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**"PERESTROIKA" ON WALL STREET:  
THE FUTURE OF SECURITIES TRADING**

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"PERESTROIKA" ON WALL STREET:  
THE FUTURE OF SECURITIES TRADING

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Just as the Soviet Union seeks to respond to its economic difficulties by moving toward a more market-oriented economy, U.S. markets must embrace new financial instruments and trading technologies if they are to prevail in the wake of the crash of October 19, 1987.

The title of this article could well prompt you to ask two distinct questions: First, what does perestroika have to do with Wall Street? Second, who says securities trading has a future? The first question is easier to answer than the second, so I'll address them in that order.

"Perestroika" is a Russian word that describes the market-oriented restructuring of the economic system now underway in the Soviet Union. Mikhael Gorbachev has recognized, much to his credit, that centralized planning simply does not work--especially in a modern, high-technology, internationalized marketplace. As technology has raced farther ahead, the Soviet Union, burdened with a system that relies on centralized economic planning, has fallen farther behind. The Soviet Union has now reached a point where there can be no doubt that it is simply not competitive with the

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United States, Japan, and Western Europe in every significant area other than raw military might.

Because Mr. Gorbachev seeks, in part, to prevent the Soviet economic system from falling even farther behind the free world, he is trying to introduce competition into an otherwise highly regimented social and economic system. This shift in economic strategy comes as a substantial shock to Soviet society. The shock is profound because competition can be quite messy and chaotic, particularly to a society that has, over decades, grown accustomed to a system of centralized planning that at least gives the appearance of being predictable and controlled.

Closely related to perestroika is Mr. Gorbachev's policy of "glasnost," or openness, which, in its own limited way, has revolutionized communications behind the Iron Curtain. Mr. Gorbachev recognizes that some measure of free and open communication is necessary in order to support innovation and experimentation in an evolving economic environment. Accordingly, perestroika in the economic marketplace walks hand in hand with glasnost in the marketplace for ideas.

Now, what does this Neo-Marxist dance with capitalism have in common with Wall Street? A lot, at least by analogy, because if, in the wake of October 19, 1987, our capital markets do not begin a technological "perestroika" designed to adapt their internal structures to powerful, changing realities, as well as an equally important "glasnost" designed

to make our markets more informationally transparent, then we risk losing our leadership position in the international financial services industry to foreign competitors who adjust more adeptly and rapidly.

Thus, either we begin our own domestic process of perestroika and glasnost on Wall Street, and move aggressively in a direction that embraces new trading technologies, new information dissemination procedures, and new types of securities instruments, or we will find ourselves saddled with arthritic markets that are better suited to the 19th century than to the 21st. Make no mistake about it, the long run survival and vitality of our domestic securities market does not depend primarily on the introduction of circuit breakers, prohibitions on program trading, restrictions on index arbitrage, tighter short sale restrictions, or any other intrusive regulatory mechanisms. Our survival depends primarily on innovation and competition, not inhibition and regulation.

Granted, some regulatory measures can play useful roles as political or financial stop gaps, pending more progressive market reforms. However, none of these regulatory measures can, in and of themselves, bring our markets to the cutting edge of the highly technological and competitive environment that is certain to prevail in a much more internationalized and not very distant future. Indeed, to the extent that these measures provide a sense of "breathing room," and create the

superficial impression that all is "under control," they may actually erode the sense of urgency and conviction that may be necessary in order for innovation to succeed in our markets.

To succeed, our markets and our market regulators must stop fighting technology. They must learn instead to harness its energy. This process will not be easy because many vested interests are quite happy with the status quo and are clearly threatened by the changes that the future portends. Even individuals without an economic stake in the status quo can be frightened by a future that looks so different from the relatively recent past. While nostalgia is understandable, it is a powerful enemy in the evolutionary process. If people continue to want to trade the good old fashioned way--the way they did back in the '40s, '50s, and '60s--we might well drown in our memories as a more forward-looking world passes us by.

To leap from these easy generalities to more controversial specifics, I would like to discuss two examples of a technologically induced "perestroika" that could, sooner or later, affect Wall Street, Chicago, and our entire financial services sector.

The first involves a leap from the speed of tennis shoes to the speed of light. One of the more interesting ironies of today's marketplace is that information about securities transactions moves through our economy in an elaborate telecommunications network and at blinding speed until it hits the point of the trade--either in Chicago's futures pits or on

the floor of the New York Stock Exchange. What happens at the point of the trade? Information literally shifts gears from the speed of light to the speed of tennis shoes, as buy and sell orders pop out of computer networks or into trading pits or specialist posts. At that point, transactions move only as quickly, accurately, and honestly as the locals, specialists, or marketmakers standing at the far end of a terminal or telephone.

