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ARTICLE: WHAT CAN BE DONE ABOUT STOCK MARKET VOLATILITY?

TAMAR FRANKEL *

* Professor of Law, Boston University School of Law.

SUMMARY:

... Volatility is as old as the financial markets. ... The answer is that it may be more efficient for the government to stabilize the markets than for each investor to maintain the level of volatility of his or her portfolio. ... In short, the proposal to halt trading in a down-trend may be useless at best and dangerous at worst. ... Thus, the logical extension of these models is a new institution to cap market volatility: the National Market Maker ("NMM"). ... The proposed prudence rule would *require* institutions to trade in this manner, even if the volatility produced by their trades would not harm them. ... This Paper subscribes to the theory that money and financial market activities affect the economy, and that excessive volatility in the financial markets can trigger economic instability, with disastrous results. ... It then lists the criteria for an ideal control mechanism, and uses these criteria to examine current proposals to reduce volatility, such as to halt trading during runs and to impose a stock transfer tax. ... The rules would deter trading strategies based on market trends, require portfolio diversification by market volatility, and impose conservative leverage limits. ...

TEXT:

INTRODUCTION

Volatility is as old as the financial markets. The bull market of 1986 and the crash that followed in 1987 were but the latest of periodic market gyrations that started with the South Sea Bubble and the Lombard Street run on commercial paper and have continued ever since. n1 Volatility in the financial markets would not be very important if market activity simply mirrored economic activity. Volatility would be much less important if the markets moved independently of the economy. But if we believe, as I do, that the markets and the economy are interdependent, and that their volatility is generally out of sync (because financial assets move much faster than the economy), then volatility in the financial markets can create "bubbles" and "runs." n2 Therefore, instability in the financial markets can magnify instability in the economy.

At best, bubbles and runs are a mixed blessing. Bubbles can benefit the economy if they stimulate economic activity, employment, and production, n3 but if they do not, they can produce inflation. Runs can have the positive effect of realigning the price of capital with prices in the economy, but if runs occur to "correct" bubbles, it may be better to avoid the bubbles in the first place, and if they occur to match a shock to the economy (such as the oil crisis of 1973), runs preclude the possibility of using the financial markets to soften the shock. At their worst, runs erode real economic value and shrink consumption and production. When accompanied by other factors, such as a high level of

debt, runs can have a disastrous domino effect. They can erase the value of financial assets, and thereafter real assets. This effect may cause unemployment, reduce the value of savings, and bring misery to millions. Such disasters are unlikely, but if they do occur, the damage to the economy and the national welfare can be very high.

The 1987 stock market crash presents anew the basic questions of whether something should be done about market volatility, and if so, what? My position is that the government should interfere to control market and economic volatility, and that there is a need for new control tools since the traditional mechanisms have not worked very well.

Part I of this Paper examines and rejects various arguments that the government should not interfere to control market volatility. Part II lists the criteria for an ideal control mechanism. Part III applies these criteria to a number of current proposals, such as to halt trading when the markets drop sharply, to tax stock market transactions, and other proposals aimed at enticing small investors back to the markets, and shows why these proposals should be rejected. The criteria lead to the proposals in Part IV of this Paper: to create a National Market Maker and to impose prudence rules on institutional investors.

This Paper makes only one assumption: that the immediate cause of bubbles and runs is excessive demand for securities over supply, or the reverse. The proposals in Part IV emerge as logical conclusions from this assumption. Since the proposals are not the product of experience, they are tentative and designed to serve as a basis for re-focusing on the volatility problem, for discussion, and for careful examination.

I. SHOULD THE GOVERNMENT INTERFERE TO CONTROL MARKET VOLATILITY?

High-ranking officials have recently stated that the government should not hastily interfere to mute market volatility. Volatility, they said, is a "fact of life" in the free markets. ⁿ⁴ This do-nothing position could be based on a number of arguments, each of which is untenable:

1. The argument may be that the free financial markets are the most efficient allocators of resources, and that any interference by the government would reduce efficiency. The answer is that there is no such thing as a market free of government interference. The financial markets are highly regulated and could not exist without an infrastructure of property, contract, and fiduciary law. Besides, the government already manages the economy. It controls the money supply and interferes with the currency exchange rates and interest rates. Therefore, economic efficiency depends on, and varies with, the current legal and institutional regime and government activities.

Letting undesirable market trends take their course does not necessarily support the free markets or efficiency; it merely maintains the legal and institutional status quo. If the markets change but the laws and institutions do not, efficiency will be affected. Therefore, the government usually adapts the legal infrastructure to the new environment to correct undesirable trends as they emerge. Since recent technological and social changes have transformed the markets, ⁿ⁵ those who advocate the status quo are in fact advocating changes in efficiencies.

