For release on delivery
12 15 p m EST
November 5, 1998

Remarks by

Alan Greenspan

Chairman, Board of Governors of the Federal Reserve System

at the

Annual Meeting

of the

Securities Industry Association

Boca Raton, Florida

November 5, 1998

This afternoon I intend to address a subject that ten years ago would have been sleep inducing   Today it is a cage rattler   the structure of the international financial system   Functioning well, most participants take it for granted   Functioning poorly, it becomes a vehicle for financial contagion and a threat to the franchises of many in this room

Dramatic advances in computer and telecommunications technologies in recent years have enabled a broad unbundling of risks through innovative financial engineering   The financial instruments of a bygone era, common stocks and debt obligations, have been augmented by a vast array of complex hybrid financial products, which allow risks to be isolated, but which, in many cases, seemingly challenge human understanding

The consequence doubtless has been a far more efficient financial system   The price-setting functions of the market economy in the United States, for example, have become increasingly sensitive to subtle changes in consumer choice and capital efficiencies, and the resulting set of product and asset market prices and interest rates have enabled producers to direct scarce capital to those productive facilities that most effectively cater to consumer preferences   Thus, despite a rate of capital investment far short of that of many other advanced industrial countries, the efficiency of that capital has facilitated the creation of an economy whose vitality is unmatched throughout the world

These same new technologies and financial products have challenged the ability of inward looking and protectionist economies to maintain effective barriers, which, along with the superior performance of their more open trading partners, has led over the past decade to a major dismantling of impediments to the free flow of trade and capital   The new international financial system that has evolved as a consequence has been, despite recent setbacks, a major factor in the marked increase in living standards for those economies that have chosen to participate in it

It has done so by facilitating cross-border trade in goods and services that has enhanced competition and expanded the benefits of the international division of labor Indeed, the growing importance of finance in fostering those rising living standards, especially in the United States, is the major reason the share of national incomes accruing to finance has been increasing since the mid-1970s

Notwithstanding the demonstrable advantages of the new international financial system, the Mexican financial breakdown in late 1994 and, of course, the most recent episodes in East Asia and elsewhere have raised questions about the inherent stability of this new system

The Mexican crisis had many of the characteristics of earlier financial disorders, primarily a very large current account deficit, but the intensity of the disruption, and certainly the size of official financing employed to quell it, seemed larger relative to the underlying causes than comparable previous episodes

Many of the more recent crises, from Thailand to Russia, have the conventional causes--fiscal and trade imbalances, and/or imprudent borrowing denominated in foreign currencies But again the size of the breakdowns and required official finance to counter them is of a different order of magnitude than in the past This is especially the case when we consider how outsized the distortions were in Latin America in the early 1980s, relative to the remedies that were employed

But why did a relatively conventional slowdown in capital investments and capital outflows to East Asia over the past year and a half induce such a wrenching adjustment in individual economies and why has the degree of contagion been so large?

The answer appears to lie in the very same technologies that have brought so marked an increase in the efficiency of our new international financial structure That financial structure, which has induced such dramatic increases in productive capital flows, has also exhibited significantly improved capacities to transmit ill-advised investments One can scarcely imagine the size of losses of a single trader employing modern techniques that contributed to the demise of Barings in 1995 being accomplished in the paper-trade environment of earlier decades Clearly, our productivity to create losses has improved measurably in recent years

The system is thus both productive of increased standards of living and more sensitive to capital misuse It is a system more calibrated than before to not only reward innovation but also to discipline the mistakes of private investment or public policy--once they become evident As I have pointed out before, the huge flows of capital into debt and equity markets, premised on overly optimistic assessments of risk or returns, drove asset prices to unsustainable levels that only worsened the subsequent correction

Hence, the recent crises, while sharing many, if not most, of the characteristics of past episodes, nonetheless, appear different Market discipline today is clearly far more draconian and less forgiving than twenty or thirty years ago Owing to greater information and more opportunities, capital now shifts more readily and increasingly to those ventures or economies that appear to excel

A measure of the broader sensitivity of current technologies relative to those of a bygone era is reflected, for example, in the impact of "collars" on program trading on the New York Stock Exchange In the aftermath of the October 1987 crash, electronic submission of index arbitrage trades was suspended when the Dow Jones Industrial Average moved inordinately in a day

Analyses of trading when that collar was in effect indicated that S&P futures and cash indices converged far more slowly than when electronic order submission was permitted In effect, we had an experiment in the comparative market responsiveness of a modern technology and an older paper-based system that was used prior to 1976, when electronic order routing was first introduced The collar was revised in 1988 to allow electronic order submission, but another anachronism, the requirement that these orders be executed only on stabilizing upticks or downticks, now has the same effect

