
Regulating Derivatives

The Current System and Proposed Changes

Christopher L. Culp and Robert J. Mackay

The past decade has seen dramatic growth in over-the-counter derivatives. But expanded use of derivatives has prompted expressions of alarm from some legislators, regulators, and members of the press about the risks this now-global activity poses to corporations, global capital markets, and the overall economy. These concerns inspired over ten major studies of the problem, including extensive studies by the Group of Thirty and the General Accounting Office.

With this round of studies completed, calls for legislation—fueled by several highly visible

1994 derivatives-related losses at such corporations as Gibson Greetings and Proctor & Gamble—have come from several quarters. The proffered legislative initiatives range from statutory endorsements of existing regulatory actions at one extreme, to radical expansions of the scope and scale of federal financial regulation at the other. Despite the pessimistic assertions from some commentators that the financial system is at risk and that a legislative overhaul of derivatives regulation is essential, there is a wide divergence of views on the basic public policy issues surrounding derivatives.

In this article, the existing system of derivatives regulation is described and proposals for broader and stricter regulation are presented and evaluated. When the public policy concerns behind these proposals are carefully scrutinized, it turns out that there is little or no economic basis for an increase in regulation. Derivatives do not pose greater risk than other financial activities. Rash moves to over-regulate derivatives would thus serve little useful purpose, except to increase the already excessive burden of regulation on U.S. capital market activities.

What Are Derivatives?

A derivatives transaction is a bilateral contract

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whose value derives, as the name implies, from the value of an underlying asset, reference rate, or index. Derivatives transactions have evolved in the past fifteen years to cover a broad range of "underlyings," including exchange rates, interest rates, commodities, and equities.

Privately negotiated derivatives transactions, often referred to as "over-the-counter" (OTC) derivatives, come in many varieties. Every derivatives contract, though, can be constructed from two simple and fundamental building blocks: forwards and options.

A forward contract obligates one party to buy and the other to sell an asset or commodity in the future for an agreed-upon price, or to settle the value for cash. Forward-based derivatives include forwards, futures, and swaps. An option contract gives the buyer or holder of the option, in return for the payment of a premium, the right, but not the obligation, to buy or sell an asset in the future at an agreed-upon price. Option-based derivatives include traditional options on securities, commodities, and foreign exchange, as well as direct options on interest rates.

Participants in OTC derivatives activity are either end users or dealers. End users are corporations, governmental entities, institutional investors, and financial institutions, while dealers are mainly large and highly-rated banks and securities firms, as well as a few highly-rated insurance companies. Dealers act as intermediaries, quoting bids and offers, and committing capital to satisfying customers' demands for derivatives.

Benefits to End Users

As a result of the numerous studies of derivatives activities, there is now broad agreement in both the private and public sectors that derivatives provide numerous and substantial benefits to end users.

Corporations, governmental entities, and financial institutions all benefit from derivatives through lower funding costs and more diversified funding sources. In today's global capital market, currency and interest rate swaps, for example, give firms the ability to borrow in the cheapest capital market, domestic or foreign, without regard to the currency in which the debt is denominated or the form in which interest is paid, i.e., fixed- or floating-rate. A major lender

to McDonald's, for example, uses interest rate swaps to lower its own financing costs and hence increase its capacity to lend to McDonald's franchisees.

By using derivatives, institutional investors and portfolio managers may enhance asset yields. For example, asset swaps enable institutions to exchange cash flows on particular assets for other cash flows, possibly based on a different rate of interest or exchange rate. In cases where securities trade poorly because of some undesirable feature, derivatives can be used to

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neutralize the undesirable feature, thereby creating a synthetic instrument with a higher yield than a traditional instrument of the same credit quality. Asset swaps are popular, for example, when the issuer of a security experiences a deterioration in its credit standing, hence causing the demand for its securities on the secondary market to dry up.

Derivatives, moreover, provide an efficient method for end users to better hedge and manage their exposures to risk from price and interest rate fluctuations. Interest rate swaps, for example, help banks of all sizes to manage better the asset/liability mismatches inherent in funding long-term assets, such as mortgages, with short-term liabilities that reprice more frequently, such as certificates of deposit. Airlines and oil refiners can use commodity swaps to hedge their exposure to fluctuating fuel prices.

Finally, derivatives provide an effective, low-cost means for corporations and institutional investors effectively to manage their portfolios of assets and liabilities. A fully-invested equity fund, for example, can reduce its market exposure quickly and at a relatively low cost without selling off part of its equity assets by using an equity swap calling for the exchange of payments based on the total return on the S&P 500

index in return for a receipt based on a floating rate, such as the London Interbank Offer Rate (LIBOR). In addition, corporate borrowers can effectively manage their liability structure using interest rate and currency swaps. Borrowers might use interest rate swaps, for example, to raise the proportion of fixed-rate to floating-rate debt in an asset portfolio by "swapping" some of its floating-rate coupons for fixed-rate coupons, thus alleviating the need to actually sell any of its securities.

