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News
Release

October 19:
A Partial Bibliography

We are fast approaching the first anniversary of the stock market's 508 point decline and the journalistic jungle drums are signalling a festschrift of epic proportions. In order to respond in a systematic manner to several inquiries, my staff and I have prepared a partial bibliography of materials related to the events of last October 19 and the subsequent policy response.

The bibliography is not exhaustive and, in particular, omits the hundreds of newspaper and magazine articles discussing the events of October 19. That literature is simply too vast easily to be culled and listed. There are also likely to be substantial omissions from the bibliography of academic materials because this literature is growing at a rapid pace.

Enclosed with this bibliography is a copy of Professor (and former Commissioner) Roberta Karmel's article, The Rashomon Effect in the After-The-Crash Studies, 21 J. Sec. & Commod. Reg. 101 (June 22, 1988). While I do not agree with all of Professor Karmel's assessments, her article is perhaps the most balanced review of the many market studies that have appeared to date. For those of you who are not Japanese movie buffs, "Rashomon" is Kurosawa's epic film in which four witnesses provide four widely divergent descriptions of the same event. In light of the many inconsistencies among the market studies, Professor Karmel's reference to "Rashomon" is both literate and apt.*

Further, lest you think I am being too objective in this endeavor, I also enclose copies of three pieces I have written analyzing the events of October 19.

Joseph A. Grundfest
Commissioner

Enclosures

*This reference appears originally to be attributable to E. Blumenthal, "Rashomon" Returns, Probing Reality Anew, N.Y. Times, Mar. 20, 1988, Sec. 2, at 5, col. 1. Those of you who are Japanese movie aficionados may wish to contemplate whether the conflicting analyses might not better support a reference to Zatoichi, the blind samurai.

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H.R. 4997. Markey, 6/7/88, Energy and Commerce. To transfer regulatory authority over stock index futures and options on stock index futures to the SEC, to authorize the Fed to establish margin requirements with respect to such instruments, to give the SEC emergency authority over the futures markets, and to require reporting by large traders.

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THE RASHOMON EFFECT IN THE AFTER-THE-CRASH STUDIES

In Their Reports, Governmental and Self-Regulatory Bodies Blamed Each Other for the Chaos in the Markets and Reached Incompatible Conclusions. The Author Analyzes These Reports and Gives Her Recommendations.

Roberta S. Karmel*

The 508-point decline in the Dow Jones Industrial Average ("DJIA") on Black Monday, October 19, 1987 was historically unprecedented. Not only was this one day 22.6% drop in stock prices almost double the 12.8% decline in the Great Crash of 1929, but it climaxed an eight-week decline of 983.68 points.¹ Furthermore, on Terrible Tuesday, October 20, 1987, the stock market nearly closed because of the inability of specialists and other market-makers to continue trading.² Although the market break may have been due to a dramatic change in investor perceptions of economic developments, the precipitous nature of the decline raised serious questions about market structure, in particular index-related trading.

The immediate political reaction to the market crash was a plethora of governmental and self-regulatory organization ("SRO") studies. The first study to be published was one commissioned by the New York Stock Exchange ("NYSE") before the crash.³ The next day, a committee of inquiry appointed by the Chicago Mercantile Exchange ("CME") published a report.⁴ Shortly thereafter, the report of a blue-ribbon presidential committee headed by Nicholas Brady was published.⁵ The two federal agencies directly concerned with regulating the trading markets, the Securities and Exchange Commission ("SEC") and the Commodity Futures Trading Commission ("CFTC"), issued staff reports.⁶ The U.S. General Accounting Office ("GAO") also

rushed to issue a report.⁷ All of these and other reports then led to congressional inquiries and testimony, which undoubtedly will generate further studies. Whether meaningful action to prevent another crash will be taken by an administration committed to deregulation or a Congress facing an election is problematic.

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IN THIS ISSUE

- The Rashomon Effect in the After-the-Crash Studies

The purpose of this article is to review the most important recommendations in these reports and to assess the prospects for regulatory reform of the securities and financial futures markets. Generally, the after-the-crash studies contain two contradictory conclusions: first, that since the stock and futures markets are in effect a single market, they should be better integrated and made more efficient; and second, that since the market in derivative products has undermined the primary market, these markets should be either unlinked or changed to prevent a further erosion of the capital formation function of the stock market.

All observers agree that reform is necessary and continued uncoordinated regulation by competing regulators is a recipe for greater catastrophe. However, there is no agreement on what new regulatory mechanisms should be developed or what governmental authority should impose solutions on the marketplace. The great political and economic interests at stake seem stronger than the public interest, especially since the fear of tampering with the market is as strong as the fear of doing nothing. Yet the market crisis of October 1987 was at least in part a result of defects in the design of financial products by government regulators and it is unlikely that the market can correct these deficiencies without government intervention.

In Akira Kurosawa's classic Japanese film "Rashomon" there are four wildly incompatible accounts of the same rape and murder (or seduction and suicide). The word "Rashomon" has since come into the English language to connote the subjective nature of truth.⁸ All of the after-the-crash studies are biased. This does not make any of them wrong, but it does make them incompatible. Whether the Rashomon effect permeating these studies makes structural reform of the markets impossible probably depends on the future behavior of the markets themselves.

FACTUAL ANALYSIS

There is little dispute concerning the bare facts of the market decline. What is disputed is the cause of the market's volatility and the proposals for changing market structure. During October 1987, the securities and financial futures markets experienced an extraordinary surge of volume and price volatility. On August 25, 1987, the DJIA index of 30 NYSE stocks reached an intra-day high of 2746.65. On October 19, 1987, the DJIA declined 508.32 points, and by its low point on October 20 it had declined to 1708.72, or over 1,000 points (37%) from its August 25 high.⁹

The index futures markets also experienced large declines. Prices for the S&P 500 December futures contract ("SPZ") on the CME underwent more extreme fluctuations than the underlying stocks. During October 1987, the SPZ traded at levels as low as 181.00, down 44%, equivalent to the DJIA dropping to 1443.53. Further, although the theoretical value of index futures normally is at a slight premium to the cash price, from October 19 to 28 the price relationship between futures and stocks was inverted, with the futures trading at large discounts to stocks.¹⁰

On October 20, 1987, there was continued volatility, but price movements resembled a roller coaster. As a result, around midday the securities and futures markets reached a point when heavy sell pressure overwhelmed marketmaking capacity in both the securities and futures markets. At about noon, trading in a large number of NYSE securities was halted and most derivative markets ceased trading.¹¹ The Chicago Board Options Exchange, Inc. ("CBOE") suspended trading at 11:45 a.m., based on its rule that trading on the NYSE must be open in at least 80% of the stocks which constitute the options index it trades. At 12:15 p.m., the CME announced a trading suspension in reaction to individual stock closings on the NYSE and the rumor of the imminent closing of the NYSE itself.¹² Another reason stocks ceased to trade was the fear of a widespread credit breakdown due to (unfounded) rumors of financial failures by some clearinghouses and major market participants.

Just after noon on October 20, however, the market abruptly turned around. From 12:20 to 1:00 the DJIA gained around 118 points and maintained a 102.27 point recovery for the day. During an interval of about 20 minutes, beginning around 12:30 p.m., the Major Market Index Maxi ("MMI") futures contract traded on the Chicago Board of Trade ("CBT") staged an extraordinary 90-point rally, rising from a discount of about 60 points to a 12-point premium.¹³ The MMI is based on 20 blue-chip stocks, 16 of which are in the DJIA.¹⁴ The CBT had permitted the MMI to continue trading because 17 of the 20 stocks in the MMI had remained open for trading, and it had been the only stock

8. E. Blumenthal, "Rashomon" Returns, *Probing Reality Anew*, N.Y. Times, Mar. 20, 1988, §2, at 5, col. 1.

9. SEC Report at 2-1.

10. Id. at 2-1-2-2; CFTC Interim Report at 2-3.

11. SEC Report at 2-20.

12. CFTC Final Report at 105-06, Brady Report at 40.

13. SEC Report at 2-20-2-21.

14. Division of Trading and Markets Commodity Futures Trading Commission, *Analysis of Major Market Index Futures Contract on October 20, 1987* (Jan. 4, 1988) at 1.



index futures contract trading from approximately 12:35 p.m. to 1:05 p.m.¹⁵ Because of the unusual nature of the MMI price move on Terrible Tuesday, the CFTC conducted an investigation into possible manipulative activity and found no reasonable indication that any manipulation occurred.¹⁶

The volume on October 19 was as extraordinary as the decline in prices, a record of 604 million shares, worth just under \$21 billion.¹⁷ The volume on October 20 was an even higher 613.7 million shares.¹⁸ During the weeks of October 19 and 28, NYSE share volume reached peak levels at twice previous records, and volume each day during the period remained at previous record levels.¹⁹