The faster reaction time has not only accelerated the pace of domestic capital flows to ferret out the increasingly more subtle differences among investments, it has also markedly accelerated international capital flows Cross-border bank lending, for example, has doubled in the past decade Daily foreign exchange transactions have more than doubled and now stand at $1 5 trillion

The crises seem to reflect, arguably, an inability of people to come to grips with the vastly accelerated pace of financial activity--its complexity and its volume In the throes of the 1990s' virtuous cycle that propelled asset prices higher and risk premiums lower, the accelerated pace of competitive pressures, until the crises struck, was hardly likely to appear threatening But the inevitable reversal engendered fear and retrenchment While this was evident in Asia a year ago, it became particularly pronounced in the remarkable increase in risk aversion and an increased propensity for liquidity protection in both the United States and Europe in recent months without significant signs of underlying erosion in our real economies, tightened monetary policy, or higher inflation This is virtually unprecedented in our post World War II experience

In the wake of the Russian debt moratorium on August 17, demand for risky assets, which had already declined somewhat, suddenly dried up This, in the United States, induced dramatic increases in yield spreads across the risk matrix In Europe spreads have moved less, apparently owing to widespread reliance on relationship finance Volumes in risk markets, however, have declined sharply Even more startling is the surge for liquidity protection that has manifested itself through significant differentiation in yields among riskless assets according to their degree of liquidity We are all familiar with the dramatic rise in late September in the illiquidity premium for off-the-run Treasury securities, or the spreads on government sponsored agency issues

The surge toward less risky assets reflected dramatic increases in uncertainty, but still a risk differentiation judgment among various assets The surge toward liquidity protection, however, is a step beyond, since it implies that any commitment is perceived as so tentative that the ability to easily reverse the decision is accorded a high premium Risk differentiation, despite its recent abruptness, is, of course, a straight-forward feature of well-functioning capital markets The enhanced demand for liquidity protection, however, reflected a markedly decreased willingness to deal with uncertainty--that is a tendency to disengage from risk-taking to a highly unusual degree

It is, of course, plausible that the current episode of investor fright will dissipate, and yield spreads and liquidity premiums will soon fall into more normal ranges Indeed we are already seeing significant signs of some reversals But that leaves unanswered the question of why such episodes erupted in the first place

It has become evident time and again that when events become too complex and move too rapidly as appears to be the case today, human beings become demonstrably less able to cope The failure of the ability to comprehend external events almost invariably induces disengagement from an activity, whether it be fear of entering a dark room, or of market volatility And disengagement from markets that are net long, the most general case, means bids are hit and prices fall

Over the long run, perhaps, people can adjust to a state of frenetic change with equanimity Certainly our teenagers seem far more adaptive to the newer technologies than their parents and grandparents But I have my doubts that newer generations' human response to change will differ in any material way from earlier ones That leaves us with the challenge how can we harness burgeoning international financial flows in a manner that does not strain human evaluation capacities?

First let me stipulate that capital controls, which worked in part to contain international flows earlier in this post war period, are unlikely to be effective over the longer run given the vast increase in technical capabilities to evade them But more importantly, should controls nonetheless succeed, they would cut off capital investment inflow to an economy, and the higher level of technology and standards of living that normally accompany access to such flows Restricting controls to short-term capital inflows, as is often recommended, is not a solution They will invariably also restrict direct investment that requires short-term capital to facilitate it

Clearly, to live with enhanced global finance, it has become necessary to find ways to buttress our financial institutions to be able to weather the dramatic increase in capital flows, both domestic and cross-border, before they strain human capacities

It has taken the longstanding participants in the international financial community many decades to build sophisticated financial and legal infrastructures that can buffer the shocks of such flows But even they, on rare occasions, run into trouble (for example, Sweden in 1992) Those advanced infrastructures generally have been able to discourage speculative attacks against a well-entrenched currency because their financial systems are robust and are able to withstand large and rapid capital outflows of foreign currency instruments, and the often vigorous policy responses required to stem such attacks For the more recent participants in global finance, their institutions, had not yet been tested against the rigors of major league pitching, to use a baseball analogy

Many emerging market economies have tried to fix their exchange rates against the dollar and, in recent years, many borrowed dollars excessively, unhedged, to finance unproductive capital projects Eventually their currencies became overvalued and their financial systems, under the increasing strain of the unhedged debt, broke down

