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November 30, 1988

Remarks by

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Chairman, Board of Governors of the Federal Reserve System

before the

Annual Convention

of the

Securities Industry Association

Boca Raton, Florida

November 30, 1988

It is a pleasure to be with you today at your annual convention. More than ever before, the interests and concerns of people in the securities business overlap with those of the Federal Reserve. Your organization and the Board are actively at work in the pursuit of a number of common objectives. We both want broad and flexible financial markets. We both want international financial cooperation. And, most recently, we both want to increase the membership in the SIA.

As you know, the Board believes that it is in the public interest that banks no longer be so circumscribed in their securities activities. It is our view that events have made the separation between commercial and investment banking increasingly untenable. At the same time, we share your concerns that the special support mechanisms available to commercial banks should not be extended to their investment banking activities, thereby placing independent securities firms at an unfair competitive disadvantage. We believe that these concerns can be addressed by requiring that banks enter the securities business only through holding company subsidiaries that are insulated from their bank affiliates.

The Board's position is well known, and, although I suspect you might like to hear me speak about repeal of Glass-Steagall, I do not intend to elaborate further today. Rather, the focus of my remarks will be on an issue of, perhaps, even more fundamental importance in the long run: the increasing degree of global economic integration, with emphasis on the implications for securities markets--particularly equity markets.

## INTERRELATEDNESS OF WORLD ECONOMIES

One measure of the growing interrelatedness of world economies is the enormous expansion of international trade. Exports rose to more than 14 percent of the world's real GNP last year from 8-1/2 percent in 1960. During the past decade the share of output traded across borders rose by almost two percentage points.

While many factors are spurring the expansion of such trade, one little noticed element is the growing importance of the intellectual contribution to the value of the output we produce. Scientific advances, combined with new information gathering and processing techniques, have greatly extended our ability to substitute ideas for sheer physical mass. A half-century ago, for example, radios, activated by large vacuum tubes, were bulky. Today they can fit in a pocket. One hair-thin fiber-optic cable replaces thick bundles of heavy copper telephone wire. Advances in architecture and engineering, and the development and use of lighter but stronger materials, give us the same working space with a lot less concrete and steel tonnage than required in the past.

In fact, if all the tons of grain, cotton, ore, coal, steel, cement, and other commodities that Americans produce were combined, their aggregate volume probably would not be much greater on a per capita basis today than it was, say, 50 or 75 years ago. This would mean that increases in the conceptual components of GNP would account for by far the major part of the rise in real GNP in the United States since the turn of the century. The same doubtless holds true for the industrial world as a whole. We have been increasingly learning how to make a given volume of physical material do more to serve human needs.

We have, in effect, been significantly downsizing our economic output. The trend toward impalpable concepts and insights as displacements of physical bulk almost surely will continue into the next century and beyond.

Obviously, the less the bulk and the lower the weight of the average economic product, the easier it is to move goods across national boundaries, and the more important foreign trade becomes to our economies. Also implicit in this downsizing of products is the increased integration of the world's production facilities. Bottlenecks tend to emerge when domestic plants are pressed to capacity by burgeoning domestic demand. But if additional supplies from other world producers are quickly available, such pressures can be significantly reduced. The cost of moving gravel across continents makes it hard to see foreign quarries as much of a backup for excess domestic demand. But the ease with which small electronic components can be moved by air integrates a significant part of the world's capacity.

#### **INTERNATIONAL SECURITIES TRADING**

The increasing ease with which economic goods and services are spilling over national borders has helped widen the geographic areas in which they are financed, as investors become more familiar with foreign corporations and economies. And, again, technological change is spurring globalization, cheaper and faster information and telecommunications systems have been powerful contributors to the rapid development of international financial markets. So far, debt markets have been the main beneficiary. Government bonds of Japan, the United Kingdom, and West Germany have taken on new interest to international investors, and

their futures contracts now trade outside their home countries in London or Chicago. For many private borrowers, as well, the credit markets are truly worldwide. They shop for the best rates on commercial paper, bonds, and bank loans in their own domestic markets, Euromarkets, and other foreign markets--swapping currencies if necessary. Perhaps the best example of international financial integration is the market for U.S. Treasury securities, which are now global commodities. Traded around the clock and around the world, they are almost as easily available to foreigners as to U.S. investors. Treasury bond futures are traded on foreign exchanges and during extended hours on U.S. exchanges.

Trading of equity securities and derivative products across borders and within foreign countries has been slower to develop than has international debt trading, but it has increased very rapidly in recent years. In the United States, some 70 foreign issues and ADRs are now listed on the NYSE, and another 274 are traded on Nasdaq. Foreign listings in Tokyo have risen to more than 100 issues. And in London, International Stock Exchange trading in more than 600 foreign equities combines with broader and more active trading over the counter.

