year. While the turmoil involved the cash markets far more than the derivatives markets, it was the first time in some years that the money and capital markets have had to weather such difficult conditions. The first quarter took its toll on reported trading profits, produced disclosures of derivatives-related losses by some end-users, and contained more than a few moments of great market uncertainty. Market turmoil continued into this quarter and some unwinding of positions is still going on. As we talk about risk management, information needs, and systemic risk, I'd like to come back to

the experience of this year.

Risk Management

One area in which I believe both the financial industry and the supervisory community have made significant progress is the management of market and credit risks. Real advances have been made in the financial concepts and the design of management information systems used to control these risks. The key ideas, laid out in the Group of Thirty report, center around the establishment of an independent risk management staff and the development of rigorous measurement and analysis of market and credit risks by each firm on a global, consolidated basis. As supervisors and as participants in the foreign exchange and money markets, we see the goals of the Group of Thirty report not only being embraced, but also aggressively pursued by many. The challenge involved in putting in place a state-of-the-art risk management system is substantial, especially the commitment of dollars and human resources to install a sophisticated management information system.

These advances in risk management and internal control have had important implications for the Federal Reserve's supervisory approach to derivatives and other trading activities. Increasingly, our job as supervisors is to observe current market practices and identify sound practices that we can summarize in guidance to banks and to examiners. Within the last six months, for example, the Federal Reserve has issued a policy letter on examining the trading activities of state member banks, bank holding companies, and other banking offices under its supervisory jurisdiction, which we shared with all banking

institutions here in the Second District. In February, the Federal Reserve followed up with a new, comprehensive trading activities examination manual, much of it drafted at the Federal Reserve Bank of New York. This manual provides to examiners looking at a bank's risk management systems expanded guidance that reflects recent advances in risk management practices.

At the New York Fed, our ability to keep up with rapid financial market changes comes from both extensive ongoing conversations with market participants through our foreign and domestic open market desks and our research areas, and from our firsthand observation of risk management practices through the examination process. This means listening to and getting feedback from market participants, something which we are making an increased effort to do, and where we appreciate your help.

This close contact with the marketplace has raised our appreciation for the rapid and far-reaching innovation in the financial markets, especially the derivatives markets, which also has produced innovation in the risk management process within firms. Our challenge is to design a supervisory approach that evolves with the swift advances in risk management practices as much as is practicable.

The development of sophisticated risk measurement concepts has had a particularly important impact on our thinking about capital requirements for market risk. Augmenting the existing Basle capital framework to include market risk has been an important goal of the banking supervisors here and elsewhere in the Group of 10 countries. Last year, the Basle Committee on Banking Supervision issued several consultative papers proposing

revisions to the Basle Accord for the market risks associated with debt, equity, and foreign exchange trading.

In responding to the market risk proposals, many banks around the world, and virtually all U.S. bank commenters, struck a common theme. While they supported the basic concept of incorporating market risk into the risk-based capital framework, they argued that the market risk measurement models the banks had developed for their own risk management offered a means to measure capital requirements with greater precision and with much lower regulatory burden than the proposed supervisory model. I have a lot of appreciation for that point of view, and I also see merit in the argument that an internal model-based approach can reinforce the incentives to develop stronger risk management systems.

However, there are important questions about implementing such an approach in a sound and equitable manner, which are being actively considered by a working group of the Basle Supervisors Committee. Chet Feldberg, the New York Fed's executive vice president in charge of supervision, is a key participant. We expect to hear more about their work later this year. I think it is safe to say that consideration of a models-based approach is a major step for the international supervisory community, with important implications for supervisory resources. The willingness to consider such far-reaching change is, I believe, a strong indication of the high priority that banking supervisors in the United States and abroad place on bringing market risks into the Basle framework.

Consideration of a model-based market-risk capital approach

also highlights for us as supervisors some important goals that we feel banks should set in developing and using internal models for risk management. For example, the measurement of market risk should be a key element in an integrated risk management system that includes reporting to senior management, meaningful internal discussion of risk levels by senior trading managers on a day-to-day basis, and limits that can easily be related to the measured risk positions of the firm.

