

# The Global Derivatives Market

by William J. McDonough

I welcome the opportunity to comment today on the excellent study on derivatives by the Group of Thirty (G-30). The report, and especially its appendices, provide a comprehensive overview of derivatives activity and their risks, a survey of current risk management practices, and recommendations on sound practices for risk management and on regulatory and accounting measures. This report belongs at the top of the reading list for the senior management of all institutions active in derivatives markets, as well as for regulators and the legislative community concerned with the safe operation of these markets.

I have long been convinced that the extraordinary growth of derivatives activity over the past decade has provided real benefits in the form of more efficient allocation and management of risks. By lowering the costs of risk intermediation and providing more finely tuned hedges, derivatives enable investors, financial institutions, and corporate treasurers to achieve exposures in their financial transactions that are more consistent with their overall business strategies. As a result, derivatives have facilitated the financing of investment in physical assets.

These important benefits of derivatives require the continuous, smooth, and safe functioning of derivatives markets. To this end, the first line of defense against disruptions to the derivatives markets is the risk management capability of all firms active in these mar-

kets. The G-30 study on derivatives helps fortify this line of defense by distilling the present wisdom on the nature of risks in derivatives activities and on sound practices for risk management. Let me stress how important it is that those end-users of these products who become quasi-market makers have the same sound practices we expect from financial institutions. Other end-users should use these practices as guides. Indeed, I believe that the adoption of the full set of recommendations in the report by *all* major users of derivatives would significantly reduce the chance that a major financial disruption will originate in any one firm's derivatives activities.

I find myself even more challenged to add to the report's discussion of the nature of systemic risks that might arise because of the effects that derivatives activities have had on the functioning of the financial system. At the end of my remarks, I will provide my own perspective on this issue.

Beyond these critical risk management and systemic risk concerns lies another set of issues that we at the New York Fed and our colleagues at the Board of Governors are committed to better understanding—that is, the ways in which the expanded use of derivatives by a wide variety of end-users has altered the channels of influence of monetary policy. This concern clearly lies outside the scope of the G-30 study, but I mention it today because this important topic has just begun to get the attention it deserves.

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Remarks by William J. McDonough, President of the Federal Reserve Bank of New York, on *Derivatives: Practices and Principles* (July 1993), a report by the Global Derivatives Study Group of the Group of Thirty, presented at the Group of Thirty Meeting, Washington, D.C., September 27, 1993

simply wish to underscore that derivatives have become so pervasive that their potential macroeconomic consequences can no longer be ignored.

Let me cite two examples to give you a sense of the issues involved. First, much of the transmission process

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operates, in the first instance, through the impact of monetary operations on financial intermediaries, particularly banks. How have derivatives altered banks' liquidity and interest rate management practices, and might these alterations affect the transmission process? Second, has the improved ability of corporations to hedge interest rate and exchange rate risks altered the sensitivity of their investment decisions to interest rate and exchange rate movements?

I give these examples in the form of questions because, as yet, economic research provides little guidance as to the answers to these queries. The Federal Reserve is exploring these issues, and we hope that we can also spark the interest of other researchers in both the public and the private sectors.

#### **Comments on the G-30 recommendations**

I turn now to my specific comments on the recommendations offered in the G-30 report.

*The role of senior management.* The G-30 is exactly right to stress in its first recommendation the importance of senior management's active involvement in the formulation of risk management policies. However, our vision of the role of senior management in derivatives activities is even broader.

Senior management must be actively engaged in the risk management process on an ongoing basis and not just at the policy formulation stage. Let me again emphasize that I am speaking of the top management at *all* firms—both financial and nonfinancial—active in derivatives markets. Senior managers should critically evaluate risk taking in their organization, reviewing risk management reports as appropriate. They should regularly ask probing questions of line managers about the nature of risks in their area, insist on prompt discussion

of internal control or loss recognition problems, and engage area managements in the discussion of which events could expose the firm to substantial loss. Senior managers should also be in a position to give a concise summary of risk control mechanisms to appropriate regulators. Only this active involvement by senior management will ensure a full discussion of the often rapidly evolving vulnerabilities of the firm. The Board of Directors should be actively involved in reviewing both policy and performance, including management proposals of changes in the acceptable levels of risk.

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difficulty as an excuse for noninvolvement. To put it simply and directly, if the bosses do not or cannot understand both the risks and rewards in their products, their firm should not be in the business.

*A comprehensive approach to risk management and control.* To enable senior management to assess evolving vulnerabilities, internal risk management systems need to integrate all aspects of risk in a way that allows an overall risk profile to emerge. Risk of substantial loss in a particular scenario could derive from market, credit, liquidity, and operational risks. As a result, firms must be able to aggregate, at least roughly, the consequences of major market events across all product and activity groups for all of these areas of risk. This requires that the risk management approach to market and credit risks outlined in the G-30 report be extended to include funding liquidity and operational risks within a unified framework, perhaps in the context of stress tests.

