



## **High Frequency Trading and Systemic Risk**

### **Regulating trading venues based on the “precautionary principle”**

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### **Abstract**

Empirical evidence, such as the “Flash Crash” at NYSE in May 2010, the glitch related to the IPO of Facebook at NASDAQ in May 2012, the collapse of Knight Capital Group, the world’s largest high frequency trader, in August 2012, or the “Flash Freeze” at NASDAQ in August 2013, suggests that high frequency trading poses serious threats to the resilience of trading markets and to financial stability overall. This assumption has recently been substantiated by a number of studies which found that high frequency trading strategies enhance “self-reinforcing feedback loops” which – due to their enormous speed far beyond human response times – may lead to undesired interactions between highly correlated networks of algorithms thereby creating significant instabilities in financial markets. However, extensive scientific knowledge on systemic risks created by high frequency trading is still lacking.

Regulatory proposals submitted in the absence of scientific consensus on potential harms tend to lack both legal legitimization and acceptance among stakeholders. To solve this problem with regard to high frequency trading, this paper suggests an analogous application of the “precautionary principle”, a widely recognized principle of environmental law that allows for the regulation of advanced technologies (e.g. genetically modified food, nanomaterials, etc.) despite a lack of scientific consensus where serious threats to the environment and/or human health are plausible. With the new Financial Market Infrastructure Act (FMIA) currently being drafted, Switzerland has the perfect opportunity for a timely reframing of its rather outdated regulatory regime for trading venues. The existing Stock Exchange and Securities Trading Act of 1995 provides only for extensive self-regulatory powers for stock exchanges instead of setting technical standards that ensure the platforms’ resilience. This paper argues that, in order to prevent systemic risk potentially emanating from high frequency trading, the Swiss government should implement innovative regulatory concepts, such as system testing for trading platforms, business continuity arrangements and appropriate trading control mechanisms (trading halts, “circuit breakers”, volatility interruptions, etc.), all of which have recently emerged among international standard setters such as the International Organization of Securities Commissions (IOSCO) and the European Securities and Markets Authority (ESMA). As for oversight over trading venues, this paper pleads in favour of the “Twin Peaks-approach” combining prudential oversight by the Swiss Financial Market Supervisory Authority (FINMA) with systemic oversight by the Swiss National Bank (SNB). This supervisory concept proved successful in the past with regard to systemically relevant payment and securities settlement systems and extending its scope to systemically relevant trading venues, such as the SIX Swiss Exchange, would only require minor changes to the proposed pre-draft of the FMIA.

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