Benefits to Dealers

Participation in derivatives activity benefits derivatives dealers in several important ways. For example, dealing has increased both the average credit quality and the diversity of credit risk to which dealers are exposed. Dealing also provides a profitable and stable earnings stream that has helped banks rebuild their capital bases and diversify their sources of earnings. Finally, improvements in risk management techniques that first developed in derivatives have spilled over into and improved the management of risks in the traditional lines of businesses of dealers. Banks taking deposits and making loans, for example, have begun to make use of risk management systems originally developed for derivatives for their balance sheet asset/liability man-

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agement. This improved risk management, in turn, has improved the safety and profitability of these institutions.

Benefits for the Economy

The innovation and growth in derivatives activity over the past fifteen years has yielded substantial benefits to the U.S. economy. By facilitating the access of U.S. corporations to international capital markets, enabling them to lower their cost of funds and diversify their funding sources, derivatives have improved the competitive position of U.S. firms in an increasingly

competitive global economy.

By providing U.S. firms with new and more effective tools for managing their exposure to interest rates, foreign exchange rates, and commodity prices, derivatives have also reduced the likelihood of financial distress due to volatile prices and interest rates, helping to stabilize employment. With these incidental risk exposures under control, management is better able to focus on its core business—improving the quality and reducing the cost of its product. Similarly, by providing investors and issuers with a wider array of tools for managing risks and raising capital, derivatives improve the allocation of credit and the sharing of risk in the economy, reducing the cost of capital formation and stimulating economic growth.

Finally, since world markets for trade and finance have become increasingly integrated and accessible, derivatives have strengthened important linkages between markets, increasing market liquidity and efficiency.

No Unique Risks to Users of Derivatives

While the increased use of derivatives is new, derivatives are composed of financial instruments and arrangements that have been around for decades. It is therefore not surprising that the risks to users of derivatives—credit, market, liquidity, operational, and legal—are neither new nor unique. They are the same types of risks that banks and securities firms face in their traditional businesses and which are endemic to "traditional" balance sheet financial contracts such as mortgage loans, commercial paper, certificates of deposits, and the financing of securities positions.

Credit risk to both parties in a derivatives transaction is the risk that a loss will be incurred because the party fails to make the payments due. In the event of default, the loss is the cost of replacing the derivatives contract with a new party. Some derivatives transactions also exhibit a type of credit risk known as settlement and payments risk. Same-day settlement risk exists when delivery of an asset or security is not synchronized with the receipt of payment; the security can be surrendered and payment never received. The same risk exists when gross payments are exchanged, rather than a single "netted" payment.

Netting is the process by which multiple

gross payments are netted into single cash flows. If A owes \$10,000 to B and B owes \$2,000 to A, bilateral netting would have A pay \$8,000 to B rather than both A and B exchanging gross cash flows.

Market risk is the risk that the value of a contract, financial instrument, asset, or portfolio will change when market conditions change. Interest rate risk is a common form of market risk. For example, if the duration mismatch between the assets and liabilities of a bank exposes it to losses due to interest rate increases, that institution bears market risk akin to the risk borne by a holder of a corporate bond. A fixed-for-floating interest rate swap likewise has the same market risk as a fixed-rate loan funded with floating-rate deposits.

Like credit risk, market risk must be viewed from a portfolio or balance sheet perspective. A bank's exposure to interest rate risk, for example, is determined by the *combination* of the bank's interest-rate-sensitive balance sheet items with its off-balance sheet, interest-rate-sensitive items, including derivatives.

Institutions can face two types of liquidity risk. "Market liquidity risk" is the risk that a large transaction in a particular instrument could have an adverse impact on its market price. A related type of market liquidity risk is the risk that sudden and sharp price moves or volatility changes may make it difficult for an institution to hedge or unwind a losing position, including a derivatives position. A sharp market move may require a firm to initiate new positions or replace contracts that have defaulted, both of which can be complicated by adverse liquidity shocks.

Institutions also can face a type of liquidity risk known as "funding risk," or the risk that cash flow mismatches may give rise to contractual nonperformance. Virtually all active financial institutions have liquidity or funding plans to avoid these cash flow mismatches for traditional financial products, and derivatives are increasingly being incorporated into these funding plans.

Users of derivatives face operational risk, or the risk that losses will be incurred as a result of inadequate computer systems and internal controls, inadequate disaster or contingency planning, human error, or management failure. Entering into complex derivatives positions without adequate systems for measuring, moni-

toring, and controlling market or credit risk is an example of operational risk. An aspect of operational risk that has received significant attention recently is the risk management or internal control and oversight process. A failure at any point in the risk management chain constitutes operational risk and can result in significant losses.

Finally, legal risk is the risk of loss because a contract cannot be enforced. As with other types of risk, legal risk has long been present in traditional lending and trading activities. Because of the relative newness of derivatives transactions, however, their treatment under existing laws and regulations has been (and, to some extent, still is) ambiguous. This legal uncertainty can lead to unexpected losses.

The Current Regulatory Framework

Financial regulation in the United States comes in two varieties. First, there is "institutional" regulation, that is, regulation of the different kinds of enterprises involved in financial markets and intermediation. And second, there is "functional" regulation, that is, regulation of financial instruments and markets according to the underlying economic function they perform. Derivatives transactions, like other financial activities, are regulated within this bifurcated framework. And since they involve many types

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of institutions and functions, derivatives regulation can be complex.

