

## Commentary on 'Policies to Curb Stock Market Volatility'

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*David D. Hale*

The Edwards paper provides a strong and generally effective critique of many of the proposals for financial market reform which have emerged as a consequence of the **October** 1987 stock market crash.

Its initial suggestion that we do not really understand financial volatility is not only correct, it deserves more elaborate discussion. In analyzing the causes and consequences of the 1987 stock market crash, for example, there has been heavy emphasis on the various technical factors which contributed to the equity crash but little focus on how all financial asset prices would have fared in the absence of the October 19 break in equity prices. As a result, we have not asked to question was the volatility of equity prices during October a problem in its own right or a solution to some other problem? As should now be obvious from the robust growth of the U.S. economy during recent quarters, the October 19 equity market crash was, in part, a high speed discounting process in which investors recognized that rising inflation was going to push interest rates sharply higher and ultimately, set the stage for a stock market decline. Because of a breakdown in the **cash/futures** arbitrage process, caused partly by heavy portfolio insurance selling and partly by the inadequacies of the specialist system in New York, the price correction was compressed into a few days rather than spread over the traditional **six-to-nine-month** bear market which has characterized the post-war period. But because of the sharp break in equity prices, several other potentially negative developments did not materialize. Inflation **exppec-**

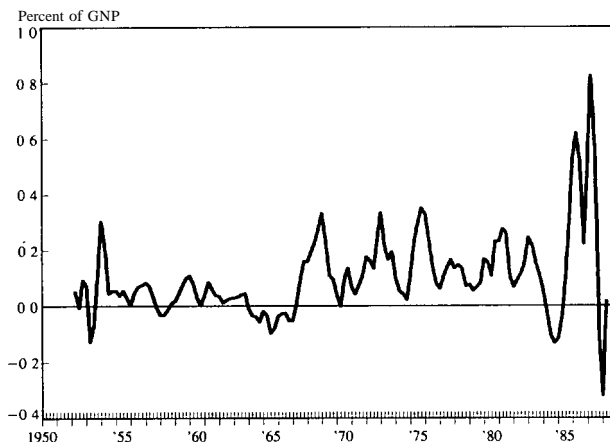
tations temporarily abated. Commodity prices ceased rising for a few months. Treasury bond yields did not rise over 11 percent. The Federal Reserve was not forced to increase short-term interest rates any further; in fact, it was able to cut interest rates. Other countries also reversed the interest rate hikes they had initiated during August and September. Indeed, one could argue that the 1987 stock market helped to set the stage for a robust economy during 1988 by lowering inflation fears and encouraging monetary policy to remain expansionary for much longer than would have been possible if equity prices had not fallen sharply.

It also could be argued that the October 1987 New York crash was the way global asset price distortions caused by the Louvre Accord were resolved. During the months after Louvre, foreign purchases of U.S. equities rose to the highest level since the end of the 19th century, both in dollar terms and as a share of GNP (see charts). This heavy buying of American equities reflected a variety of factors: investor perceptions that the dollar would be stabilized, the first wave of global equity diversification by Japanese investors, a large valuation discrepancy between New York and Tokyo equity multiples. In addition, share prices rose in most countries during 1987 because of an explosion in global liquidity resulting from central bank efforts to support the value of the U.S. dollar at unrealistically high levels. Indeed, world foreign exchange reserves grew more rapidly during 1987 than at any time since the early 1970s.

As the charts indicate, the U.S. share prices multiple during much of 1987 was moving toward valuation parameters based on foreign bond yields rather than domestic ones until investors recognized that America's worsening trade deficit would force the dollar to decline. Hence, it was no surprise that the market's worse days during October coincided with the publication of bad trade data and threats by Treasury Secretary James Baker to abandon the Louvre Accord. Those events caused domestic investors to fear that foreign institutions, especially Japanese ones, would dump the large equity portfolios which they had accumulated earlier in the year. In fact, the real precedents for the October 1987 stock market crash were not the crashes of 1929 and 1962 so commonly referred to in the press last year, but the crashes of the late 19th century which usually resulted from concern about the dollar's links to the pound sterling and British capital flows into and out of New York. In that period, the United