CAUSES OF THE CRASH

The various studies agree that there was no single cause for the crash, and economic factors were significant. The Brady Commission pointed out that the decline was triggered by an unexpectedly high merchandise trade deficit, which pushed interest rates to new high levels, and proposed tax legislation, which led to the collapse of stocks of a number of takeover candidates.²⁰ The CME report pointed out that during 1987 economic fundamentals weakened across the world, measured in terms of GNP growth and a sharp rise in interest rates, but world equity prices continued to rise to historic high levels in most countries.²¹ The Katzenbach Report observed that after a consensus formed that August 1987 was a market peak, investor sentiment was expecting a correction and before Black Monday price-earnings ratios were hovering at unusually high levels, averaging 23 times earnings.²²

The SEC report classified the fundamental factors that market participants interviewed by the staff thought had triggered changes in investor perceptions. These were: (1) rising interest rates; (2) U.S. trade and budget deficits; (3) overvaluation of stock prices during 1986 and the first eight months of 1987; and (4) declines in the value of the U.S. dollar.²³ A tax bill reported out of the House Ways and Means Committee that would have severely taxed deductions for interest on debt used to finance takeover activity was also cited as a possible cause of the crash. In addition to investor concerns about trade and budget deficits, depreciation of the dollar, and inflation, the CFTC Interim Report cited increased tensions in the Persian Gulf.²⁴

As might be expected from reports as politically motivated and sensitive as the after-the-crash studies, none discuss the macroeconomic reasons for the crash or attempt to assign any responsibility to Congress or the administration for the nation's debtor condition, in both the public and private sectors. And policy makers have done little to fix the

underlying economic causes of the market crash. The policy changes necessary to correct the global budget and trade imbalances have not been made.²⁵ Leveraging and speculation have not been curbed in the securities or futures markets.²⁶ Instead, government officials and the exchanges have asked whether trading in derivative products caused the crash. Their answers have been wildly incompatible.

The Brady Report concluded that stocks and derivative products—stock index futures and stock options—constitute one market, but the “failure of these market segments to perform as one market contributed to the violence of the market break in October 1987, which brought the financial system to a near breakdown.”²⁷ This study was therefore critical of the NYSE’s prohibition on the use by broker-dealers of the automated DOT system to execute index arbitrage orders for their own accounts, because this prohibition disconnected the futures and stock markets. The CFTC in its Interim Report similarly blamed the NYSE’s closing of the DOT system to arbitrage programs for price disparities between the futures and cash markets,²⁸ and found that futures-related trading was not a major part of NYSE volume during the week of October 19. Indeed, the CFTC (rather contradictorily) suggested that “absent the hedging facility provided by the futures market, the stock market decline might have been greater.”

The CFTC Final Report was firm in its conclusion that “[t]he wave of selling that engulfed the global securities markets on October 19 was not initiated by trading in index products nor did it principally emanate from such trading.”²⁹ On the contrary, the CFTC blamed the selling of nearly 17.5 million shares of stock by one mutual fund during the first half-hour of trading on October 19 for setting off the selling wave on that day, and also singled out portfolio insurance sell programs. Moreover, the CFTC asserted that an examination of the trading data “does not provide empirical

15 Id. at 3. Although this trading was in Chicago, the time is stated in eastern time.

16 Id. at 14.

17 Brady Report at 36.

18 SEC Report at 2-20.

19 Id. at 10-1. Before October 19, the securities industry was skeptical of the possibility of a 450-million-share day before 1990. Testimony of John J. Phelan, Jr., Chairman, NYSE, before the Senate Comm. on Banking, Housing and Urban Affairs, Feb. 5, 1988, at 3.

20 Brady Report at v.

21 CME Report at 6.

22 Katzenbach Report at 19.

23 SEC Report at 3-9.

24 CFTC Interim Report at 4.

25 A. Sinai, *Another “Meltdown Monday?” The Question Is Not If, but When*, N.Y. Times, Apr. 3, 1988, §3, at 3, col. 1.

26 See B. E. Garcia, *Much of the Markets’ First Quarter Glitter Came From Stocks of Takeover Targets*, Wall St. J., Apr. 1, 1988, at 25, col. 2.

27 Brady Report at 59.

28 CFTC Interim Report at 63.

29 CFTC Final Report at 81.

support for the theory that hedging in the futures market and index arbitrage activities interacted to cause a technical downward price spiral of stock prices."

The SEC, on the other hand, while conceding that futures trading and strategies involving the use of futures were not the "sole cause" of the market break, found that "the existence of futures on stock indexes and the use of the various strategies involving 'program trading' (i.e. index arbitrage, index substitution, and portfolio insurance) were a significant factor in accelerating and exacerbating the declines."³⁰ This conclusion was based on the SEC's observation of three "dramatic trends" resulting from trading in derivative index products: first, "stock index futures have supplemented and often replaced the stock market as the primary price discovery mechanism for stock price levels"; second, the availability of futures strategies has "greatly increased the velocity and concentration of stock trading"; and third, these strategies have "increased the risks incurred by stock specialists and . . . strained their ability to provide liquidity to the stock market."

Not surprisingly, the commodity futures and stock exchanges also differed in their views concerning the role of derivative products in the market break. The CME Committee of Inquiry "found no evidence that futures margins either caused the 1987 increase in equity prices, or exacerbated the crash."³¹ Further, index arbitrage did not appear to have played a major role. Instead of leading the stock market decline, the futures market was a "net absorber of selling pressure." Further, although portfolio insurance was a contributor to selling, users learned that "continuous and smooth exit prices are not obtainable when a collective mass move to an exit occurs." This "flaw" having been exposed, in the view of the Committee, "excessive use of this strategy will no longer be a problem."

The Katzenbach Report was more circumspect, but discussed the importance of the psychological effect of futures trading strategies. It noted that no major or unanticipated financial or political crisis occurred on or immediately before Black Monday.

The absence of such a crisis makes explanation more difficult, simply because it suggests a market fragility beyond our anticipation. To the extent the futures market with its huge daily volumes and claims to liquidity encouraged institutional investors to rely upon it as a quick escape from too much equity investment, it may have contributed to the quick fall of prices.³²

One might have expected the GAO to be objective in determining the claims of Chicago and New York to the truth about the market decline. However, the GAO declined to

take any position on the role of futures in the market break. Rather, the GAO stated:

The precise effect index arbitrage, portfolio insurance, and other linked trading strategies had on the 508 point decline on Monday, October 19 may be debated. It does seem clear, however, that the relationship between futures prices and cash market prices, which was affected at various times on October 19 and on other days of the period by these trading strategies and by market disruptions, had some effect on investors' perception of events.³³

THE ONE MARKET, ONE REGULATOR HYPOTHESIS

The Brady Report posited the theory that from an economic viewpoint, the markets for stocks, stock index futures, and stock options, although traditionally viewed as separate markets, are in fact one market.³⁴ The problems of October 19, however, could to a large extent be traced to the failure of these market segments to act as one.

The SEC and CFTC were more tentative in their views about how linked the futures and cash markets are, perhaps because the observation that these are a single market seems inevitably to lead to the conclusion that they need only one regulator in Washington. According to the CFTC, the markets are "interchangeable," but only up to a point.

[W]hile some may consider the stock market as a market for investing and the futures a market for hedging or initiating portfolio readjustments, major institutional investors and broker/dealers view the cash and futures markets as interchangeable for short-term implementation of their portfolio decisions, subject to considerations of relative transaction costs, market liquidity and market value.³⁵

The SEC has taken the position that the securities and derivative markets are "linked" or "unified," but each market "appropriately has its own distinctive products, regulations, procedures and systems of trading."³⁶

A position on whether the markets are one or several has important ramifications with regard to recommendations on regulatory consolidation. In the view of the Brady Commission, one market mandates one agency for intermarket

30. SEC Report at 3-11.

31. CME Report at 55.

32. Katzenbach Report at 21.

33. GAO Report at 49.

34. Brady Report at 69.

35. CFTC Final Report at 138.

36. Testimony of David S. Ruder, Chairman, SEC, before the U.S. Senate Comm. on Banking, Housing and Urban Affairs, "Securities and Exchange Commission Recommendations Regarding the October 1987 Market Break," Feb. 3, 1988, at 5 [SEC Recommendations]

issues³⁷ The Brady Commission discussed but did not endorse the possibility of either making the SEC the central regulator for stocks, stock index futures, and options, or of joint SEC-CFTC responsibility, through merger or otherwise, and it rejected the idea of a new regulatory body. Finally the Brady Commission recommended the Federal Reserve Board ("FRB") as the most experienced, independent, and respected candidate to act as an intermarket agency. However, Alan Greenspan, Chairman of the FRB, immediately declined this honor, stating that the FRB did not have sufficient expertise to be effective, and that it would be unfortunate to encourage the perception that a federal safety net extends to the securities markets or clearing corporations.³⁸ Mr. Greenspan then said that coherence of federal oversight over equities could be achieved through merger of the relevant portions of the CFTC with the SEC, or a joint oversight authority comprised of the SEC, the CFTC, and perhaps the FRB or the Treasury.