Derivatives are subject to three stages of institutional regulation. First, regulators of various derivatives users often specify "permissible activities" in which institutions may engage. Second, once activities have been judged permissible, institutions engaged in those activities are subjected to supervisory oversight. And third, regulators attempt to judge the overall

Derivatives: The Regulatory Landscape				
<u>Institution:</u>	Banks (nationally-chartered)	Thrifts and S&L's	Brokers/Dealers	Futures Commission Merchants (FCMs)
<u>Regulatory Body:</u>	Office of the Controller of the Currency (OCC)	Office of Thrifts Supervision (OTS)	Securities and Exchange Commission (SEC)	Commodity Futures Trading Commission (CFTC)
<u>Limits on Derivatives Activity:</u>	Required to ensure "suitability" of counterparties. Counterparties must understand risk of transaction.	May only participate as end users, may only hold derivatives as hedges designed to reduce their overall interest rate risk.	No direct prohibitions, but extremely high capital requirements.	May engage in any type of derivatives transaction, including futures and options on futures.
<u>Minimum Capital Requirements for Derivatives Activity:</u>	OTC derivatives are assigned a value expressed as a per- centage of the notional value of the contract. This value represents the minimum regulatory capital an institution must have in order to enter into such contracts.	Same as banks	Based on "net capital rule," in which an institution's net capital is its net worth, less subordinated lia- bilities, illiquid assets and unsecured receivables. A percent- age of the market value of the broker/dealer's derivatives positions is then subtracted from net capital to determine whether the broker/dealer is in compliance.	An FCM must keep all its customer funds on deposit for future trading in "segregated accounts." The capital requirement for the FCM is then determined as a flat percentage of the value of customer funds on deposit.

integrity of each institution by assessing its capital adequacy and by enforcing prudential regulations to ensure compliance with those capital requirements.

The SEC and the CFTC are often also viewed as "functional regulators," in large part because they dedicate most of their resources to regulating *products* and *markets* (i.e., exchanges) rather than the users of those products and markets.

The SEC regulates all securities traded on national securities exchanges. Several exchange-traded derivatives fall under the legal classification of "securities," including currency options, stock options, and options on stock indexes. The SEC's regulation of these products and exchanges include transparency and price reporting requirements, anti-manipulation regulations, position limits, audit trail requirements, and margin requirements.

The CFTC has exclusive statutory jurisdiction over all exchange-traded derivatives under the CEA. It therefore regulates all national futures and commodity exchanges, as well as all futures and options on futures. The CFTC's functional regulations include minimum capital requirements, reporting and transparency requirements, anti-fraud and anti-manipulation regula-

tions, and minimum standards for clearing-house organizations.

Regulatory Initiatives

In May 1994, Congressman Henry Gonzalez (D-Texas) and Congressman James Leach (R-Iowa) introduced the "Derivatives Safety and Soundness Supervision Act of 1994." Title I of the proposed act mandates increased regulatory oversight of derivatives by banking agencies and other financial regulators. The act would impose the following requirements on federal regulators:

- consistent regulations on capital, disclosure, accounting, and suitability;
- consistent examination guidelines across agencies;
- enhanced supervision of risk management processes and systems; and,
- additional reporting requirements for derivatives participants.

Title II recommends certain "supervisory improvements." First, any depository institution involved in derivatives activity must have a management plan ensuring adequate internal oversight of derivatives activity. Second, a sufficient

number of directors must be familiar with the risks of derivatives. Failure to comply with either requirement would constitute an unsafe and unsound banking practice and could result in civil penalties against the directors. Title II also establishes emergency reporting requirements forcing depository institutions to furnish information on their derivatives positions to regulators within twenty-four hours of a request.

Title III amends banking insolvency laws relating to derivatives. This section allows the FDIC the discretion for twenty-four hours following a bank failure to dispose of derivatives contracts in any way it chooses without consulting counterparties. This creates a significant period of uncertainty for counterparties to derivatives transactions with those failed institutions.

Title IV requires the Secretary of the Treasury to request a study examining the international supervision and regulation of derivatives in an effort to improve international regulatory coordination. Title V mandates an additional study, by the General Accounting Office, of the feasibility of transactions taxes to curb "excessive speculative activity" in derivatives.

Also in May 1994, Senator Byron Dorgan (D-N. Dakota) and Senator Barbara Mikulski (D-Maryland) introduced the "Derivatives Limitations Act of 1994." This proposed act is aimed at eliminating proprietary trading in derivatives by federally-insured depository institutions; it would virtually prohibit these institutions from engaging in any significant derivatives activity. Exceptions to the prohibition include transactions deemed by banking regulators to be hedging transactions and transactions negotiated in separately-capitalized, uninsured affiliates of insured depository institutions. The act would place similar limitations on insured credit unions and insured bank holding company affiliates.