### Chart 1

#### Net Foreign Purchases of U.S. Corporate Equities\*

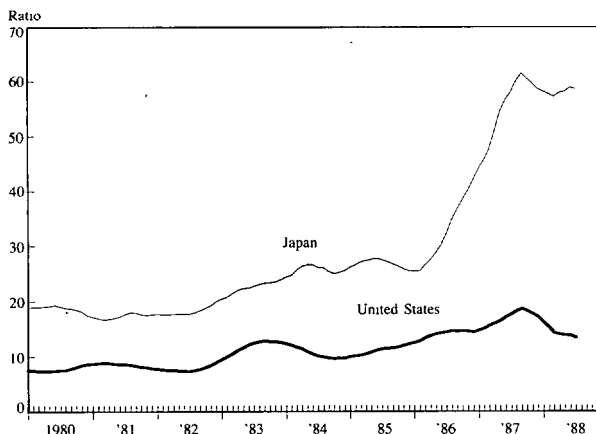


\*2 quarter moving average.

One of the factors which helped to drive **U.S.** share prices sharply higher during 1987 was a large rise in foreign equity purchases. In fact, the pace of foreign buying as a share of **GNP** during the first half of 1987 was probably the highest since the late 19th century.

### Chart 2

#### P/E Multiples for the United States and Japan\*

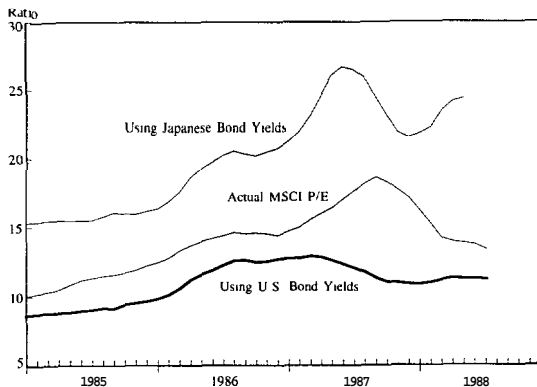


\*Six-month moving average.

One of the attractions of the American equity market during 1987 was its relatively low ple multiple compared to foreign equity markets, **especially** Japan's.

### Chart 3

## Implied and Actual P/E Multiples for the United States\*

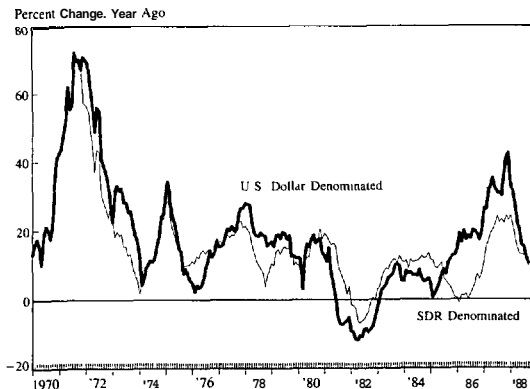


\*Based on bond yields; 6-month moving average.

Foreign buying helped to push the American *p/e* multiple to levels above that which ordinarily would have been justified on the basis of domestic interest rates. But the interesting question raised by the global movement toward financial integration is whether share prices should be determined solely on the basis of interest rates in one country.

### Chart 4

## Total Reserves Minus Gold All Countries (+Taiwan)\*



Source: **IMF** (which does not include Taiwan)

\*Taiwan data from the Central Bank of China.

Global equity prices during 1987 also benefited from a large rise in monetary growth resulting from attempts by **foreign** central banks to stabilize the value of the U.S. dollar. The growth of global foreign exchange reserves shot up to the highest level since 1971.

States was importing capital on a scale equal to only 1-2 percent of GNP compared to 3-4 percent last year, but since practically all of the capital flows occurred through bond and equity purchases, financial volatility was heavily correlated with either actual changes in foreign demand for U.S. assets or perceived changes in foreign investor behavior by domestic investors. When one considers the economic policy backdrop to the 1987 stock market crash, one could easily conclude that the crash was not a problem but a solution to several other problems. It corrected financial asset price distortions caused by premature attempts to stabilize the dollar. It lowered U.S. inflation expectations. It reduced upward pressure on U.S. interest rates. As a result, the October crash helped to set the stage for an economic boom during 1988. If there had not been a crash on October 19, the Cow Jones Industrial Average might still be at 2000-2100 today, but interest rates would probably be 100-200 basis points higher and recession a far more imminent threat.

