Alan Greenspan: International financial risk management

Speech by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, before the Council on Foreign Relations, Washington, DC, 19 November 2002.

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Today I would like to share with you some of the evolving international financial issues that have so engaged us at the Federal Reserve over the past year. I, particularly, have been focusing on innovations in the management of risk and some of the implications of those innovations for our global economic and financial system.

Fostered by a lowering of trade barriers, cross-border exchange of goods and services over the past half century has increased far faster than world gross domestic product. But what is even more remarkable is how large the scale of cross-border finance has become, relative to the value of the trade that it finances. To be sure, much global finance reflects growing investment portfolios, some doubtless with a speculative component. But, at bottom, such finance is a central element of the systems that support the efficient international movement of goods and services. We strongly suspect, though we do not know for sure, that the accelerating expansion of global finance may be indispensable to the continued rapid growth of world trade in goods and services. It appears increasingly evident that many forms and layers of financial intermediation will be required if we are to capture the full benefit of our advances in technology and trade. Indeed, the seemingly outsized implicit compensation for risk associated with many investments worldwide suggests the potential for a far larger world financial system than currently exists.

Among most of the large world trading economies the bias against investment in foreign assets is apparent in the still-high correlation between domestic savings and domestic investment. In decades past, risk was perceived to increase with distance. A paucity of information and surplus of regulation discouraged the cross-border movement of funds. Even today, with regulatory bars lowered and information and access much enhanced, bias against cross-border investment remains high. However, the continuous probing for enhanced returns, unless inhibited by governments, seems poised to create a much larger global presence of financial linkages in all our economies.

As in all aspects of life, expansion of one's activities beyond previously explored territory involves taking risks. And risk by its nature has carried, and always will carry with it, the possibility of adverse outcomes. Accordingly, for globalization to continue to foster expanding living standards, risk must be managed ever more effectively as the century unfolds.

The development of our paradigms for containing risk has emphasized dispersion of risk to those willing, and presumably able, to bear it. If risk is properly dispersed, shocks to the overall economic system will be better absorbed and less likely to create cascading failures that could threaten financial stability.

The broad success of that paradigm seemed to be most evident in the United States over the past two and one-half years. Despite the draining impact of a loss of $8 trillion of stock market wealth, a sharp contraction in capital investment and, of course, the tragic events of September 11, 2001, our economy is still growing. Importantly, despite significant losses, no major U.S. financial institution has been driven to default. Similar observations pertain to much of the rest of the world but to a somewhat lesser extent than to the United States.

These episodes suggest a marked increase over the past two or three decades in the ability of modern economies to absorb unanticipated shocks. To be sure, the recent weakened pace of world economic activity has raised concerns that the full cycle of the past decade has yet to be definitively concluded. But the already clearly evident increased resiliency arguably supports the view that the world economy already has become more flexible irrespective of how events unfold in the weeks and months ahead. This favorable turn of events has doubtless been materially assisted by the recent financial innovations that have afforded lenders the opportunity to become considerably more diversified and borrowers to become far less dependent on specific institutions or markets for funds.

The wide-ranging development of markets in securitized bank loans, credit card receivables, and commercial and residential mortgages has been a major contributor to the dispersion of risk in recent decades both domestically and internationally. These markets have tailored the risks associated with such assets to the preferences of a broader spectrum of investors.

Especially important in the United States have been the flexibility and the size of the secondary mortgage market. Since early 2000, this market has facilitated the large debt-financed extraction of home equity that, in turn, has been so critical in supporting consumer outlays in the United States throughout the recent period of cyclical stress. This market's flexibility has been particularly enhanced by extensive use of interest rate swaps and options to hedge maturity mismatches and prepayment risk.

Financial derivatives, more generally, have grown at a phenomenal pace over the past fifteen years. Conceptual advances in pricing options and other complex financial products, along with improvements in computer and telecommunications technologies, have significantly lowered the costs of, and expanded the opportunities for, hedging risks that were not readily deflected in earlier decades. Moreover, the counterparty credit risk associated with the use of derivative instruments has been mitigated by legally enforceable netting and through the growing use of collateral agreements. These increasingly complex financial instruments have especially contributed, particularly over the past couple of stressful years, to the development of a far more flexible, efficient, and resilient financial system than existed just a quarter-century ago.

Greater resilience has been evident in many segments of the financial markets. One prominent example is the response of financial markets to a burgeoning and then deflating telecommunications sector. Worldwide borrowing by telecommunications firms in all currencies amounted to more than the equivalent of one trillion U.S. dollars during the years 1998 to 2001. The financing of the massive expansion of fiber-optic networks and heavy investments in third-generation mobile-phone licenses by European firms strained debt markets.