But such behavior need not undermine financial systems that are otherwise sound Last month's unprecedented three-day weakening in the dollar, relative to the yen, reportedly as a consequence of a large scale unwinding of the so-called yen carry trade, has not induced spasms in the U S financial markets, nor for that matter in Japan, despite its severe banking problems

The heightened sensitivity of exchange rates of emerging market economies under stress would be of less concern if banks and other financial institutions in those economies were strong and well capitalized Developed countries' banks are, to be sure, highly leveraged, but subject to sufficiently effective supervision that local banking problems do not generally escalate into international financial crises Most banks in emerging market economies are also highly leveraged, but their supervision often has not proved adequate to forestall failures and general financial crisis The failure of some banks is highly contagious to other banks and businesses, both domestic and international, that deal with them

This weakness in banking supervision in emerging market economies was not a major problem for the rest of the world prior to those economies' growing participation in the international finance system over the past decade or so Exposure of an economy to short-term foreign currency capital inflows, before its financial system is sufficiently sturdy to handle a large unanticipated withdrawal, is a highly risky venture

A key conclusion stemming from our most recent crises is that economies cannot enjoy the advantages of a sophisticated international financial system without the internal discipline that enables such economies to adjust without crisis to changing circumstances

Between our Civil War and World War I when international capital flows were, as they are today, largely uninhibited, that discipline was more or less automatic Where gold standard rules were tight and liquidity constrained, adverse flows were quickly reflected in rapid increases in interest rates and the cost of capital generally This tended to delimit the misuse of capital and its consequences Imbalances were generally aborted before they got out of hand But following World War I, such tight restraints on economies were seen as too inflexible to meet the economic policy goals of the twentieth century

From the 1930s through the 1960s and beyond, capital controls in many countries, including most industrial countries, inhibited international capital flows and to some extent the associated financial instability--presumably, however, at the cost of significant shortfalls in economic growth and misallocated resources There were innumerable episodes, of course, where individual economies experienced severe exchange rate crises Contagion, however, was generally limited by the existence of restrictions on capital movements that were at least marginally effective, in that period of paper-based transactions

In the 1970s and 1980s, recognition of the inefficiencies associated with controls, along with newer technologies and the deregulation they fostered, gradually restored the free flow of international capital prevalent a century earlier In the late twentieth century, however, fiat currency regimes have replaced the rigid automaticity of the gold standard in its heyday More elastic currencies and markets, arguably, have augmented the scale of potential capital misallocation It takes discretionary countervailing--and often unpopular--policy actions by fiscal and monetary authorities to make needed adjustments Where those are delayed, imbalances build and market contagion across national borders has consequently been more prevalent and faster in today's international financial markets than appears to have been the case a century ago under comparable circumstances

The international financial system was not as technologically responsive then as now Contagion cannot fester where financial interconnectiveness is weak or lacking

Moreover, contagion is clearly enhanced by leverage, and while leverage is not demonstrably greater today than in earlier post World War II decades, the degree of leverage that was viable then apparently no longer appears appropriate in today's more volatile financial environment If financial asset prices are more variable, firms need to protect themselves against unexpected adverse market conditions by having more robust financial structures New instruments, like derivatives, afford the opportunity to reduce risk, but they also afford opportunities to become more vulnerable Borrowers, lenders, and regulators need to improve their understanding of the risk characteristics of the new instruments under a variety of circumstances--some extreme

As the financial system becomes ever more sensitive to change, consideration needs to be given to discourage excess leverage by financial intermediaries worldwide The events of the past year have doubtless already induced a readjustment in optimum debt-equity balance on the part of all investors and borrowers Nonfinancial corporate leverage in Asia especially urgently needs to be addressed Higher nonfinancial debt levels have significantly increased inflexible debt service requirements, especially those denominated in foreign currencies Such trends have been particularly instrumental in inducing financial system breakdowns in East Asia Presumably, Asian borrowers will be less inclined to high leverage in the future Perhaps the most effective tool to reduce leverage in emerging market economies is to remove the debt guarantees, both explicit and implicit, by central banks and governments

Another challenge confronting the international financial system is establishing and retaining more robust currency regimes

The defining characteristic of the latest set of crises is the extraordinary collapse of exchange rates among emerging market economies Those adjustments brought such havoc to balance sheets of both financial and nonfinancial entities in those economies that deep recessions inevitably ensued The increasingly global character of investment--largely technologically induced--spread contagion

