

## Faster!



*By Wayne H Wagner, Chairman, Plexus Group, Inc. a business division of JPMorgan Chase*

**Markets move fast; in fact markets today are noticeably faster now than they have ever been. In the blink of an eye – about a third of a second – dozens of trades can occur in very active issues. Thus in many highly liquid securities, even the most observant human trader could miss several important signals with every blink.**

No doubt, today's markets, like supersonic jet fighters, require reaction times faster than human speed. We've entered the age of the so-called flicker market, where prices change so rapidly that the human brain cannot process the messages as fast as they occur. Today's buy-side securities traders need to make decisions in nanoseconds and interact with the markets in split-second time frames. The only possible way to

achieve this speed is through technology – algorithmic trading technology applied through FIX connectivity.

Some people think that speed is a problem. How is it possible for human beings to make rational investment decisions when Intel is more attractive than Cisco and five milliseconds later Cisco is more attractive? How can a human being "see" the market when, in sort of a Heisenberg effect,

it isn't standing in one place long enough to observe? There ought to be a law, some believe, to accommodate the slower human markets. Oh yes, and automobiles should not be allowed to go faster than a horse.

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It is tempting to attribute the genesis of these lightening fast markets to technological innovation and FIX technology. At least in the US markets, while the technological advances assuredly enabled the changes, they are not the root cause. The root cause is a momentous change in market design rather than technological evolution. The change in US markets derives directly from decimalization. Even though most world markets were already on a decimal system, the results were different in the US, as the change occurred when many other forces were coming to a head. The outcome was different than that which would have evolved more slowly in less turbulent times.

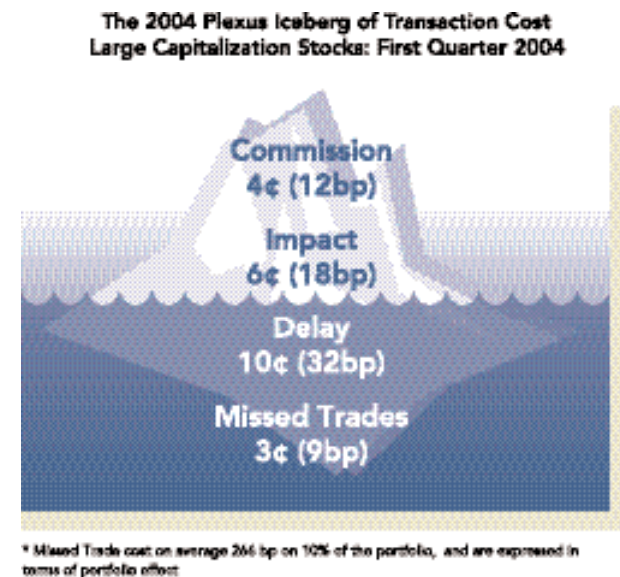
As always, various participants are affected differently by the quickening pace: there are winners and there are losers. A key question is whether this increased speed is helping or harming the dominant investors in the market.

By dominant investor, and the emphasis is on the word investor, we mean the institutional investors: those who run mutual, pension, and eleemosynary funds. Paul Farrell, CBSmarketwatch.com commentator, estimates there are 90 million "passive" US investors trusting these fiduciaries to run their money, while there are only about 5 million run-and-gun active traders. Surely, the retail investors outnumber the institutional investors in number but not in direct economic power. Nor do flow traders such as dealers, day traders and hedge funds dominate the markets in terms of volume. The primary function of the markets is to allocate scarce capital resources, and the market must primarily serve these longer term, more passive "investors" who efficiently identify and price the worthwhile ventures. Otherwise the market becomes little more than an insider's games of one gambler against another.

How well has the market served these dominant investors in recent years? Given the turmoil accompanying the Internet bust, the imposition of decimalization and the changes in the order handling rules, these institutional investors have been challenged to find their place in the new world. Here's the surprise: despite the chorus of groans from buy-side traders, the new markets have served them remarkably well.

According to measurements of implementation shortfall by Plexus Group, transaction costs have dropped around 40% since the turn of the millennium. In the fourth quarter of 2000, Plexus Group measured NYSE trading costs at an all-time peak of 88 basis points. By the fourth quarter of 2003 they had dropped 37% to 55 bp. On NASDAQ, the costs dropped 40% from a high of 138 bp to 83 bp.

Does the magnitude of these numbers surprise you? Plexus measures costs as slippage between the investment performance on a costless basis – from the portfolio manager's "decision price" – to the fully-costed return that begins from the actual average transaction price. In this perspective, shown in the iceberg pictorial, costs break down into four components: 1] commissions and other out-of-pocket transaction fees and taxes; 2] the impact of the trade on market price as it interacts with other buyers and sellers; 3] delay or liquidity search costs that occur when portions of the trade are held back for fear of upsetting the supply/demand balance; and 4] opportunity costs that arise when the trade is abandoned before all desired shares have been acquired.



Surely, the changes in the US market structure, especially decimalization and the change in the order handling rules accelerated the change in the US market. However, this strong reduction in cost of trading was widespread beyond the US. European trading costs dropped from 111 bp to 63 bp; a 43% drop. Emerging markets also dropped 43%; from 220 bp to 125 bp. The bottom line is that the costs of implementing investment ideas are down significantly. Something more than just structural change is playing a role. We identify two causes: changes in the world of investing and changes in the world of trading.

