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AN AMERICAN PERSPECTIVE ON THE 1987 STOCK MARKET CRASH

Remarks to

10TH ASIAN SECURITIES ANALYSTS
COUNCIL CONFERENCE

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The views expressed herein are those of Commissioner Cox and do not necessarily represent those of the Commission, other Commissioners or the staff.

Good Afternoon,

As we are all aware, stock prices throughout the world fell precipitously last October, in a wave of selling unparalleled in the experience of most of us here today. Prices have recovered since then and are high by any standards other than those set in 1987. In some places, they are high by even those standards. In the next half hour or so, I will offer some remarks on what I believe we should make of the price plunge, how its causes have been analyzed in the United States, and what steps have been taken to cope with such situations in the future.

I.

First we should be clear about our objectives. Too much of the discussion about the stock market, it seems to me, mistakes signs for substance. It is not enough, for instance, simply to assume that high stock prices are good. They are signs, perhaps, that investors expect good things for the economy, but whether they are intrinsically good depends upon whether they lead to an efficient allocation of economic resources. If, for example, they lead to investment in dubious, undeserving or unproductive enterprises, they may be detrimental from the viewpoint of society as a whole. From the narrower perspective of the securities salesman or securities holder, higher usually means better. But even these people may fear the ultimate bursting of a "speculative bubble," and so have an interest in seeing that prices bear some relationship to economic fundamentals.

On that basis, I have no reason to conclude that stock prices last August were any "better" than stock prices today, and I have little interest in market reforms that would inhibit price adjustments, provided that the survival of the market system itself is not jeopardized by panic and insolvency feeding further panic and insolvency. Low prices, per se, are not the enemy. The object of policy should be an efficient, durable market system and the avoidance of financial panic, not high prices.

II.

What set up the market crash? The long-term magnitude of last autumn's decline has been reasonably ascribed to fundamental economic factors. Interest rates, for example, historically have shown a strong inverse relationship to stock prices. However, by October 1987, the ratio of stock dividends to stock prices in the United States, reached record low levels relative to the interest available on

U.S. government securities. 1/ But why did the market crash, and then rebound somewhat, rather than merely slide to a new equilibrium?

To begin with, the belief that the market was overvalued was widespread. One survey found that shortly before the crash even most buyers believed the market was overvalued. Presumably they thought they could get out before a correction. 2/ The post-crash survey may reflect the respondents' hindsight, but it is nonetheless remarkable.

Some simply blame greed for any overvaluation. Why greed or even speculation should result in more long positions -- hoping to ride the trend -- than short positions -- anticipating its collapse -- I don't know. What regulators can do to eliminate greed, I also don't know.

Others argue that professional money-managers, who play an ever-growing role in the market, are particularly susceptible to a "herd" instinct. The idea is that they feel safer making the same mistake everyone else makes, rather than one that highlights their unique incompetence. What we can do about that, once again I don't know. Outlawing pension plan investments or mutual funds seems like a bad idea.

A third theory rests on the so-called "illusion of liquidity," a foolish confidence in one's ability to buy or sell quickly at a price very much like the price existing when the transaction is ordered. One version of the illusion theory is that many institutional investors thought that sophisticated trading strategies, usually employing stock index futures, would get them out of stock

1/ See The October 1987 Market Break: A Report by the Division of Market Regulation, U.S. Securities and Exchange Commission, 3-9 - 3-10 (1988) ("SEC Staff Study"). See also Report of the Presidential Task Force on Market Mechanisms, p. 10, Fig. 6: bond yields vs. S&P 500 yield 1947-87 (1988) ("Brady Report").

2/ The survey by Professor Robert Shiller of Yale is discussed in Robert E. Norton, "The Battle Over Market Reform," Fortune Magazine (Feb. 1, 1988) pp. 18-19, ("Norton Article") and in the National Bureau of Economic Research Digest, Jan./Feb. 1988, pp. 1-2 ("NBER Digest").

positions faster than the market fell, and it didn't work when too many tried it at once.

In the United States there has been strong interest in the role played in the crash by derivative products, especially cash-settled futures contracts on stock indices. Essentially, stock index futures are a means of transferring the potential loss or gain associated with holding the stocks that compose the index, without having to buy or sell the stocks themselves. Money managers have found them to be a useful and inexpensive tool for managing risk in investment portfolios.