Of course, at the end of the day the issue is not the stability of currencies, but the underlying policies that engender stable currencies Open economies, governed by a rule of law with sound monetary, trade, and fiscal policies, rarely experience exchange rate problems that destabilize those economies to the degree we have seen in Asia Problems have arisen in recent years when an economy without a history of sound finance endeavored to "rent it," so to speak, by locking its domestic currency into one of the stable currencies of long-time participants in the international financial system, such as the dollar and the DM There is nothing wrong with these linkages provided the tied currency is set at a competitive level and is supported by sound policies and flexible economies Too often they are not, with widespread consequences, as recent history amply illustrates

In hoping to gain the benefits of sound economic systems without incurring the policy costs, many emerging market economies have tried a number of technical devices the fixed rate peg, varieties of crawling peg, currency boards, and even dollarization The success has been mixed Where successful, they have been backed by sound policies

Even dollarization, or its equivalent in other key currencies, is not a source of stability if underlying policies are unsound It is questionable whether a sovereign nation, otherwise inclined to economic policies that are "off the wagon," can force itself into "sobriety" by dollarization Dollarization, fully adhered to, eliminates the possibility of costless printing of money and restricts budget deficits to an economy's ability to borrow in dollars While dollar currency circulating in such a country is credibly backed by the U S government, any domestic dollar deposits or other claims are subject to the whim of the domestic government that could with the stroke of a pen abolish their legal status. Hence, dollar deposits in such a political environment would tend to sell at a discount to dollar currency. Dollar interest rates in that economy could rise to debilitating levels, if fear of de-dollarization rose inordinately.

Thus, there is no shortcut to sound fundamentals. If we are going to have a sophisticated high-tech international financial system, the lessons of recent years make it clear that all participants must follow the policies that make it possible.

There is already under way a number of initiatives that, if effectively implemented, should significantly tighten international financial system discipline. These initiatives include endeavors to promulgate standards of bank supervision on a global basis, initiatives to markedly increase transparency of central bank accounts, more prompt and detailed data on global lending, compliance with codes for fiscal transparency, plus moves toward ensuring sound corporate governance and accounting standards.

Areas crucial to increased discipline, where consensus has yet to be reached, include appropriate bankruptcy and workout procedures for defaulting private sector entities, new arrangements for risk sharing between debtors and creditors, and ways to limit explicit and implicit government guarantees of private debt.

Central banks that fall short of the "best practice" requirements to be full participants in the international financial system would doubtless be under exceptional pressure to improve.

It is important to remember--when we contemplate the regulatory interface with the new international financial system--the system that is relevant is not solely the one we confront today. There is no evidence of which I am aware that suggests that the transition to the new advanced technology-based international financial system is now complete Doubtless, tomorrow's complexities will dwarf even today's

It is, thus, all the more important to recognize that twenty-first century financial regulation is going to increasingly have to rely on private counterparty surveillance to achieve safety and soundness There is no credible way to envision most government financial regulation being other than oversight of process As the complexity of financial intermediation on a worldwide scale continues to increase, the conventional regulatory examination process will become progressively obsolescent--at least for the more complex banking systems

Overall, endeavors to stabilize the international financial system, and keep it that way, will require perseverance

Until the current crisis is resolved, transition support by the international financial community to emerging market economies in difficulty will, doubtless, be required But in doing so we must remember that the major advances in technologically sophisticated financial products in recent years have imparted a discipline on market participants, excluding a few glaring exceptions, not seen in nearly a century Hence, the international financial assistance provided must be carefully shaped not to undermine that discipline As a consequence, any temporary financial assistance must be carefully tailored to be conditional and not encourage undue moral hazard

Finally, there is somewhat of a silver lining, if one can call it that, in the debilitating set of crises we have experienced in the past eighteen months First, while over the longer run, it will be essential to have significantly improved systems to oversee lending and borrowing by financial intermediaries, and incentives to dissuade excess leverage in general, in the short run, there will be little need If anything, lenders are likely to be overcautious I remember at the onset of the American credit crunch of a decade ago, my joshing with one of my colleagues in bank supervision and regulation about his going on a long overdue vacation I suggested he could safely sail around the world since there was very little chance of bad bank loans being made over the following year (I was concerned, however, whether anyone would make any good loans either)

Secondly, some of the spectacular equity-driven American and European capital gains of the middle 1990s diversified as unproductive capital flows to some emerging market economies Such capital flows, arguably a key factor in the crisis, are unlikely to be repeated in the near future

That both excesses have likely descended into hibernation is fortunate since the type of international financial restructuring that our new technologies require will take several years Assuming we successfully resolve the current crisis, we will have time to restructure I fear only that when available delay becomes evident, we will fall back into inaction, raising the stakes of the next crisis