2. The argument may be that economic efficiency, even at the price of stability, is the primary objective that the government should follow in managing the economy. ⁿ⁶ The answer is that stability is a political, not an economic, objective. At the extremes, neither stability nor instability is acceptable to this society. At issue is the level of stability that the American people desire today. ⁿ⁷ Although economic efficiency is one criterion for determining that level, other values are just as important. Americans value the ability to make long-term plans for both their private lives and their business operations. If, in the judgment of their elected representatives, Americans believe that the price of economic efficiency is too high in terms of these competing values, some short-term economic efficiency should be sacrificed. Eventually, this sacrifice may even result in higher productivity from happier producers. It is not very important that the desired level of stability cannot be established with precision; most public and private objectives are incapable of precise measure.

3. The argument may be that the government need not interfere to stabilize the markets because, under the current system, investors can fix the level of their portfolio's volatility. The answer is that it may be more efficient for the government to stabilize the markets than for each investor to maintain the level of volatility of his or her portfolio. More importantly, volatility is a risk for which investors seek a return, therefore, volatile markets increase the cost of capital to productive enterprises.

4. The argument may be that it is nearly impossible to distinguish between desirable volatility that reflects changes in economic conditions (i.e., fundamentals) and undesirable volatility driven by speculation. Therefore, it is dangerous to attempt to interfere with volatility. The answer is twofold. First, there is nothing sacred about economic reality, especially if it is bad. There is no reason to pass over an opportunity to stabilize the economy by attempting to stabilize

the financial markets. Second, even if it is desirable that stock prices mirror the economic reality of the issuers, there may be ways (such as the National Market Maker proposed in Part IV of this Paper) to permit the price of particular securities to move freely while capping overall market volatility.

5. The argument may be that market volatility is an inevitable "fact of life" and any attempt to cure the ills of volatility is doomed to failure. The answer is that we do not know whether success is possible until we try. Today, the lives of many people are far better than the "facts of life" that Malthus considered inevitable. If a public consensus develops that market volatility is too high, then Congress should do something about it; the real question is: what?

II. CRITERIA FOR THE IDEAL CONTROL MECHANISM

We start by making a "wish list" for the ideal tool that the government could create to adjust market volatility to a politically desirable level. These specifications will serve to test the current proposals for reducing market volatility and the proposals made in this Paper.

1. The ideal control mechanism should be flexible. It should be capable of periodically adjusting the overall volatility of the market to a politically acceptable level. Therefore, the mechanism should operate continuously rather than ad hoc.

2. The mechanism should operate to reduce the possibility that harmful bubbles and runs will develop in the first place, rather than operating at a later stage when the system is in danger of collapse, or even later, after the deluge, to repair the damage.

3. The mechanism should be aimed at the immediate cause of bubbles and runs. Although the reasons for bubbles and runs have been debated for generations without a satisfactory, let alone conclusive answer, their immediate cause is fairly obvious and hardly controversial: bubbles and runs occur when the demand for securities substantially exceeds the supply, or the reverse. A mere change in the volume of trades need not affect volatility; so long as trades balance, market prices will remain more or less stable. Therefore, the ideal mechanism should be capable of counterbalancing buying and selling pressures.

4. The mechanism should control the use of leverage by investors. Demand, supply, and prices rise and fall more steeply when credit is available. Credit to purchase securities in a bull market will increase demand for securities; credit that must be repaid in a bear market will increase the supply of securities through forced sales, and may end in a domino effect to depress the prices of real assets as well.

5. The mechanism should control bubbles as well as runs, because some runs may follow bubbles. In addition, bubbles develop more slowly than runs, and perhaps can be contained more easily.

6. The mechanism should allow investors to trade at all times, and maintain the expectation that they may continue to do so. We assume that public hysteria is a component of bubbles and especially of runs; hysteria may mount if investors are prevented from trading as they wish.

7. The mechanism should be amenable to testing and simulation, however imperfect. A mechanism modeled after existing market institutions is therefore preferable, because these institutions have proven workable.

In addition to these positive criteria, there are negative criteria which the mechanism should meet:

1. The mechanism should not reduce the liquidity of the markets. Illiquidity increases risk, which leads investors to insist upon higher returns for their investments. This risk, in turn, increases the cost of capital. In addition, illiquid markets are likely to be more volatile than liquid markets, for lack of readily available buyers and sellers.

2. The mechanism should not encourage investors to bypass the American markets. It should not provoke investors to seek other, less regulated, markets.

3. The mechanism should not adversely affect the size of the securities industry. A robust network of dealers, brokers, and market makers is essential for maintaining liquid markets, as well as for providing the benefits of competition among members of the industry.

4. The mechanism should not create opportunities for market speculation. Its operations should be fashioned in a way that will not tempt traders to act in anticipation of its effect upon the markets.

5. The mechanism should have the lowest potential for triggering runs.

With these criteria, we are ready to assess proposals to control volatility.

III. WHAT *SHOULD NOT* BE DONE TO STABILIZE THE MARKETS

A. *Do Not Halt Trading When the Markets Drop*

A halt on trades has been proposed as a way to curb market volatility. n9 Trades would be suspended for an hour or so if market prices fell below a cut-off point, such as 250 points. n10 The criteria discussed above suggest that this proposal should be rejected.

