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COMMENT ON THE HARRIS PAPER

Kenneth M. Lehn †

Professor Harris has written an insightful paper on the October 1987 stock market crash that deserves a wide reading among economists, legal scholars, and policymakers. His discussion of the three types of stock price volatility—fundamental, transaction-induced and noise-induced—provides a rich understanding of the economics of market-making, and it establishes a useful analytical framework for assessing the efficacy of policy proposals related to the market crash. My comments are confined to two general areas: Professor Harris's discussion of the causes of the crash, and his analysis of policy proposals related to the crash.

I

CAUSES OF THE OCTOBER 1987 CRASH

Professor Harris suggests that the October 1987 stock market crash was triggered by bad macroeconomic news and exacerbated by the "misuse" of portfolio insurance. Although he suggests several possible triggers, including bad news about interest rates, the trade deficit, and the value of the dollar, Professor Harris neglects the effect that passage of takeover tax legislation by the House Ways and Means Committee had on stock prices during the week of October 12, 1987. Professors Mitchell and Netter provide evidence that strongly supports the Brady Report's conclusion that this legislation was one of the principal triggers of the crash.¹

As Professor Harris argues, the stock market crash represented a fundamental revaluation of stocks, rather than a transitory revaluation resulting from a huge, but temporary, imbalance of sell orders on October 19. In support of this argument, he refers to the fact that, although stock prices increased substantially on October 20, they recovered only a fraction of the value that had been lost on the prior day. This argument is even stronger than Professor Harris suggests, since it is likely that at least part of the 102 point increase in the Dow Jones Industrial Average (DJIA) on October 20 derived

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¹ M. MITCHELL & J. NETTER, TRIGGERING THE 1987 STOCK MARKET CRASH? AN-TITAKEOVER PROVISIONS IN THE HOUSE WAYS AND MEANS TAX BILL (forthcoming).

from significant fundamental news, rather than an alleviation of the prior day's order imbalances.

In particular, two news announcements on October 20 probably had a significant positive effect on stock prices. First, immediately prior to the opening of U.S. equity markets on October 20, the Federal Reserve Board announced that it "affirms its readiness to serve as a source of liquidity to support the economic and financial system." It is reasonable to believe that at least part of the 197 point increase in the DJIA during the first hour of trading on October 20 can be attributed to this announcement. Second, several hundred companies, including 91 S&P 500 companies, announced stock buyback programs on October 20. According to both the Brady Report and the SEC Staff Report, these buyback announcements had a positive effect on stock prices.

Professor Harris cites the misuse of portfolio insurance as an important contributing factor to the crash. He suggests that, prior to the crash, users of portfolio insurance overestimated the protection that this strategy provided, and thereby underestimated the riskiness of equity investments. Professor Harris raises the possibility that the growing popularity of portfolio insurance before the crash might explain why stock prices were rising beyond their apparent fundamental values during early 1987. If, during the crash period, it became apparent that portfolio insurance was unable to deliver the protection that users of this strategy had expected, then one of the important events of this period might have been an upward revision of the risk premium associated with equity investments.

This theory of the crash is appealing in several ways. First, in addition to explaining a large part of the price decline during October 1987, it suggests a reason for the otherwise anomalous large increase in equity values during the year preceding the crash. Second, it provides an explanation of the crash that is consistent with the fact that during October 1987 there was no apparent macroeconomic news that alone can explain an approximately twenty-five percent decline in stock prices. Similarly, unlike most other explanations of the crash, it can explain why stock prices took so long to return to pre-crash levels, despite the absence of subsequent bad macroeconomic news.

Although this theory is logically consistent, its empirical relevance is undermined by the fact that the estimated value of portfolios that used portfolio insurance strategies before the crash was only \$60-90 billion. Since the total value of equities traded in U.S. markets approximated four trillion dollars shortly before the crash, it is doubtful that a devaluation of equity risk premiums by insured

portfolios alone could have accounted for such a substantial increase in stock prices during the year prior to the crash. However, it does seem reasonable that the revealed loss of liquidity in equity markets during the crash period raised the risk premium associated with equity investments, and thereby exacerbated the price decline. To the extent that portfolio insurance selling contributed idiosyncratically to this loss of liquidity, *vis-a-vis* other types of selling, then Professor Harris's theory is compelling. Furbush, however, has found that stock price movements during five minute intervals on October 19 were not significantly correlated with any type of program trading in the stock market on this day, including portfolio insurance selling.² Hence, Furbush's evidence suggests that portfolio insurance selling did not contribute disproportionately to a loss of liquidity on October 19.

II

ANALYSIS OF POLICY PROPOSALS

As the title of his paper indicates, Professor Harris objects to most of the post-crash policy proposals that have been suggested as remedies to perceived structural "problems" in our financial markets. To the extent that portfolio insurance was a culprit in the crash, he argues, there has been considerable self-correction, since the portfolio insurance market is less than one-third its pre-crash size. Professor Harris also argues that, to the extent that the crash precipitates policy changes, these changes should be directed at enhancing the supply of liquidity, rather than reducing the demand for liquidity. Although I agree almost completely with Professor Harris' policy recommendations, I am more sanguine about the efficacy of circuit breakers (i.e., coordinated trading halts), provided that the triggers are set at a level that is sufficiently high to make these trading halts occur only when prices move by an extraordinary amount in a short period.