### *Specific proposals for reform*

Dr. Edwards is skeptical of most of the proposed remedies for curing the markets defects which are perceived to have contributed to the October 1987 stock market crash.

His opposition to higher margin requirements for futures contracts enjoys widespread support both in the financial industry and the academic community. Many of the institutional sellers on Black Monday would not have been constrained by higher margin requirements; moreover, higher margin positions would have reduced the amount of liquidity in the futures market and thus possibly worsened the scale of the downturn. In fact, the higher margin requirements introduced after the crash appear to have reduced retail participation in the futures market this year. What we don't know, though, is how the markets would have behaved over the course of the 1980s if margin requirements had been adjusted more frequently for cash and futures contracts. Would there, for example, have been less portfolio insurance in place during the autumn of 1987 if margin requirements had been higher in prior years? Would portfolio insurers have been less confident of using their programs effectively if the authorities had signaled a concern about market fragility by aggressively raising margin

requirements during 1987? There was a modest hike in margin requirements during January and October, 1987, but they did not dramatically alter investor perceptions of the authorities' intentions. Japan's more aggressive use of margin requirements, by contrast, suggests that they can play a useful role if the authorities actively develop them into an important policy signal. But in Japan the authorities are not only concerned with price volatility, they also sometimes seek to influence actual share prices.

Dr. Edwards' paper dismisses suggestions that we should regulate portfolio insurance and program trading. If one accepts the fundamental premise that investors should have the opportunity to hedge cash instruments with futures contracts, it is logical to oppose regulatory restrictions on effective arbitrage between the two markets. Indeed, it would be technically impossible to stop program trading without shutting the futures markets down. However, as we move from theory to market practice, it is important to understand that some institutions are opposed to program trading not because of market volatility, but because of concerns about large brokers taking advantage of their knowledge of order flows to manipulate futures prices. This practice is known as "front-running". As such abuses are already illegal, one of the best ways to reduce alarm about market manipulation would be to have more rigorous enforcement of existing laws. While it would be impossible to catch all violators, it would be difficult for large players to hide systematic abuses over a long period of time.

Dr. Edwards is correct to suggest that the poor performance of portfolio insurance during October 1987 will now discourage heavy reliance on the product in the future. But two points require further exploration. First, why did so many institutions believe there would be sufficient liquidity in the futures markets on a crisis day to absorb a large volume of sell orders?

As an article from *Intermarket Magazine* published in the days before the crash explains, there was a trading volume in the S&P 500 contract of 70,000 contracts per day worth \$9 billion compared to outstanding portfolio insurance of \$60-\$100 billion during September, 1987. There also was sufficient concern about liquidity before October that many portfolio insurers resorted to "sunshine trading" (advertising their plans to place large orders) while one major portfolio insurance sponsor refused to take part in an industry survey

which would have disclosed the large volume of sell orders under its control. Critics of futures could argue that every institution pursued a strategy which made sense if only a few other institutions pursued it, but that the strategy became highly destabilizing once it was pursued by a wide number of organizations.

The second great question raised by the portfolio insurance experience last October is whether the product now makes more sense than it did last year? Since everyone says portfolio insurance cannot work, most players have dropped out of the market, but in actual fact it may now be more attractive than before. If institutions collectively decide that there are advantages in experimenting with the product again, could there be a second crash in 1990 or 1991 resulting from circumstances comparable to last October's, or will the new PI strategies be so technically divergent as to lower the risk of massive stop loss sales on a single day? At a minimum, the October experience suggests that it may be prudent for the authorities to monitor the potential for order imbalances to develop because of the growth of a large volume of effective stop losses (portfolio insurance contracts) relative to the underlying volume of daily trading in the market.