First, a halt mechanism addresses only down-trends. It does not address up-trends that can produce bubbles and set the stage for runs. Second, a halt cannot be effective when markets are global. Unless all domestic and international markets close at the same time, trading, especially by large institutions, will simply continue in other markets. n11 After the halt expires, trading will resume on the basis of prices established elsewhere. Third, a halt that is triggered only after a steep drop in prices will create the expectation of short-term and substantial market instability. This expectation, together with the inability to trade, can fuel public hysteria, deepening the trend that triggered the halt in the first place. Fourth, if a halt is expected to increase the pressure to sell, speculators who plan to buy when the market reaches rock bottom may wait for the halt, allowing market prices to slide further.

Thus, a halt is risky because no one knows how it will affect the markets, and it has the potential of escalating rather than reducing volatility. Further, a halt is likely to be ineffective to prevent runs, as experience has demonstrated: the stock markets close every night for more than twelve hours and every weekend for more than forty-eight hours. If a weekend lull did not arrest the market melt-down of October 1987, it is unlikely that an hour's halt in the midst of frenzied selling would be effective. Also, during the October run, institutions continued trading in the international markets after the domestic markets had closed, another illustration that an incomplete halt is futile. In short, the proposal to halt trading in a down-trend may be useless at best and dangerous at worst.

B. *Do Not Attempt to Bring Back the Small Investors*

One purpose implicit in some proposals to mute market volatility is to entice small investors back to the market. Arguably, small investors stabilize the market by increasing the number of players and by providing diversity of trades. The presence of small investors also sustains the broker/dealer industry and supports the ideology of capitalistic democracy.

Small investors have withdrawn from the market since October 1987. n12 Even though, historically, they come back after a market run, it usually takes the small investors years to forget it. The proposals to control volatility would presumably have the "beneficial" result of wooing these investors to return sooner.

The purpose of enticing small investors back to the markets is ill-advised. It is unclear how these investors can be lured without misleading them. Further, the attempt may backfire. If their painful memories persist, small investors will use institutional investors to avoid direct trading and to diversify. This trend may increase the volume of institutional trading and render the markets less liquid and therefore more, not less, volatile.

More importantly, whatever stability the return of small investors may bring to the markets must be weighed against the social drawbacks from their participation. Small investors *cannot win* against the more nimble insiders and institutional investors. Small investors usually buy last, sell last, gain the least, and lose the most. Even if the losses from runs were distributed among a large number of small investors, such a distribution is socially undesirable. Most small investors can ill afford to lose, and the losses will not be distributed equitably among the members of the group (as insurance would). It makes little sense to burden individual investors with trading losses in favor of insiders or institutional investors that also represent small investors. Efforts to bring back the small investors are likely to perpetuate the current system at the expense of those who can least afford the cost.

C. *A Weak Cure: Reduce Trading Volume*

While it is undisputed that the immediate cause of bubbles and runs is the excessive supply of, or demand for, securities, neither the causes of such excesses, nor the effects of the volume of trading on volatility, are clear. Assuming that there are built-in systemic and speculative pressures for market prices to rise to the level of bubbles, and that some bubbles lead to runs, then trading volume may indirectly produce both bubbles and runs. Proposals to reduce the volume of trading n13 may be based on these assumptions.

Reducing the volume of trading would be a weak cure at best. It would affect volatility only indirectly, and it may create other problems that cancel the potential benefit.

Volume can be reduced by increasing the transaction cost of trades. One such cost may be a transfer tax. Another may be fixed brokerage commissions, which inevitably will be higher than competitive commissions. n14 A third may be to impose on regulated institutional traders a limitation on the turnover of their portfolios.

In general, reduced volume of trading poses considerable drawbacks. First, lower volume may produce illiquid markets and greater volatility for lack of buyers and sellers. It is difficult to fine-tune "trade-chillers" to maintain sufficient liquidity. Second, illiquid markets increase the risk to investors. Consequently, they will demand a higher return on their investments. Higher returns increase the cost of capital.

Reducing the volume of trades by higher transaction costs adds problems. Today's markets are global. n15 Higher transaction costs in the American markets are likely to shift trading to foreign markets. n16 In addition, each method of increasing transaction costs has its particular problems. A tax is preferable to fixed brokerage commissions because it would not enrich investment bankers at the expense of investors, and as a side benefit, would help reduce the federal deficit. A tax, however, also has a number of disadvantages. First, market makers would have to be exempt from the tax because it would reduce their effectiveness as market stabilizers; exceptions for them would lead to inevitable circumvention of the tax. Thus, the tax would be imposed mainly on individual non-professional investors, which could reduce savings and further increase the cost of capital. Second, even if dealers were exempt from the tax, reduced trading would shrink the securities industry, an industry which is essential to efficient markets.

