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

Christian Borch

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# **Abstract**

The Flash Crash of 6 May 2010 has an interesting status in discussions of highfrequency 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

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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.

Q Keywords: Émile Durkheim events Flash Crash herding high-frequency trading Gabriel Tarde

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# Disclosure statement

No potential conflict of interest was reported by the author.

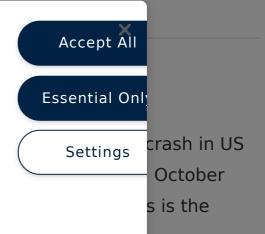
# ORCID

# Christian Borch <a href="http://orcid.org/0000-0001-8217-5880">http://orcid.org/0000-0001-8217-5880</a>



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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.

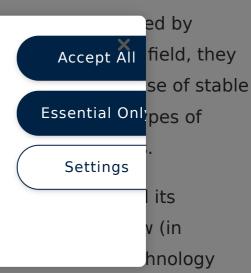
6 In one important respect, the analysis by Golub et al. differs significantly from that of both Sornette and von der Becke, and Johnson et al. Whereas the latter focus on how the interplay of algorithms is responsible for flash crashes, Golub et al. (2012) argue that most flash crashes occur as an effect 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

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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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## Notes on contributors

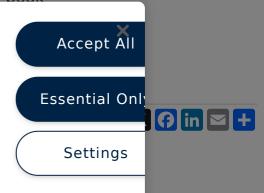
#### Christian Borch

Christian Borch is Professor of Sociology at the Department of Management, Politics and Philosophy, Copenhagen Business School, Copenhagen, Denmark. His research interests include crowd theory, financial markets and urban sociology. His current work focuses on algorithmic finance. Christian Borch is the author/editor of several books, including Foucault, crime and power: Problematisations of crime in the twentieth century (Routledge, 2015); Urban commons: Rethinking the city (ed. with Martin Kornberger, Routledge, 2015); Architectural atmospheres: On the experience and politics of architecture (Birkhäuser, 2014); and The politics of crowds: An alternative history of sociology (Cambridge University Press, 2012), which was awarded the 2014 Theory Book Prize by the American Sociological Association. He is currently working on a book

entitled

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