Participation by investors on exchanges outside their home countries also is considerable. An indication of interest in foreign securities in London is the presence there of roughly 10,000 terminals providing direct access to the Nasdaq market. All told, the estimates provided by your association show that equity trading by investors in shares of foreign companies more than tripled in two years, so that last year about 15 percent of all shares traded worldwide were purchased or sold by investors not living in the home country of the issuer, up from

9 percent in 1985 After the global market decline late last year, trading by foreign investors appears to have slowed a bit this year But domestic trading also has cooled

Even these spectacular gains understate the expansion of intermarket linkages New futures and options markets are sprouting continually, and increasingly the interests of foreign investors in these derivatives are being taken into account Trading hours are being expanded, and offerings of new foreign stock-index contracts are expected soon In Chicago, both the Merc and the Board of Trade have gotten approval for trading of Japanese stock index products, and the Merc is considering screen trading of U S and Japanese stock futures during off hours

As the volume of international trading has swelled, investors' equity portfolios have become more diversified in recent years. Nonresident net purchases of shares in the United States, the United Kingdom, Germany, and Canada amounted to about \$80 billion in the last three years Foreigners have been net sellers of Japanese stocks until recently, but the spectacular capital gains in that market and the appreciation of the yen have kept the value of their Japanese portfolios rising rapidly

These growing links mean that prices of shares increasingly are determined by the activities of foreign, as well as domestic, investors The investment community here and abroad closely follows indicators of economic trends around the world With virtually instantaneous global communications, financial markets can, and do, adjust promptly around the world to relevant new information Worldwide trading of shares

implies that news affecting one country's stocks will be reflected in prices of that country's stocks everywhere.

The linkages don't necessarily stop there, though. Large price changes in one market may lead investors to view shares in other markets as overpriced or cheap. Moreover, news affecting our markets may cause foreign investors to reassess earnings prospects of firms in their own markets, as well. In this regard, the greater degree of integration of world economies is significant in two ways. First, more and more companies are directly affected by developments in foreign countries because of their exports, imports, or overseas production activities. Second, the technological advances that have lowered the costs of trade in goods and services and of trade in currencies and securities also have made it more difficult to impede such flows. Under such conditions, diverging economic policies of nations carry a greater risk of destabilizing movements of goods and capital on a global scale, and, so, we have seen more emphasis on coordination of economic policies. Mindful of this, investors observing substantial price changes in overseas markets may be led to consider the possibility of policy ramifications in their own countries.

These many linkages were strongly in evidence last year when the sharp break in share prices was repeated in market after market around the world. Events showed that not only can fundamental and necessary adjustments occur quickly and internationally, but--because enormous volumes of buy and sell orders can now be sent to markets at any time, and news of sharp price moves can be transmitted around the

world in moments--panic also can spread more quickly and widely than ever before.

#### **ARBITRAGE ACROSS WORLD EQUITY MARKETS**

With so much evidence of increasing integration of equity markets around the world, a reasonable question to address is to what extent the valuation process across markets reflects these changes. In particular, one might wonder how strong the evidence is that investors effectively arbitrage real returns to equity holdings, adjusted for risk, across the major equity exchanges in New York, London, and Tokyo, for example. Any effort to answer this question is greatly complicated by institutional differences and because equity valuation is inherently based on unobservable expectations of investors. How fast will profits grow? Will interest rates rise or fall? How rapid will inflation be? Nevertheless, I think it's worthwhile to take a stab at it.

At first glance, the extraordinarily high price-earnings ratios in Japan appear inconsistent with the proposition that real returns to equity are arbitrated internationally. Indeed, price-earnings ratios in Japan have soared since 1985, and, at 50 to 60, are now nearly four times those in the United States. However, differences in accounting practices and economic factors greatly exaggerate the persistent gap between price-earnings ratios in Japan and other major foreign markets, including the United States.

Several aspects of Japanese accounting practices cause reported earnings to be understated relative to what they would be under U.S. accounting conventions. Quantitatively, the most important factor appears to be incomplete consolidation of earnings by Japanese firms.

Consolidation is of considerable importance in Japan because more than half of all shares are held by other corporations. Japanese firms have been moving in the direction of consolidating earnings more fully, along the lines of U S firms, since 1984. However, it appears that a substantial portion of earnings attributable to minority holdings are still excluded from financial statements. This exclusion currently reduces reported earnings in Japan by at least one-third on average.

A second factor lowering reported earnings in Japan is depreciation accounting. Unlike U S. firms, which can issue one report for tax purposes and another for shareholders, Japanese firms can issue only one report. Most firms in both countries choose to reduce their liabilities by using accelerated depreciation in tax reports. U S firms typically switch to straight-line depreciation in their financial reports, but Japanese firms cannot. The use of accelerated rather than straight-line depreciation lowers current reported earnings in Japan, perhaps by another 10 or 15 percent.