Reducing trading volume by imposing trading restrictions on institutional investors is equally problematic. The regulation of money managers to protect entrustors n17 is hardly a revolutionary measure, and is justified if high turnover results in higher cost to investors and exposes them to long-term risk. n18 Furthermore, society is justified in requiring institutional savers that enjoy tax deferrals, such as pension funds, to forego some short-term trading profits in return for these tax benefits. n19

However, it is doubtful whether a rule that restricts the turnover of institutional portfolios is an adequate mechanism to control volatility. While a flatout limitation would be easy to enforce, it may be harmful to entrustors. Institutional investors should be free to trade when there are fundamental changes in the issuers, or when necessary to correct the institutions' own projections on incoming and outgoing funds. Partial illiquidity for institutional investors may increase the cost of capital, first for those who borrow from institutions, and then for borrowers in general. Institutions may demand higher returns because limited liquidity increases their risks. Like all rules to reduce trading volume, such a restriction adversely affects market liquidity and the securities industry, yet may fail to lower the excessive supply of, or demand for, securities.

IV. A BETTER AND MORE DIRECT APPROACH: REDUCE SUPPLY AND DEMAND PRESSURES

The following proposals are not intended to provide a detailed program for controlling market volatility. Rather, the proposals offer an approach on which such a program can be built.

If we focus on the direct cause of market volatility, we should seek ways to balance supply and demand pressures in the financial markets, without reducing trading volume or imposing inefficiencies. n20 Two possible approaches are explored here. One is to provide a buyer when the supply of securities far exceeds demand for them, and a seller when demand for securities far exceeds supply, in short -- to provide a National Market Maker. The other approach is to reduce institutional trading on short-term market trends. This reduction should be effected by enacting refined prudence rules for fiduciary managers, rather than by flatly restricting portfolio turnover.

A. *Create a National Market Maker*

The securities markets already have mechanisms in place to help maintain liquidity and reduce volatility. One such mechanism is the stock exchange specialist and other market makers. n21 If, within limits, demand for a security exceeds supply, or the reverse, specialists and other market makers stabilize prices, maintain liquidity, and make a nice living. But if the trend is sharp and continuous, no single market maker, however large, can withstand the pressure. Therefore, market makers are not the solution to volatility, especially to runs, but they provide part of the model for a new institutional mechanism to control volatility.

The second part of the model is provided by financial back-up institutions, similar to such as reinsurance and back-up lines of credit.

One way for this new mechanism to work might be to provide funds to market makers during pressure. However, making loans available to market makers during runs may merely drive them insolvent. In any event, lending during runs is not an alternative to controlling the likelihood of runs. Thus, the logical extension of these models is a new institution to cap market volatility: the National Market Maker ("NMM").

1. How Would the NMM Operate?

The NMM, like existing market makers, would sell from, or buy for, its inventory of securities to meet market pressures. But unlike existing specialists and market makers, the NMM would not specialize in a particular stock; instead, it would react to changes in a stock index.

Let us assume that the NMM operations are tied to the New York Stock Exchange, which is a leader for other stock markets. Let us also assume that the NMM chooses a stock index such as the Dow Jones. That index is composed of a number of stocks and is adjusted in accordance with a formula that reflects the amount of each stock and other factors. The NMM would possess an inventory of all the stocks in the Dow Jones index.

If the index dropped or rose beyond a pre-established cut-off point, such as 50 points, the NMM would act to relieve pressures on buying or selling. A number of possibilities are open. For instance, if particular stocks rise above others in the index, the NMM could start selling its inventory of those stocks until the index stabilized. n22

However, this method would require the NMM to hold a very large inventory of each stock in the index, and it might interfere with fundamental changes that had occurred in the particular issuers. Thus, a second possibility is for the NMM to start selling all the stocks in the index, according to the formula on which the index is based, until the index stabilizes. This mode of operation would require the NMM to maintain its inventory in proportion to the formula controlling adjustment of the index. With this method, the NMM would not focus on any particular stock, but on the volatility of the index. This method would allow particular stocks some freedom to fluctuate in accordance with changes in the economic reality of their issuers, yet cap overall market volatility.

A third possibility for the NMM is to write index (not stock) futures for different periods of time, and cover its futures contracts by buying portions of the underlying stocks. Clearly, these are complex operations that must be developed with care. This Paper merely suggests that these possibilities and variations on them be examined.

2. How Much Capital Would the NMM Require?

To sustain an onslaught such as the one that occurred on October 19, 1987, the NMM must be able to raise about \$ 500 billion. n23 The securities industry could not possibly have absorbed the sales on the day; even the government might find it hard to raise such an amount on short notice. Experience in the currency markets suggests that when the market pressures are very great, even central banks cannot stem the tide. The proposal for an NMM does not purport to offer a cure for runs of such magnitude; it is more modest. The NMM should be viewed as a preventive measure, aimed at smaller fluctuations, a mechanism that could slow the build-up of bubbles and runs, and thereby perhaps avert some.

The calculation of the amount necessary for operation of the NMM should not be based on the worst-case scenario of October 1987, but on the fluctuations of the market during the two years prior to October 1987 as well as the year that followed. If existing market makers continue to control small market fluctuations, and the NMM steps in to mute volatility above 50 points, then it is reasonable to estimate that the NMM would need capital of approximately \$ 50 billion (about one tenth of the October 1987 losses).