Dr. Edwards' critique of trading halts is one of his most effective sections. The existence of price limits could trigger panic selling by players anxious to raise cash before the markets are shut down. The price limits on silver in the early 1980s did not protect that market from volatility and a subsequent collapse. Again, though, it is dangerous to focus upon the advantages or disadvantages of price limits solely within the context of last October's events. As with margin rules, one must ask the question of how the market would have functioned within a different regulatory structure, which might have included price limits, predating 1987. As Dr. Edwards suggests, we may need more information about the experience of other countries which have used price limits for a long period of time.

Dr. Edwards' critique of restrictions on short-selling is a good summary of both industry and academic opinion. In fact, no other country has an uptick rule. But while he is on strong theoretical ground, the discussion could benefit from an examination of other issues which reflect actual market practice. Does the size of market players and the market capitalization of companies, for example, make a difference to the application of an uptick rule? The question is important because one of the major scandals which occurred last October was **short-**

selling by market makers in the over-the-counter securities markets, where there is no uptick rule. Many companies in the OTC market also have been subject to bear raids during recent years, in part because there is no restriction on short-selling. Such raids would be difficult to stage on large companies (IBM, GM) but they are possible for companies with modest capitalizations. It is often argued that bear raids are staged only on companies with deteriorating fundamentals which deserve lower share prices, but the companies argue that a rapid fall in share prices has the potential to worsen their financing problems. It also would be interesting to know if the existence of futures contracts has prevented a loss of New York share trading to London, where it would be possible to short U.S. shares without the constraint of an uptick rule.

### *International regulation*

One of the recurring themes in the Edwards paper is that international competition will damage any market which imposes excessive regulation compared to others. Regulatory divergence could become a problem because the world is experiencing a proliferation of "financial freeports" anxious to establish a niche in the international financial service industry. While most of these "freeports" have emerged in response to **banking** restrictions, the growth of securitized forms of lending and investment could cause the same process to recur for stock and bond markets if some countries engage in regulatory **overkill**. Indeed, London is now emerging as the financial capital of Germany precisely because the Germans continue to erect barriers to the growth of financial trading activity in their own country.

Since divergences in security market practices are as great as those in commercial **banking**, there will be no simple way to prevent competition between various "financial freeports". As a result, the major countries should probably attempt to create some common guidelines for conduct in order to prevent abusive practices from developing. In fact, one of the most recent innovations in international financial regulation, the BIS **capital/asset** ratios for banks, could serve as a model for the next major thrust in securities industry regulation.



### *Capital adequacy*

One of the issues which the Brady Commission focused upon (but which is not covered by the Edwards paper) is the inadequate capitalization of stock market specialists. In fact, the events of October, 1987 suggest that we need a better understanding of the whole concept of capital in the modern investment banking industry as well as the relationship between banks and brokers in a rapidly deteriorating market environment.

Among the questions which need to be asked are: What role did commercial banks play in generating the stock market crash of 1987? Did they reinforce the plunge in share prices by curtailing credit to specialists who had suffered losses during the days before Black Monday? Should the Fed have intervened on the weekend to make sure that credit remained available to the specialists and thus prevented the plunge in prices which occurred on Monday's opening? How do we measure risk on the balance sheet of a specialist or a broker? Is it the cash exposure to equity holdings or is it the firm's net exposure to the equity market when hedging contracts are included?

Many players in the debate have been reluctant to comment about the behavior of the banks last October for fear that such comments would raise questions about their own credit quality, but the fact is, there was a lack of liquidity in the marketplace on Black Monday partly because of the weak capitalization of the specialist system and also the threat that capital might be forcibly withdrawn from the market by bank lenders. This aspect of the Black Monday crash suggests that we need to investigate the issue of brokerage house capital adequacy in all of its dimensions, just as we have recently done with commercial banks. Moreover, it is important to remember that during the last great age of securitized lending and global financial market integration, the late 19th century, the Bank of England often played the role of lender of last resort to investment banks rather than commercial banks. The same could happen again if securitized lending continues to grow rapidly.

### *Japan as a regulatory model*

One of the major gaps in both this symposium and the American

debate about financial market regulation is a **comprehensive** examination of how Japan was able to prevent its stock market from falling as sharply as other markets during the October 1987 crash. Ironically, in the weeks before Black Monday, many prominent figures in the investment community had warned that the next major stock market crash would be in Tokyo. But Japan fell only 15 percent on Black Tuesday and has enjoyed a healthy recovery since October, 1987.