Another important goal is to develop not only a fully independent risk management staff--and I note that the independence we like to see for such staffs at U.S. banks is not found universally--but a strong internal control environment. That includes a truly independent validation process, in which each step of the risk management process, including the models and submodels that are used to generate market risk measures, is thoroughly vetted.

The implication of such a validation process, of course, is that financial institutions need to hire highly skilled personnel not only for their trading floors and risk management staffs, but also for their back offices and internal audit functions. While some banks have made a substantial commitment to develop a strong validation process, a thorough and highly independent process is again by no means universal, especially when we look at the broad marketplace. And, yet, I am convinced that every dollar, mark and yen spent on strong internal control people earns a high rate of return, when one considers that virtually all of the most significant trading-related losses--those involving hundreds of millions of dollars--have involved internal control breakdowns of

some form. Those breakdowns have occurred at dealers and end-users alike.

Another area in which risk management advances are shaping our supervisory approach involves the role of stress testing, by which I mean the consideration of what events or factors could cause a bank substantial loss. Strong market and credit risk measurement systems and highly integrated, flexible management information systems provide the basis for a systematic and thorough program of stress testing. Such a program is important for several reasons. First, a bank assessing its own capital adequacy needs to be satisfied that its capital is sufficient to buffer it from a broad range of low-probability, extraordinary events involving the various components of market, credit, liquidity and operational risks. My observation over the last twenty years is that the frequency of what are generally viewed as low-probability events seems to be inching up over time, and prudent risk management requires much greater attention to how they can be weathered.

Another reason for rigorous stress testing is contingency planning. Even in the most adverse market circumstances, banks can take steps to reduce their risk and conserve capital. Exploration of "what-if" scenarios can be an extremely valuable way to gain additional insights into potential weaknesses in lines of communication and internal controls under stressful conditions. These insights can lead to improvements in operating procedures or adjustments to limits. Stress scenarios also provide a good test of information systems, especially their capacity to address the complex queries about distributions of

market risk exposure by region or counterparty type.

One of the most important functions of stress testing is the identification of unrecognized vulnerabilities, often the result of hidden assumptions. A key role of stress testing is to ferret out these hidden assumptions and make plain to trading managers and senior management the consequences of being wrong about the assumptions. We've seen some prominent examples of assumptions gone awry over the last couple of years. The breakup of the ERM in September 1992 involved the sudden breakdown of long-established interest rate and exchange rate relationships among major currencies. The market turmoil in the first quarter of this year involved just the opposite: markets expected to move somewhat independently suddenly moved sharply downward in unison. Both events demonstrate what market practitioners call correlation risk, which I believe is an especially important area for stress testing. Stress tests also should assess the impact of large moves in market prices, failures of large credit counterparties, and the seizing up of liquidity in key markets.

My view that we've made significant progress in risk management--with more to come--has not changed as a result of the events of this year. From my perspective, these risk management systems appear to have served banks well. As markets turned down, management was aware of its losses and the size of its risk positions. A combination of hitting loss limit triggers and senior management decisions brought risk positions down, and despite losses in some business lines, the diversification of trading income meant that, on balance, the trading operations of most banks remained profitable in the first quarter. We fully

expect that banks and other market participants will continue to strengthen their risk management further in light of these events. After the long bull markets in many equities, government bonds and emerging markets, the experience of this year has had a useful, sobering effect.

Information Needs and Financial Disclosure

Other aspects of this year's developments were of far more concern and leave little question in my mind about the urgency of achieving dramatic progress in the areas of market transparency and financial disclosure. A striking aspect of the markets this year has been the recurrent episodes of tremendous uncertainty about which market forces were at work and the size of the market overhang that built up during the long uptrend in markets. This uncertainty provided a fertile ground for rumors about forced liquidation of positions, the financial health of individual firms, and the potential for further steep market declines.