3. Who Should Fund the NMM?

Of the \$ 50 billion needed to fund the NMM, \$ 30 billion could be provided by bank loan commitments and \$ 10 billion could be covered by hedging, through stock indexes and futures. Of the remaining \$ 10 billion, the securities and investment management industry should join forces and contribute at least some of the funds. We assume that the industry is interested in controlling market volatility to retain the confidence of investors and to reduce losses to dealers and market makers. In determining the industry's fair share, its estimated capital base should be augmented by the capital base of securities affiliates of insurance companies, banks, and money managers. However, the industry need not shoulder the entire burden. In normal times, the NMM (like other market makers) should be profitable. Its profits can be used to augment its capital. Finally, as a last resort, the government could guarantee the NMM's residual obligations for a number of years.

4. Who Should Operate the NMM?

One possible operator of the NMM is the government. In many respects the government is a natural choice. First, through the Federal Reserve System (the "Fed"), the government is an expert in open market operations to implement fiscal policies by manipulating the money supply, exchange rates, and interest rates. Operations to stabilize the securities markets may be new, but they are not necessarily more complex. Second, the very position of the government as the NMM operator may have a stabilizing effect on the markets, similar to the effect of the FDIC on bank deposits. Third, the government can provide liquidity to the NMM as the lender of last resort, a function that the NMM may have to perform, especially when runs develop. Fourth, the determination of the ceiling for volatility is a governmental function.

However, there are good reasons to keep the government out of the NMM business. Our political system tends to minimize governmental interference in the allocation of capital. In addition, market making operations by the government may create a moral hazard, tempting investors to speculate. The argument against the government as the NMM is particularly strong when there exists, as in this case, a potential for preferential treatment of particular issuers. This suggests that we should create a private-sector NMM.

5. How Would a Private-Sector NMM be Governed?

The NMM should be governed primarily by self-executing rules with little discretion for its governing body. The rules must be worked out after a period of experiments to determine the formula for selecting the index in which the NMM will trade, the timing of the trades, the choice and identity of its managers, and the amounts that each member should contribute to its capital. Any changes in the ground rules should require the approval of the Securities and Exchange Commission, perhaps together with the Fed, after a public hearing.

6. What Would be the Role of the Government in a Private-Sector NMM?

The extent of market deviation that will activate the NMM's trades should be determined from time to time by the Fed. The Fed is a natural choice because it manages other factors in the economy (including market volatility through margin requirements for the purchase of securities). In determining the level of stability, however, the Fed should be responsive to Congress.

The government could also act as a short-term lender to the NMM, similar to its "discount window" facility for banks.²⁴ Finally, the government may have to act as a lender of last resort and as a receiver for the NMM. Although, for the most part, the government's role should be limited to establishing general policies. The more responsibilities the government undertakes, the more powers it should have to regulate the NMM's operation.

7. Should NMM Membership be Voluntary or Compulsory?

Membership in the NMM should be compulsory. Even if the NMM is established on a voluntary basis, it is likely to become a compulsory scheme because voluntary membership would give non-members an opportunity for free riding. Historically, similar organizations with voluntary membership developed into legally compulsory schemes. For example, the Securities Investor Protection Corporation was established after reputable members of the industry covered the losses of customers of an insolvent member of the New York Stock Exchange. Similarly, the FDIC was preceded by private insurance funds established by large banks to insure depositors. Since the securities industry is searching for mechanisms to reduce volatility, and its leading members are likely to back up market makers in distress, these members will probably request compulsory membership for the NMM. Compulsory participation can also be justified on the ground that members' contributions need not be a tax: long-term, the NMM can be as profitable as any specialist's business.

8. Testing the NMM Against the Ideal Mechanism

The NMM satisfies most of the criteria established in Part II of this Paper. It is a mechanism that operates continuously to mute volatility, rather than operating ad hoc. It is flexible and can be adjusted over time. It can be responsive to a political determination of the acceptable level of market stability. It operates to reduce the chances that volatility will occur, rather than operating only after the threat has arisen. It directly addresses the immediate cause of volatility by balancing buying and selling pressures. It answers the threat of bubbles as well as runs. It allows uninterrupted trading. The risk it poses is comparatively low because its model, the individual market maker, has functioned effectively for a long period of time. It has little potential for igniting runs. It does not reduce the liquidity of the markets. It does not encourage circumvention of American markets, or create opportunities for speculation.

9. Benefits

The NMM may bring a number of benefits. First, it reduces the probability of losses from sharp market gyrations while preserving the role of current market makers. Second, it gives members of the securities and investment management industry an incentive not to trade in ways that create sharp price fluctuations, because they will bear the immediate cost. This incentive creates a counter-pressure to the tendency of the industry to induce bubbles; it also creates a substantial self-interest in preventing runs. Third, the very existence of the NMM may have a stabilizing effect on the markets. Fourth, the NMM may emasculate the new type of arbitrageur that creates, rather than eliminates, price differentials. Fifth, the NMM will redistribute trading gains and losses among investors and the securities industry. It can thus become the permanent institutional diversifier of market risk. Sixth, even though the NMM will not help distinguish between speculative trading and trading based on fundamentals, both types of trading will be subject to an adjustable ceiling on the volatility of the markets as a whole, rather than on the volatility of a particular stock. Therefore, although the NMM will mute volatility, it will not prevent price adjustments that reflect fundamental changes in the issuing company.