It's extraordinarily important to observe that not all markets in the world operate in this manner. Japan has recently started trading stock index futures through a totally electronic system. You won't find trading pits in Tokyo or locals in Osaka even though their markets move billions of dollars in futures volume. All you'll see is the amber-hued glow of video display terminals as computerized networks match buy and sell orders according to rules that determine price and time priority.

Now, I am certainly not advocating that we shut down the pits in Chicago or that we clear the floor of the New York Stock Exchange as we immediately replace humans with microchips at the point of the trade. I do question, however, whether the degree of computerized trade matching at the point of the trade and the degree of information dissemination to the rest of the market is adequate today in Chicago, in New York, or in the somewhat more automated over-the-counter market run by the NASD.

One useful first step in the process of market perestroika was recently taken by the Chicago Mercantile Exchange, which announced plans to institute a computerized futures trading system called "Globex." Globex will allow futures transactions to take place electronically during periods when Chicago's futures trading pits are closed. This is precisely the sort of innovation that is necessary if our markets are to be competitively positioned to deal with the inevitable challenges of the 21st century.

The second innovation in the process of market perestroika involves the anticipated introduction of new basket trading products on the New York Stock Exchange. Basket trading--often also called program trading--has been criticized as a major cause of the October 19th crash. That criticism is, I think, quite unjustified. It results largely from a misunderstanding of program trading and the reasons for its rapid growth over the past five years. Indeed, misperceptions about the nature and purpose of program trading provide a concrete example of the difficulties our markets and regulatory systems experience as they seek to adjust to legitimate changes in market technology.

Program trading involves the purchase or sale of equities through a transaction that involves a portfolio of stocks rather than a series of transactions effected on a stock-by-stock basis. There are at least three reasons program trading has grown in popularity over the past few years: (1) the

growing influence of portfolio theory; (2) accumulating evidence regarding the importance of sector returns; and (3) the practical difficulties and transactions costs encountered by institutions who attempt to adjust their portfolios on a stock-by-stock basis. Each of these forces can be reviewed in sequence.

First, modern portfolio theory constitutes a revolution in the way investors think about investing. Portfolio theory teaches, among many other things, that the value of any stock cannot be considered in isolation. Instead, the value of a specific stock must be considered relative to the portfolio of securities that an investor holds. Thus, if a particular stock tends to increase or decrease in value in tandem with Investor A's portfolio, then the purchase of that stock by Investor A could increase the riskiness of his portfolio. But, if Investor B has a portfolio that tends to rise as this particular stock declines, and decline as this stock rises, then the purchase of the same stock by Investor B could decrease the riskiness of his portfolio. It follows that the investment characteristics of portfolios can be quite different from the characteristics of their component securities. It also follows that if an investor wants to reduce or increase his or her exposure to the equity market, or change the characteristics of his equity market exposure, it could well make more sense to buy or sell a portfolio of

stocks as a portfolio (or "basket"), rather than engage in a series of stock-by-stock transactions.

Second, experience indicates that, when a large fund has billions of dollars to invest in the market, the fund cannot ordinarily achieve a substantial increase in its effective yield by identifying individual stocks that will outperform the market. It is very difficult to squeeze a percentage point of return over and above the S&P 500 by being able to pick General Motors over General Electric or General Dynamics. Instead, the opportunity for enhanced returns in today's market is more closely related to the allocation of funds among broad asset groups. Thus, given appropriate diversification, it's more important to have an optimal exposure to the equity market in the aggregate rather than to have picked a couple of stocks that turn out to be winners. Similarly, it's more important to have the optimal exposure to long term and short term bonds rather than to be invested in any specific issues. These findings further reinforce the incentive to transact portfolios rather than individual securities.

Third, from a more practical perspective, if an institution has billions of dollars invested in the market and wants to increase or decrease its exposure to equities, it cannot do so at low cost or with any speed if the decision had to be implemented on a stock-by-stock basis. Instead, it is far easier, faster, and cheaper for that institution simply to

buy or sell an indexed portfolio of securities and subsequently to rebalance its portfolio to achieve the desired investment characteristics.