Professor Harris provides an insightful analysis of the possible effects of trading halts and price limits on stock price volatility, but he neglects what is potentially the most important benefit of circuit breakers, namely, the *coordination* of trading halts across markets. In some sense, the issue of whether or not trading halts are appropriate on days such as October 19-20 is academic; in practice, we experienced trading halts in individual stocks on both days, and in the futures markets on October 20. However, since these ad hoc trading halts were not coordinated across markets, the cost of index ar-

² Furbush, *Program Trading and Price Movement: Evidence From the 1987 Market Crash*, 18 FIN. MGMT. 68 (1989).

bitrage became prohibitively high, contributing to a persistent disparity between futures and cash prices, and a diminution in overall liquidity.

In this respect, uncoordinated trading halts have effects that are similar to access restrictions to computerized order submission systems, which Professor Harris properly criticizes as raising the cost of index arbitrage, reducing liquidity, and raising transaction-induced volatility. Although some important practical problems concerning their design exist—including the choice of appropriate triggers and procedures for reopening markets—coordinated trading halts may facilitate the linkage of markets during periods of extraordinary stress, and thereby have a favorable effect on transaction-induced volatility.

If coordinated trading halts have salutary effects, one might ask, wouldn't the exchanges have sufficiently strong incentives to implement them without prodding from federal regulators? Although there is obvious merit to this view, I am skeptical about the adequacy of these incentives when they involve intermarket issues, such as coordinated trading halts. To illustrate the occasional incompatibility of private exchange incentives with economic efficiency, consider the New York Stock Exchange's (NYSE's) post-crash policy concerning the use of its Designated Order Turnaround (DOT) System, the computerized order entry system that is used for submitting index arbitrage trades. On October 20, 1987, the NYSE suspended the use of the DOT system; by raising the cost of index arbitrage, this policy undoubtedly contributed to the erratic price movements on October 20.³ Notwithstanding the salutary effect that index arbitrage might have had on October 20, the NYSE's desire to impede index arbitrage on October 20 is understandable, since index arbitrage was adding to the demand for liquidity in the stock market—through enhancing the supply of liquidity in the futures market.

After the NYSE resumed the use of DOT in November 1987, it adopted a pilot plan that suspended the use of DOT on days when the DJIA moved at least 50 points. Further evidence of the mischief caused by suspending the DOT system can be found in the stock price movements of April 14, 1988. After the DJIA declined by 50 points on this day, the DOT system was suspended. Almost instantaneously, the S&P 500 futures price went from fair value to a deep discount, and remained there for the duration of the day. Hence, the suspension of DOT contributed to price uncertainty, and proba-

³ On October 20, 1987, from 9:30 A.M. to 10:27 A.M. the DJIA increased 197 points, from 10:27 A.M. to 12:20 P.M. the DJIA decreased 225 points, and from 12:29 P.M. to 1:09 P.M. the DJIA increased 124 points.

bly inhibited some potential buyers from the equity markets on this day. Although the NYSE has since terminated the pilot plan, this example suggests that the private incentives of exchanges to foster arbitrage across the futures and stock markets may be insufficient.⁴

I agree with Professor Harris's discussion of three other policy proposals related to the crash. A stock transfer tax would be inefficient. However, as a practical matter, it is unlikely to gain much political support, since its main effect would be to encourage institutional investors to trade in foreign markets. As Professor Harris indicates, higher margins could actually increase, rather than decrease, stock price volatility; furthermore, higher margins on stocks and futures are unnecessary to protect broker-dealers, since they presumably have sufficient incentives to set "prudential" margins at the proper level.⁵ Further restrictions on mergers and acquisitions would impair the market for corporate control, and inhibit the efficient redeployment of assets that often follows these transactions. Furthermore, a large part of the recovery in stock prices since October 1987 undoubtedly derives from the booming takeover market in 1988 that resulted in significant takeover premiums and, presumably, an increase in the expected control premium of many companies that were not taken over in 1988. Ironically, attempts to curb stock price volatility by restricting mergers and acquisitions could very well have the adverse effect that the takeover take legislation apparently had in October 1987.

⁴ The NYSE's pilot plan regarding the use of the DOT system has an historical analogue. In a chapter entitled "Use of the Telegraph" in his 1894 book on the New York Stock Exchange, Francis L. Eames wrote:

the arbitrage business conducted by members of the New York Stock Exchange between New York and other American cities was formerly very large. But competition between the arbitrageurs became so extreme that some members, dealing through partners on Exchanges in other cities, often conducted their operations on these Exchanges in a way which was considered to be detrimental to the interests of the New York Stock Exchange. It was believed to be practically impossible to control a member's operations on another Exchange. Consequently, in May 1884, some of the facilities for sending instantaneous and continuous private quotations to other cities were withdrawn. Since that date the domestic arbitrage operations have been on a very reduced scale.

See F. EAMES, *THE NEW YORK STOCK EXCHANGE* (1984).

⁵ For an empirical examination of the adequacy of existing margin policy for prudential purposes, see INTERIM REPORT OF THE WORKING GROUP ON FINANCIAL MARKETS Appendix B (1984).