10. Drawbacks

Like every insurance scheme, the NMM will impose costs on the securities industry, and these costs will be passed on to investors and borrowers. To this extent the NMM will be inefficient. However, this drawback may be illusory because in the long run, the NMM may prove more efficient than the current system. The losses that volatility imposes on investors, on the economy, and on the quality of people's lives, may substantially exceed the cost of the NMM.

B. Regulate Institutional Investors for Stable Trading

The justifications for regulating institutional investors were discussed above. n25 This section proposes new prudence rules to reduce volatility by inducing institutional investors to act as investors rather than as speculators, and by deterring them from one-directional trading. These rules should not restrict the discretion of money managers to choose particular investments, but should affect their investment policies. Admittedly, the rules will be difficult to enforce. To avoid the drawbacks of portfolio regulation, precise directives cannot be formulated. Nevertheless, the value of these rules is in deterring trading on market trends; the purpose of these rules is to create an investment culture that focuses on fundamentals.

1. Impose a Prudence Rule on Trading Strategies

Our rule can be modeled after the way institutions trade when they seek to protect their portfolios from the impact of their own trades. In such cases, institutions either transact outside the auction or retail markets, or they transact in "dribbles" over a period of time. The proposed prudence rule would *require* institutions to trade in this manner, even if the volatility produced by their trades would not harm them. *Institutional investors should always trade as if their trades affected them.* This will reduce the immediate profits from each transaction, but in the long run, all institutions and their entrustors will benefit. In a competitive environment, no money manager can voluntarily afford to forego short-term profits, and in the event of a run, managers will be hard pressed to sell and "beat the market." Therefore, it is necessary to create a rule that applies to all of them.

In addition, investments based on analysis of market trends should be discouraged. While trades based on analysis of the financial position of issuers (i.e., fundamental analysis) are likely to have a stabilizing effect on the market, the "strategy of the herd" (i.e., technical analysis) is bound to create substantial volatility in market prices. Financial assets are no different from other investments: they offer income and capital gains. n26 But because the cost of trading in financial assets is lower than for other investments, investors can obtain capital gains almost as easily as income. This is the incentive that leads to trading on market trends.

Markets will be more stable if investors buy for income rather than for trade gains. Institutions that trade on a technical analysis of short-term market trends *must* produce greater volatility. n27 Their trades deepen market trends because sales and purchases follow closely other sales and purchases. Consequently, our prudence rule should further stabilize the market by deterring trading policies based on short-term market trends.

2. Require Diversification by Market Volatility

Our second prudence rule would expand classic portfolio theory to include diversification by the risk of market volatility. There should be no difficulty in complying with such a rule because we know enough to rank market investments in terms of volatility and to establish broad standards for diversification. n28 As a side benefit, the rule might shrink institutional holdings of futures because the futures markets are more volatile than the stock markets. That may have the desirable effect of reducing the leverage of institutional investments, as discussed below. n29

This rule may raise a number of objections if it encourages institutions to invest in debt securities (which are less volatile), rather than investing in equities, options, and futures. n30 First, it could be argued that the rule would shrink these markets and render them more volatile. However, institutional investors already hold a large percentage of their portfolios in debt instruments. Further, before 1970 and the emergence of institutional investors, the equity markets were not more volatile than they are today.

Second, it could be argued that issuers will become more leveraged and vulnerable to economic down-trends if institutions substitute debt for stock. However, the main danger to corporations is short-term debt. Moreover, even if higher leverage leads more corporations to insolvency, current bankruptcy law favors reorganizing over liquidation. Besides, corporate America has already increased its leverage substantially to fight off the demand of shareholders for higher profits and for the liquidation and distribution of corporate assets.

Third, it could be argued that the shift of institutional investments to debt securities would insulate corporate managements from accountability. In practice, however, shareholder removal of managements is costly and rarely successful. In addition, there are substantial barriers to institutional investors' involvement in corporate governance, and although they have shown more muscle recently, most institutions still follow the "Wall Street Rule": they will either support management or sell the shares. Besides, there are other ways, including accountability to creditors, that may serve the same purpose.

3. An Old Approach: Reduce the Likelihood of Forced Sales

Institutions should not be permitted to leverage beyond a conservative cut-off point, not only because leverage contributes to market volatility, but also because the strategy is not prudent. Since 1934, the Fed has had the power to impose margin requirements on stock purchases in order to reduce the likelihood of forced stock sales and their domino effect in a bear market. However, although institutions do not leverage by debt, they can leverage by acquiring futures and options, and when they do, they cannot hold their stocks in a bear market. Regardless of whether the Fed (or some other agency) ought to have the power to impose more stringent margin requirements on institutional purchases of futures and options, the Labor Department (as supervisor of pension funds) and the courts have authority to impose such limits. Institutions should be subject to a prudence rule that limits substantial leveraging by means of futures contracts and similar instruments. n31

V. CONCLUSION

This Paper subscribes to the theory that money and financial market activities affect the economy, and that excessive volatility in the financial markets can trigger economic instability, with disastrous results. Further, even when financial instability does not harm the economy, instability may reach a level that is unacceptable to American society. Consequently, there is a need for new mechanisms to control volatility in the financial markets.