On July 11, 1994, Senator Donald Riegle introduced the "Derivatives Supervision Act of 1994" (Riegle bill). Senator Riegle's bill focuses on federally-insured depository institutions involved in derivatives activity and includes most of the proposals in the Gonzalez-Leach bill. Like Gonzalez-Leach, this bill requires the development of common principles and standards across federal banking regulators for capital, accounting, disclosure, suitability, and internal oversight of institutions involved with deriv-

atives.

Senator Riegle's proposed legislation also contains elements of the Dorgan bill. Under the proposal, federally-insured depository institutions, federal home loan banks, the Federal National Mortgage Association (FNMA), and the Federal Home Loan Mortgage Corporation (FHLMC) are generally prohibited from engaging in derivatives transactions for their own accounts. Exceptions to this prohibition include legitimate hedging transactions and dealing by well-capitalized depository institutions. All "speculation" is prohibited under the Riegle proposal.

Senator Riegle's bill also contains two additional provisions which do not appear in its two predecessors. First, where the proposed insolvency reforms in the Gonzalez-Leach bill would

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create unintended uncertainties about the rights of derivatives counterparties following a bank failure, the Riegle bill specifically and deliberately limits and in some cases eliminates counterparties' contractual rights to terminate and net their derivatives contracts with a failed depository institution.

Second, Senator Riegle's bill contains a section on "systemic risk" which requires regulators to "promulgate appropriate regulations to require regulated entities and major dealers to increase use of clearinghouses and multilateral netting agreements; reduce intraday debit positions; shorten intervals between financial transactions in cash markets and their final settlement; shorten intervals between delivery of and payment for financial products; and otherwise reduce payments and settlement risk." Though the section directs regulators to consider the costs and benefits of these changes, it does not direct regulators as to *how* they will accomplish these tasks which have long plagued even the most savvy finance scholars and practitioners.

In May 1994, the General Accounting Office (GAO) released a report to Congress on financial derivatives and regulatory or statutory actions needed to ensure the integrity of the financial system. The GAO recommendations include reforms to ensure that all OTC derivatives dealers be subjected to "safety and soundness" regulations. The GAO specifically suggests bringing the derivatives activities of unregulated securities and insurance firm affiliates under the purview of one or more existing regulators. In addition, it recommends that Congress systematically address the need to revamp and modernize the entire U.S. financial regulatory system."

The GAO recommended the following specific changes to financial regulators:

- the development and maintenance of accurate, current, and centralized information accessible to all regulators on the credit exposures and earnings arising from derivatives activities;
- consistent capital requirements which reflect all the risks of derivatives;
- consistent and specific standards for internal controls, oversight, and management responsibilities;
- comprehensive annual examinations of risk management systems; and
- international harmonization of disclosure, capital, examination, and accounting standards.

The GAO also recommended that the SEC require all major end users of complex deriva-

derivatives dealers not presently registered with the SEC as a broker/dealer or not filing notice with the SEC as a broker/dealer affiliate would be subjected to SEC regulation. All these previously "unregulated" dealers, including insurance company and broker/dealer affiliates, would be subject to SEC regulations pertaining to minimum capital requirements, "appropriate sales practices," anti-fraud, and anti-manipulation regulations.

No Unique Risks to the Financial System from Derivatives

The current legislative and regulatory proposals reflect eight common concerns about derivatives.

Accounting Disclosure, and Reporting. It is widely recognized by the private and public sectors that accounting standards and disclosure practices for derivatives need to be improved. There is now a concerted effort in both sectors to improve accounting and disclosures for derivatives in financial reports. The Financial Accounting Standards Board (FASB) issued an Exposure Draft in 1994 addressing issues such as disclosures of fair values of derivatives transactions, the value of derivatives over an entire reporting period, and the purpose for which derivatives transactions are entered. The GAO report recommends that FASB expedite its development of comprehensive and consistent accounting and disclosure standards for derivatives. The Federal Financial Institutions Examination Council also proposed greater call report disclosures of derivatives activities of banks, while the Bank for International Settlements (BIS) is developing guidelines for standardized international requirements for reporting of derivatives activities.

Derivatives dealers have long advocated improved accounting and disclosure practices for *all* financial instruments. Beyond simply voicing concern, dealers have in fact improved the quality of their derivatives disclosures continuously over the past several years. The 1993 annual reports of derivatives dealers, for example, were the best investors have yet seen. Even given these improvements, the industry still continues to develop guidelines for comprehensive, voluntary disclosure standards for all risk management activities, as reflected in a recent Position Paper on Disclosure from the

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tives to establish an independent audit committee and internal controls, with public reporting on the effectiveness of these controls.

