

Financial Economists Roundtable

Statement on Derivative Markets and Financial Risk

September 26, 1994

Observers recently have expressed heightened concern that derivatives may undermine the stability and efficiency of our financial markets and institutions. Firms increasingly are using forwards, futures, options and swaps, and various combinations of these fundamental derivative instruments both to manage or reduce risk and to increase returns. Current concern about derivatives centers on the expanding use of customized off-exchange (or OTC) derivative instruments, the largest component of which are interest rate and currency swaps. Although acknowledging that the growth of derivatives is a reflection of the market's demand for better instruments with which to manage risk, both the Congress and regulators remain uneasy about the misuse of derivative instruments and the potential consequences that might flow from a major default in derivatives markets.

This concern, no doubt, partly stems from the sheer size of derivatives markets in general and to the ballooning OTC derivatives market in particular. The General Accounting Office (GAO) reports that at year-end 1992 the notional value of outstanding futures, forward, options and swap contracts alone totalled more than \$17 trillion, up from \$7 trillion in 1989. Another reason for concern about derivatives is the seemingly impenetrable complexity of some of these instruments. This complexity has created an aura of mystery about derivatives markets, and has fostered a fear that a miscalculation by someone, or an undetected but vital flaw in the market or regulatory system, could trigger failures cascading into a financial market meltdown.

Several studies of OTC derivatives markets in the last few years by the Bank for International Settlements (the "Promisel" Report), the Bank of England, the Group of Thirty, the Office of the Comptroller of the Currency, the Commodity Futures Trading Commission, and the Government Accounting Office reflect these concerns. The GAO Report, the latest of these, contains the most provocative policy recommendations.

The GAO Report recommends additional regulation of both derivatives dealers and end-users of derivatives. The study concludes that OTC derivatives could pose a systemic risk to financial markets if a major OTC dealer were to default on its counterparty (or contractual) obligations. It also finds that certain "unregulated" dealers, such as those affiliated with securities and insurance firms, have created a potentially dangerous "regulatory gap" that needs closing. The Report recommends bringing these dealers under federal government supervision and imposing on them capital adequacy standards similar to those now imposed by federal regulation on bank OTC derivatives dealers. In addition,

the GAO Report recommends that the Congress give the Securities and Exchange Commission (SEC) power to oversee the use of derivatives by all major end-users of complex derivative instruments. Finally, the Report calls for improved accounting and disclosure principles for derivatives for both dealers and end-users and recommends market-value accounting for all financial instruments, but stops short of spelling out how it can be implemented.

In response to the GAO Report, Rep. Edward Markey (D., Mass.) has introduced legislation that would require unregulated derivatives dealers, such as those affiliated with securities and insurance companies, to register with the SEC. The SEC would set capital and other standards for these dealers, conduct inspections or examinations of the dealers, and receive periodic financial reports from them. In addition, by amending the definition of the term "security" to include derivatives based on the value of any security, this bill would enlarge the SEC's regulatory purview. Other proposed legislation, introduced by Rep. Henry B. Gonzales (D., Tex.) and Rep. Jim Leach (R., Iowa), respectively the chairman and ranking Republican of the House Banking Committee, would expand regulation of financial institutions engaged in derivatives activities.

Do OTC derivatives justify the concern which underlies the GAO Report and the proposed legislation? While one cannot rule out the possibility of a systemic crisis in almost any financial market, the Financial Economists Roundtable believes that the use of OTC derivatives does not justify the current fear that they might cause a systemic meltdown. Moreover, members of the Roundtable worry that precipitous and unnecessary government intervention directed at preventing such a possibility may create rigidities that impede the responsiveness of markets in times of stress.

Fear of a market meltdown appears to center on the possibility of a major default by an OTC derivatives dealer. The GAO Report emphasizes the high level of concentration that exists among derivatives dealers and the extensive domestic and international linkages among these dealers. Although there are approximately 150 derivatives dealers worldwide, the GAO reported that, in December 1991, eight U.S. bank dealers accounted for 56 percent of the total worldwide notional (or contractual) amounts of interest-rate and currency swaps. In addition, the GAO noted that there are only five U.S. securities-affiliate dealers of any size. Thus, there is a fear that the failure or withdrawal of one of these major dealers could spill over to other dealers and markets in the United States and abroad. Some also worry that, if this were to occur, no authority in any one country could contain the fallout and subsequent disruptions from spreading to other countries.

