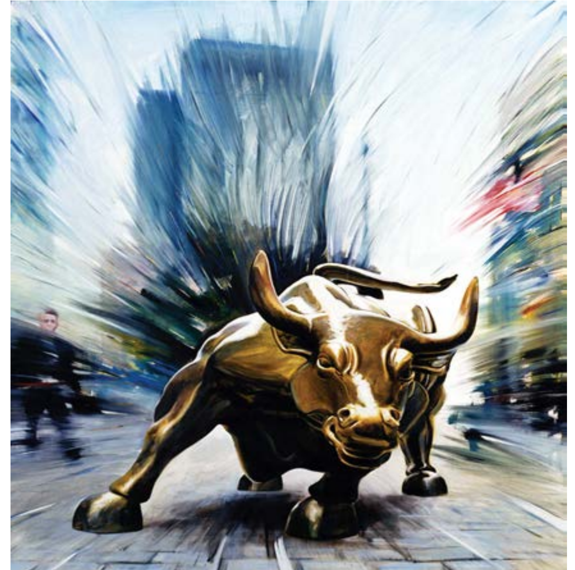
CARLSON
FINANCIAL
MANAGEMENT

Flash Boys

In the wake of Michael Lewis' latest book, Flash Boys, the financial markets are abuzz with speculation as to whether the market is in fact rigged. Presumably we thought before that it was on the up and up. Now we are not so sure.

Lewis says there is a new breed of market player in town, the flash trader, and he is a predator. He and his like, the flash boys, have discovered the holy grail of trading, the ability to know what a stock's price is going to be before it is actually exchanged. The flash boys' principal tool is speed and that, together with the sophistication of the arrangements made and the technology involved, is truly astounding.

America has about a dozen public securities exchanges and by law they are all wired together. A sale and its' price are instantly known on all of the exchanges. This is meant to eliminate arbitrage, whereby a trader on one exchange can purchase a stock and sell it on another if he sees that the price is higher. Brokers on the other exchanges do not yet know that there was a sale at a lower price on the first exchange, hence their clients end up paying a higher price. The requirement for instant price awareness worked fine in a twentieth century world of copper and electricity. But the flash boy has found a way to act more quickly on price information, making trades on other exchanges before anyone else can. The secret is that he builds his own communication system.



The systems' cost gives us an idea of flash trading's value. One company, Spread Networks, just completed an 825 mile buried fiber optic line between the New York Stock Exchange and another exchange in Chicago. This involved not only the cost of digging the trench and installing the line, which includes about a dozen signal amplifying stations along the route, but also of buying the right of way. The price was $300 million. This allows Spread Networks to shave a few milliseconds, a few thousandths of a second, off the prior time for order delivery. Two other companies are planning to lay fiber optic transatlantic cable between New York and London with the hope of cutting transmission time by six milliseconds. Each of these cables will cost around $300 million.

The next generation technology is already in the works. Someone is planning a system of microwave relays between New York and Chicago, hoping to cut transmission time from

© 2016 Carlson Financial Management

13.1 milliseconds to 8.5.

The price advantage of this high tech trading is rarely more than a few cents per share. Indeed trades can be made with prices that are honed to a fraction of a penny to the sixth decimal. But the volume of trades is enormous. Each day there are around twenty million trades with a collective value of approximately $225 billion. Some estimates have it that the flash traders' advantage is about seven one-hundredths of a cent. On $225 billion that means $160 million a day, $40 billion a year. Milliseconds take on an unexpected value in such an environment.

So is this just another example of the little guy getting screwed? Some fancy high tech hustlers taking $40 billion out of our collective hide? Happily the answer is no. This is one where the big guys are getting the shaft. It is the size of the trades that matters here. If an individual investor buys 100 shares of a stock that trades 5 million shares a day the transaction will have no impact on the price. If a big institutional investor, say a major bank or investment house, wants a million shares then that does have a serious effect. Likewise, an individual investor, or his financial advisor, ordinarily places what is called a limit order. That means that a trade can only be made at a set price by the investor. A big institution does not enjoy that luxury. A million share trade can only be done in bits and pieces. One bit will be at one price, one at another.

So is this just another example of the little guy getting screwed? Some fancy high tech hustlers taking $40 billion out of our collective hide?

The mere fact that the order is out there will, if it is a buy, signal to the market that a higher price can be asked. If it is a sell the impact will be exactly the opposite, tending to move the price down. You can be sure the flash boys will be there, selling a few milliseconds before the price goes down and buying when the down movement has run its course.