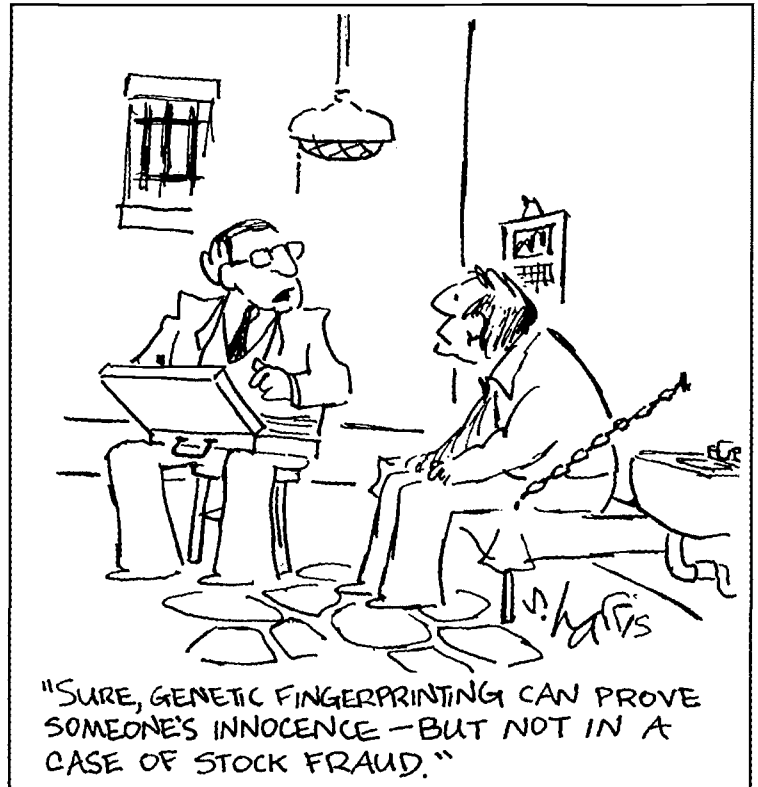
On July 13, 1994, Representative Edward Markey (D-Mass.) introduced legislation to implement many of the GAO's recommendations. Representative Markey's proposal amends the Securities Exchange Act of 1934 to expand vastly the regulatory jurisdiction of the SEC over OTC derivatives. Under Markey's plan, all

International Swaps and Derivatives Association (ISDA). In essence, what some government policy makers want to mandate is already happening spontaneously, as providers and users of derivatives seek better to facilitate their use.

Mandatory disclosure requirements, by contrast, could stifle innovation as institutions experiment with alternative approaches to disclosure of *all* risk exposures. Disclosure requirements that focus on derivatives alone provide an incomplete snapshot of the institution's *net* risk exposure. As a result, these disclosures are likely to be misleading, since the actual effect of derivatives can only be evaluated in the context of the institution's overall balance sheet or portfolio. The cash flows on interest rate swaps, for example, can be replicated by borrowing and lending or by using repurchase agreements. Since both interest rate swaps and their non-derivatives alternatives can be used for managing risks, such as the risks arising from asset/liability maturity mismatches, disclosures that focus only on derivatives give a distorted view of the institution's actual risk exposure.

The Gonzalez-Leach and Riegle bills would force derivatives dealers be able to provide, on a day's notice, all their derivatives positions to banking regulators in the event of a volatile market move. The new reporting costs will increase the cost of using derivatives, forcing some institutions to use more expensive and less efficient alternatives for risk management. This requirement, in effect, will impose costs on derivatives activities that are not borne by other activities. Further, there is a risk that regulators will declare emergencies where no clear emergency exists. This emergency request power will force derivatives participants to have position information available *all the time*. If regulators require disclosures in a format different from the one used internally, institutions will be subject to redundant and expensive record-keeping requirements. Additional reporting costs will increase barriers to entry for firms wishing to operate as dealers.

Suitability Requirements. The rapid overall growth of derivatives activities has raised con-



cerns about "suitability" issues. Suitability relates to a dealer's responsibility for ascertaining the extent to which its counterparty understands the risks of the transactions into which it

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enters—i.e., is the counterparty "suitable"? These concerns have been reinforced by press reports of a recent string of losses suffered by corporate end users on some derivatives transactions.

Both domestic and international regulators have been addressing the issue of "suitability" of derivatives transactions for particular end users. In a supervision/regulation advisory letter sent

to banks, the Federal Reserve Board requires that derivatives dealers assess the sophistication of their customers and obtain sufficient information to justify transacting with any institutions deemed "unsophisticated." This guidance is similar to, though not quite as burdensome as, the OCC recommendation in Banking Circular No. 277 that banks entering transactions with "unsophisticated" end users document the information they supply their customers. The FDIC goes further, suggesting that banks be required to disclose the risks and costs of derivatives when dealing with non-registered broker-dealers. A joint statement by the CFTC and the SEC in the U.S., and the Securities and Investments Board (SIB) in the United Kingdom also suggests that dealers transacting with non-dealers should be required to obtain information about customers to help ensure suitability.

Regulatory requirements for capital have been oversimplified historically and have tended to penalize those institutions that invest considerable resources in sophisticated internal risk management systems.

An overwhelming majority of OTC derivatives contracts are negotiated between sophisticated institutional counterparties capable of determining for themselves appropriate contracts and counterparties. Since these transactions create continuing credit exposures, which last the duration of the transaction, participants have a strong incentive to ensure counterparty suitability, even in the absence of regulations and mandates. Moreover, improved accounting and disclosure standards in the industry will make it easier for institutions to evaluate suitability without the burden of costly regulations. Industry educational efforts are also targeted on increasing the level of understanding of derivatives by end users, especially municipalities and institutional investors.