The Financial Economists Roundtable believes that this view both exaggerates the counterparty risks involved in derivative transactions and understates the ability of dealers and derivatives users to manage their own risks and to avoid losses that threaten their solvency. Banks, which comprise the major derivatives dealers, already operate under effective regulation. They are subject to capital requirements, extensive reporting requirements, and must maintain internal systems for estimating and evaluating risk. In addition, after interviewing U.S. broker-dealers and insurance companies with major derivatives dealer affiliates, the GAO reported that these dealers are well-managed and

well-capitalized, and have good systems in place for evaluating and managing the risks involved. Pressures from rating agencies and counterparties, as well as self-preservation incentives, already impose considerable discipline on derivatives dealers.

Properly measured, dealers' credit exposures arising from OTC derivatives transactions currently do not seem excessive. As the GAO Report recognizes, "notional" amounts of derivatives contracts do not provide a useful measure of counterparty risk. Figures like the \$17 trillion notional size of the market do not provide a meaningful measure of actual exposures. Unlike credit instruments, such as loans or bonds, derivatives transactions (such as swaps) do not involve payments of principal amounts. Derivatives involve periodic payments based on notional amounts but not payments of the notional amounts themselves. For example, a swap of a variable interest rate for a seven-percent fixed rate on a \$10 million principal (notional) amount commits the swap parties to annual payments to each other in the order of \$700,000, with differences in future payments depending on how interest rates move in the future. Neither party to the swap risks \$10 million. The credit exposure is not the notional value of the contract, as it is for a loan, but the "replacement cost" of the contract. Consequently, the typical derivative involves a credit exposure equal to only a small fraction of its notional principal.

Both dealers and end-users also use a variety of risk-management techniques to control counterparty risk and to reduce the magnitude of their credit exposures. Internal credit limits are commonly used to diversify credit risk and to restrict the size of exposures to individual counterparties, industries, and countries. Bilateral contractual netting provisions, which allow firms to offset losses with gains from other contracts outstanding with the defaulting party and its corporate affiliates, further reduce counterparty exposure. In addition, credit "triggers" reduce potential losses from counterparty defaults by requiring the automatic termination of a swap if the credit rating of either party to the swap falls below a prespecified threshold (such as a single A rating). When dealers undertake swaps with lower-rated counterparties, they usually also require counterparties to post collateral on a market value basis.

Based on its survey of fourteen major financial institution derivatives dealers, the GAO reports that "net" counterparty risk is generally about one percent of notional principal. At year-end 1992, these dealers had derivative contracts (futures, forwards, options, and swaps) outstanding with a notional amount totalling \$6.5 trillion. The GAO Report estimates the "gross" counterparty credit exposure for these dealers to be \$114 billion, less than two percent of the reported notional amount. After taking into account netting agreements, collateral requirements, and other risk-reduction provisions, this \$114 exposure reduces to a "net" exposure of \$68 billion, about one percent of the reported notional amount. Moreover, the GAO found that actual losses incurred by derivatives dealers as a result of counterparty defaults have been minimal: 0.2 percent of their combined gross credit exposures in 1992.

To put dealers' counterparty exposures in perspective, we can compare banks' derivatives exposures to their loan exposures. For the seven largest U.S. bank derivatives dealers, the GAO reports derivative-related "gross" credit exposures (as a percent of equity) to be less

than a fourth of their loan exposures. Further, although the "gross" derivatives exposure exceeds 100 percent of equity for all of these banks, only a default by all of a bank's counterparties would wipe out the bank's capital, and only then if there were no offsetting netting agreements and other risk-reducing mechanisms in force and the actual losses incurred were identical to the total exposure. Such conditions seem unlikely for derivatives as well as for loan defaults.

The Financial Economists Roundtable agrees with the GAO that financial statements need to better reflect the use of derivatives, but neither the GAO nor we know what to recommend. Although we generally favor market value accounting, imposing market value accounting principles on firms' financial assets and derivatives without imposing it on their liabilities will create misleading financial statements. For example, an interest rate swap that effectively transforms a fixed-rate liability of a firm (such as a bond) into a floating-rate obligation should not be valued at market unless the firm's financial liability is also valued at market. Similarly, reporting changes in the market value of commodity-linked derivatives used as a hedge against physical-delivery contracts without also reporting at market value the offsetting gains and losses on the physical-delivery contracts may mislead investors, creditors, and senior management. The huge derivatives loss suffered recently by Metallgesellschaft is an example of what can occur because of misleading accounting principles (in this case, German accounting principles). The Supervisory Board of Metallgesellschaft, observing large unrealized losses on the firm's hedging positions (energy futures and swap contracts), and apparently not recognizing the offsetting unrealized gains on the firm's physical-delivery contracts, ordered the general liquidation of the firm's hedging positions, realizing substantial losses. Thus, whatever accounting and disclosure practices are adopted should treat derivatives and hedged positions symmetrically. Market value accounting applied exclusively to derivatives will mislead and will likely discourage firms from using derivatives to manage risk.