The development of a comprehensive approach to risk management would be facilitated by the articulation of a broad conceptual framework covering risk measurement, risk management and control, and the management information system that produces reports for all levels up to senior management. Here, one important issue is how to link tightly the "value at risk" approach to market risk, as advocated in the report, with the price risk limits frequently used by trading desks. Trading limits sometimes appear to be derived intuitively rather than directly from the value at risk framework.

The G-30 report provides recommendations on many

of the building blocks that could go into the development of such a comprehensive approach to risk management and control but does not provide advice on how to assemble the building blocks in a coherent manner. We believe that market practitioners rather than regulators are best equipped to design workable ways to solve this problem and would welcome further recommendations by the G-30 on this issue.

*Valuation procedures.* While the report's treatment of credit risk management is extremely thorough, including the discussion in an appendix, the treatment of market risk is less detailed. In particular, the issue of valuation procedures is raised in the report's recommendations, but I wish more had been said.

For example, recommendation 3 suggests valuing derivatives portfolios at mid-market value less specific adjustments. The study suggests that these adjustments should capture such expected future costs as unearned credit spreads, closeout costs, administrative costs, and investing and funding costs. The report also notes that these adjustments are implicitly assumed in the bid and offer method. Yet the precise nature of these adjustments remains unclear, and the devil may lie in the detail.

The mere fact that these adjustments to market prices are recommended for risk management purposes appears to be an acknowledgment that the market may not accurately value all these factors. No mention is made of liquidity premia, but I wonder if the market price fully reflects the illiquidity of the more complex instruments with cross-market exposures that can be difficult to hedge.

For senior managers to understand the implications of these adjustments, they would need to see the actual market values, with the adjustments listed separately and thoroughly annotated. The reporting of adjusted market values alone, without this disaggregation and elaboration, creates the potential for misconceptions. At worst, these adjustments could mask the consistent underpricing of sizable risks.

*Management information systems.* The G-30 report may have underplayed the importance of developing the management information systems that are required for all the G-30 recommendations to be implemented. The limitations of a firm's management information system are directly related to the effectiveness of risk management. For example, the problem I noted earlier about reliance on trading limits that are only loosely linked to a value at risk approach may derive from an inability of the management information system to measure and monitor risks in the real time frame of the trading desks.

Because the development and ongoing modification

of these information systems are very costly and take time, the limitations of the systems may prove a significant constraint on the ability of firms to rapidly implement some of the valuable recommendations in the G-30 report. For this reason, senior managers should carefully assess the state of their information system when deciding how rapidly to expand their firm's derivatives activities.

*Accounting and disclosure.* I welcome the attention of the G-30 study to the critical issues of accounting and disclosure. I see these as key areas for extensive further cooperative effort, both here in the United States and around the globe. These are crucial issues because squeezing derivatives into existing accounting structures can conceal and distort information and the decision making that depends on that information. In

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addition, the increased use of derivative instruments, combined with the inadequacy of current accounting concepts in this area, has reduced the transparency of a firm's exposures and of the financial system more broadly.

The G-30 recommendations to harmonize accounting practices and standards and to improve the quality of disclosures may go a long way toward enhancing transparency. I would like to provide a few additional thoughts on the nature of accounting and disclosure measures that might further this process.

If you compare the effectiveness of current practices regarding accounting and disclosure for financial activity with those of yesteryear, one simple impression emerges: Formerly, you could look at the balance sheet of a financial institution and quickly get a sense of the nature and extent of exposures and risks. Today, balance sheet information is clearly inadequate for this purpose.

From this simple observation, a whole agenda for reform must be born. The basic question is: How can we revise our accounting and reporting practices so that we can, as readily as in the past, understand the nature of a firm's risks and exposures? In particular, what key exposures need to be measured and how can they be reported so that essential information is provided without compromising proprietary interests?

The Financial Accounting Standards Board (FASB) in

this country, and comparable bodies abroad, have struggled in recent years to respond to these questions. But the problems have proven formidable. I am thinking especially of the difficulties of capturing such key notions as the potential future credit or market exposures in derivatives transactions, which are typically assessed through simulation and sensitivity analyses. Similarly, an evaluation of the vulnerability of a firm's portfolio to extreme events may best be performed by comprehensive stress tests, perhaps supplemented by an analysis of possible liquidity problems. The present accounting and disclosure frameworks do not yet shed much light on these issues.

How can progress be made rapidly enough to avoid being greatly outpaced by the evolution of the financial markets themselves? One interim way to bridge this gap while we await progress on accounting standards would be to develop a detailed statement of sound market practices for these more complicated accounting and disclosure issues. These sound market practices could supplement the information provided by the formal accounting standards. The recommendations in the G-30 study could provide a starting point for this effort.