As might be expected, the CFTC defended the regulatory status quo, stating that "the overall regulatory system worked effectively to prevent a broader crisis."³⁹ Accordingly, there was no need for "any major structural change in those systems." Although it gave the nod to interagency coordination, the CFTC criticized the NYSE for lack of coordination on October 19 in the closing of trading in individual stocks and on October 20 in the possible closing of the entire market.⁴⁰

The SEC divided on the question of regulatory consolidation. By a split 3-2 vote, the SEC recommended that it be given final regulatory authority for equity-related products with respect to critical intermarket decisions such as trading halts and antimanipulative and front-running rules.⁴¹ In the SEC's view the FRB has insufficient expertise with respect to both the equity and the futures markets to assume such jurisdiction, except as to determining margin levels. The SEC additionally recommended that its authority to review proposed index futures "be expanded to include review of both new and existing contracts and to permit consideration of the impact of these products on the orderly operation of the stock market."

The GAO did not tackle this difficult political issue. Although urging better intermarket regulation, the GAO said, "at this point we cannot recommend any single vehicle for achieving it."⁴² The GAO did, however, urge some involvement by the FRB, while declining to endorse or reject the Brady Commission's recommendation that the FRB be the coordinator of intermarket issues.

EFFICIENCY AND HARMONIZATION

There was one stand that was not too controversial for the GAO to take. It criticized the NYSE for not forecasting 600-share-volume days or having computer systems to handle such volume. Another efficiency reform the GAO recommended was cooperative contingency planning. It likewise criticized the SEC for insufficient oversight of the NYSE's automated order-processing systems.

The SEC did examine and analyze a variety of issues relating to systems efficiency of the NYSE and other marketplaces⁴³ and recommended certain systems enhancements to expand the capacity of the NYSE to meet increased liquidity demands.⁴⁴ Other SEC recommendations aimed at increasing the efficiency and liquidity of the securities markets included increased specialist capital and improved clearance and settlement procedures, including same-day comparisons. The CFTC also focused on the improvement of reporting procedures by the continuous input of trade data⁴⁵ and recommended various improvements in the relationships between banks and clearing firms. In particular, the CFTC cited the need for reforms to assure that variation margin transfers in volatile markets are not impeded.

Inefficiencies leading to illiquidity in the over-the-counter ("OTC") markets, for which the National Association of Securities Dealers, Inc. ("NASD") is the self-regulator, were also examined by the Brady Commission and the SEC. The Brady Commission noted that during the week of October 19 some OTC marketmakers formally withdrew from making markets and others did not answer their phones.⁴⁶ The SEC was more specific in its criticisms of trading in the National Association of Securities Dealers Automated Quotations ("NASDAQ") system, which is the third largest securities market in the world in terms of dollar volume.⁴⁷ The SEC concluded that "the system simply

37. Brady Report at 59.

38. Testimony of Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System before the Senate Comm. on Banking, Housing and Urban Affairs, Feb. 2, 1988, at 22-23.

39. CFTC Final Report at 190.

40. CFTC Chairman Wendy Gramm reiterated these themes at the Annual Futures Industry Association Conference on March 9-12, 1988. Sec. Reg. L. Rep. (BNA), Vol. 20, at 434 (Mar. 18, 1988).

41. SEC Recommendations at 30. This split has continued as the SEC has formulated legislative recommendations. *SEC To Seek Emergency Powers to Restore Fair, Orderly Markets*, Sec. Reg. L. Rep. (BNA) Vol. 20, at 831 (June 3, 1988).

42. GAO Report at 100.

43. SEC Report, Ch. 7.

44. SEC Recommendations at 8-9.

45. CFTC Final Report at 195-96.

46. Brady Report at 50.

47. SEC Report at 9-1, n.1.

ceased to provide an effective pricing mechanism for many leading NASDAQ securities, due to the inordinate number of locked and crossed markets coupled with the large number of delayed last sale reports "

The SEC also criticized the abandonment of the NASD's small order execution system ("SOES"). Anticipating this criticism, the NASD made its own recommendations for improved NASDAQ and SOES performance by proposing amendments to its regulations applicable to NASDAQ market makers.⁴⁸ The amendments would serve to ensure that investors' orders are executed in a timely manner in a falling market with high volume, and that NASDAQ marketmakers fulfill their obligations to trade for their own accounts on a continuous basis, even in extraordinary markets. Without commenting on these proposals, the SEC suggested some further reforms, including increasing the size of public quotations by NASDAQ marketmakers from 100 to 1,000.⁴⁹

Failures in the options markets also came under scrutiny. The Brady Commission concluded that "options market makers did not play an important role in stabilizing their own market, and . . . may have marginally added to the pressure in other markets."⁵⁰ The SEC was also critical of lack of continuity and pricing anomalies in the option markets on October 19 and 20 and made a number of specific reform recommendations including changes in opening rotation procedures, improvements in small-order execution systems, and upgraded communications between the CBOE and NYSE.⁵¹

An anomaly between equity marketplace rules and the rules of derivative product marketplaces that received some attention was short sale regulation. The SEC's short sale rule⁵² prohibits persons from selling stocks short at a price below the last sale price ("minus tick") or when the last trade involves a change in price that was a minus tick. Such restrictions have never been imposed on options or futures.⁵³ That presents the potential for greater speculative selling in derivative products than can occur in the stock market, and also the possibility that downside risk can be transferred to the stock market. The SEC's short sale rule has thus been undermined. Both the Brady Commission and the SEC recommended that short sale regulation be revisited from an intermarket perspective.

With regard to market unification, the Brady Commission went further than the SEC or CFTC and recommended that clearing systems be unified to reduce financial risk and information systems be established to monitor transactions and conditions in related markets. In addition, the Brady Commission recommended the harmonization of margin requirements to control speculation and financial leverage

and the formulation and implementation of circuit breaker mechanisms to protect the market system

CIRCUIT BREAKERS

Traditionally, securities exchanges have curbed volatility by relying on margin and short sale regulation, and commodities exchanges have curbed volatility by relying on price and position limits.⁵⁴ Since the October crash, both stock and futures exchanges have raised margins for index products, but not much.⁵⁵ In addition, the NYSE imposed a partial ban on index arbitrage whenever the DJIA rises or falls 50 points in one day.⁵⁶ When this "collar" is breached, arbitrageurs must execute trends manually instead of using the automated DOT system of the NYSE.

The Brady Commission recommended the installation of intermarket circuit breakers.⁵⁷ The SEC, however, demurred, since price and position limits have long been anathema on Wall Street, which believes that a continuous agency-auction market is best for investors.⁵⁸ This controversy has continued.

On March 18, 1988, the President appointed a Working Group on Financial Markets ("Working Group") comprised of the Chairmen of the SEC, CFTC, and FRB, and the Secretary of the Treasury.⁵⁹ The Working Group was given a mandate to agree within 60 days on intermarket mechanisms to prevent another crash. The only concrete proposal put forward in the Working Group's Report was a circuit breaker mechanism whereby all stock and futures would close for one hour if the DJIA falls 250 points, and for two hours if the DJIA falls 400 points.⁶⁰ While this recommendation is not as

48. NASD Notice to Members 87-77 (Nov. 20, 1987).

49. SEC Report at 9-27.

50. Brady Report at 51.

51. SEC Report at 8-20-8-23

52. Rule 10a-1 under the Securities Exchange Act of 1934.

53. SEC Report at 3-24.

54. Katzenbach Report at 14-18. See generally R. S. Karmel, *Margin Limits and Market Volatility*, N.Y.L.J., Feb. 18, 1986, at 1, col. 1.

55. NYSE Info. Memo No. 87-36 (Oct. 26, 1987); *Amex Raises Margin Requirements for Broad Market Index Options*, Sec. Reg. L. Rep. (BNA) Vol. 19, at 1655 (Oct. 30, 1987). See *SEC, CFTC Commissioners Oppose Higher Margins for Stock Index Futures*, Sec. Reg. L. Rep. (BNA) Vol. 20, at 288 (Feb. 26, 1988).

56. K.G. Salwen, *Big Board Votes to Curb Some Program Trades*, Wall St. J., Feb. 5, 1988, at 4, col. 1. Also, the commodities exchanges have imposed some new price limits. See S. McMurray, *CBOT to Impose Daily Price Limits on Some Contracts*, Wall St. J., Nov. 24, 1987, at 2, col. 3; *Chicago Merc Says CFTC Cleared Daily Price Limit*, Wall St. J., Mar. 28, 1987, at 24, col. 2.

