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High-frequency trading, algorithmic finance and the Flash Crash: reflections on eventalization

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Abstract

The Flash Crash of 6 May 2010 has an interesting status in discussions of high-frequency trading, i.e. fully automated, superfast computerized trading: it is invoked both as an important illustration of how this field of algorithmic trading operates and, more often, as an example of how fully automated trading algorithms are prone to run amok in unanticipated frenzy. In this paper, I discuss how and why the Flash Crash is being invoked as a significant event in debates about high-frequency trading and algo-financial markets. I analyse the mediatization of the event, as well as the variety of eventalizations of the Flash Crash - the different ways in which the Flash Crash is being mobilized as an illustrative event. I critically discuss the impact often associated with the Flash Crash – and on that basis, inquire into why the event nonetheless attracts so much attention. I suggest that a key reason why the Flash Crash is widely discussed is

that eventalizations of 6 May 2010 evoke familiar tropes about the fear of technology and the fear of herding. Finally, and given their emphasis on herding, I argue that the Flash Crash eventalizations may contribute to discussions within economic sociology about resonance in quantitative finance.

Keywords:

Émile Durkheim | events | Flash Crash | herding | high-frequency trading | Gabriel Tarde

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Notes

1 Later flash crashes that have received a lot of attention include the flash crash in US Treasuries on 15 October 2015 and the flash crash in the British pound on 7 October 2016. However, in this paper, I focus on the May 2010 Flash Crash since this is the most famous and widely debated flash crash event.

2 The drop was registered in the so-called ‘order book’, which lists a trading venue’s buy and sell orders in a way that visualizes the market at any given moment. I stress this experiential anchoring of the market because high-frequency trading, which reportedly was partly to blame for the Flash Crash, takes place at timescales beyond human perception (see Borch et al., 2015). So, on one level, high-frequency trading, in its actual operations, renders financial markets non-experiential. On another level, however, high-frequency trading orders leave visual traces in the order book, and thus lend themselves to human experience.

3 Reflecting this initial confusion, market participants engaged in active internet searches in order to understand what was happening. Bloomberg reported that ‘Yahoo! Inc., Google Inc. and at least one brokerage [Charles Schwab Corp] sustained slowdowns on Web pages that provide financial information as US stocks tumbled and users swarmed the Internet for market updates’ on 6 May 2010 (Womack, 2010).

4 Katsuyama later developed the New York-based IEX exchange (approved by the SEC), which similarly aims to neutralize the speed advantage of high-frequency traders.

5 Golumbia (2013, p. 295) similarly characterizes the Flash Crash as a black swan event.

6 In one important respect, the analysis by Golub et al. differs significantly from that of both Sornette and von der Becke, and Johnson et al. Whereas the latter focus on how the interplay of algorithms is responsible for flash crashes, Golub et al. (2012) argue that most flash crashes occur as an effect of particular types of market regulation, specifically the use of so-called Intermarket Sweep Orders (cf. Johnson et al., 2013, p. 6). For a similar finding, see McInish, Upson and Wood (2014).

7 Observing this particular feature of the econophysics literature on the Flash Crash may be seen as a supplement to the characterization of econophysics offered by Jovanovic and Schinckus (2013). In their illuminating genealogy of this new field, they especially stress ‘econophysics’ major distinguishing feature, which is the use of stable

Lévy processes' (2013, p. 444), but place less emphasis on the particular types of language that econophysicists deploy alongside their statistical approaches.

8 This connection between the systemic risks of high-frequency trading and its embeddedness in strategies in which the market is tweaked to benefit a few (in particular, to the detriment of human traders) is echoed in a recent MIT Technology Review paper: 'High-frequency traders are able to make pennies off of individual trades but execute them millions of times a day, while regular investors are left in the dust. And it could be a destabilizing force, where software gone haywire erases huge chunks of a company's value in a matter of minutes. That has happened enough that it has a name: a flash crash' (Reilly, 2016).

Additional information

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