Adding the effects of other more minor differences, accounting practices appear to cut stated Japanese profits by half, doubling their price-earnings ratios. Adjusting for these statistical factors explains about two-thirds of the gap between U S and Japanese price-earnings ratios currently, and an even greater share from the mid-1970s through the mid-1980s. However, much of the jump in Japanese price-earnings ratios since 1985 requires some other justification.

One should not conclude too quickly, however, that the Japanese stock market has risen too high in the past few years: some fundamental economic considerations may bridge the remaining gap. First, as is well

known, the current earnings used in price-earnings ratios are rarely a good proxy for long-term equity returns. Earnings in Japan may be expected to grow more rapidly than in the United States.

In this regard, real estate developments since 1985 may play a role. Land comprises a much larger share of Japanese corporate assets than it does of U S corporations, and prices have soared in Japan while languishing in much of this country. The rise in Japanese land prices has mirrored fairly closely in timing and magnitude the rise in Japanese stock prices since 1985; if the land boom has raised real estate values embodied in current stock prices, but has not boosted current earnings commensurately, it would be a cause of higher current price-earnings ratios. The degree to which higher land values will contribute to higher future earnings in Japan is, however, unclear. Firms that are unwilling to sell land may not reap benefits comparable to their paper gains.

As a more general matter, the past provides little reason to expect that earnings per share will rise more rapidly in Japan than here. Despite rapid growth in aggregate real earnings in Japan over the past 15 years, growth in real earnings **per share** has actually been slower than in the United States. This is because growth of aggregate real profits has been almost completely offset by a simultaneous dilution of per share profits through new share issuance. With little change in the number of firms listed on the First Section of the Tokyo Stock Exchange, the number of shares has doubled in the past 15 years. I might add that this admirable record of new equity issuance, which acts to limit corporate leverage, probably owes much to their tax

system, which discriminates much less than ours against equity and in favor of debt.

The interest rates used as a proxy to discount future earnings are another factor that can lead to differences in price-earnings ratios across countries. Lower real interest rates raise the present value of real earnings expected in the future, engendering higher price-earnings ratios. Rough estimates suggest that real rates on government bonds have been lower in Japan than in the United States over most of the past two decades. A higher propensity to save in Japan may be one explanation for the lower real rates there. In any case, long-term real interest rates are notoriously difficult to measure with any accuracy, and seemingly small differences can have powerful effects on present values.

In summary, the accounting factors I've outlined seem to close much of the apparent gap between real equity returns in the United States and Japan. And the remaining portion may well be attributable to economic factors that are harder to measure, such as capital gains in real estate or lower real interest rates.

Comparison of expected returns in the United States and the United Kingdom is much easier because accounting and institutional differences are relatively minor. Price-earnings ratios and dividend yields generally have been similar in recent years, especially after allowing for the influence of cyclical factors. Currently, dividend yields in the United Kingdom are about 3/4 of a percentage point higher than those in the United States, and price-earnings ratios are slightly lower. Possibly this reflects expectations of slower real growth of

dividends in the United Kingdom. Historically, real dividend performance was less favorable than in the United States, but growth has been quite rapid in the past four years, even allowing for cyclical expansion. Long-term real rates appear to be a bit lower in the United Kingdom, which would suggest higher price-earnings ratios. But these data are greatly complicated by recent trends in British government finance. Asset sales and conservative fiscal policy have enabled them to pay down debt, creating some relative scarcity of government bonds which may currently be reducing real returns in government bonds relative to corporate bonds and stocks.

In comparing share valuation internationally, one also must consider differing risks to investors, including share price volatility and perceptions of exchange rate risk. If equity returns are perceived to be more risky in the United States than abroad, then, other things equal, one would expect lower price-earnings ratios in the United States. Expectations of stock price volatility embodied in stock index options currently are comparable for U.S. and Japanese contracts, but are lower for U.K. contracts. This suggests that equity risk factors do not help to explain differences between U.S. and Japanese returns to equity and make the lower price-earnings ratios in the United Kingdom harder to explain.

Exchange-rate risk further complicates efforts to arbitrage returns on long-term assets across countries. For example, the difficulty and expense of arranging long-term currency hedges may partly account for apparent differences in long-term real interest rates. Perceptions of exchange risk vary greatly over time. Macroeconomic

imbalances in major industrial nations in recent years probably have contributed to uncertainty and instability in foreign exchange markets. However, in the future, as investors come to perceive that external adjustment has largely been achieved, we can anticipate that exchange-rate risk will diminish and become more evenly balanced

I conclude from this analysis that while measurement is extremely difficult, if one allows for differences in accounting, economic, and risk factors, returns to investors in these three important markets are broadly comparable. In short, there is indeed a considerable degree of international arbitrage in today's stock markets

#### **REGULATORY IMPLICATIONS OF GLOBAL INTEGRATION**

While the evidence on arbitrage suggests that information flows among markets worldwide have advanced to a highly developed stage, it is still apparent that we are a long way from common accounting and reporting standards. International organizations are searching for ways to identify and deal with measurement differences--such as those between the United States and Japan or the European Community. This is clearly an area where coordination and compromise are necessary ingredients for success, but also where success can yield positive returns through better informed traders, lower costs of information flows, and wider markets for new issues.