As market practitioners, you 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 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.

In one area, financial disclosure, I am convinced that we have within our grasp the analytical tools to greatly enhance the information about major market participants--and here I would go

much further than most and include any large market participant, dealer or end-user. The same analytical tools used by financial firms for their internal risk management also are potentially valuable in providing a clear external picture of the risk profile of the firm. The lack of an adequate picture of a firm's risk profile lies at the heart of the information gap. While traditional accounting has had the goal of providing only a picture of "what is" at a point in time or in a quarter, in reality we used to be able to infer a great deal from balance sheets and income statements using all the ratios taught in introductory business finance courses. That is no longer the case.

While I want to acknowledge ongoing efforts of private sector groups, such as the Group of Thirty, the International Swaps and Derivatives Association and the Institute of International Finance and those of FASB to enhance disclosures, I see an overwhelming need for bold and ambitious disclosure standards and an intense challenge to the private sector to meet that need. In order to achieve the kind of benchmark status for disclosure that the Group of Thirty achieved last year for risk management, our fundamental notions of what is proprietary information and what should be in the public domain has to change. Knowing the appetite for taking risk and the ability to control it at individual firms is essential to understanding the risks associated with being a shareholder, a creditor, or a counterparty.

I agree with the view that this is an international, and not merely a domestic, problem. Through the Group of 10 central

banks, a working group headed by Peter Fisher of the New York Fed is considering means of improving market efficiency through enhanced public disclosure by market participants. Work is being done to explore core information needs by market participants of all types with the goal of contributing ideas to the larger public discussion of improvements in financial disclosure. With similar efforts being undertaken in the private sector, I think it reasonable to expect significant progress in designing a framework for fuller and more meaningful disclosure within the year.

I have a special concern about whether major market participants have enough information about their counterparties in the capital markets. It is essential that banks, securities firms and others have sufficient information to make informed credit judgments. With the growth of investment managers, leveraged funds and other customers who are relatively new to the over-the-counter and foreign securities markets, traditional financial information often is not available or does not suffice to analyze credit risk when customers can quickly alter their risk profiles.

Any diminution of information availability to market participants clearly is a negative to the marketplace and should be resisted. I recognize that there are many who believe that credit exposures in trading relationships can be controlled through the use of margin agreements. In my view, however, margin can only supplement, but not substitute for, basic credit judgments. An assessment of underlying creditworthiness--including a thorough "know your customer" review--is essential to

understanding how trading relationships will perform under stress. It is essential because the size of past market disturbances suggests that major price moves can quickly break through margin levels.

Finally, enhanced financial disclosure also has an important role to play for end-users. Disclosure of the nature and size of the risks being managed through derivatives and other capital markets transactions could play an important part in heightening board of director and senior management awareness of the dimension and the risks in these activities. Better disclosure would be an important spur to better internal risk reporting and would facilitate more analysis of these activities by investors, rating agencies, and equity analysts, subjecting the activities to the discipline of the marketplace.

In general, I feel that much more must be done to encourage a high rate of financial market literacy among all market participants, especially among senior management at dealers and at end-users. In this regard, news reports of the recent losses incurred by corporate end-users of derivatives have no doubt intensified discussion of these instruments by boards of directors and financial management at many end-users and should spur consideration of enhancements to policies, controls and reporting. Similarly, many bank derivative dealers have responded to the recent reports of end-user losses in transactions by reviewing their existing policies and procedures for possible strengthening.

I have emphasized disclosure rather than accounting because, in my view, answering the basic question--what do we need to

know?--seems a productive starting point for assessing how much change is needed to accounting systems here and abroad. I see great value in extensive dialogue between market practitioners who are addressing this question for risk management and control purposes and the accountants who will provide the accounting policies in which public disclosures must eventually be anchored. Because we feel this dialogue is so important, the New York Fed has been broadening and deepening our contacts with the accounting profession.