In all likelihood, legislation imposing a suitability standard would unnecessarily restrict derivatives users. Smaller and less sophisticated end users would find it more difficult to use derivatives to hedge their risk exposures. The

OCC, for example, requires full documentation of all information supplied by banks concerning the risks of derivatives transactions negotiated with "questionable" counterparties, despite the absence of such requirements for non-derivatives transactions. Increased compliance costs will prompt some dealers simply to avoid users whose sophistication would be costly to document. Less sophisticated institutions will be forced, as a result, to use more expensive risk management methods or, in the extreme, to leave their risks unmanaged. Either choice will create a cost to be borne by the shareholders and creditors of the institution.

Capital Requirements. Adequate capitalization is viewed by most regulators and legislators as a necessary condition for participation in derivatives activities. International efforts to harmonize minimum capital requirements have been made by the BIS which has proposed separate capital requirements for market and credit risk arising from derivatives. These proposed requirements are based on simplified risk models which all institutions, large and small, would have to use to calculate minimum capital requirements, though the BIS has recently indicated some willingness to allow sophisticated institutions the flexibility to use their own internal models for measuring capital adequacy. The BIS also proposed recognizing some types of netting in determining capital adequacy.

Given the credit-intensive nature of OTC derivatives activities, adequate capitalization is an essential precondition for active participation. Poorly capitalized institutions that represent significant credit risks will find that it is impossible to be competitive in derivatives activity. In fact, existing derivatives dealers, including the derivatives affiliates of securities firms and insurance companies, are already well-capitalized.

Active derivatives dealers, moreover, have developed sophisticated internal models for measuring and allocating risk capital in order to assure adequate capitalization. Regulatory requirements for capital have been oversimplified historically and have tended to penalize those institutions that invest considerable resources in sophisticated internal risk management systems. Regulatory concerns about capital adequacy can best be addressed by allowing institutions to use their own risk management models for determining capital adequacy for

credit and market risks, subject to oversight by supervisors. This policy will promote innovation, safer and sounder financial institutions, and more efficient allocation of capital.

To further reduce credit risk and conserve scarce capital, close-out netting (i.e., netting after a contract defaults or a counterparty becomes insolvent) should be fully recognized in determining capital adequacy for both current and potential future exposure to the extent it is legally enforceable. The impact of the recognition of netting on capital availability will be substantial. The GAO survey, for example, finds that netting arrangements reduced credit exposure by roughly 36 percent at year-end 1992.

The GAO recommendation and legislative proposals that all derivatives dealers be subjected to "consistent" capital adequacy standards is not based on a finding that certain dealers, such as the derivatives affiliates of securities firms and insurance companies, are undercapitalized. In fact, the evidence in the GAO report indicates the opposite to be true. These particular dealers are well capitalized, with high credit quality counterparties and relatively low ratios of credit exposure to equity. Moreover, the GAO presents no evidence that a failure of one of these affiliates of broker/dealers or insurance companies would have an adverse impact on the financial system beyond the dealers own shareholders and creditors.

Management Oversight. Both the private and public sectors view informed oversight by senior management and directors as an integral part of sound risk management practice, not only for derivatives activities, but for *all* risk-taking activities. In 1993, the Global Derivatives Study Group of the Group of Thirty recommended that senior management should ensure that derivatives are used in a manner consistent with the overall risk management and capital policies approved by their boards of directors.

Shareholders, boards of directors, senior management, and outside auditors have strong incentives to ensure adequate managerial oversight of *all* risk-taking activities, including derivatives, in order to protect and enhance the profitability and soundness of their institutions. These incentives include the existing fiduciary duties and associated legal liabilities of boards, senior management, and auditors. Other market mechanisms, including reviews of risk management procedures by credit rating agencies and

by insurance companies providing insurance for directors and officers, reinforce these incentives.

In response to the Group of Thirty's recommendations, the senior management at major U.S. dealers have conducted internal reviews of risk management procedures and practices, including procedures for oversight by senior management and directors. In many cases, these internal reviews have been supplemented by external risk management audits. The 14 major U.S. dealers that the GAO interviewed for its report had derivatives risk management systems that generally conformed to the Group of Thirty's recommendations.

Federal regulations requiring a particular level of involvement by management in the oversight process will be impractical and difficult to implement and enforce. Each institution faces its own unique risk exposures and has its own

Nobel laureate Merton Miller has argued that the major source of systemic risk from derivatives is regulatory overreaction. This overreaction, of course, can result from both the initiative of regulators and the insistence of legislators.

specific risk management processes and internal controls. As banking regulators have acknowledged, regulation cannot substitute for effective management oversight.

The Gonzalez-Leach and Riegle bills would subject the chairman of the board and directors of an institution with "inadequate" management controls and expertise to dismissal and civil liability. The unintended consequence of this requirement though, is that the would-be directors most knowledgeable about derivatives will be those most reluctant to join the boards of institutions in need of their expertise. Competent directors may reasonably fear that an uninformed regulator or bank examiner will deem them "insufficiently informed" and, hence, subject to personal liability. Firms in need of skilled directors to oversee their derivatives activities will find it more difficult to attract them, and, as a consequence, the ability of these

firms to manage financial risks efficiently will be limited, due to less effective oversight.