Although the evidence suggests that trading activity is rapidly following the explosion in information flows across markets, direct linkages among global equity exchanges today are still in their infancy. These links exist among major markets, such as those in the United States, the United Kingdom, and Japan, but there is huge potential for

further growth. The technology is ready and the incentives are strong. Market participants--along with securities exchanges and their members and the NASD and their members--are exploring innovative channels for expanding the scope of international finance.

As investors seek global diversification and around-the-clock trading capability, they will be looking about for those trading centers that are the most sound, given efficiency and cost considerations. Two factors will be critical to inspiring investor confidence. Of primary importance will be the assurance that clearing and settlement systems are efficient and reliable. Equally important will be the existence of a healthy regulatory environment.

The importance of strong clearing and settlement systems cannot be overemphasized. This area was identified by the Brady Commission and others after the market break last year as a potential point of vulnerability in the U S financial system. The overloading of the order execution and clearing systems last October induced breakdowns that dramatically increased uncertainty among investors and likely contributed to additional downward pressures on prices.

Because clearing and settlement systems are complex technical structures, they do not lend themselves to easy understanding or quick fixes. (Nor, for that matter, do they make particularly exciting speech material.) Nonetheless, they obviously are critical to the completion of millions of interrelated transactions that flow through the financial markets daily. The failure of individual trades can ruin complex portfolio strategies. Of greater concern, the insolvency or default of

one or more participants in the clearing process could spread rapidly across other markets

The Working Group on Financial Markets--following up on Brady Commission recommendations--proposed a number of changes to reduce strains and risks of clearing organizations in the United States. A number of corrective steps already have been taken or are underway. Many of these steps are designed to improve information flows or smooth the stream of transactions through the infrastructure. Thus, for example, clearing organizations have established communications systems with one another and are seeking to broaden systems for sharing information. Measures have been taken to better coordinate the timing of margin collection and payments, and trial programs have been approved by the SEC and CFTC for exploring the desirability of cross-margining arrangements across futures and options markets. Also, required capital levels have been raised--a very important measure. There is no substitute for adequate capital to allay fears of potential insolvency on the part of the parties on the other side of a contemplated trade

The coordination of clearing and settlement systems in the United States has become increasingly important with the growing interdependence of our cash and derivative markets. We have come a long way in the past 13 months in identifying the vulnerabilities in our own equities markets. We must continue to ensure that progress is made in strengthening our systems and enabling them to adapt to the increasing integration of international securities markets

As difficult as the task is at home, the job of coordinating clearing and settlement across borders is many times more difficult

Problems are compounded by international differences in settlement procedures as well as regulatory frameworks

Regulatory authorities worldwide have an important role to play in achieving coordination of capital standards of market institutions and sound clearing and settlement systems. Coordination also is needed to prevent fraud and abuse. It is in the best interest of national regulators and markets to establish standards of integrity that reassure investors and firms. Bilateral discussions now are taking place among regulators and self-regulatory organizations in different countries to share information and develop means of preventing cross-border trading abuses. Moreover, their efforts to strengthen the integrity of the trading system will be enhanced by recent U S legislation authorizing the SEC to provide assistance to foreign authorities in the investigation of securities law violations

At the same time, we must be careful not to impose undue burdens on our home markets lest investors shift their trading to other, less costly centers. By this, I do not mean to imply that traders will always be attracted to markets around the globe that have the least regulation. Indeed, investors will shun markets if safeguards and regulatory protections seem inadequate. But as major centers become more integrated, it will be even easier than it already is to move transactions across borders. The advanced state of computer and telecommunications technology, that I discussed earlier, makes the choice of where to execute a trade little more than a phone call away.

Inevitably, market participants will become highly sensitive to the comparative cost and efficiency of transacting in one market versus

another We must be aware of these sensitivities in formulating national policies for our equity markets In particular, we must focus on policies that will strengthen our securities systems and that concomitantly will increase, not reduce, their attractiveness to investors here and abroad

**CONCLUDING REMARKS**

The integration of international markets will not be held back while regulators and market participants catch their breath. There is much evidence to suggest that arbitrage across national boundaries is already well established I have no doubt that the innovative forces in our markets will continue to melt distinctions between national centers Our goal--as regulators and private sector groups working together-- should be to create strong trading systems and a sound regulatory environment that can accommodate and encourage the growth we see ahead