Costly accounting and disclosure provisions also should meet a cost-benefit test ? the value of the additional information produced should outweigh the cost of obtaining it. At least some of the additional accounting requirements now under consideration may fail such a cost-benefit test. For example, the proposed requirement for corporate end-users of derivatives to report intra-year maximum and minimum values of financial assets and derivatives would require them to mark-to-market many illiquid derivative positions for which obtaining accurate daily values would be costly. The value of this information to both shareholders and management may not justify the costs involved.

The Financial Economists Roundtable has reached the following conclusions:

1. Derivatives serve a highly useful risk-management role for both financial and non-financial firms.
2. It is not necessary to impose federal prudential regulation on nonbank derivatives dealers. There is no evidence that the activities of these dealers pose a significant systemic risk. In addition, we see no reason to impose the same regulatory structure on nonbank dealers as on bank derivatives dealers. As recipients and beneficiaries of

government-insured deposits, banks are the proper concern of government and should be subject to different regulation.

3. Requiring banks to segregate their derivatives activities into separate and distinct affiliates is not necessary. Regulators can and do apply prudential provisions to banks' derivatives activities as well as to other bank activities. A segregation requirement for derivatives also may impose unwarranted costs on banks. However, U.S. bank holding companies should be permitted by regulation to form separately-capitalized derivatives affiliates not subject to the Basle Accord capital requirements or other types of bank regulation.

4. Increased SEC regulation of SEC registrants that are major end-users of derivative instruments is not needed. While the use of derivatives by these firms may pose a risk to themselves, it does not pose a risk to the economy as a whole. Moreover, increased regulation may harm firms and their shareholders either by inhibiting the use of derivatives for risk-management purposes or by imposing unnecessary costs on firms.

In conclusion, although some major end-users, mutual funds, hedge funds, securities firms, and even banks have incurred derivatives-related losses, most of these losses have been due to inadequate risk-management systems and poor operations control and supervision. These losses have not threatened the stability and efficiency of financial markets, and, by encouraging the development of better risk-management and operational controls, they have had a salutary effect. The best discipline against systemic risk in any market, including derivatives, is to foster a market in which participants have an incentive to manage themselves prudently and can respond quickly and innovatively to market conditions.

FER Members Signing Statement

(Affiliations shown for identification purposes only)

- Rashad Abdel-Khalik, University of Florida
 - Edward I. Altman, New York University
 - George J. Benston, Emory University
 - Gerald O. Bierwag, Florida International University
 - Marshall E. Blume, University of Pennsylvania
 - Richard Brealey, London Business School
 - Willard T. Carleton, University of Arizona
 - Andrew H. Chen, Southern Methodist University
 - Franklin R. Edwards, Columbia University
 - Robert Eisenbeis, University of North Carolina
 - Martin J. Gruber, New York University
 - Nils Hakansson, University of California at Berkeley
 - George G. Kaufman, Loyola University of Chicago
 - Alan Kraus, University of British Columbia
 - Haim Levy, Hebrew University of Jerusalem and University of Florida
 - Robert Litzenberger, University of Pennsylvania
 - Robert C. Merton, Harvard University
 - Merton Miller, University of Chicago
 - Franco Modigliani, Massachusetts Institute of Technology
 - Stewart C. Myers, Massachusetts Institute of Technology
 - Richard Roll, University of California at Los Angeles
 - Stephen Ross, Yale University
 - Myron Scholes, Long Term Capital Management
 - Eduardo Schwartz, University of California at Los Angeles
 - Kenneth E. Scott, Stanford University
 - William F. Sharpe, Stanford University
 - Seymour Smidt, Cornell University
 - Hans Stoll, Vanderbilt University
 - Seha Tinic, Koc University (Turkey)
 - James Van Horne, Stanford University
 - Roman L. Weil, University of Chicago
 - Richard West, New York University
 - J. Fred Weston, University of California at Los Angeles
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