### The perfect storm

Because they happened at roughly the same time, it is difficult to disentangle the effects of changes in the market structure from changes in the investment world. Furthermore, the two forces have interacted in ways that make it difficult to sort out cause and effect. We can identify three post-boom investment factors that have had profound effects on the market: a change in expected returns, a flight to liquidity and safety, and demand for greater transparency in fund management and operations.

**Lowered expectations:** Managers who anticipate gains in the 20-30% range are unlikely to pay attention to transaction costs of a few percentage points. In recent years, however, with low or even negative returns and reduced expectations for long-term equity market returns, managers are forced to look carefully at fund expenses so that the meager returns can flow through to the investors.

**Flight to liquidity:** As the era of the Internet darlings faded away, managers found themselves with few reasons to concentrate portfolios into a handful of hot securities. The result was a rediscovery of the virtues of diversification, reduced risk and greater liquidity. This naturally led managers toward stronger, high liquidity stocks with inherently lower transaction costs.

**Compliance concerns:** Professional investment managers have been besieged by scandals that severely weaken their aura of fiduciary integrity. As a result they are heading for cover: avoiding questionable situations, carefully documenting their actions, and seeking third-party accreditation of their investment and trading practices. This has naturally led to deeper concern over trading costs, a process that often

leads to discovery of cost-saving techniques and strategies. Managers increasingly compete on the cleanliness and efficiency of their operations as well as the dazzle of their star performers.

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### Changes in how traders access the markets

The change in the markets is dramatically illustrated in the NYSE Fact Book. The number of shares per trade peaked at 2,568 in June of 1988 and then began to decline. The number of shares per trade remained in the low 1,000s for most of the late 1990's, falling below 1,000 in March of 2001 and steadily declining since. In December, 2003 it reached a low of 433 shares per trade, the lowest recorded number since 1974.

Surely this is not the result of a decline in the size of institutional holdings or a resurgence of retail trading. Rather, it is the result of the widespread adaptation by institutional investors of new trading techniques, specifically those known as algorithmic trading engines. Algorithmic trading programs a computer to "slice and dice" a large order in a liquid security into small pieces, then meters the pieces carefully into an automated exchange using FIX communications technology. Algorithmic trading engines read a consolidated market view, determine the next move (market order, limit order or wait) transmit the order via FIX technology, receive the fills instantaneously via FIX and iterate on the next go-around.

Trading in 400 share nibbles may sound inefficient, but it isn't. Due to the speed of the connectivity and the analytics, trading engines can execute many trades per minute, all without human intervention or human error. This casts the trader's role into a different light. Today's traders become much more strategists and tacticians than they were in the days where the primary task of a trader was managing broker relationships

FIX is the enabler of these new trading strategies. Many factors contributed to change, but FIX is the instrument on which the new nuances are played. FIX did for trading what synthesizers did for music: they both facilitated a range of capabilities for a fraction of the cost, plus the ability to create tones and effects not heard before. (To the great disappointment, we must add, of those who valued the quaintness of the ensemble over the gains of the technology. Sound familiar?)

The final effect worth mentioning is how the much lower cost of transacting makes more ideas actionable. If it costs 2% to get in and 2% to get out, any idea with less than 4% expected return cannot be implemented. With today's lower costs, much smaller value increments can be captured profitably by those who can find and exploit them.

### **The brokerage industry adapts**

There is another advantage often perceived by the buy-side: automated trading frees the trader from entanglements with the broker.

Buy-side traders have long had a "can't live with 'em, can't live without 'em" relationship with the broker community. The core problem is that the buy-side trader knows that any indication of trading interest is of high value to the broker, yet has no way of verifying that that information is used exclusively to the benefit of the disclosing buy-side. As a result, the buy-side is always attracted to natural-meets-natural markets and will choose to use them until all sources of readily available natural liquidity have been exhausted.

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In addition, new classes of traders have moved to greater market prominence in recent years. Hedge funds, especially statistical arbitrage funds, can serve as major sources of (or competitors for) liquidity for institutional traders. So can futures arbitrage strategies, ETF

conversions, index funds, and portfolio managers who invest cash by trading proportional slices of their portfolios. All of these strategies can trade large numbers of securities simultaneously, and are amenable to algorithmic slicing and dicing and implementation through FIX.

In the market of only 4-5 years ago, the primary job of the buy-side institutional trader was to manage the feel-good relationships with dealers and brokers. All too often, that meant that the broker wasn't evaluated with total objectivity. If the only alternative to a traditional broker is another broker, the result is a Hobson's choice, where neither solution is clearly dominant.

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Today, thanks to algorithmic trading and FIX connectivity, there is a true choice. Buy-side traders now focus on quality, accuracy, speed and anonymity. No longer are buy-side traders beholden to the brokers for "first calls" and other favors. As long as markets have existed, the brokers sat at the interchange, extracting a toll on every transaction. No longer. FIX, the ECN's and the algorithmic trading engines have provided the technology by which buy-side traders can circumvent the tollbooth.

Thus today's markets are the infancy of a whole new future for the industry. The big winners will be the investors and those market intermediaries with the vision and adaptability to stay relevant. **FIX**