The combination of these three factors, and others, lead many large investors to conclude that, as a practical matter, the only smart trade is often a portfolio trade. They reach this conclusion for perfectly logical reasons that have nothing to do with a desire or effort to manipulate, roil, or otherwise distort the market. Indeed, it is generally not in the best interests of these large traders to have their transactions cause substantial market moves. In particular, if a basket sale causes prices to decline the seller gets paid less for his shares, and if a basket purchase pushes prices upward the buyer will have to pay more--such price moves are against the large trader's own self interest!

Many people complain that the trend toward basket trading is causing the "commoditization" of the equities markets and that commoditization is harmful because it distorts the valuation of individual equities. This criticism is, I think, often misguided because it oversimplifies the market's operation and relies on a partial-equilibrium analysis of a general-equilibrium problem. In reality, one can think of two types of traders in today's equity markets. There are basket traders who trade broad indexes for reasons that are perfectly logical, and that are not intended to manipulate or distort the markets at all. In addition, there are stock

pickers who specialize in identifying mispriced relationships among individual equities. The extent to which basket trading induces such mispricing is a debatable proposition. However, even if basket trading induces mispricing, stock pickers can rebalance relative stock prices by buying stocks that they believe have been driven too low and selling stocks that they believe are priced too high.

Therefore, as long as stock pickers are present in the market at the same time that basket traders are active, and absent special circumstances such as may have existed on October 19, 1987, the valuation of individual equities should not be distorted for an extended period by this evolution in trading strategies. Thus, I would argue that the dangers of commoditization may well turn out to be temporary and more perceived than real.

Unfortunately, while the market as a whole has experienced a sharp increase in the demand for portfolio related transaction services, our stock exchanges today still trade solely on a stock-by-stock basis. How important is that, and what significance does that have for the operation of the equity markets? Let me illustrate with an analogy.

Suppose I decide that I want to sell my old Volkswagen Rabbit. If we were to trade used Volkswagens today the same way we trade portfolio baskets on the NYSE, I would drive my VW onto a dealer's lot, he would pay for the car, and then he would disassemble the Rabbit into its component parts. He

would take off the hood, detach the fenders, take out the engine, remove the transmission, and so on. Then, if you wanted to buy the same VW Rabbit, the dealer would have to put all the pieces back together before you could drive the car off the lot. To my mind, that's not a very sensible way to re-market automobiles, and it's not a very efficient model for the exchange of equity baskets.

Nonetheless, that's how we trade equity baskets today. Let's say I want to sell the full S&P 500 basket. At the same time, you want to buy the full S&P 500 basket. Despite the fact that our trades match perfectly, I can't sell my basket directly to you in a single, simple transaction. Instead, I have to break my basket down into 500 individual trades that are directed onto the floor of the NYSE to the relevant specialist posts. Then, when you enter your order, it also gets broken into 500 individual orders. As your buy orders trickle through the system, they eventually match my earlier sell orders--though not perhaps on a one-for-one basis because of the possible intervention of other traders. When all is said and done, you walk away with your basket of 500 stocks, and I've sold my basket of 500 stocks, but we haven't done it in the most straightforward manner possible because we've entered one thousand orders so that we could conduct what is essentially a single transaction.

Wouldn't it make a lot more sense if we were able to trade portfolios as portfolios, without pushing them through a

system that subdivides the portfolio into individual equity transactions? Fortunately, the NYSE is committed to developing a basket trading system that will allow portfolios to trade as portfolios. This commitment to basket trading, if successfully implemented, will, I think, be a major step forward in the process of perestroika on Wall Street. If successful, this seemingly technical step could well signal a realistic approach to the challenges that await all our markets in the 21st century.

To recap, perestroika may well be as necessary on Wall Street as it is in Moscow. While certain regulatory interventions may be perceived as useful in the short run, they cannot point the path to a profitable and competitive future. The reality is that our future depends much more on responsible innovation than it does on traditional forms of regulation.

I'd like to close with a short postscript on what we've learned since October 19, 1987, a day on which the market declined more than 500 points. The experience of the past year suggests both bad news and good news. The bad news is that the federal government has done relatively little in the wake of the market crash. The good news is that the federal government has done relatively little in the wake of the market crash.

How is it that the same news can be both bad and good? If one goes back to 1929, one observes that the government's

actions in the wake of the market crash were far worse than the crash itself. Fortunately, the government has not (at least as yet) repeated those errors, so the good news is that the government has done nothing affirmatively wrong since October 1987 to exacerbate the market's difficulties.

