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Remarks by

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In recent weeks, economic forecasters in the United States have been debating whether an apparent turning point in the current business cycle augurs a modest or a more robust recovery in the months ahead. Much less attention has been paid to a far more significant event: the impressive ability of the American economy to withstand a severe decline in equity asset values, a sharp retrenchment in capital spending, and an unprecedented blow from terrorists to the foundations of our market systems.

As I outlined in congressional testimony last month, if the indications that the contraction phase of this business cycle has drawn to a close are ultimately confirmed, we will have experienced a significantly milder downturn than the long history of business cycles would have led us to expect. Remarkably, the imbalances that triggered the downturn and that could have prolonged this difficult period did not fester.

The obvious questions are, what has changed in our economy in recent decades to produce such resilience, and will these changes persist into the future?

Doubtless, the substantial improvement in the access of business decisionmakers to real-time information has played a key role. Thirty years ago, the timeliness of available information varied across companies and industries, often resulting in differences in the speed and magnitude of their responses to changing business conditions.

In those earlier years, imbalances were inadvertently allowed to build to such an extent that their inevitable correction engendered pronounced economic stress. The process of correcting those imbalances and the accompanying economic and financial disruptions too often led to deep and prolonged recessions.

Today, businesses have large quantities of data available virtually in real time. As a consequence, although their ability to anticipate changes in demand seems little improved, they, nonetheless, address and resolve economic imbalances far more rapidly than in the past.

The apparent increased flexibility of the American economy arguably also reflects the extent of deregulation over the past quarter century. Certainly, if the energy sector were still in the tight regulatory fetters of the 1970s, our flexibility today would be markedly less. That the relatively recently developed markets for natural gas and electric power endured the Enron collapse without significant disruption was encouraging. Although the terrorist attacks hit air travel especially hard, deregulation of that industry has demonstrably increased the quantity and flexibility, if not the profitability, of air travel over the past twenty years. Trucking and rail deregulation have added flexibility to the movement of goods across our nation.

I need hardly remind this audience that one especially potent force for enhancing overall economic flexibility and resilience arguably has been the combination of deregulation and innovation in the financial sector. New financial products have enabled risk to be dispersed more effectively to those willing, and presumably able, to bear it. Shocks to the overall economic system are accordingly less likely to create cascading credit failure.

Lenders have had the opportunity to be considerably more diversified, and borrowers have become far less dependent on specific institutions for funds. A major contributor to the dispersion of risk has been the wide-ranging development of markets in securitized commercial and residential mortgages, bank loans, and credit card receivables. These markets have tailored the risks associated with holding such assets to fit the preferences of a wider universe of investors.

Especially important has been the flexibility and 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 a support for consumer outlays in the United States throughout the recent period of cyclical stress. Undoubtably, this market's flexibility has been enhanced by the 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 and expanded the opportunities for hedging risks not readily deflected in earlier decades. The performance of these increasingly complex financial instruments, especially over the past couple of stressful years, has been noteworthy. These financial products have contributed importantly to the development of a far more flexible and efficient financial system--both domestically and internationally--than we had just twenty or thirty years ago.

Greater resilience has been evident in many segments of the financial markets. One prominent example is the telecom sector. Worldwide borrowing by telecom firms amounted to more than a trillion dollars during the years 1998 to 2001. The financing of the massive expansion of fiber-optic networks and heavy investments in 3G mobile phone licenses by European firms strained debt markets.

At the time, the financing of these investments, to a large extent, was seen as prudent because the telecom borrowers had very high market valuation that could facilitate, if needed, a stock issuance take-out of bank and other debt. In the event, of course, prices of telecom stocks

collapsed, and many firms went bankrupt. In decades past, this situation would have been a recipe for severe financial distress. However, a significant amount of exposure to telecom debt had been laid off through credit risk mitigation instruments, such as credit default swaps, collateralized debt obligations, and credit-linked notes. This appears to have reduced telecom loan concentrations and the stress on banks and other financial institutions.

In addition, such instruments, more generally, appear to have effectively spread losses from recent defaults by Enron, Global Crossing, Railtrack, and Swissair in recent months. In particular, the still relatively small, but rapidly growing, credit derivatives market has to date functioned well, with payouts proceeding smoothly for the most part. Obviously, this market is still too new to have been tested in a widespread credit down-cycle. But so far, so good.

The markets for more traditional derivatives, such as interest rate swaps and foreign exchange forwards and swaps, grew rapidly over the past several years. According to the latest tabulation of the Bank for International Settlements, the aggregate worldwide notional value of the over-the-counter derivatives market grew to an awesome $100 trillion by the end of June 2001, though it has apparently slowed somewhat since then. Gross credit exposure was at that time estimated at $1 trillion, after taking account of legally enforceable netting agreements. Potential credit losses on these instruments were further mitigated through the growing use of collateral agreements. Such agreements provided substantial protection to Enron's counterparties, for example.

Beyond the major advances in asset securitization and the expanded development of derivative instruments, we have witnessed a large number of unheralded advances in finance facilitated by our enhanced computer and telecommunications capabilities. In recent years, for

example, the switch to electronic trading for interbank spot foreign exchange transactions has markedly reduced the trading volumes required to maintain an effective market. Various types of electronic communication and trading systems have been developed for OTC derivatives. To be sure, OTC derivatives dealers have been slow to take advantage of these systems, but sooner or later market forces are likely to compel them to do so.