This Paper examines, and rejects, a number of arguments against imposing new government controls on the markets. It then lists the criteria for an ideal control mechanism, and uses these criteria to examine current proposals to reduce volatility, such as to halt trading during runs and to impose a stock transfer tax. This Paper rejects these proposals because they fail to satisfy the criteria. It also rejects an objective which is implicit in some proposals: to entice small investors back to the markets. Small investors cannot win against insiders and institutional traders and should not bear the losses from market instability.

This Paper then makes two proposals that substantially satisfy the criteria. The first is to create a new institution, the National Market Maker, that could control and adjust volatility. The second is to impose new prudence rules on institutional investors. The rules would deter trading strategies based on market trends, require portfolio diversification by market volatility, and impose conservative leverage limits.

The securities and investment management industry should be interested in these proposals because in the long run, market volatility hurts the industry. The traditional measures to reduce volatility have never worked well. As the threat of runs and their effects looms larger with changes in market reality, we can no longer afford to apply more of these same imperfect medicines. The time has come to rethink our traditional approaches and try something new.

FOOTNOTES:

n1 See L. LOSS, *FUNDAMENTALS OF SECURITIES REGULATION* 1 (2d ed. 1988) (describing the financial and social consequences of the extreme rise, and subsequent fall, of shares in the South Sea Company in 1720). See also C. MACKAY, *MEMOIRS OF EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDS* 46-88 (1841) (citing the South Sea Bubble as an example of manic mob psychology); W. BAGEHOT, *LOMBARD STREET* 150-51 (Arno reprint ed. 1979) (1873) (comparing the trading mania of the South Sea Bubble with hysterical gambling). See generally L. BENJAMIN (under the pseudonym Lewis Melville), *THE SOUTH SEA BUBBLE* (1923) (presenting a popular account of the South Sea Company financial crisis).

n2 "Bubbles" are rising market prices that are unsupported by current production; "runs" are free-falling market prices that do not reflect current economic conditions.

n3 See J. KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY* 147-64 (1936) (describing the role of investor confidence in stock market activity and its effect on the economy).

n4 Ricks, *Senators Hear Opposite Views of the Markets*, *Wall St. J.*, May 25, 1988, at 2, col. 2. The Brady Commission (appointed by President Reagan to evaluate the 1987 crash) has taken a similar position, and so have many economists. They propose only minor changes in market structures, mainly "circuit breakers" (temporary halts to trading). See *infra* pp. 995-96.

n5 The use of computers is an example of a transforming technological change. Computers can reduce transaction costs, stimulate trading, and increase volatility. See Solomon & Dicker, *The Crash of 1987: A Legal and Public Policy Analysis*, 57 *FORDHAM L. REV.* 191, 246-49 (1988). Sociological changes include the use of savings funds as a substitute for the dwindling family support of the elderly. These funds have grown enormously, producing a significant effect on the markets as well as on the lives of millions of working and retired Americans. See *id.* at 242.

n6 This argument may be supported by two reasons. First, our understanding of the complex workings of the economy is imperfect, and presumably we might do greater harm than good by interfering. Second, the linkage between domestic and international markets makes government control of the domestic markets difficult.

n7 American society has changed the target level of stability from time to time. For example, it is reasonable to assume that after the depression of the 1930s, the level of desired stability was higher than it is today.

n8 See generally *FINANCIAL CRISES: THEORY, HISTORY, AND POLICY* (C. Kindleberger & J. Laffargue ed. 1982) (presenting essays on the causes of financial instability); C. MACKAY, *supra* note 1; H. MINSKY, *CAN "IT" HAPPEN AGAIN?* 90-115 (1982) (theorizing that financial instability is inherent to the operation of capitalist economies).

n9 *REPORT OF THE PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS* 66 (1988) (the "Brady Report"), cited in Solomon & Dicker, *supra* note 5, at 235. See Greenwald & Stein, *The Task Force Report: The Reasoning Behind the Recommendations*, *J. ECON. PERSP.*, Summer 1988, at 3, 16-19 (advocating the use of circuit breakers when market activity becomes so intense that prices lose their informational value to traders). See also Gammill & Marsh, *Trading Activity and Price Behavior in the Stock and Stock Index Futures*

Markets in October 1987, J. ECON. PERSP., Summer 1988, at 25, 43 (briefly describing several types of circuit breakers).

n10 See Solomon & Dicker, *supra* note 5, at 238.

n11 *Id.* at 250 ("[C]ommunication technology has linked the world's markets so as to encourage global, twenty-four hour trading.").