Unfortunately, the government has not moved as aggressively or quickly as it could or should have to fix many of the clearance, settlement, or information problems revealed by October 19. From that perspective, the bad news is that the government has not done all it could in the wake of the 1987 market break.

We have also learned that many of the quick and easy explanations that were popular shortly after the crash were, to put it simply, either wrong or at least exaggerated. For example, many people have spent a great deal of energy trying to pin the blame for the crash on some form of innovation. Among the favorite targets were the futures markets, computerized trading, portfolio insurance, index arbitrage, basket trading, and several other innovations in our capital markets.

There is, however, a simple yet powerful piece of evidence suggesting that those innovations may have had nothing to do with the market's 1987 decline. That evidence is the crash of 1929. You can't blame the crash of 1929 on computers because they didn't exist in 1929. You can't blame the crash of 1929 on stock index futures because they didn't

exist in 1929. And, you can't blame the crash of 1929 on portfolio insurance, index arbitrage, or basket trading because they also didn't exist in 1929.

Thus, experience demonstrates that equity markets can go down quickly for reasons that have absolutely nothing to do with computerized trading, futures, portfolio insurance, index arbitrage, or any other factors on which people have attempted to blame the decline. While this argument cannot, of course, exonerate technological innovation from all blame for the crash, it suggests that some critics may at least have been too hasty to blame the market's woes on innovation.

Finally, I would like to discuss in some detail a little known example of how a regulatory restriction might have exacerbated the market decline on October 19. At this point, it may also be useful to demystify portfolio insurance a bit and illustrate how similar it is to a common trading strategy--stop loss selling--that can be used by even the smallest investor.

Suppose the Dow Jones Industrial Average is at 2,500, and you've got \$3,000 invested in the market. You want to be sure that you will be out of the market by the time the Dow hits 2,200. That's your floor level. How do you use these simple facts to design a customized portfolio insurance program? It's simple: when the market hits 2,400, you sell \$1,000 of stock. When the market hits 2,300, you sell another \$1,000 of stock. And, when the market hits 2,200, you sell your last

\$1,000 of stock. At that point, you're out of the market by the time it hits 2,200, and you're "insured" against losses below this floor level. That's a simple stop loss selling strategy. Now, you take the philosophy of stop loss selling, write it up in the form of a partial differential equations and stick it on a computer, and all of a sudden this simple, logical plan becomes the mysterious demon known as "portfolio insurance."

The difference between a portfolio insurance strategy implemented through a "dynamic hedge," as in a stop loss selling program, and a portfolio insurance program implemented through the purchase of a put option is that when you buy a put you offer the world valuable information about your expectations that the market might decline, but when you rely on stop loss selling you offer the market no information because your strategy is kept secret.

One of the reasons that large investors may have used portfolio insurance strategies that rely on futures rather than options before October 19 is that there are position limits on the use of the options markets by large investors. These position limit rules reduce the extent to which a large investor can hedge against a decline in the market by buying index puts. On October 19, those limits were low enough to prevent many large investors from relying on the options market to ensure themselves against a decline.

Had all investors involved in portfolio insurance found it possible, and desirable, to satisfy their demand for "insurance" by buying puts instead of relying on dynamic hedges, the market would have had more information about the intensity of investor concern about a downside move. Under those circumstances, there's reason to believe that prices might not have gotten as high on the upside and might not have fallen as low on the downside, had the market simply been better informed of investors' own concerns. Thus, to the extent position limits on index options forced investors away from the options market and into secret dynamic hedging strategies, the government's position limit restrictions may have unwittingly exacerbated the market's decline.

To sum up, certain aspects of market structure are susceptible to government regulation, and the government can, in some of these cases, have a positive influence. For example, measures that facilitate the introduction of technology at the point of the trade, and measures that encourage the introduction of portfolio trading products, can be quite beneficial. However, other aspects of capital market behavior are not susceptible to government intervention, and when government intervention does occur, it will on average and over time cause far greater harm than good.

The art of successful regulation depends on regulators' having the wisdom to distinguish situations in which they can

make a constructive contribution from those in which their intervention is likely to be harmful. This is not always an easy task because the regulators' natural tendency is to regulate, and abstinence may be quite difficult especially when opportunities for intervention abound. The challenge will grow even more difficult in the future as the pace of change speeds up and the concomitant pressures on regulators intensify. Successful perestroika on Wall Street may, however, depend as much on carefully measured regulatory abstinence as on vigorously pursued technological and financial innovation. The challenge will not be easy, but it must be met.