No speed limit in the financial markets

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Some worrying changes are afoot in the jungle ecosystem we call the financial markets. A new species is spreading rapidly and threatens the system's already-fragile equilibrium. The newcomer is high frequency trading (HFT), i.e. trades in securities that take place in less than a second. HFT now represents a worrying proportion of total trading volume; meanwhile supervisors are relatively unaware of this activity and its implications, and small investors and society at large are totally oblivious.

What is HFT?

Technically, it is defined as a subclass of automated or algorithmic trading that makes intensive use of technology to interpret signals in the markets and respond to them by executing trading strategies that involve sending large volume of orders into the market at very high speed.

By "large volume at very high speed", we mean thousands of orders in fractions of a second—sometimes in thousandths of a second.

An acquaintance gave me a definition that is less technical but much more sincere: HFT is trading in securities using computers in order to obtain subsidies (rebates) from the markets and/or detect order flows from real investors and front-run them to make money.

When and how HFT arose.

HFT first arose in the US derivatives markets in the 1990s. Since then, and particularly over the last four years, it has spread to all the developed markets and grown in importance to account for over 50% of total trading volume in many markets.

Technological development is one of the factors driving the growth in HFT. However, its explosive expansion can best be attributed to the lack of public regulation and to a somewhat perverse competition between stock markets and multilateral trading facilities.

Who engages in HFT?

HFT is practised by on own account firms and by some financial institutions (e.g. investment banks and some hedge funds). In their peculiar race to capture business, the stock markets and the MTFs offer special facilities for HFT, such as locating their sophisticated computers close to those of the market itself –colocation- and offering very attractive rebates with respect to the rates charged to other investors and intermediaries in the market.

Pros and cons of HFT

It's worth bearing in mind that the social function of the financial markets is to bring together issuers (i.e. those seeking savings) and investors (i.e. suppliers of savings). Among them there is a plethora of intermediaries that facilitate the process of seeking the prices and volumes that balance out the supply and demand, at any given time, of a wide range of financial assets such as bonds, shares, currencies, and derivatives. Some (the stock

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markets and some brokers) act as pure intermediaries, whereas others (e.g. banks and broker-dealers) also engage in proprietary trading. The latter leads to conflicts of interest.

How to classify this new class of operator or activity? Is HFT advantageous for market participants as a whole? Does it pose any risks? I will set out some brief replies to those questions.

The reader may have noted that at no time have I used the word "investor" to refer to HFT. A party that invests money for seconds—or less—and that cashes out before the end of the day can hardly be classified as an investor. But HFT operators are not intermediaries either. Therefore, they are a new and worrying species in the markets.

Some claim that HFT lends liquidity to the markets and facilitates alignment of the prices of financial assets in multiple markets. Most of us are unconvinced. The liquidity that HFT provides is atypical, at best, since high frequency traders hold positions for a very short time, and very rarely overnight. Some actually drain liquidity away. Many investors and intermediaries are already engaged in arbitrage between markets. However, they have been crowded out because of the speed at which HFT operates. If there were a common-sense limit on the speed with which one can trade in the financial markets, HFT would disappear. It owes its existence to the possibility of trading in minuscule slices of time. This speed is driving many investors and intermediaries out of the market, and is undermining confidence in the markets.

If HFT does not provide any advantages to issuers or investors, why does it exist? Well, because it is a major source of revenues for the stock exchanges and multilateral trading facilities, and for the HFT operators themselves. This raises problems of asymmetry and fairness in market access. If some operators are allowed to trade in thousandths of a second while most investors with access to the same information need at least a few minutes to make an investment decision, who comes out on top?

One of the darkest aspects of HFT is that it is based on having access to the book of investor orders in advantageous conditions, which it exploits to its own benefit. That advantage may be measured in thousandths of a second, but it is sufficient. This is known as front running and supervisors should not allow it.

There are serious concerns about the impact of HFT on financial asset price quality. Since HFT—which does not represent actual investors—accounts for over 50% of total trading volume in many cases, the question arises as to whether the price discovery process meets the necessary criteria of quality and efficiency. The fact that HFT operates with such short investment times means that markets and prices are driven by a short-term vision and do not reflect fundamentals efficiently. It is very likely that the markets' volatility can be attributed to HFT, all of which raises important questions about market stability. After all, in its report on the Flash Crash[2], the SEC found that HFT had played an adverse role in the events of May 6th 2010. Moreover, HFT is driven by computer algorithms about which we know very little; they ignore economic information and often neither know nor care what sort of financial asset is in play.

Finally, it is a source of concern that most supervisors do not have the computer tools and specialised staff needed to supervise HFT properly. Such systems would greatly increase the cost of supervision.

Conclusion

There have been too many financial accidents in recent years and the phenomenon of HFT offers little reassurance. The HFT virus is spreading through the market ecosystem and threatens to alter it, with unpredictable consequences. High-speed accidents cause more damage, both on the roads and in the financial markets. It would be good for the financial system's stability if we were to spread some *sand* on the road in order to reduce speed. If forced to choose between stability and efficiency, we should choose stability. You can't have the former without the latter.

Evidently, a financial transaction tax would put an end to HFT.

[2] The US equities market plummeted on May 6th 2010. The DJIA index lost 998 points in 5 minutes (-9.2%). Within ten minutes, it had regained 600 points. It was the second-largest point decline in the index's history and the largest-ever intraday loss.