It is often argued that the "tribal" nature of Japan's economic and political institutions limits the value of Japanese experience to other countries, but it is essential that we gain a better understanding of how Japan was able to protect its market if only because American financial institutions increasingly compete with Japan's. If Japan's brokers and government are able to guide the Tokyo stock market through regulatory customs and understandings which run contrary to practice in this country, it is not difficult to imagine which institutions will dominate world finance during the 1990s. In fact, one sign of this power shift is that Japan now has a stock market capitalization of nearly \$3 trillion compared to just over \$2 trillion here. The Japanese government has long employed a number of regulatory circuit breakers to restrain equity market volatility and guide share prices.

First, Tokyo has price limits which restrict the daily price movement of a share to 10-15 percent. Second, short-selling is illegal for foreign investors and not commonly practiced by domestic investors unless they own the stock. As large markets for equity options and futures do not yet exist, there is also a limited range of instruments available for shorting the market even if an institution wants to. Third, the Ministry of Finance (MOF) controls the supply of stock. Between 1977 and 1987, only 200 companies were allowed to go public. Fourth, the Tokyo Stock Exchange frequently adjusts its margin requirements in response to perceived changes in volatility and market risk. Margin requirements were increased several times prior to the October crash and quickly scaled back after the crash. Fifth, MOF has tried to reduce the volatility of funds flowing into and out of Japan's equivalent of the mutual fund industry by imposing strict guidelines on redemptions. Investors must leave their funds in an investment trust for at least two years; if they withdraw them during a period between two years and five years in length, they are compelled to pay a large penalty. As a result of these guidelines, mutual

fund redemptions do not reinforce a decline in equity prices starting elsewhere. In the United States, by contrast, some mutual fund groups now provide hourly quotes for their investment units and permit swapping between them on a daily basis. Finally, the Ministry of Finance uses moral suasion to guide the market during moments of crisis. In October 1987, for example, MOF discouraged institutions from dumping equities and encouraged the brokers to promote a retail buying campaign. At the end of the year, it rewarded the **Tokkin** funds for their cooperation in supporting the market by dropping accounting requirements that share portfolios be valued at the lower of cost or market. It is often argued by academics that central banks cannot simultaneously target divergent indicators such as exchange rates and interest rates. In Japan, it could be argued that the equity market is less volatile than in other countries partly because accounting standards are malleable instead.

It is commonly argued that Japan's circuit breakers cannot be transferred to this country because of the unique features of the Tokyo stock market. In Japan, nearly two thirds of all equity is tied up in corporate cross shareholdings. Four brokers control over half of all trading volume. Japanese households are accustomed to a less competitive financial marketplace when investing their savings. Japan seems to be unusual among the major industrial nations in combining corporatism and government intervention with seemingly efficient allocation of capital. But it is precisely because Japan's economic success poses a fundamental challenge to America's reigning free market ideology and institutions that the self-levitation properties of the Tokyo stock market should be studied as thoroughly as the well researched achievements of the Japanese manufacturing industry.' Indeed, financial protectionism could become a major policy issue in the 1990s precisely because of the Japanese government's success in using the stock market as an economic policy tool.

### *Future research projects*

One of the strongest points in the Edwards paper is the discussion of the need for a more thorough study of how the whole American financial marketplace is now evolving. Technology is rapidly transforming America's financial structure, but much of the substantive

debate about reform stems from regulatory competition between existing institutions such as the New York Stock Exchange and the Chicago Mercantile Exchange. While political tensions between **rent-seeking** interest groups enjoying regulatory privileges are unavoidable, it would be useful to examine how the modern marketplace might operate if we started from ground-zero. Would a 21st century market have specialists or even a trading floor? Would screen trading produce a more level playing field in terms of information and thus increase trading activity by players who fear the current system is rigged? Because of the linkages between the cash market and futures, should the marketplace have only one regulatory authority? The danger now facing the American financial system is that the debate about reform will continue to be characterized by "turf fights" and "guerrilla warfare" over narrowly defined issues rather than a systematic appraisal of how technology, **securitization**, and globalization are altering the optimal parameters for regulation during the final years of the 20th century.