

GaveKal Team

Faster communication networks likely means more complex high frequency algo trading

Computer-based trading strategies vary substantially in their approach

History reminds us that stupidity is eternal even if computers are involved

Daily Comment

Is There Life After Robot Trading?

The implosion of market-making broker Knight Capital, which lost \$440m in less than an hour thanks to a flaw in one of its trading programs, has led us here at GaveKal to reflect on what kind of future people have in markets increasingly dominated by computer programs.

As an article in the next issue of [Wired Magazine points out](#), more than half the volume in US stock markets comes from high frequency algorithmic trading by computer programs, where the name of the game is to make fractions of a cent on arbitrage made possible by the reduction in trading execution times into the low milliseconds. Hundreds of millions of dollars are going into new [fiber-optic](#) and [microwave networks](#) that will cut the round trip time for a signal between Chicago and New York first from 15 to 13 milliseconds, and ultimately to 9 or 10. More hundreds of millions are being sunk in underwater fiber optic cables that will shave milliseconds off execution times between New York and London, and London and Tokyo.

Distinction needs to be made between high-frequency “algo” strategies and “quant” trading which captures fundamental mis-pricing. The former aims to essentially front-run the orders of others through trading speed, while the latter arguably contributes to more efficient capital allocation and lessens the risk of emotion-driven panic selling or euphoria buying.

Yet stupidity is eternal, and the Knight debacle—like the portfolio insurance triggers of 1987 and the “flash crash” of May 2010—reminds us that sometimes all computers do is replace human stupidity with machine stupidity. And, thanks to speed and pre-programmed conviction, machine stupidity can devour markets far faster than any human panic can achieve.

Checking The Boxes

Our short take on the latest news

Fact	Consensus belief	GK Research reaction
China CPI slowed to +1.8% YoY in July, from +2.2%; and PPI fell -2.9%, from -2.1%	CPI marginally higher than expected +1.7%; PPI lower than expected -2.5%	CPI to stay low until year end despite higher food & oil; but interest rate cuts unlikely
US productivity rose +1.6 QoQ AR in 2Q, from -0.5%; labor cost +1.7%, from 5.6%	Better than expected +1.4% for productivity and +0.5% for labor costs	Heavily revised (ULC in 1Q revised up from +1.3%); smoothed, both are still low
German exports fell by -1.5% MoM in June, down from +4.2%	Slightly worse than the expected -1.3% MoM decline	IP also disappointed; Charles will soon write on Germany's likely recession
Japan machinery orders fell -9.9% YoY in June, from +1.0% in May	Worse than expected -4.5%; volatile, but capex growth clearly slowed in 2Q	Disappointing growth and inaction by BoJ today bad for risk assets in Japan, still

Is there Life After Robot Trading?

There is a problem with market movements that contain no information

Ultimately, investing requires judgment, which remains a human preserve

Charles makes the following observation:

“In the good old days, the traders were human beings. Now they are computers programmed to trade in a millisecond not only on news *but also on how the other computers are going to react to the news.* The result is market movements that contain *absolutely no information*, except that computers have been programmed. In this situation, any normal human being just gets out of the game and waits a week or so to let the computers destroy each other.”

Another problem is that as trading velocity converges on the speed of light, investment horizons shorten. In part, because market-makers like Knight have moved from providing liquidity for a subset of stocks that lack it, to providing virtually unlimited liquidity for all stocks, making money in the markets becomes ever more about short-term liquidity movements and ever less about long-run valuations. Algos can even make money on a trade where the spread is zero, thanks to the rebates offered by exchanges for those who post quotes.

But every action creates a reaction, and in a world where everyone looks only to the short term, opportunities open up for those who have the patience to look long-term. **Computers can aid the long-term view, by standardizing the calculation of valuations. But they cannot themselves conduct long-term investing because this requires judgment, which only humans have.** Any mechanical rule, however sophisticated, will ultimately lead the machine into value traps, because valuations can change radically when new variables, unanticipated by the programmers, enter the equation. The lateral-thinking, emotion-driven human mind is required to spot and exploit these new connections. Or so we like to think!