Beyond financial disclosure, another information problem involves the size of global activity in key over-the-counter markets. The Eurocurrency Standing Committee last year formed a working group that has recommended that the triennial Foreign Exchange Survey be expanded to include additional questions on the derivatives markets. This survey has been a highly successful cooperative venture among central banks and could provide a means for gathering comprehensive and systematic information that would greatly sharpen our picture of the derivatives markets.

There is another issue that I believe is worth some thought by both the public and private sector, here and abroad, and it's an unusually tough one. Market participants often cite as another key information gap the lack of data that would allow them to identify large capital flows within markets and around the globe. Here, too, derivatives and related market innovations have reduced our ability to discern the distribution of risks across capital markets. This obscuring has been compounded by the substantial changes in the structure of intermediation in the

financial system and the reporting gaps created by those changes. Clearly, in the first quarter, better and more timely information about past and current flows might have helped identify potential market pressures and reduced uncertainty. It would take a great deal of ingenuity to design a comprehensive system to measure capital flows, given the global span of market participants and the range of markets in which they are active, but the need appears great. I believe it is worth the effort, and the necessary first step is to compile the key questions such capital flow data should help answer.

Systemic Risk

The final issue raised by developments this year is whether changes in the financial system are altering the character of 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 more comprehensive capital requirements, can help to reduce this risk.

If I have a concern about risk management, it is about the management of liquidity risk--both funding liquidity and the management of market access more generally. This certainly is another case in which the marketplace over the last 20 years has been more and more unforgiving for those whose capital and liquidity become strained. I fear that low interest rates and a long period of ample liquidity may have led market participants

to underestimate 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 payments 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 quickly deteriorate when markets are under stress.

The 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, dynamic hedging of options, or steps taken to control losses in leveraged positions, all the more when many market participants follow similar strategies. This 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.

In addressing this risk, I see a vitally important role for continued strengthening of the infrastructure of our major markets, such as foreign exchange and the Treasury market. It ultimately is these markets that bear the brunt of major market disturbances, as investors under stress seek liquid marketplaces to adjust their positions.

In that regard, I see as a critical element the need to address Herstatt risk, the risk of settlement failure in foreign exchange. We at the New York Fed have worked closely with industry representatives as they have developed netting

agreements in 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 give the private sector fuller opportunity to develop payments arrangements that can 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 rich with potential for further strengthening of the payments infrastructure.

Clearly, these are concerns that can be resolved only through a high level of international cooperation and agreement. I have set the goal of making substantial progress during my tenure as Chairman of the Payments and Settlement System Committee established by the G-10 central bank Governors. I'd like to think that could mean the elimination, or at least the near-elimination, of Herstatt risk.

Conclusion

As I look back over the last two and a half years, I see substantial advances in the industry's ability to manage market and credit risk and in supervisory capacity to oversee banks active in these markets. With an analytically more powerful framework to measure and manage risk, I discern the potential for impressive future payoffs in better risk control as banks move aggressively to install these systems.

At the same time, however, we could be far bolder in applying the principles of risk assessment we have in hand.

Using our enhanced ability to describe and measure risk, we can greatly improve public financial disclosure, as well as the broader processes of analyzing risk, whether by rating agencies, counterparties or investors. That requires a re-examination of the division between proprietary and public information and standards for the content and organization of documents such as annual reports. Most of all, it requires the bold leap of setting out new information for public scrutiny and critique.

If we take a very long view, our financial markets have been successful because they have insisted both on high levels of professional practice and a substantial degree of public disclosure. The freedom that market participants enjoy in many market segments, where expectations of sound practice and ample information are a longstanding tradition, has allowed our markets to lead in the innovation of financial products and in the availability of finance. To retain that dynamism and vitality in the face of accelerating change calls for a thoughtful, but aggressive strategy of change and adaptation within both the private and the public sector. We at the Federal Reserve Bank of New York are committed to working with you on that strategy.

Thank you for the opportunity to address you this evening.

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