n12 See Swartz, *Crash Victims: Small Investor Brokers Lose Clients in Wake of Oct. 19*, Wall St. J., Sept. 26, 1988, at 1, col. 6; Gottschalk, *Many Small Investors Frightened by Crash, Stay on the Sidelines*, Wall St. J., Jan. 20, 1988, at 1, col. 6.

n13 See, e.g., Markham & Stephanz, *The Stock Market Crash of 1987: The United States Looks at New Recommendations*, 76 *GEO. L.J.* 1993, 2032 (1988) (briefly listing the recommendations of the Brady Report, *supra* note 9).

n14 No one has suggested that transaction costs be increased by returning to the pre-1975 regime of fixed commissions, and rightly so. A system based on legal monopolies breeds its own brand of abuses. Besides, there is no justification for redistributing wealth from investors to the investment banking industry.

n15 Solomon & Dicker, *supra* note 5, at 250.

n16 See *id.* at 237 (stating that "halting trades in the United States markets may simply serve to transfer business to foreign markets").

n17 I use the term "entrustors" for all beneficial owners whose money is managed by fiduciaries. This includes beneficiaries of trusts in private and common trust funds, pension beneficiaries, and mutual fund shareholders.

n18 It is arguable that any limitation on money managers is undesirable because it would inhibit innovations in predicting market movements. But until we find the patterns of chaos, attempts to predict market movements are bound to fail and trading on market trends remains risky and imprudent.

n19 Such a regulation must apply to all money managers because in a competitive environment, it is unfair and unrealistic to require money managers to forego today's advantage for tomorrow's benefits to entrustors and society. Further, social considerations can be used as a guise for abuse of fiduciary powers. Therefore, any regulation of investment strategies must be imposed by law on all money managers.

n20 Such a mechanism will not have the adverse effects that reduced trading volume can have on liquidity and the securities industry. Smaller market fluctuations could induce investors to balance investment strategies for income and trading. While broker/dealers may have to work harder to induce trades, greater stability may increase the trading volume by attracting investors that have avoided the markets.

n21 Specialists on the stock exchanges receive trade orders in particular stocks. When prices on an exchange fall below a certain level, such as one eighth of a point, and there are no buyers for that price, specialists are required to buy at one eighth of a point lower. When prices rise above this level, and there are no sellers, the specialists are required to sell out of their inventory at the higher level.

n22 This mechanism would be similar to the existing procedure for stabilizing the market price of new securities offerings. When new securities are offered, arbitrageurs might buy to resell them and depress their price. Therefore, the underwriter is allowed to purchase the securities to maintain the price for a specific period, until the securities "rest" with investors.

n23 See Keller & Gehlmann, *Introductory Comment: A Historical Introduction to The Securities Act of 1933 and the Securities Exchange Act of 1934*, 49 *OHIO ST. L.J.* 329 (1988) (describing the loss in value of equities on October 19, 1987).

n24 See Goodman & Shaffer, *The Economics of Deposit Insurance: A Critical Evaluation of Proposed Reforms*, 2 *YALE J. ON REG.* 145, 147 n.12 (1984) (briefly describing the operation of the discount window).

n25 See *supra* notes 17-19 and accompanying text.

n26 The two are related, but not the same. While income from securities is affected by the market for the issuer's products, gains from trades depend mainly on the supply and demand for securities.

n27 It seems that some large traders have reached a similar conclusion. During October of 1989, a number of such traders voluntarily discontinued their "program trading." *Kiddler Limits Program Trading, Merrill Lynch Ends It, as Complaints Grow*, Wall St. J., Oct. 31, 1989, at C1, col. 4. However, the large institutional traders continue to resist.

n28 For example, we know that markets in futures are more volatile than the stock markets; the latter are more volatile than markets in debt instruments. Regardless of whether futures are used for hedging or speculation, a rule of prudence should require that portfolios be diversified in terms of market volatility exposure. Mutual funds adopting a policy of "growth" (trade gains rather than income) should clearly disclose that their portfolios are not diversified for stock market volatility, or perhaps eliminate the euphemism "growth" altogether.

n29 See *infra* p. 1006.

n30 At the height of the bull market in 1987, equities amounted to one third of all debt and debt securities issued by non-financial entities. See REPORT FROM THE CHAIRMAN OF THE SUBCOMM. ON TELECOMMUNICATIONS, CONSUMER PROTECTION, AND FINANCE, 99TH CONG., 2D SESS., RESTRUCTURING FINANCIAL MARKETS: THE POLICY ISSUES 259, 275 (Comm. Print. 1986). In 1985, the total debt in the economy was about \$ 6,850 billion while corporate equity securities amounted to about \$ 2,380 billion.

n31 These prudence rules require an appropriate enforcement mechanism. Government agencies, such as the Department of Labor, have not been active enforcers of prudence rules. Private enforcement is rare, and

seldom successful. Courts tend not to interfere with the discretion of money managers, and court proceedings are costly. There is a need for an administrative or arbitration tribunal staffed by expert money managers to enforce such prudence rules. Such a tribunal may be accountable to the Labor Department, the Securities and Exchange Commission, or the Fed. If a National Market Maker is established, it may be the most appropriate regulator of the tribunal.