57. Brady Report at 66-67, 69.

58. SEC Report at 3-23-3-24

59. *White House Issues Order Creating Working Group on Financial Markets*, Sec. Reg. L. Rep. (BNA) Vol. 20, at 452 (Mar. 25, 1988)

60. Interim Report of the Working Group on Financial Markets submitted to the President of the United States (May 1988) at App. A.

drastic as some earlier trial balloons, it remains controversial for a number of reasons.

First, closing the markets is hardly a step in the direction of greater efficiency or harmonization. The real criticism of marketmakers in all the after-the-crash studies was that markets evaporated in the face of adversity. While regulation cannot compel marketmakers to risk their capital into bankruptcy in a rapidly falling market, system-wide circuit breakers that close the markets would put a stamp of approval on market failure. Secondly, there is not, at present, a clear legislative basis for closing all public markets at once, and even more importantly, for preventing institutions from trading in the third, fourth, or overseas markets when the regulated markets are closed. Moreover, when the DJIA approaches a limit, it is likely that all investors will try to sell at once and institutions are far more likely than individuals to succeed in doing so.

The NYSE "collar" of 50 points on index arbitrage trading through the automated DOT system⁶¹ has also proven controversial, and there are differences of opinion on whether this circuit breaker has increased or lessened volatility.⁶² Proponents of index arbitrage are essentially saying that the futures and cash markets in stocks should be continuously aligned, but this very alignment transforms the futures market into a lower cost pricing mechanism for stocks.⁶³ The NYSE "collar" can be criticized for being ineffective since once the 50-point limit is reached, manual index arbitrage can continue. However, an outright ban on index arbitrage would tend to disconnect the futures and cash markets. This would make pricing of index products less efficient but would tend to preserve the primacy of the pricing mechanism in the stock markets.

By criticizing mechanisms for disconnecting the futures and cash markets, and instead urging intermarket circuit breakers to halt all trading, the Brady Commission accepted the commoditization of the stock market. In the absence of physical delivery of stocks comprising the indexes, however, it is specious to argue that the futures markets are simply performing a customary price discovery function. Furthermore, unless margin levels between the primary and derivative markets are harmonized, this will inject greater leverage and speculation into the securities markets than have been permitted since the 1930s, when the federal securities laws were passed.

BASKETS

After institutional investors became attracted to indexation—that is, investing in the entire market or market segments—the ability to hedge by using index futures had

an obvious appeal.⁶⁴ All the after-the-crash studies recognize the legitimacy of stock index trading for hedging, and none recommend the abolition of index futures.

These products have been designed to fit within the confines of the Shad-Johnson Accord,⁶⁵ which, in the absence of agreement between the congressional committees with oversight over the SEC and CFTC, split up jurisdiction over options and financial futures between the SEC and CFTC. One necessary characteristic of a CFTC-regulated index product is lack of physical delivery.⁶⁶ Further, all commodities must be approved for trading by the CFTC, so new products are designed to meet CFTC specifications.⁶⁷

Although after the Shad-Johnson Accord, the SEC was given authority to object to CFTC approval of new index products, the SEC cannot block such approval. Its recommendations would give it not only veto power over new index products, but also authority to compel the redesigning of old products.⁶⁸ Implicit in the SEC's request for such authority is the suggestion that index futures pose a danger to the equity markets. The CFTC, however, claims that index futures are beneficial to the markets.⁶⁹

The most significant proposal for changing the way in which the primary and derivative markets interact is the creation of baskets of stocks that would trade as a unit. Alternatively, index futures could be redesigned with a physical delivery option. These suggestions were contained in the Katzenbach Report⁷⁰ and the SEC Report.⁷¹ The idea for such a product is to afford institutional investors the opportunity to do index investing and portfolio hedging in a manner that does not involve the leverage currently at play in the markets.

CONCLUSION

All observers agree that stock market trading during the week of October 19 was a debacle. The markets officially

61 Index arbitrage does not deal in price discrepancies between equivalent terms, but depends on the yield spread between an index futures contract and its underlying securities. Many believe this form of program trading intensifies market volatility. Testimony of John J. Phelan, Jr., Chairman, NYSE, before the Senate Comm. on Banking, Housing and Urban Affairs, Feb. 5, 1988 at 13-14.

62 See S. McMurray, *Traders Say Curbs Enacted Since the Crash Have Steepened Stock Market's Plunge*, Wall St. J., Apr. 15, 1988, p. 57, col. 3. See also Katzenbach Report at 29.

63 See B. T. Byrne, *The Stock Index Futures Market* 117-24 (1987).

64 Katzenbach Report at 8-9.

65 See GAO Report at 28.

66 SEC Recommendations at 28.

67 See T. A. Russo, *Regulation of the Commodities Futures and Options Markets* §§ 1.44-1.47 (1987).

68 SEC Recommendations at 30.

69 CFTC Interim Report at 53-55.

70 Katzenbach Report at 29.

71 SEC Report at 3-17-3-18.

stayed open but they were neither liquid nor continuous. They came within a hair's breadth of closing completely, and many individual stocks and derivative products did not trade. The entire financial system was in jeopardy.

In their after-the-crash studies, regulators and self-regulators blamed one another for the chaos in the markets. It is interesting how little any of the studies focused on the outside forces that caused the crash—serious macroeconomic problems on the one hand and institutional investors on the other. According to the Brady Report, a handful of institutions did the trading that drove the markets down on October 19 and 20.⁷² Although these institutions are either SEC-regulated mutual funds or pension funds regulated by the Department of Labor, curbs on index arbitrage or portfolio insurance by these institutions has not been suggested.

It is not surprising that the commissioners of the SEC and CFTC failed to blame the administration that appointed them for economic policies that led to an historic stock market drop. Further, the congressional committees that have oversight over the SEC and CFTC have fomented, rather than resolved, the jurisdictional problems dividing these agencies and the markets they regulate. It also is not surprising that the stock and commodities markets have refrained from blaming their own customers and members for the market crash. Ironically, the principal users and member firms of these exchanges are the same organizations. The economic and political battle for supremacy in pricing that is at the heart of the after-the-crash controversies is between the exchange floor members.

If the markets remain volatile but not dangerously so, it is possible that some modest structural reforms will be agreed on to link trading more closely in the primary and derivative markets, although the minimalist nature of the Working Group Report makes even modest changes questionable. Serious and significant reform is very unlikely in the

absence of political change in Washington or a greater crisis in the economy and the markets.

One lesson of "Rashomon" is that truth is hidden and uncertain, but the frailty of human nature is a common ingredient of tragedy. In Washington, New York, or Chicago there is at present no political leadership strong enough to confront the truth scattered about in the after-the-crash studies and to enforce a solution to the many problems plaguing the markets. The ultimate victims are likely to be the corporations that need capital and pension fund beneficiaries whose life savings are at risk.

The problems of the capital markets are only symptoms of political malaise and general financial disorder. Clearly, securities and commodities regulation should be integrated, either by merging the SEC and the CFTC or differently dividing the responsibilities they now share over the cash and futures markets for securities. Further, the leverage and velocity in the markets should be reduced, either through revision of the margin requirements or otherwise. For this to happen stringent regulation of the financial markets must regain political respectability. Further, the campaign contributions which flow to presidential candidates and members of the congressional oversight committees for the SEC and the CFTC must be recognized as serious impediments to reform. In addition, attention should be given to what regulation is needed to change the destructive trading habits of institutional investors, which transcend such shibboleths as program trading.

Yet, reform of financial regulation will not balance the federal budget, rectify the trade deficit, or even increase the savings rate. Until the Country begins to address these fundamental economic problems, greater stability in the stock market is a vain hope ■

72. Brady Report at 41.



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**WOULD MORE REGULATION PREVENT
ANOTHER BLACK MONDAY?**

Remarks to
the CATO Institute Policy Forum
Washington, D.C.

July 20, 1988

Joseph A. Grundfest
Commissioner

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

WOULD MORE REGULATION
PREVENT ANOTHER BLACK MONDAY?

Remarks to the CATO Institute Policy Forum
July 21, 1988

Joseph A. Grundfest

It's a pleasure to be here this afternoon to deliver an address on such a noncontroversial topic. Government regulators in Washington, D.C. have a well deserved reputation for dancing around difficult issues and not giving straight answers to simple questions. Well, I'd like to prove that I'm not your typical Washington, D.C. regulator and give you a straight answer to the question, "Would more regulation prevent another Black Monday?" The answer is an unequivocal yes, no, and maybe. The answer also depends on what you mean by more regulation and why you believe the market declined on Black Monday. With that issue cleared up, I'd like to thank all of you for attending and invite you to join the reception being held immediately after this speech. Thank you very much. It's been a pleasure.