Flash trading depends upon what is called high frequency trading. In the hubbub surrounding Flash Boys the two terms are often confused and it is important to make the distinction. High frequency trading is simply computer generated trading. It is the electronic world's response to what used to be a bunch of guys gathered together in a circle shouting out buy and sell offers. Electronic trading by definition occurs at nearly the speed of light and hence can generate the enormous volume of trades which are a characteristic of the new trading era. Trading decisions are made by a program, usually referred to as an 'algorithm'. The algorithm is created by humans who have found an advantageous pattern in historical financial information. They arrive at a formula which finds, as an example, that when foreign exchange rates change such and such and retail inventories have gone in some direction then the price of x stock goes some way or another. These algorithms can contain thousands of variables.

Naturally the fear is that the trading is so fast and the decisions so sophisticated that the little guy is going to get screwed. Again, and happily, the answer is no. High frequency trading has a way of smoothing out the impact of big orders, as discussed above. It used to be that the big players could take advantage of these temporary but substantial variations in price. Now that is not so much the case. Academic studies have shown that high frequency trading actually benefits the individual investor.

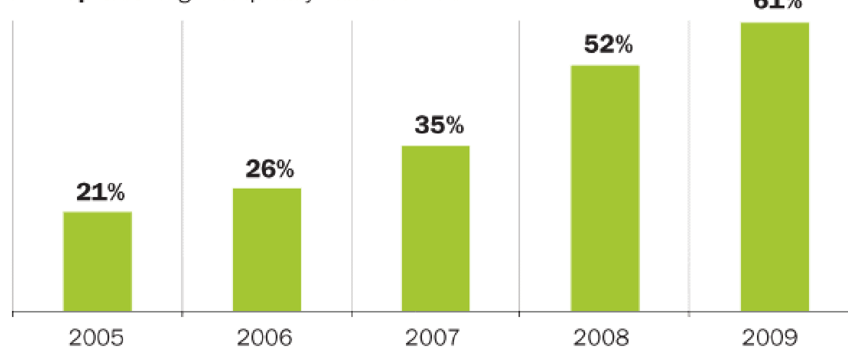
There are certainly problems inherent in high frequency trading. The algorithms are so complex that unusual changes in unexpected financial movements can set off an avalanche of buy or sell orders. Since the trading is so fast this can set off some wild market swings. But it is the big traders that take the hit. In 2012 one such outfit, Knight Capital, lost $460 million in the space of about 45 minutes. All due to a program that had gone wild.

Flash trading is simply a very large pimple on the body of high frequency trading. The flash boys have taken tech to a higher level, turning a few thousandths of a second into a very profitable gold mine. Most of their profit is coming at the expense of institutional investors.

Big banks and investment houses, themselves no stranger to market manipulation, don't like it.

© 2016 Carlson Financial Management

They had made a very good living exploiting the generally small price differences between buy and sell orders. In the wake of the Lewis' book they are taking advantage of the popular furor, turning up the heat on politicians to 'do something' and come up with some rules to put the flash boys in check. Given Wall Street's sway in Washington we can be sure that ti will happen.



[Carlson Financial Management](#) is a private wealth management firm dedicated to building and preserving wealth for individuals and families. We provide a unique combination of portfolio management services coupled with financial, retirement, tax and estate planning – all delivered with an underlying commitment to the highest quality personal service.

Investment Management Services

Our investment management services provide sophisticated portfolio management designed to build and preserve wealth for individual clients and their families. We employ a highly rigorous and disciplined approach to investment selection and portfolio management, using both fundamental and technical analysis in our evaluation of select market timing decisions.

Integrated Planning

At Carlson Financial Management we work with our clients to integrate their tax and financial plans with their long-term plans for retirement and distribution of estate-related assets. This comprehensive approach helps ensure that we create a multi-generational financial plan that will help our clients and their families realize their long-term financial goals and aspirations.

Client Service & Experience

Our commitment to clients is two-fold: we endeavor to provide the highest quality investment management coupled with the outstanding personalized attention and service only a boutique firm can provide. Our dedication to integrity, long-term relationships, and the highest standards of quality and performance is at the heart of everything we do.

1398 55th St. Emeryville, CA 94608 | 510-601-8800 | Fax 510-547-6258

© 2016 Carlson Financial Management