At the time, the financing of these investments was widely seen as prudent because the telecommunication borrowers had very high valuations in equity markets, which could facilitate a stock issuance, if needed, to take down bank loans and other debt. In the event, of course, prices of telecommunication stocks collapsed, and many firms went bankrupt. In decades past, such a sequence would have been a recipe for creating severe distress in the wider financial system. However, compared with decades past, banks now have significantly more capital with which to absorb shocks, and they employ improved systems for managing credit risk. In conjunction with this improvement, both as cause and effect, banks have more tools at their disposal with which to transfer credit risk and, in so doing, to disperse credit risk more broadly through the financial system. Some of these tools, such as loan syndications, loan sales, and pooled asset securitizations, are relatively straightforward and transparent. More recently, instruments that are more complex and less transparent--such as credit default swaps, collateralized debt obligations, and credit-linked notes--have been developed and their use has grown very rapidly in recent years. The result? Improved credit-risk management together with more and better risk-management tools appear to have significantly reduced loan concentrations in telecommunications and, indeed, other areas and the associated stress on banks and other financial institutions.

More generally, such instruments appear to have effectively spread losses from defaults by Enron, Global Crossing, Railtrack, WorldCom, Swissair, and sovereign Argentinian credits over the past year to a wider set of banks than might previously have been the case in the past, and from banks, which have largely short-term leverage, to insurance firms, pension funds, or others with diffuse long-term liabilities or no liabilities at all. Many sellers of risk protection, as one might presume, have experienced large losses, but because of significant capital, they were able to avoid the widespread defaults of earlier periods of stress. It is noteworthy that payouts in the still relatively small but rapidly growing market in credit derivatives have been proceeding smoothly for the most part. Obviously, this market is still too new to have been tested in a widespread down-cycle for credit, but, to date, it appears to have functioned well.

The market for credit derivatives has grown in prominence not only because of its ability to disperse risk but also because of the information it contributes to enhanced risk management by banks and other financial intermediaries. Credit default swaps, for example, are priced to reflect the probability of the net loss from the default of an ever-broadening array of borrowers, both financial and nonfinancial.

As the market for credit default swaps expands and deepens, the collective knowledge held by market participants is exactly reflected in the prices of these derivative instruments. They offer significant supplementary information about credit risk to a bank's loan officer, for example, who heretofore had to rely mainly on in-house credit analysis. To be sure, loan officers have always looked to the market prices of the stocks and bonds of a potential borrower for guidance, but none directly answered the key question for any prospective loan: What is the probable net loss in a given time frame? Credit

default swaps, of course, do just that and presumably in the process embody all relevant market prices of the financial instruments issued by potential borrowers.

Price trends of default swaps have been particularly sensitive to concerns about corporate governance in recent months. The perceived risk of default of both financial and nonfinancial firms has risen markedly in the wake of company-threatening scandals, though levels remain moderate for most.

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Derivatives, by construction, are highly leveraged, a condition that is both a large benefit and an Achilles' heel. The benefits of risk dispersion are accomplished without holding massive positions in the underlying financial instruments. Yet, too often in our financially checkered past, the access to such leverage has induced speculative excesses that have led to financial grief. We are scarcely likely to reform the underlying human traits that lead to excess, but we do need to buttress our risk-management capabilities as best we can to delimit such detours from the path of balanced growth.

More fundamentally, we should recognize that if we choose to enjoy the advantages of a system of leveraged financial intermediaries, the burden of managing risk in the financial system will not lie with the private sector alone. Leveraging always carries with it the remote possibility of a chain reaction, a cascading sequence of defaults that will culminate in financial implosion if it proceeds unchecked. Only a central bank, with its unlimited power to create money, can with a high probability thwart such a process before it becomes destructive. Hence, central banks have, of necessity, been drawn into becoming lenders of last resort.

But implicit in such a role is the assumption that the burden of risk arising from extreme outcomes will in some way be allocated between the public and private sectors. Thus, central banks are led to provide what essentially amounts to catastrophic financial insurance coverage. Such a public subsidy should be reserved for only the rarest of occasions. If the owners or managers of private financial institutions were to anticipate being propped up frequently by government support, it would only encourage reckless and irresponsible practices.