Actually, the question of whether more regulation could prevent another Black Monday is not as difficult as it seems, if you keep three factors in mind. First, it is important to distinguish between fundamental factors that initiated or contributed to the decline, and regulatory or structural factors that may have unnecessarily exacerbated the decline. Regulators at the Securities and Exchange Commission can do nothing to control or change fundamental factors. To the

extent we attempt to prevent the market from adjusting to changed fundamentals we are certain to generate far more mischief than good. In this regard, the opening line of the Hypocratic Oath, primum non nocere, first do no harm, should, I believe, be tattooed inside the eyelids of all government regulators to keep us from falling prey to the false but comfortable idea that regulatory intervention can countermand fundamental market forces. Regulatory hubris can be a dangerous disease.

Second, once we have put aside the false notion that regulation can prevent a market adjustment caused by changes in fundamentals, it becomes important to isolate and define aspects of the market's behavior on Black Monday that were legitimately attributable to imperfections in the regulatory and institutional environment. On this score, it is important to recognize that none of our markets--equities, options, or futures--covered themselves with glory on October 19. The evidence suggests that many market systems buckled under the weight of massive information failures that were caused, in part, by a substantial peak load problem. These information failures exacerbated liquidity problems that would have existed naturally in a rapidly moving and high volume market and contributed some volatility that could have been avoided.

While it is impossible to define with precision exactly how much of Black Monday's 508-point decline was attributable to fundamental factors and how much was attributable to

institutional and regulatory factors subject to government intervention, it is my personal, highly subjective, and easily refuted estimate that about 200 to 250 Dow points of the decline could have been avoided by a regulatory policy that improved information flows, enhanced liquidity, and expanded market capacity.

Third, it is absolutely critical to reject Luddite conceptions of our markets as computer crazed automata. Program trading, index arbitrage, futures markets, options markets, and several other useful innovations in our capital markets have been dangerously and incorrectly blamed for Black Monday's events. We have often been warned not to confuse the message with the messenger. Nonetheless, some participants in the policy debate have a perfectly rational incentive to continue to confuse the message with the messenger in order to forestall technological progress that threatens traditional trading mechanisms that generate substantial rents for certain market participants. Put more bluntly, some people are making money off the system as it operates today, and measures designed to make our markets more efficient by improving information, expanding capacity, and enhancing liquidity, are not necessarily in everyone's personal financial best interests.

Each of these three factors provides enough material for an extended address, so in the minutes allotted me I will not have an opportunity to develop each of them in full.

Accordingly, I hope you will forgive me if I condense the explanation a bit and occasionally skip abruptly from topic to topic.

Fundamentals Can't Be Regulated. Perhaps the most interesting consensus that has developed in the wake of Black Monday is that the market's decline was, at a minimum, triggered by fundamental developments in the world economy. This consensus was recently described in an excellent address by Ms. Consuela Washington, Counsel of the House Committee on Energy and Commerce.^{1/} Ms. Washington pointed out how the Brady Commission, the SEC staff report, the Chairman of the Fed, the CFTC, and several market observers with widely different perspectives on the events of October 19, including Felix Rohatyn of Lazard Freres and Franklin Edwards of Columbia University, all agree that the decline was triggered by changes in the macroeconomic environment that induced a sharp revaluation of equity values because of changed investor expectations. Among the more frequently mentioned causes of the decline were adverse interest and exchange rate developments, an antitakeover tax proposal adopted by the House Ways and Means Committee, and poor merchandise trade figures.

^{1/}C.M. Washington, The Crash of October 1987--A Washington Assessment of Its Significance, Address Before the Financial Times International Conference: Black Monday--Nine Months After (July 6, 1988).

Recently, I had the opportunity to engage in private discussions with members of the international banking and business communities and was quite intrigued to hear some views that are not often expressed in the U.S. policy debate. Many of these foreign leaders perceived October 1987 as a dangerous period in which major governments were attempting to control interest and exchange rates at levels that were internally inconsistent and at odds with changing macro-economic conditions and expectations. In this environment, with semi-pegged exchange and interest rates, the equity markets turned out to be the major equilibrating force through which the world's capital markets could express themselves. From this perspective, the depth of the market decline may have been exacerbated by efforts to prevent necessary price movements in other major capital markets.

Research by Professor Richard Roll of UCLA is broadly consistent with this non-U.S., internationalist perspective.^{2/} Professor Roll points out, among other things, that all the world's capital markets declined sharply on or about October 19. Of the 23 major world markets, the U.S. had the fifth smallest decline--put another way, the U.S. had the fifth best performance. The U.S. market was not the first to decline sharply--the decline appears to have started with non-Japanese Asian markets on October 19, their time, and then followed the

^{2/}R. Roll, "The International Crash of October 1987," in Black Monday and the Future of Financial Markets (Dow Jones-Irwin) (forthcoming).

sun to Europe, the Americas, and Japan. The data also show no link between computer directed trading and the extent of the market decline. Professor Roll concludes that "the global nature of the October crash seems to suggest the presence of some underlying cause, but it debunks the notion that some basic institutional defect in the U.S. was the cause, and it also seems inconsistent with a U.S.-specific macroeconomic event."

Foreign business leaders also seem a bit amused by the orgy of analysis that has followed in the wake of the crash. With the exception of the Hong Kong market, which shut itself down for the week of October 19 and suffered serious consequences both because of that shutdown and because of many flaws in its internal processes, no other market in the world has put itself to the degree of second-guessing, finger-pointing, and financial psychoanalysis as has the United States. While I firmly believe that the broad and searching analyses in the wake of the crash has been helpful, I was quite intrigued by a foreign perspective that we are overdoing it with analyses, studies, commissions, task forces, reports, and recommendations. Foreigners appear much more willing to accept the view that October 19 was a bad reaction that resulted from adverse international macroeconomic events, and that little is to be gained by micro-economic tinkering with the market. To me, this is a fascinating difference in perspective, particularly to the extent it emanates from

foreign countries that experienced larger equity declines than the United States.

Information, Capacity, and Liquidity. To the extent that regulatory and institutional factors exacerbated the markets' decline on October 19, the culprits can, I believe, be identified as information failures, capacity constraints, and liquidity traps. These three problems are all interrelated and compounded each other on October 19 to make a bad day worse.

In a nutshell, and highly simplified form, there were substantial periods of time on October 19 when traders did not have accurate information on current prices and the status of orders that they had already entered. If you wanted to trade, you didn't know what price to expect, and if you had entered an order you didn't know for quite a while the price at which your order was executed. Part of this problem was attributable to the speed with which the market was moving, but part was also caused by capacity constraints that prevented accurate information flows between customers and market floors. In this environment, traders were being asked to "trade blind," and it is no surprise to find that, under these circumstances, traders backed away from the market or, if they were willing to trade, they demanded premia for the risk of trading in such an informationless environment. The information problems that led investors to back away from the market removed liquidity from the market at the precise time

it was most in need, and thereby exacerbated an already difficult situation.

The information problems grew worse on the 20th when fears began to spread over the solvency of some major market participants. The concern was that the futures clearinghouses were late in making substantial payments to large investment banks. Because of the perceived credit risk associated with trading with these institutions, and in doing business with the clearinghouses, more participants backed away from the market, again at the very time that liquidity was needed most. The institutions involved were all solvent, but that information could not be promptly and credibly signalled to the market. Thus, an information failure related to credit status further exacerbated the liquidity problems present in the marketplace.

Accordingly, to the extent that regulatory interventions can improve information, expand capacity, and enhance liquidity, those steps seem to me to be the most logical and productive measures for the government and marketplaces to consider.

Position Limits: An Example of A Regulation that May Have Removed Information and Thereby Harmed the Market. To illustrate how regulatory constraints may have exacerbated the market's decline, I'd like to focus on a relatively unknown regulatory constraint that may have had an impact on the market's performance on Black Monday: position limits on index options.

Purchasers of portfolio insurance seek to shift the risk associated with the possibility that the stock market might fall in excess of some pre-determined amount. They attempt to prevent such losses by engaging in dynamic hedging strategies that involve selling into declining markets and buying into rising markets.

These techniques, at their root, are no different from stop-loss trading rules that have been with us for decades. For example, suppose you have a \$3 million portfolio in the equity market when the Dow is at 2500 and you want "insurance" that you will be out of the market when the Dow hits 2200. A simple dynamic hedge that provides just such an insurance program would have you sell \$1 million in stock when the Dow hits 2400, \$1 million when the Dow hits 2300, and your last \$1 million when the Dow hits 2200. By following this very simple set of stop loss rules, you can "insure" yourself against losses that result from markets dropping below 2200--provided, of course, that the markets do not gap downward or become so illiquid that you can't execute your trades close to the required prices, which is what occurred on October 19.

The relationship between "portfolio insurance," which is often reviled as the demon that spooked the market into a crash, and stop loss selling, which is often described as a conservative strategy suitable for small investors seeking to minimize their market risk, is an important one because it helps demystify portfolio insurance. It also helps point out,

consistently with some research findings by Professor Robert Shiller of Yale University,^{3/} that the market may have been susceptible to "profit-taking" in a "stop-loss" form regardless of the existence of formal portfolio insurance programs. I could expand on this theme, but it would take me far afield from the topic I want to address--the relationship between portfolio insurance, index option position limits, and Black Monday.

