



# Algorithmic trading: Social unrest in the making?



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## Society isn't as secure as we think it is

Safe and prosperous societies only stay that way as long as the economic infrastructure remains stable. It is perhaps tempting that in affluent societies, we presume it will always stay that way. Perhaps we should not be quite so confident.

The threats are out there. Obvious natural disasters such as Hurricane Katrina or terrorist events such as 9/11 caused a lot of human suffering and triggered adverse economic affects which in turn contributed further to human suffering. Yet the economic affects of these will be relatively short lived, at least on a macro scale.

There are less obvious, longer-term threats to the economic model which are worthy of consideration and could have far wider implications for society. Algorithmic trading would not appear on many people's danger list, certainly not alongside Al-Qaeda but it certainly has the potential to change markets and society as we currently know it.

## Markets need volatility to be profitable

Volatility is the lifeblood of the markets. Without it a large source of cashflows and profit is lost. Financial and service based economies not rich in natural resources are particularly vulnerable in this regard.

Today many price makers use sophisticated systems to offer prices to the markets. These systems already contain algorithms that automatically adjust the prices based on market conditions, customer ratings, and the positions held by the makers. On the other side of the fence the price takers are employing algorithmic trading techniques to trade. Both these technologies are being developed at a frightening rate, so what happens when the ultimate price engine meets the ultimate algorithmic trader?

Historically spreads and margins have diminished as market volatility has eroded. Indeed, electronic systems trading has even brought markets to a halt in the past. This normally happens when a market becomes fast and starts to gap up or down and panic measures kick in preventing trading, drying up liquidity in the process. This was apparent during Black Monday (19th October 1987) and its aftermath, when world bourses or stock exchanges had to be repeatedly temporarily closed due to electronic trading in a thin market.

This caused gapping in market prices (causing the market to spiral out of control) and therefore leading to panic. With stops being triggered and positions closed out, the market lacked confidence for any speculative players to get involved and most people sat on their hands.

This caused North American bourses to temporarily close as they had reached their limit gap down for the session on very thin trading, re-opening again sometime later that day. This continued for several days after the initial knee-jerk reaction in which the US market lost almost one-quarter of its value in less than one trading session.

Then there are the bear markets, where shares die the death of 1,000 cuts, suffering agonising losses stretched imperceptibly over months or even years. Measured against the mightiest of these, the 1987 share slump may not look that impressive.

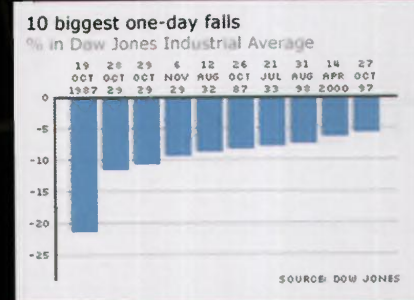
## Algorithmic trading traceable to Black Monday

Black Monday 19th October 1987, prompted by the announcement of worse-than-expected US trade figures and the response by US Secretary of the Treasury, James Baker, who indicated that the sliding Dollar needed to decline further. This caused a world panic as fears of the likely impact of a US recession were voiced by the major industrialised countries. Between 19 and 23 October, the New York Stock Exchange fell by 33%, the London Stock Exchange Financial Times 100 Index by 25%, the European index by 17%, and Tokyo by 12%. A lot of these losses were caused by algorithmic trading.



**Crashes caused by intense sell trading, and crunches**

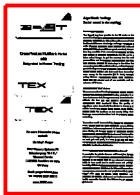
Broadly speaking, market crashes come in two main flavours. The first - and less harmful - breed is the sudden onset of panic, an often violent reaction to an event or trend that feels nasty at the time but tends to be short-lived, coupled with system generated trading and stops. With the benefit of hindsight, these crashes are soothingly called 'corrections'. The much more dangerous type is the prolonged depression, commonly known as a Bear Market. Here, shares may rarely fall spectacularly, and may give occasional signs of rallying, but little by little their value is bled away over the years.



Black Monday's collapse - by far the biggest one-day stock market fall in history - was ironically also arguably the least justified market crash ever. On the next trading day, the Dow rose by more than 100 points - its biggest ever one-day gain up to that time - and had recovered all its lost ground by just over a year later.

**History repeats itself on Black Wednesday**

The panic of Black Monday was also evident in 1992. On Black Wednesday (16th September 1992) system generated selling resulted in gapping foreign exchange and money markets. When Sterling fell out of bed, the Government raised interest rates by 50% in one day from 10%, initially to 12% then up to 15%, forcing the Pound out of the ERM (Exchange Rate Mechanism) and cutting to 12% the very next day. The Exchange Rate Mechanism was a system for tying its value to that of other European currencies. Black Wednesday, as 16th September 1992 came to be known, provided one of the most memorable failures of post-war British economic policy. It was the defining failure of John Major's Government; it was a huge boost to Euro-scepticism; it made currency traders like George Soros (one of the pathfinders for both program buying or selling, with his influencing methods) rich.



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## Algorithmic trading: Social unrest in the making?

### Interesting times ahead

The biggest long-term question in the FX market at the moment undoubtedly surrounds China and its currency the Renminbi. The reluctance of the Chinese Government to let the Renminbi float on the foreign exchange markets, is a major distortion within the global economy and amongst many other things keeps Chinese goods massively cheaper than they would be if the currency were allowed to float. This has led to economic embargos by the US, and to a lesser extent Europe, to get the currency into line and prevent China and its exporters becoming cash rich, with hard currency. However at some stage in the future the economic cycle in China will slow down, as they drop their guard allowing the markets to play with their currency, with system trading coupled with their work force demanding more money for the respective job in hand, therefore pricing Chinese manufactured goods more expensive, along with the upward cost of raw materials, and the unknown of FX forces.

### Getting the right 'Algo' strategy

There are a number of banking institutions offering broking services with different algorithmic trading strategies. If so many brokers can do it, the argument runs, it cannot be that difficult. So how can one broker's algorithms be differentiated from another's? When the quality of algorithms varies dramatically from broker to broker, all it will do is make the brokers get fat wallets, as it's not the brokers taking the positions on but merely taking their brokerage or commissions from both the program buyers and sellers.

The markets would be wonderfully placed if all of these so called 'brokers' used the same algorithmic macros. Pricing all the buys in the same place and all the sells in the same place. Having all the auto pricing or speculative traders running a huge position with 'loads of money' to take on the Algo boys and triggering the Algo's stops and causing them so much pain and panic, in a kind of 'he with the most money wins', in a financial casino style of gamble scenario. This could lead to financial disaster.

### Could Autotrading really cause economic meltdown?

It sounds like the plot for the next sci-fi novel, but leaving price engines to slug it out with algorithmic traders has the potential to do serious harm to any advanced economy, which in turn could lead to social unrest and political instability. With institutional profit margins driving personal greed such events in Europe and the US could have serious consequences, on economies and people's wealth. It could trigger wide scale job losses, world recession, and ultimately the resulting civil unrest and lawlessness could lead to scenes like those in New Orleans but on a bigger global scale.