The American preoccupation with the role of index futures in the crash may seem unusual to many of you who experienced stock market crashes in the absence of large futures markets. It seems a bit curious to me too. But it is argued that the world market crash was triggered or led by the American crash, which, in turn may have been affected by futures products. Futures also have a certain scape-goat appeal, in that they are new and not readily understood by laymen; they are associated with much-maligned "program trading;" and some may feel that if futures are restricted, the small investor can be persuaded that things have been "fixed" and lured back into the market. Futures markets also have caught our attention because they represent the most controversial point in the various recommendations for improving the markets. Everyone seems to agree that the market's physical capacity to process transactions should be improved, that clearing and settlement procedures should be better coordinated among markets, and that coordination and cooperation among regulators is important. But when questions are broached such as who should regulate futures or what rules should govern their trading, the battle lines are drawn. So, if I appear to pay undue attention to futures markets in my remarks today, I hope you will understand.

Now, to return to the illusion of liquidity. The futures-related strategy most dependent on liquidity is the "portfolio insurance," or "dynamic hedging" that tries to beat a market as it falls, selling a pre-set amount for each incremental drop in the market. The sale ordinarily is accomplished through a stock index future since this is usually cheaper and quicker than direct sale of a large amount of stock.

The Brady Commission, appointed by President Reagan soon after the crash, found that, as of September 30, 1987, pension funds using portfolio insurance were invested 56% in equities, as opposed to 46% for all pension funds. That is some evidence of futures-induced over-confidence.

Still, only eleven of the Brady survey's 80 respondents said that they used portfolio insurance. 3/ Others report 5.5%, although the Brady figures probably provide a better notion of the percentage of assets covered. 4/ Obviously, buyers thought they'd be able to leave the market before it fell -- buyers always think that. What the futures markets added to their bravado is another question. As we've noted, markets outside the United States also plunged in October and futures-related strategies are not yet widely used outside the United States. One might still argue that futures helped trigger the great sell-off, but not that they were responsible for markets outside the U.S. becoming over-valued to begin with.

In the U.S., the crash itself may have shattered the illusion of liquidity as I've described it. Portfolio insurers are reported to have been losing customers since October. 5/ But I doubt that, beyond a few oversold on portfolio insurance, many really expected the markets to be liquid enough to handle a sudden rush. More likely they expected there wouldn't be one, at least not while they were still in equities. Probably 1987 isn't the first time that happened, and futures aren't essential to the scenario.

III.

Now let me turn from the question of overvaluation to the dynamics of the price plunge itself. The investor survey I mentioned earlier 6/ suggests quite a few were ready to become sellers at the slightest nudge. Various events in mid-October, such as a tax on takeovers proposed in the United States, have been blamed for the nudge. But probably the main nudge was the sight of so many other

3/ Brady Report, p. V-15.

4/ NBER Digest, pp. 1-2. The SEC staff estimated that at least \$55 billion worth of stock, mostly pension fund assets, was covered by portfolio insurance on October 19. SEC Staff Study at p. 3-4. Prior to the October decline (including several days before October 19) pension funds held about \$740 billion in common stocks, and all publicly owned common stock were valued at several trillion dollars. Brady Report, p. 1.

5/ Norton Article, p. 21.

6/ See note 1, supra.

traders selling. Already in the week before October 19 the market had fallen dramatically.

Need it have gone so far as it did on the 19th? The staff of the SEC -- the United States Securities and Exchange Commission -- noted the leading role of institutional selling in driving prices down. ^{7/} In one sense, heavy institutional trading on October 19 was no surprise, since in recent years there has been heavy institutional trading every day.

However, two particular types of institutional trading were most closely identified with sales during the market plunge: portfolio insurance, which I just discussed in connection with over-valuation, and index arbitrage, another futures-related strategy.

Portfolio insurance, which calls for selling into a falling market, has obvious potential for exacerbating price swings. The second strategy, index arbitrage, does not create selling pressure, it simply transmits it from one market to another. Thus, if sales in the futures market lower the price of an index future relative to the prices of the index's constituent stocks, the arbitrageur will buy the relatively cheap futures and sell the relatively expensive stocks, profiting from the price discrepancy, and reducing it. It is argued, however, that futures markets are more volatile than stock markets. This appears to be true and may be attributable to the more liberal trading rules in the futures markets; rules which may also make those markets so cheap and efficient that they have become the preferred markets for many institutional investors. In any case, it is argued that arbitrage transmits volatility from futures to stocks, creating vibrations that can touch off an avalanche. At least I think this is the theory. It has never been completely clear to me how much the critics of the futures markets believe that the crash was an extreme instance of futures-induced volatility, and how much it was just an extreme instance of the old-fashioned stock market crash. The increase in everyday volatility that many ascribe to index arbitrage may be an entirely separate phenomenon.