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In summary, because of increased access to real-time information and, more arguably, extensive deregulation and innovation in financial and product markets, economic imbalances are more likely to be readily contained. As a consequence, cyclical episodes overall should be less severe than they otherwise would be.

If this is indeed the situation--and it must be considered speculative until more evidence is gathered--the implied reduction in economic volatility, other things being equal, would lower risk and equity premiums. Other things, however, may not be wholly equal. The very technologies that appear to be the main cause of our apparent increased flexibility and resilience may also be imparting different forms of vulnerability that could intensify or be intensified by a business cycle.

From one perspective, the ever-increasing proportion of our GDP that represents conceptual, as distinct from physical, value added may actually have lessened cyclical volatility. In particular, the fact that concepts cannot be held as inventories means a greater share of GDP is not subject to a type of dynamic that amplifies cyclical swings.

But an economy in which concepts form an important share of valuation has its own vulnerabilities. As the recent events surrounding Enron have highlighted, a firm is inherently

fragile if its value added emanates more from conceptual than from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of its managers falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value rests largely on capitalized reputation. The physical assets of such a firm compose a small proportion of its asset base. Trust and reputation can vanish overnight. A factory in such a context cannot.

The implications of such a loss of confidence for the macroeconomy depend importantly on how freely the conceptual capital of the fading firm can be replaced by a competitor or a new entrant into the industry. Even if entry is relatively free, macroeconomic risks can emerge if problems at one firm tend to make investors and counterparties uncertain about other firms that they see as potentially similarly situated. The difficulty of valuing firms that deal primarily with concepts and the growing size and importance of these firms may make our economy more susceptible to this type of contagion.

Another, more conventional determinant of stability will be the economy's degree of leverage--the extent to which debt rather than equity is financing the level of capital. The proper degree of leverage in a firm, or in an economy as a whole, is an inherently elusive figure that almost certainly changes from time to time. Clearly, firms find some leverage advantageous in enhancing returns on equity, and thus moderate leverage undoubtedly boosts the capital stock and the level of output. A sophisticated financial system, with its substantial array of instruments to unbundle risks, will tend toward a higher degree of leverage at any given level of perceived underlying economic risk. But the greater the degree of leverage in an economy, the greater its vulnerability to unexpected shortfalls in demand and to other miscalculations.

Although the fears regarding business leverage have been confined mostly to specific sectors in recent years, concerns over potential systemic problems resulting from the vast expansion of derivatives have reemerged with the difficulties of Enron. To be sure, firms like Enron, and Long-Term Capital Management before it, were major players in the derivatives markets. But their problems were readily traceable to an old-fashioned excess of debt, however acquired, as well as to opaque accounting of that leverage and lax counterparty scrutiny. Swaps and other derivatives have been remarkably free of default throughout their short history, including over the past eighteen months.

Of course, latent problems may exist in any market that expands as rapidly as these markets have. Regulators and supervisors are particularly sensitive to this possibility. Derivatives have provided greater flexibility to our financial system. But their very complexity could leave counterparties vulnerable to significant risk that they do not currently recognize, and hence these instruments potentially expose the overall system if mistakes are large.

In that regard, concerns have been raised about potential counterparty risks in the large interest rate hedging efforts of government-sponsored enterprises (GSEs) in support of their secondary mortgage market operations. Presumably, counterparties can manage this risk effectively through the use of credit limits, netting, and collateral agreements. The broader risks for financial markets and the economy result from the perception of government support for these corporations and the resulting implicit subsidization of GSEs. Subsidies, by intent, distort the normal balance of markets. In this case, the perception of government support may induce the counterparties of GSEs to apply less vigorously some of the risk controls that they apply to manage their over-the-counter derivatives exposures. More generally, we need to be careful not

to allow subsidies to unduly disturb an efficient financial structure that has so clearly contributed to increased economic stability.

Dramatic changes in our financial structure have required governments to ensure that their regulatory regimes are appropriate to the current configuration of markets and institutions. In the judgment of the Federal Reserve, the Commodity Futures Modernization Act of 2000 struck the right balance in regulating derivatives in the United States, as did Gramm-Leach-Bliley in finance generally.

Our international banking and financial system is regulated primarily by counterparties whose due diligence is fundamental to the containment of risk, including systemic risk. Government regulators can exercise only broad oversight. We at the Federal Reserve, for example, can never bring to bear the detailed market and counterparty surveillance that private-sector players exercise. We rely on you to be, in effect, the front-line regulators.

Increased government regulation can cause unrealistic expectations regarding the extent to which risk can be reduced by regulators. Such actions can create moral hazard and may prove counterproductive. We trust that the Basel II Capital Accord, when final, will be sensitive to these concerns.

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The surge in risk hedging in recent years is a symptom of a much broader issue of change in both domestic and international finance that is a manifestation of changes in the real economy. As the pace of technological change alters the conduct of business in ways we will never fully anticipate, we must foster the ability of our ever-expanding international banking and financial system to meet the challenge of that change.

The flexibility of our industry and workforce to reinvent themselves when the need arises forms the basis for increasing standards of living. This "creative destruction," in turn, requires an effective and flexible financial system. The world's bankers are in an excellent position to develop and nurture such a system.