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Man vs machine in the markets

Is financial trading becoming a bit like 2001: A Space Odyssey?, **asks Hal Weitzman**.

That suitably geeky question popped into my mind as I sat through Quant Invest/High Frequency Trading World 2011, an event in Chicago this week that stitched together two conferences that are normally held at different times and in different cities.

It's not an entirely happy marriage. There is something of a dichotomy between the quants and the techies. Just as the former transformed the financial world, so the latter are now doing the same, in many cases upsetting the quants' models.

For example, the rise of high-frequency trading (HFT), now thought to account for some 70 per cent of trading in equities and an increasing share in listed derivatives, has led to smaller order sizes but bigger volumes, a development that has made traditional generic quant models redundant, according to Anthony Foley, chief investment officer and head of quantitative research at DE Shaw, the investment and technology firm.

At the same time, firms such as Kershner Trading, based in Austin, Texas, are using human traders to track HFT strategies and try to get an edge over them.

A similar struggle was dramatised in 2001: A Space Odyssey, Stanley Kubrick's 1968 sci-fi epic. HAL 9000, the spaceship's computer in the film, says he is "foolproof and incapable of error" before turning on the astronauts he is supposed to be helping and eventually being outfoxed by one of the humans.

It may be a movie, and it may have nothing to do with trading, but it does at least highlight our deepest human fears about machines, and perhaps raises the issue that "rogue traders" could as easily be computers – a runaway algorithm – as people.

In case anyone missed the existential angst at the heart of all this, the conference organisers branded the end-of-day cocktail party: "Man vs Machine".

At one time, people in the industry worried about the technology "arms race" in which large amounts of money were spent to shave increasingly small fractions of a second off trading times.

The gathering suggested that all but the biggest firms have bowed out of that approach. Speed is still important, but with decreasing returns on ever-more-expensive technology, strategy may be pushing it as a way for market participants to get an edge. As one questioner put it: "What happens when we all get to the speed of light?"

Largely unrepresented at the conference were the giants that still fuel the "arms race". Across the financial industry, many asset classes are now dominated by a handful of big players.

Karim Taleb of Robust Methods, a New York trading firm, wondered if that produced a dangerous market structure. "If you are on a boat with five elephants, and they all go to one side, do you want to be on that boat?" he asked. "Is there a 'too big to fail'?"

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