At any rate, futures trading did generate significant selling during the crash. A shortage of buyers in the futures market meant that many portfolio insurance sales were made by actual stock, not futures, sales, accounting for about 6.4% of the October 19 volume in New York Stock Exchange stocks. Adding stock sales from index arbitrage,

^{7/} SEC Staff Study at xiii.

the figure comes to 14.7% of total New York Stock Exchange volume. 8/ In certain intervals these two types of programs accounted for far more than this, 9/ but the great majority of sales that day had no connection to futures strategies. However, the more fundamental point is that had there been no futures market, and had all selling gone directly into the stock market, that market might have been under far more stress than it was. A study for the Chicago Mercantile Exchange claimed that, even allowing for arbitrage-induced sales, selling on the New York Stock Exchange would have increased by a net of 85 million shares -- 14% of volume -- but for the existence of futures. 10/

One may argue that October's sellers would have sold months earlier or more gradually but for some misplaced faith in futures, but this is difficult to prove. One may also argue that without futures markets institutions would not employ trading strategies that call for rapid reallocations between equity and other types of assets, and which result in the quick disposal of large, diversified equity positions. But these strategies are central to modern portfolio theory, and the stock market would accommodate them if it could. It is not clear that the encouragement that the futures market gives to these strategies, with their heavy liquidity demands, offsets the additional liquidity the futures market provides. Nor is it clear that these strategies are bad in themselves.

Last but certainly not least is the question of market capacity. One of the clear facts of October was that market systems capable of the orderly execution and reporting of trading volumes larger than any previously experienced were inadequate to the unprecedented pressures of a 600 million share day. Reliable information about real buying and selling interest was abnormally difficult to come by. There was in fact a very genuine fear that the entire system would shut down. The uncertainty that this systemic overload introduced could only have made a bad situation worse. This is not an issue that has engendered so much debate in the United States as the futures question, but it is one of the first order of importance,

8/ SEC Staff Study at App. D-50.

9/ Id.

10/ Preliminary Report of the Committee of Inquiry Appointed by the Chicago Mercantile Exchange to Examine Events Surrounding October 19, 1987, Tables 1 and 2 (1987) ("Merc Preliminary Report"), p. 30.

and, fortunately, is one about which something is being done.

IV.

My Commission's initial recommendations for dealing with possible market crises in the future fell generally into three categories: enhancing market capacity; reducing liquidity demands on the markets; and improving regulatory coordination.

The capacity-expanding recommendations included the further improvement of stock exchange automatic order routing systems. The New York Stock Exchange has completed a number of improvements and plans to be able to handle a billion share day in an orderly manner by late 1989. This won't necessarily bring more buyers into a plummeting market, but it may reduce backlog-induced anxiety, misinformation, and panic selling. It will also permit more effective index price arbitrage, to the extent the New York Stock Exchange will tolerate index price arbitrage.

The SEC also suggested increasing specialist capital and improving specialist discipline. Exchanges are taking or have taken both steps.

The specialist's job is to bridge temporary disparities in supply and demand by standing ready continuously to buy and sell for his own account. This is the price he pays for the profitable privilege of being the central market in the stock in which he specializes. However, his job is not to peg prices or to throw away his money. Greater specialist capital would not have prevented a huge price drop in October.

Still, the prices in certain intervals suggest that some supply and demand disparities were temporary and might have been ameliorated if specialists had not been so close to the limits of their buying power or, in some cases, had had a more active sense of their obligations as specialists. Moreover, capital increases should reassure investors and those who lend to specialists that the trading system is sound and able to function under extreme conditions. However, whether the specialist system itself requires reassessment is not a question that has been seriously addressed.

Our Commission also suggested exploring other ideas to enhance market capacity, such as introducing certain "block-trading" techniques in the futures markets; trading baskets of stock on the NYSE itself in order to reduce pressure on specialists in individual stocks; a

reassessment of the rule against short sales in a declining securities market; and public dissemination of program trading information to reduce uncertainty and fear about market conditions. The NYSE recently took a step similar to this, announcing it would publish periodic analyses of program trading data.

To address sudden, extreme demands on market liquidity, the Commission looked at the relatively large futures positions that can be established with relatively small investments. Futures margins at a level more comparable to stock market margins might reduce the size of the trades undertaken and to that extent dampen volatility. Therefore, at least until trading capacity can be enhanced, the SEC supported an experimental increase in futures margins. Margins on futures have been increased, although not the level required of similar stock positions. We should, however, have no illusions that higher margins are a panacea. We have no proof, for example, that leveraged futures traders exacerbate rather than modify price swings. In fact, futures speculators appear to have been net buyers during the October crash. 11/

Finally, the SEC called for improved market and regulatory coordination. Most press attention focused on our suggestion to extend SEC authority to stock index futures, currently the responsibility of the Commodity Futures Trading Commission. 12/ Every other country I know of has this kind of a unified responsibility, and there is nothing terribly radical about it, in and of itself. The important question is how the SEC would use such new authority, which at this point, I must acknowledge, it does not seem very likely to receive.