In theory, the allocation of responsibility for risk bearing between the private sector and the central bank depends upon the private cost of capital. To attract capital, or at least retain it, a private financial institution must earn at minimum the overall economy's rate of return, adjusted for risk. In competitive financial markets, the greater the leverage, the higher must be the rate of return on the invested capital *before* adjustment for risk.

If private financial institutions have to absorb all financial risk, then the degree to which they can leverage will be limited, the financial sector smaller, and its contribution to the economy more limited. On the other hand, if central banks effectively insulate private institutions from the largest potential losses, however incurred, increased laxity could threaten a major drain on taxpayers, excess creation of money by the central bank, or both. In the end, we would be faced with a severe misallocation of real capital. In practice, the policy choice of how much, if any, extreme market risk should be absorbed by government authorities is complex. Yet central bankers make this decision every day, either explicitly, or implicitly through inadvertence. Moreover, we can never know for sure whether the decisions we make are appropriate. The question is not whether our actions are seen to have been necessary in retrospect; the absence of a fire does not mean that we should not have paid for fire insurance. Rather, the question is whether, ex ante, the probability of a systemic collapse was sufficient to warrant intervention. Often, we cannot wait to see whether, in hindsight, the problem will be judged to have been an isolated event and largely benign.

Thus, governments, including central banks, must balance the responsibilities they have been given related to their banking and financial systems. We have the responsibility to prevent major financial market disruptions through development and enforcement of prudent regulatory standards and, if necessary in rare circumstances, through direct intervention in market events. But we also have the responsibility to ensure that the regulatory framework permits private-sector institutions to take prudent and appropriate risks, even though such risks will sometimes result in unanticipated bank losses or even bank failures.

The inevitable rise in *potential* systemic risks as the international financial system inexorably expands can be contained by improvements in effective risk management in the private sector, improvements in domestic bank supervision and regulation, continued cooperation among financial authorities, and, should it be necessary, by central banks acting as lenders of last resort. In the past two decades, bank supervisors in developed countries have worked together, through the Basel Committee on Banking

Supervision, to improve bank supervision and regulation. This effort is ongoing and places priority on encouraging banks to further improve their risk-management systems. Similar efforts toward shared objectives among individual central banks should also improve protection against systemic risk on an international level.

Endeavors to synchronize individual countries' regulatory systems are far more than a technical exercise. Differences are more cultural than economic. They largely reflect differing conventions of business behavior, especially attitudes toward competition.

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Competition, of course, is the facilitator of innovation. And creative destruction, the process by which less-productive capital is displaced with innovative cutting-edge technologies, is the driving force of wealth creation. Thus, from the perspective of aggregate wealth creation, the more competition the better.

But unfettered competitive capitalism is by no means fully accepted as the optimal economic paradigm, at least as yet. Some of those involved in public policy often see competition as too frenetic. This different perspective is captured most clearly for me in a soliloquy attributed to a prominent European leader several years ago. He asked, "What is the market? It is the law of the jungle, the law of nature. And what is civilization? It is the struggle against nature." A major determinant of regulatory regimes is how a rule of law is applied to strike a balance between the perceived benefits of wholly unfettered markets and the perceived societal costs of overly fierce competition.

In most countries an uneasy balance remains between unleashing the forces of competition and reining them in when they are perceived to threaten the social order. With markets continuously evolving as technologies advance and the political perceptions of the proper extent of regulation also changeable, it is no wonder that our regulations always seem to be in flux.

While regulation must change as financial structures do, such regulatory change must be kept to a minimum to avoid fostering uncertainty among innovators and investors. Moreover, shifting regulatory schemes unavoidably leave obsolescent regulations in their wake. Business people both here and abroad complain, perhaps with some exaggeration, that so many regulations are on the books that they are probably at all times unknowingly in violation of some of them. We at the Federal Reserve endeavor periodically to review all our existing regulations in order to revise or rescind those that are out-of-date. It has worked well for us, and is probably a good practice to apply to regulatory systems in general and to the Basel supervisory process in particular.

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The extent of government intervention in markets to control risk-taking beyond the commonly practiced control of systemic risk is, at the end of the day, a trade off between economic growth with its associated potential instability and a more civil and less stressful way of life with a lower standard of living.

Those of us who support market capitalism in its more-competitive forms might argue that unfettered markets create a degree of wealth that fosters a more civilized existence. I have always found that insight compelling. But the resistance by many to such arguments suggests a more deep-seated aversion to the distress that often accompanies the process of creative destruction.

The choices that we make in our societies on these critical issues will importantly shape the opportunities for the unforeseen, but inevitable, innovations that have the capability to advance the econoic well-being of the citizens of the United States and our trading partners.