To connect these pieces of the puzzle, it is important to understand that there is a market substitute for portfolio insurance when it is practiced as a dynamic hedge. That substitute involves the purchase of a put option on a portfolio. Whether a dynamic hedge is cheaper or better than purchasing a put option is an interesting question, and I would argue that, in an equilibrium with sufficiently informed market participants, the price of a dynamic hedge will, at the margin, equal the price of an equivalent put. There is, however, an important informational difference between portfolio insurance practiced through dynamic hedging techniques and portfolio insurance practiced through put option transactions. As pointed out in a prescient August 1987 article by Professor Sanford Grossman of Princeton

^{3/}R. Shiller, Portfolio Insurance and Other Investor Fashions as Factors in the 1987 Stock Market Crash (Feb. 25, 1988) (unpublished paper).

University,^{4/} dynamic hedge strategies provide substantially less information to the market than do put strategies. When an investor buys a put option, he signals to the world that he would like to shift downside risk, and the premium he pays for that put measures the price that the market demands for shifting that risk. In contrast, dynamic hedging is not publicly announced, and it is not priced, per se, in any ex ante market transaction. Thus, an argument can be made that the market would have been less susceptible to destabilizing price shocks that result from the unexpected use of stop loss orders or portfolio insurance if more investors had relied on put option strategies rather than dynamic hedge strategies.

The problem, however, is that large institutions were effectively prohibited from relying on the options market as an effective hedge because SEC-approved exchange regulations imposed position limits that limited the amount of "insurance" an institution could obtain through the option market.^{5/} As one commentator put it, "unless and until position limits are eliminated, the S&P 500 Index option cannot rival the S&P 500 futures contract for portfolio insurance business."^{6/} Thus,

^{4/}S. Grossman, An Analysis of the Implications for Stock and Futures Price Volatility of Program Trading and Dynamic Hedging Strategies, National Bureau of Economic Research (Working Paper 2337 Aug. 1987).

^{5/}See, e.g., Chicago Board Options Exchange, Options Clearing Corporation, Rule 24.4 (Position Limits) (Jan. 29, 1988).

^{6/}G.L. Gastineau, The Options Manual 308 (3d ed. 1988).
Accord, J.G. Cox and M. Rubinstein, Options Markets 98 (1985).

regulatory position limits had the unfortunate side effect of forcing risk shifting activity away from options markets, which would have provided greater information to all market participants about the demand for downside equity risk hedges, and toward dynamic hedging strategies that do not provide equivalent information to the marketplace.

Beware of Luddites. Not all market observers agree, however, that the proper response to October 19 lies in improving information, expanding capacity, and increasing liquidity. There are policymakers and market participants who distrust recent innovations such as futures and options markets and program trading. Their response to the markets' problems would involve turning back the hands of time and freezing our markets in a 1950-ish environment in which the prevailing ethos is that stocks are bought and sold one at a time based on fundamental assessments of the issuer's underlying prospects.

As an initial matter, I doubt that our equity markets ever truly worked that way and, even if they did, there is no reason to try to revert to that world, even if we could undo decades of change. The theory and practice of finance has, in the past 20 years, experienced a revolution as profound as those in biotechnology, superconductivity, and other areas of high technology. We know now that portfolios have properties that are very different from simple aggregates of individual stocks. We know now that it often makes perfect logical sense

to trade portfolios as portfolios (or baskets) and not as individual securities.

Moreover, today's institutional investors are so large that it is often impractical for them to make investment decisions on a stock-by-stock basis. These large funds enhance their returns not by picking General Motors over General Dynamics or General Electric, but by smart sectoral allocations among equities, long bonds, short bonds, real estate, venture capital, and other broad investment classes. In this environment, institutions have no rational choice but to trade portfolios as portfolios.

These two forces--the growth of new information suggesting that it is smart to trade portfolios as portfolios, and the growth of large institutions that, as a practical matter, have to trade portfolios as portfolios--have combined to change the demand for transactions services in the equity market. Unfortunately, the supply of transactions services on the equity side of the market did not keep pace with the evolution in demand because the New York Stock Exchange on October 19, and till today, trades equity on a stock-by-stock basis and not as a portfolio. This imbalance between the form of supply of transactions services and the form of demand carries several adverse consequences for the operation of our capital markets, which I don't have time to detail today.

To put the problem in a layman's perspective, however, I'd like to propose the following analogy. Suppose you wanted

to buy or sell a basket of stocks in today's equity market. As a practical matter, the basket would be broken down into a series of, say 400, individual securities transactions on the floor of the exchange and, if someone wanted to buy exactly the same basket that you had just sold, he would also have to engage in 400 transactions on the floor of the exchange. If we operated our used Volkswagen markets according to the same plan, VW sellers would drive their autos onto dealers lots where the cars would be stripped down to fenders, doors, and engine blocks, and when a buyer walked onto the lot the dealer would reassemble the VW from the fenders, doors, and engine blocks. If that doesn't seem like a particularly wise way to buy and sell VWs, I suggest that it may also not be the wisest way of buying or selling market baskets of equities.

Fortunately, recent developments suggest that the New York Stock Exchange is actively exploring basket trading mechanisms, and I hope we will see substantial progress in this direction in the near future.

Conclusion. In sum, regulators can help prevent another Black Monday, but only if they act to remove existing impediments in the market process by improving information flows, increasing capacity, and enhancing liquidity. We must understand that the structure of demand for transactions services is changing rapidly and that unless we innovate vigorously there is a substantial risk that we will damage our domestic financial service industry. Unfortunately, there are

many who believe that the answer to the market's problems lies in nostalgia for the past. They would have us turn back the hands of time and urge measures designed to return the market to the "good old days" of the 1950's, 1960's, and 1970's.

Well, upon careful reflection, I think you'll find that those old days may not have been so good for everyone involved, so even if we could return to the past we might not want to go.

More to the point, however, nostalgia is not a viable solution to the market's problems. The future lies in innovation: in innovations that adapt markets and regulations to changing patterns of demand and technology. To the extent that we can achieve pro-competitive innovation through regulation, regulation can help prevent another Black Monday. To the extent we try to hold back inevitable processes of change, or use the regulatory mechanism in an effort to prevent markets from adjusting to changed fundamentals, regulation is more likely to cause or exacerbate the next Black Monday.

The choice is ours. We still have an opportunity to get it right.



U. S. Securities and Exchange Commission
Washington, D.C. 20549 (202) 272-2650

**News
Release**

Observations on Black Monday

Before

**The Federal Reserve Bank of Chicago
Conference on Bank Structure
and Competition**

May 12, 1988

**Joseph A. Grundfest
Commissioner**

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

Federal Reserve Bank of Chicago
Conference on Bank Structure

COMMISSIONER GRUNDFEST: Thank you very much. It's a pleasure to be here this afternoon to address so many distinguished and unindicted members of the financial community.

(Laughter)

As many of you may have noticed, the political and ethical scene in Washington often generates controversy, and recent events can charitably be described as suggesting a lack of candor among politicians. Because this is such an intimate group of several hundred people, I'd like to share with you an acid test useful to determine whether somebody in Washington is telling the truth. You can imagine how valuable this tool is, so I'm going to insist that we keep this little secret among ourselves.

What I've discovered is that if a person is moving his hand in a circular direction over his chin, something like this, odds are he's not lying. If a person moves his hand with a vertical motion, over either cheek, again, he is probably not lying. And, if you observe a horizontal mopping of the brow, the odds again are that the person is not lying.

However, as soon a person's lips start to move, all bets are off.

(Laughter)

This rule has worked well for me and I hope it will work well for you. Please use the rule with great discretion, and remember that you have all promised to keep it a secret.

The experience of the past few months has taught me that the world moves faster than I type, which may not be saying very much for those of you who have seen me at the word processor. Accordingly, I have adapted my speechifying style so that I now work without a prepared text: my staff complains that this practice reminds them of a trapeze artist working without a net, but they appreciate the suspense it adds to their job and are gratified that they need not try to guess what I want to say.

The subject of my talk this afternoon is at once philosophical and practical. I would like to explore the relationship between reality and perceptions of reality as reflected in the current policy debate over regulation of our capital markets. The distinction between that which is real and that which is perceived is quite important when dealing with Congressmen, regulators, and other Washington professionals because the policy process is generally dominated by perceptions, not realities. If perception and reality happen to overlap, that can be a happy coincidence. If, however, the two diverge, the real danger is that policy will be guided far more by perception than by reality.