One of the most important steps taken so far in regulatory coordination has been the participation of SEC Chairman David Ruder in an ad hoc "Working Group on Financial Markets," also including CFTC Chairman Wendy Gramm, Federal Reserve Chairman Alan Greenspan and Treasury Undersecretary George Gould. It has reiterated proposals by the SEC and others for a coordinated credit, clearing and settlement system across all markets to provide reliable information and consistent rules on the financial

11/ Merc Preliminary Report, p. 44.

12/ See SEC Recommendations Regarding the October 1987 Market Break (1988) pp. 30-31 (contained in testimony of David Ruder, Chairman, SEC, before the Senate Committee on Banking, Housing and Urban Affairs, Feb. 3, 1988).

positions of market participants. The SEC recently submitted legislation to Congress to help accomplish this.

The Working Group also recommended pre-set, coordinated, temporary trading halts in the U.S. stock market and in related option and futures markets in case of extreme price declines. This type of "circuit-breaker" is intended to arrest developing panic psychology; to permit creditors time to reassure themselves of the solvency of the market participants obligated to them; and to allow an interval to disseminate radically new information about supply and demand, thereby attracting bargain-hunting investors before prices have changed so much so fast that panic appears to have taken hold.

This is not certain to work, of course. The huge price drop of October 16, 1987, was followed by a whole weekend when the markets were closed, but the market still crashed on Monday the 19th. Furthermore, it is conceivable that the approach of the pre-established threshold for a trading halt would induce a further rush to sell or snuff out a rally that might otherwise have occurred. It is, for example, not unusual to see a price trend accelerate as the regular end of a trading day approaches. Nonetheless, the circuit-breaker idea has been accepted by regulators, securities exchanges and futures markets. The New York Stock Exchange and Chicago Mercantile Exchange, the leading index futures market, have announced a plan for coordinated trading halts and reopenings when the Dow Jones Industrial Average drops by 250 or more points.

Regulatory coordination on the international level has been proceeding before and since the crash, although some of the most notable progress has been on law enforcement matters rather than measures relevant to containing a trading crisis. Trading links and related clearing and settlement links continue to be pursued, although most of the trading we would designate as international occurs outside these links; furthermore, clearance and settlement links can be no better than the systems linked, and many of these could stand improvement.

Perhaps more important to avoiding a crisis is that lines of communication are being kept open, and opened further, among international regulators. I admit that this sometimes seems to amount to no more than interminable rounds of talk. But in the event of a crisis, there may be much to be said for knowing who to contact and what reasonably can be expected of them.

Since its original recommendations to expand capacity, reduce liquidity demands and improve regulatory

coordination, the SEC also has made several other legislative recommendations. These would provide it with emergency rulemaking powers during a market crisis and enable it, on a routine basis, to collect more information on transactions by large traders and on the financial risk to which broker-dealers may be exposed through their affiliates. We also proposed revising margin regulation, to provide a larger role for the government on the futures side and a larger role for the markets on the securities side.

Exchanges and futures markets have undertaken other measures themselves. As I mentioned earlier, the Chicago Mercantile Exchange and the New York Stock Exchange recently announced plans for coordinated trading halts. The Chicago Mercantile Exchange also has an independent limit on how far the price of the Standard & Poors 500 index future can move in a day. The limit varies from 15 to 25 points -- the equivalent of about 120 to 200 points on the Dow Jones Industrial Average. Trades farther out than that must wait until the next day. In effect, this is just another type of temporary trading halt and is subject to many of the same objections.

As for the New York Stock Exchange, after attempting, with mixed results, to unlink itself from the futures market in times of extreme price movement, it has arranged to match program trades against each other and halt trading in individual stocks for large imbalances, while the imbalance information is disseminated. During volatile periods, orders from individual investors will be given priority access to the Exchange's automated order delivery system.

We seem still today to be in a phase of experimentation. Ideally, this will provide us with new information which, together with a continued sifting of the evidence from October, may clarify the proper course for the long term. Until that course is clearer, the regulatory response to the crash should remain flexible.

No one can guarantee that there will be no more sudden price drops, although I'd be surprised to see another like October 19. I would point out, however, that under conditions more extreme than any in generations, our system held together fairly well. Few American securities firms failed. These included only one that carried the accounts of public investors, 13/ and they will be compensated by our Securities Investor Protection Corporation. None of

13/ See SEC Staff Study, p. xviii.

the major firms even came close to insolvency, and no clearinghouse on either the securities or futures side failed.

We can try to make doubly sure none of that happens in the future, and we can continue to search for ways to reconcile portfolio-sized trades to our trading system. But we must be careful of taking permanent measures just for the sake of taking measures. Thanks to the crash, there is a great deal of interest in analyzing the stock market and a political opportunity for constructive change. We should utilize these to come up with good answers to hard questions, not feel pressured by them to just do something -- anything -- that we may not be able to undo for a long while.