Unregulated Entities. The GAO and Representative Markey have expressed concern about the largely unregulated activities of U.S. derivatives dealers that are affiliates of broker/dealers and insurance companies. The GAO is especially concerned that the derivatives activities of these affiliates were not subject to safeguards such as capital standards or regulatory examinations. The GAO is also concerned that FDICIA-type mandates, independent audit committees, public reporting on assessments of internal control systems, and an annual external audit of risk management systems, did not apply to these derivatives affiliates or to active end

Financial market regulators, in repeated speeches and testimony before Congressional committees, have uniformly pointed out that the current regulatory structure is wholly adequate to address the risks posed by derivatives.

users of complex derivatives. The fear is that a failure of one of these less regulated firms could pose risks to other, more regulated firms, including federally-insured depository institutions. In consequence of these concerns, the Markey bill attempts to expand the regulatory aegis of the SEC to cover all these so-called "unregulated dealers."

The GAO recognizes a direct federal interest in the safety and soundness of major bank derivatives dealers because of payment system concerns and the federal Bank Insurance Fund guarantee. Its report goes on to assert, however, that derivatives transactions have the same implications for the financial system whether the major dealer is a bank, securities firm, or insurance company. Apparently, the logic is that because of the concentration of credit exposure among the major dealers and the linkages created by derivatives, the failure of *any* dealer threatens the banking system and the deposit insurance fund. The GAO, however, does not provide evidence to support this conclusion. In fact, the evidence presented in the report runs counter to this underlying hypothesis and

undermines the GAO recommendation.

No evidence is presented, for example, to show that the derivatives affiliates of broker/dealers and insurance companies are undercapitalized. In fact, the GAO points out that the market "demand for a top credit rating" has driven some securities firms to set up separately capitalized, credit-enhanced affiliates with triple-A ratings. Nor is evidence presented that derivatives affiliates are less well managed than the major bank dealers. In fact, the credit ratings of special purpose vehicles come only after rigorous examinations of their risk management systems by private rating agencies such as Standard & Poors or Moodys. In addition, the examination of these dealers by the GAO found their risk management systems in compliance with the Group of Thirty's recommendations.

Regulatory Capacity. In an industry as dynamic and innovative as the derivatives industry, it is inevitable that regulators will find themselves working hard to keep up with developments in the private sector. This lag could be a problem if regulators and examiners are inadequately equipped to assess the products, strategies, models, and internal controls used by dealers for derivatives activities. Inadequate training of examiners and regulators, moreover, can penalize innovative institutions when regulators oppose what they do not understand.

Regulatory agencies, however, have responded well to the challenges posed by derivatives. For example, the Federal Reserve Board's recent SR letter to examiners and its more detailed trading manual provide detailed guidelines for examiners evaluating the derivatives activities of banks. The OCC's recent circulars provide similar guidance to examiners reviewing derivatives activities of banks. While educational efforts directed at training examiners have been undertaken by the banking agencies, these agencies acknowledge the need for continued staff training in the derivatives area. Continued training is essential, since inadequately trained examiners are more likely to question sophisticated and complex risk management systems and models. This overreaction could deter institutions from developing the more sophisticated systems often required for responsible risk management.

A lack of understanding at the regulatory and legislative level about the nature of derivatives and the management of derivatives risks could cause an increase in "regulatory risk," the risk

that inappropriate regulations or ill-conceived regulatory actions, such as unexpected trading halts and capital controls, could exacerbate disruptions and heighten volatility should a market crisis arise. Indeed, Nobel laureate Merton Miller has argued that the major source of systemic risk from derivatives is regulatory overreaction. This overreaction, of course, can result from both the initiative of regulators and the insistence of legislators.

On a positive note, the proper training of regulators and examination staff in derivatives is essential if the derivatives-driven revolution in risk management is to flow into the more traditional activities of financial institutions and thereby enhance the safety and soundness of these institutions and the overall economy.

Proprietary Trading. The recent, widely-publicized financial losses by firms like Proctor & Gamble, Air Products, Harris Bank, Bank of America, and Piper Jaffre have fueled concerns that derivatives are simply instruments for speculation, and that such speculation creates a danger to the health of the U.S. financial system. The legislative initiatives of Senators Dorgan and Riegle would prohibit much derivatives activity in federally-insured depository institutions, ostensibly to protect the Bank Insurance Fund from such "speculative losses."

In both bills, exceptions are given to financial institutions engaged in "legitimate" hedging transactions. Federal financial regulators, however, are left with the daunting task of defining which transactions are "legitimate." Some transactions are obvious hedges, as they can be linked directly to the reduction of risks arising from specific balance sheet assets or liabilities. Other transactions, which may nonetheless be legitimate economic hedges, are harder to define as such. Banking institutions managing their interest rate risk, for example, frequently hedge *anticipated* net interest income. If the bank expects future cash flows with a reasonable degree of certainty, derivatives such as interest rate swaps or index amortizing rate swaps (i.e., swaps which have principal values that amortize at a rate determined by some interest rate index, such as LIBOR) can indeed reduce the potential risk of the firm. But since such transactions cannot be associated with specific balance sheet items, the legislative proposals by Senators Dorgan and Riegle might require regulators to prohibit these types of transac-

tions.