Cognitive Dissonance. One of the more intriguing relationships between reality and perception in Washington, D.C. involves a phenomenon psychologists call cognitive dissonance. Roughly defined, cognitive dissonance is the tendency to interpret experience to support a preconceived idea: in other words, people can manipulate their own beliefs by selecting sources of information likely to confirm desired beliefs. When practiced to an extreme, cognitive dissonance can become a psychologically disabling condition. Washington politics, in the wake of October 19, advanced the art of cognitive dissonance to new heights, and it is useful to consider the dynamics of that process because it carries significant implications for future policymaking efforts relating to financial markets.

Immediately after the market break it became quite popular for politicians to espouse the proposition that the federal budget deficit caused the events of October 19. This proposition is, however, quite difficult to defend on any logical basis. After all, we've known about the budget deficit for many years now, and there is no rational reason to expect that the deficit would cause the market to decline by 500 points on Monday, October 19, 1987, as opposed to any other day during the years before or months since the magnitude of that deficit has been known. Moreover, even if the U.S. budget deficit was responsible for the decline, it

would not explain the sharp declines worldwide, even in an economy with no palpable budget problems.

The reason Washington policymakers found it convenient to draw a connection between the federal deficit and the market's decline is that, in the absence of some sort of compromise on the budget process, the Gramm-Rudman budget cuts would have been invoked. Neither the Administration nor Congress wanted to implement the across-the-board cuts contemplated by Gramm-Rudman. The market crash, however, provided a convenient if illogical rationale for the convening of a budget summit that would allow renegotiation of the formula for effecting Gramm-Rudman cuts. From that perspective, had the market not crashed, Washington would have had to invent another mechanism to lead to essentially the same result. Thus, the clearly illogical link between the deficit and the market break served a useful function as a catalyst for budget renegotiation, much the same way that cognitive dissonance serves a purpose for those who systematically misconstrue relationships between reality and perception.

Such illogical connections between cause and effect occur in virtually every arena in Washington, D.C. The easiest way to understand the process is to think back to exams given in high school in which there are two columns and the student is asked to draw lines connecting, for example, an event with the date on which it occurred, or the name of a state with that state's capitol. In Washington, D.C., any line drawn between

any event and any rationale for that event is an acceptable answer in the context of the political process.

(Laughter)

Volatility. A second and more technical observation regarding the relationship between perception and reality has to do with volatility. There is a great deal of concern over market volatility, and I'd like to suggest that there are two very different species of volatility. If, as academics, bankers, and financiers you don't understand the difference between these two species, and their very different definitions, then much of what is going on in Washington will not make sense. The two species of volatility are statistical volatility and political volatility, and these two species will, at times, have very little in common.

As a practical matter, markets can generate substantial political volatility but relatively little statistical volatility. Similarly, markets can generate substantial statistical volatility but relatively little political volatility. The difference between political and statistical measures of volatility can be traced to two major factors.

First, the political measure of volatility is far more sensitive to price declines than price increases. Whereas a standard statistical measure of dispersion, such as variance, gives equal weight to a 100-point increase in the Dow and to a 100-point decline, the politically relevant measure of volatility weights declines much more heavily than equally

large increases. In this regard, political volatility is better measured by semi-variance than variance.

The reason for this asymmetric treatment is easily explained. Whereas the futures and options markets are zero-sum processes, with just as many investors long as short, investors are always net long the stock market. The stock market represents the value of the residual equity claim on publicly traded corporations, and that is always a nonnegative value. Accordingly, when the stock market declines, the price decline represents a real wealth loss. Combined with evidence that individuals will, given their current state of wealth, pay more to avoid the risk of a wealth loss of a given size than they will pay for a chance to obtain an equally large wealth gain, it is easy to understand why the general population rationally draws a distinction between downside volatility and upside volatility. Put another way, all other things equal, people would rather avoid markets going down by 20 percent in a day than see markets go up by 20 percent in a day. Traditional measures of variance, which are neutral with regard to whether the market moves up or down quickly, therefore miss the political point.

Second, public concern over downside volatility is much more sensitive to large drops than small declines. In particular, the politically relevant measure of volatility may have a critical threshold value below which daily price moves do not register. The existence of such a "critical value"

that establishes a threshold below which daily price moves can be ignored is, I think, readily explained by the rational operation of the news media. If a market move isn't large enough to make the front page of the New York Times, Wall Street Journal, or Washington Post, then it isn't large enough to come to the attention of the broad populace that constitutes the relevant constituency for elected politicians. Thus, a string of price moves that may signify substantial volatility to a statistician may be politically irrelevant because none of them are large enough to register under the "Times-Journal-Post" test.

The combination of these two factors--a greater concern with downside volatility and a critical value below which daily volatility is politically irrelevant--suggests that standard statistical measures of volatility are not necessarily accurate measures of politically relevant volatility. For example, a market that sawtooths up and down 25 points a day for 50 days generates a higher statistical measure of variance than a market that declines 100 points one day, rises 100 points the next day, and is then stable for 48 consecutive days. However, the politically relevant measure of volatility suggests that a market that moves 100 points on only two occasions is more volatile because: (1) that market crossed the critical value that attracts broad public attention; and (2) that market generated a major price

decline. Two consecutive 100-point increases would not generate the same degree of despair.

Therefore, we could have markets that are relatively volatile from a statistician's perspective, but that do not cause much political controversy because that sort of statistical volatility generates no political volatility. On the other side of the ledger, we can also have other situations in which markets are relatively calm the vast majority of the time, but are subject to sudden and rare jumps. Under these circumstances there will be political hell to pay because political volatility will be high although statistical volatility may not be as extreme.

Moral Basis for Capitalism. Much has been said about the role of the small investor in the marketplace and about the need to maintain investor confidence. The focus on the small investor is important from many different perspectives. In particular, never forget that small investors vote and institutions don't. The perception that the market is a fair game, and that the small investor can profitably and equitably participate in the market by buying and selling stock, is extraordinarily important because it maintains investor-voter support. As I'll next explain, this emphasis on fairness to the small investor also relates to what I call the moral basis for capitalism.

Social systems exist and survive as a result of an equilibrium between political and economic forces. If an

economic system doesn't have broad based political support then that economic system is in a lot of trouble. A significant reason for the continuing viability of the capital market system in the United States is the perception that increased prices in the stock market reflect added economic value that enhances national wealth. The clearest connection between stock market performance and social support for our capital market system relies, I think, on specific examples of start-up companies like Lotus, Microsoft, Genentech and others, that create obviously valuable new products. The capital market rewards risk-taking entrepreneurs, employees, and investors involved in these companies for their contribution in the marketplace. From this perspective, the link between social contribution and economic reward provides a moral basis for capitalism. Further, the closer the perceived link between social contribution and economic reward, the stronger the political support for that market mechanism.

This analysis carries significant implications for the futures and options markets. Because those markets are more complex and not as well understood by the average voter or Congressman, the probability increases that perception will diverge from reality. Moreover, and perhaps even more important, because the futures and options markets are risk-shifting mechanisms that, net of transactions costs, constitute zero-sum processes, the connection between social

contribution and economic reward in those markets will appear more attenuated. No futures or options market participant will ever be able to point to a company he or she built, or to a product he or she introduced as a direct and proximate result of profits available in the futures or options markets. The fact that the trader added substantial value to the economic process by facilitating risk shifting among market participants is a point more subtle and difficult to grasp than the obvious connection between stock profits and product success. The perceived moral justification for derivative product markets is therefore weaker than it is for primary equity markets, and that has substantial political implications for regulatory policy towards derivative product markets.

It's worthwhile to remember that information costs are very substantial in capital markets. They are also critical in political markets. The reality is that the information costs incurred in explaining the operation of futures and options markets are far higher than information costs explaining the operation of the equities markets, and that certainly places that derivative product markets at a substantial political disadvantage.

Conclusion. My closing observation very simply is that on October 19 and 20, no market covered itself in glory. It is most unfortunate that the debate has often become defensive or accusatory, and that regulators have become embroiled in

turf battles. This is a time for constructive cooperation. This is a time for the exercise of imagination. The solution to the market's current problems lies, I believe, much more in innovation rather than foolish regulation and measures that operate, at best, as placebos. The 50-point collar and other restrictions to curb index arbitrage, are placebos that are perhaps well intentioned but do not rationally address the problems apparent in today's capital markets.

That, in a nutshell, is my perception of the difference between perception and reality as it relates to recent public policy developments affecting financial markets. However, since I've now spent more than a couple of years in Washington, I'm not sure that I'm qualified to opine on the difference between perception and reality, so I pass the baton on to Professor Miller, who will, I hope, clarify all these matters and provide the answers to all our questions.

AFTER

THE

CRASH

LINKAGES BETWEEN STOCKS & FUTURES

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*Commissioner
Securities and Exchange Commission*

Like the Brady report, the SEC staff study has been the subject of substantial criticism. The debate over the merits of each of the reports on the crash is, I believe, quite healthy. After all, the events of October 19, 1987, were unprecedented and complex, and in order to regulate the markets properly regulators must first understand the market.