*Steering committee on accounting and disclosure for derivatives.* To develop these sound practices, as well as to advise the ongoing efforts of FASB, a steering committee could be formed in this country. We could also encourage the establishment of similar groups in other countries. The composition of the committee could be designed to incorporate all relevant perspectives—FASB (or a similar body in other countries), major market practitioners, end-users, and regulators. I

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envision that industry practitioners would take the lead in developing these sound practices, but the presence of the other members on the steering committee would ensure that a broad range of concerns was addressed.

One difficult problem that the steering committee would confront is that the fast pace of activity in today's markets renders financial statements stale almost before they can be prepared. Here the G-30 recommendations provide little guidance. The report quite appropriately states that the degree and nature of risk must

be disclosed. In order for this disclosure to be meaningful, however, it must be timely.

In practice, more timely disclosures may need to involve partial information with respect to key aspects of a firm's exposure. Of particular interest may be those factors that could directly affect a firm's ready access to liquid markets. The steering committee could explore whether some information could readily be provided on a much more frequent basis than at present. Over time, developments in electronic communications and systems technology may increase the feasibility of collecting and releasing information on a more frequent and timely basis.

*International harmonization of accounting and reporting standards.* A final concern that I have in this area is that, given the global nature of derivatives markets, only a global approach to these issues will succeed in the end. Decreased transparency is not solely a domestic concern, and all of the initiatives I have discussed, as well as those in the G-30 study, will require close coordination of efforts in all countries with developed financial markets. I would therefore underscore the sense of urgency conveyed in the G-30 report to create harmonized international standards.

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#### **The changing nature of systemic risks**

The section of the G-30 report about which I have the most significant reservations is that on systemic risks. While the report identifies many of the potential sources of systemic problems, the discussion, perhaps inadvertently, appears to understate these concerns.

It may appear that central banks are unduly preoccupied with low-probability scenarios of possible systemic disruptions. However, it is precisely because market participants may only take minimal precautions for events in the tails of probability distributions that central banks must be vigilant. In those rare occasions of financial disruption, central banks must be prepared to assess the nature of the problem and to act swiftly. For this reason, we at the Federal Reserve Bank of New York will continue to work actively on improving our understanding of the evolving sources of systemic risk.

I wish to emphasize that I do not believe that derivatives are the sole, or perhaps even the principal, source of systemic risk in today's financial markets. At least

equal risk of a sizable default or failure of a major financial firm, or group of firms, could result from losses on more traditional activities. Still, the increasingly widespread use of derivatives has altered firm-level exposures and market dynamics, and we must consider how these changes modify our thinking on possible sources of systemic disruptions and how those disruptions play out.

It may be useful to delineate two broad categories of systemic risks associated with derivatives. The first category, which encompasses many of the points noted in the G-30 discussion, includes disruptions that have their origin in derivatives activities at the individual firm level. Here I would include oft-cited concerns about the underpricing of credit, market liquidity, or other risks that can lead to large losses on derivatives positions. I would also include the difficulties faced by senior management in detecting fraud in the internal reporting of complex derivatives positions.

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A variety of issues falls into this second category. For example, the decreased transparency of firms' exposures can contribute to the development of a financial crisis. While it has always been impossible to know precisely the nature of exposures at a counterparty, this problem has been exacerbated by the lack of information about off-balance-sheet activities.

In the absence of timely and accurate information on exposures of a firm rumored to be in trouble, other firms are more likely to back away from providing funding to, or trading with, that firm. Under these circumstances,

liquidity problems can grow into a threat to solvency. Similarly, if a major market maker in derivative instruments were to fail, it could prove difficult to find other firms willing to take over or unwind a complex derivatives book whose risks are difficult to assess quickly.

Another issue in this second category is the increased market linkages and altered price dynamics created by derivative instruments. One concern is the phenomenon frequently referred to as positive feedback, that is, those mechanisms that have the potential to exacerbate an already sharp price move.

Positive feedback mechanisms have always existed in financial markets in one form or another, but the tremendous growth of options and option-like instruments creates an added source of positive feedback. The reason is that written options, as a matter of course, tend to be dynamically hedged and hence require selling into a falling market. In addition, margin and collateral arrangements are increasingly being used to manage credit risk in derivatives transactions, and these provisions can also amplify already sharp price moves in underlying markets.

In its discussion of this point, the G-30 study notes that academic research has shown that derivatives trading does not increase volatility in underlying markets. An important distinction should be drawn, however, between volatility in normal times and in times of stress. Econometric studies do not shed much light on the experience with volatility in times of stress, because these episodes occur infrequently and tend to differ greatly in character, making them difficult to summarize empirically.

I would like to underscore the critical role that more active involvement of senior management can play in reducing the potential for problems to escalate to a point where they pose systemic risks. The problems with market dynamics noted in my second category of systemic risks can contribute to the firm-level risks included in my first category. As a result, both sets of issues should be on the radar screens of top management. These examples, while brief, are intended to illustrate just how complex the evaluation of systemic risks has become. As we work to improve our understanding of these issues, we hope that the G-30 and other private sector entities will continue to provide us with the sort of thought-provoking and educational material found in the present study on derivatives.