The definitional problems are deep. FASB, for example, has struggled with defining "hedge transactions" for accounting purposes for years. Generally, FASB defines a "micro" hedge as a transaction designed to manage the risk of specific balance sheet items. A "macro" hedge, by contrast, is a transaction which is designed to reduce the overall risk of the firm but which cannot be linked to a specific balance sheet entry. To date, FASB has been unable to define a set of criteria to determine when a "macro" hedge should be accounted for as a legitimate hedge. Regulators, undoubtedly, will encounter similar problems.

Even if hedging could be defined in a simple and unambiguous fashion, proposals to restrict proprietary trading on house accounts would have other deleterious consequences if enacted. These prohibitions will discourage dealing activities, for example, by all but the most well-capitalized banking institutions, since bills like Senator Riegle's require dealing transactions to be limited to "well-capitalized" firms. This will harm end users by limiting their access to dealers. The proposal also will place U.S.-insured depository institutions that are dealers at a competitive disadvantage relative to their foreign counterparts and relative to U.S. dealers which are not federally-insured, such as investment banks and insurance companies.

Enhanced coordination between existing regulators appears to be adequate to address the risks of derivatives activities. Beyond that, deregulation is the only change to the current regulatory structure that makes sense.

Multilateral Clearing and Netting. The proposed legislation by Senator Riegle will force financial regulators to encourage the development of OTC derivatives "clearinghouses" and multilateral netting to reduce systemic risk. Yet, it has never been shown that clearinghouses *per se* reduce systemic risk. Consider the extreme example in which all financial transactions in the U.S. are cleared through a single clearinghouse with little capital behind it. In the event of

a crisis, the clearinghouse could fail, thus creating far more trouble because of the concentration of credit exposures than if all the transactions had been negotiated bilaterally and credit exposures were more diversified. No criteria have been developed which would allow regulators to determine whether any particular multilateral clearing association actually reduces systemic risk or increases it relative to bilateral netting arrangements.

By placing a straightjacket on firms, regulation restricts innovation and shifts valuable resources away from market-driven risk management toward regulatory compliance and, indeed, regulatory avoidance.

Regulatory Coordination

The derivatives industry, through its individual members and trade associations, has worked to promote information sharing and greater coordination amongst participants in derivatives activities to address risks to the industry. Indeed, the derivatives industry has a long record of cooperation with regulators in addressing risks to the system. For example, ISDA worked with regulators and Congress to reduce legal risk by developing legislative assurances of the enforceability of netting in FDICIA and the 1990 amendments to the Bankruptcy Code.

As the GAO report documents, cooperation and coordination between regulators is already a natural part of the federal oversight process. Information is exchanged, examinations are conducted jointly, and policies are formulated with close consultations between regulators, all as a matter of standard operating procedure. Additional coordination of domestic regulators is accomplished through the Presidential Working Group on Financial Markets. Additional efforts at coordinating international supervision are being addressed through existing international forums, such as the BIS and the International Organization of Securities Commissions.

Regulatory Structure

Financial market regulators in repeated speeches and testimony before congressional committees have uniformly pointed out that the current regulatory structure is wholly adequate to address the risks posed by derivatives. This should not be surprising, since OTC derivatives do not create new risks for the institutions using them. The current system of largely institution-based regulation, through the supervision and regulation of the institutions that use derivatives, is an appropriate structure for ensuring that *all* the risks these institutions engage in are supervised and managed in a coherent manner. The numerous studies conducted over the past two years have not identified any problems indicating that a change in current regulatory structures is necessary. Enhanced coordination between existing regulators appears to be adequate to address the risks of derivatives activities. Beyond that, *deregulation* is the only change to the current regulatory structure that makes sense.

Conclusion

Despite claims by naysayers, markets are a powerful regulator of economic activity. In the absence of a government mandate or even an explicit self-regulatory organization, derivatives participants have behaved in a responsible fashion to address the inherent risks of derivatives transactions and the need for improvements in risk management procedures and practices as well as improved accounting and disclosure.

Regulation is not driven by market forces. It is a blunt instrument which rarely achieves that proper balance between prudence and flexibility that fosters innovation and competitiveness. Instead, by placing a straightjacket on firms, regulation restricts innovation and shifts valuable resources away from market-driven risk management toward regulatory compliance and, indeed, regulatory avoidance.

Political histrionics are no substitute for sound economic analysis. As shown above, the risks of derivatives are not new and are not unique to those instruments. Thus, derivatives do not merit separate regulation. To date, no empirical support has been offered for the notion that current regulation, with incremental improvements and enhanced coordination, is

inadequate to address the risks of derivatives. The stakes are high and the costs of overregulation are large. Derivatives activity in the U.S. is not isolated from global capital markets. Excessive and hasty regulation will accomplish little more than driving this vital and dynamic domestic business overseas.

Selected Readings

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