The regulatory process, however, often operates on a schedule that is incompatible with careful analysis. More dangerous, perhaps, is the tendency for policy makers to fall prey to a peculiarly political form of cognitive dissonance. Indeed, in Washington, it sometimes seems that virtually any event can be cited as a reason for adopting almost any policy.

Consider, for example, the massive budget summitry that occurred in the wake of the market's October decline. The federal budget deficit, as dangerous as it may be from a macroeconomic perspective, was not the proximate cause of the market's fall. All rational evidence suggests that reducing the deficit would not help reduce the market's recent volatility. Nonetheless, political Washington rallied around the theory that the deficit caused the crash and that the budget gap had to be closed in order to restore calm and confidence to the nation's capital markets.

The reason for a quick consensus on such an obviously shaky proposition is clear. Many policy makers were unhappy with the formulaic budget cuts that would have been imposed under the Gramm-Rudman-Hollings bill. The market crash provided a convenient cause célèbre around which policy makers could rationalize efforts to renegotiate budget cuts without directly attacking the Gramm-Rudman mechanism. The theory that the budget deficit caused the market crash thus did not have to be correct in order to be widely accepted and immediately acted upon. Instead, the theory was

accepted because it provided a convenient rationalization for actions policy makers wanted to take anyway. From that perspective, if the crash had not happened, some Washingtonians would have been hard pressed to invent its equivalent.

The lesson of the budget summitry experience is that the policy process, if not carefully monitored, can be manipulated to yield results that are inconsistent with any logical analysis but that serve some other politically valuable purpose. Thus, in the political arena, the most effective rallying cry may not be the most logical or analytically correct proposition; instead, it may be the theory that leads to the most politically sustainable conclusion, regardless of the evidence.

Despite the danger that logical analysis may have little sway over the final resolution of events, I remain an optimist that, at the margin, reason can help tilt the balance toward a more procompetitive resolution of the market's problems. In particular, I think it important that government recognize that two categories of events contributed to the decline on October 19. The first category encompasses events beyond the government's control. The government cannot effectively write or enforce rules that control investor psychology or dictate the way investors react to fundamental changes in the economic environment. Any such efforts are bound to be self-defeating and expensive.

Efforts to control trading strategies such as portfolio insurance fall into this category. Portfolio insurance is, in essence, little more than an elegant set of rules for stop-loss selling in a declining market. Stop-loss selling has been with us for decades, and there is nothing the government can do to prohibit investors from thinking about the market in a particular way. The government can, however, increase trading costs, and that can induce people to change their strategies, although it may not change the way they think about the market.

In all candor, some purchasers of portfolio insurance may not have correctly understood the limitations of that trading strategy. Evidence suggests that some institutional investors may have believed they could be heavily invested with little risk when the Dow stood at 2600 or 2700, even though they thought the market was overvalued, because they believed they could automatically get out before the market dropped too far. They apparently did not understand that a dynamic hedging strategy works well only in a smoothly declining market with sufficient liquidity. If too many traders try to implement the strategy at once, thereby overloading the liquidity in the market, or if the market gaps for any reason, portfolio insurance would not work as many expected. In effect, these investors acted as though they had purchased a synthetic put for which they had to pay

no premium. Unfortunately, that is a bit like believing in the financial equivalent of a free lunch, and on October 19 the waiter showed up with the bill.

The second category encompasses events within the government's control and about which the government can do something. This category can be further subdivided into measures that can expand the market's capacity by increasing liquidity and improving information flows, and measures that slow the market down by throwing sand in the gears in any one of a number of ways. A great deal of effort has already been invested in devising more clever ways to shut the markets down when, for whatever reason, policy makers don't like the prices the markets are generating. Personally, I am more interested in focusing energy on efforts to improve market capacity, enhance liquidity, and generate better information because, in the long run, the effective survival of our domestic financial services industry depends on these measures much more than on any circuit-breaker mechanism, no matter how well designed.

The liquidity problems experienced during the week of October 19 were quite severe, and it is important to recognize that the roots of that problem stretch back at least two decades. In the late 1960s and early 1970s institutional investors began trading large blocks of individual companies' shares. The specialists simply did not have the ability to move 100,000 or 1,000,000 shares of a company's stock in a single block without seriously upsetting the market price. This problem was resolved through the evolution of block trading procedures that effectively created a joint venture between upstairs block traders at the large brokerage houses and the specialists on the floor of the New York Stock Exchange. In effect, upstairs traders shop large blocks by searching for other investors who are willing to take the opposite side of the transaction. This system is able to move larger blocks with a smaller price effect than would have been possible simply by walking up to a specialist and saying, "Guess what: here are a million shares to sell, have a nice day!" To move that million-share block the specialist would have to bang the daylights out of the stock's price by offering concessions that, as a practical matter, might not have to be made by the upstairs traders who can shop the block more effectively.

Today, however, a block is not composed of a million shares of a single company's stock. Today's million-share block is composed of a portfolio of 2,000 shares of 500 different companies. The New York Stock Exchange *did not* develop a marketing system that allows institutional investors to move these portfolio blocks at relatively low transactions cost. The failure of the NYSE to respond directly and effectively to this change in the demand for trading services created a

tremendous opportunity for the Chicago markets. Chicago innovated when New York did not. It developed a cheaper and better market for the trading of portfolio block positions.

Interestingly, after extensive conversations with market participants, I think it accurate that many of the largest institutional users of the futures markets really do not care that they are transacting in futures. They would be just as happy to trade in the underlying equities if transactions costs in the equities market were as low. In other words, it is not the "futuraity" of the futures market that attracts institutional interest; instead, it is the fact that futures markets provide the most effective and cheapest means of reallocating equity market risk. Until the equity markets address this problem head-on by creating an effective and low-cost means of trading blocks that are composed of diversified portfolios, the equity markets will be at a distinct disadvantage in providing liquidity to the portfolio trader.

Progress can also be made on the clearance and settlement side of the market by improving information flows among market participants. On October 20 in particular, because of delays and breakdowns in the settlement and clearance mechanism, there were occasions when the market did not have accurate information about the creditworthiness of some key market participants. This information failure caused some traders to refuse to do business with firms that were, in fact, quite solvent. This, in turn, removed liquidity from the markets at a time when the markets were desperate for all the liquidity they could find.

Information problems also severely hindered traders' ability to participate in the markets. At times, traders had difficulty estimating the prices that were actually available in the markets. They also had serious difficulties obtaining accurate information about the execution of orders that had already been entered. Trading is a risky business in that kind of an environment. Rather than deal with that degree of uncertainty, some traders just withdrew from the market, again removing much-needed liquidity. Others brave enough to trade demanded price concessions to compensate them for the information risks they were assuming, and on the 19th that generally meant making transactions at ever-declining prices.

As for the jurisdictional disputes currently embroiling the markets and regulators alike, I think there are far better uses of everyone's energies. Throughout the policy debate, New York has been busy pointing its finger at Chicago, and Chicago has been busily pointing its finger back at New York. *Realistically*, none of our markets covered themselves with glory on October 19. It behooves each marketplace to begin its analysis not with a criticism of its competitors' flaws—re-

ardless of how reasonable such criticisms may be—but with some self-criticism aimed at addressing the fundamental problems revealed in their own back yards as a result of the extraordinary volume and volatility experienced during the week of October 19. I have already suggested that the stock exchanges can profitably consider new methods of transacting block trades that are composed of portfolio positions. The futures markets might also want to consider changes in their rules that limit the extent to which upstairs traders can prearrange trades. These restrictions may have adverse consequences on liquidity similar to those that result from the inability to trade equity portfolio blocks in the upstairs market.

As for jurisdictional disputes among the regulators, I would offer a couple of observations. Although some have suggested that the Federal Reserve be established as a super-regulator over the securities and commodities markets, the Fed apparently does not want the high honor, privilege, and responsibility of overseeing every financial market in America. As for the suggestions that the SEC take over responsibility for stock index futures from the CFTC, I think it important to recognize that any such shift would also entail a substantial reallocation of authority among powerful congressional committees. For the same reason that you would not want to fight a land war in Asia, I think you would not want to fight that jurisdictional battle on Capitol Hill. Although I understand—but do not necessarily agree with—the reasons many observers argue that jurisdiction over index products should be allocated to the SEC, we are not writing on a blank slate, and I do not believe any of those arguments are powerful enough to overcome the political realities of the matter. Since we are constrained as policy makers to deal only with realities, the proposal to reallocate jurisdiction strikes me as a nonstarter. Thus, rather than spend a lot of energy on a fruitless exercise, it makes far more sense to devote energy to good-faith attempts at interagency cooperation within existing jurisdictional constraints. That approach is, I think, the most responsible course of action open to regulators today.