Systemic microstructure risks of high speed trading

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Discussed by:
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The paper

- Examines how latency improvement at the exchange’s end affected
  1. Liquidity,
  2. Systemic microstructure risk.

Hypothesis: Latency improvement increased high frequency trading in the market.

1. Has that improved liquidity supply in the markets?
2. Has that made the markets more fragile?

Exploits an exogenous event: the introduction of a high speed trading platform, the Arrowhead, by the Tokyo Stock Exchange.

Pre and post analysis for a set of 150 stocks.

Finds that while
  1. Liquidity improved for a majority of the sample stocks,
  2. there was a corresponding increase in the systemic microstructure risk as well.

Severe implications from a policy perspective.
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  - **Q**: What is the degree of HFT at TSE for the sample? Can use available proxies to get a sense of it?
- Is there a large cross-sectional variation in the degree of HFT for the sample stocks?
- If yes, can we identify stocks with high HFT and low HFT post Arrowhead? Do we see systematic differences in the measures used in the paper across these two sets in the pre and post Arrowhead period?
On the measures used

- To capture systemic microstructure risk, the paper uses CoVaR and CoVaQ.

- Not clear as to how is the tail risk being captured?

- To capture shock propagation risk, autocorrelation and cross correlation in order flow are used.

- Q: Is the cross correlation being measured between the security and the market index? Or with all other securities?

- Boehmer and Shankar (2014) examine commonality in the order flow after the introduction of co-location at NSE, and find that AT reduces this commonality.

- Quotes to trades ratio used to capture quote stuffing risk

- High quotes to trades ratio a typical feature of HFT.

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- An alternative: Ratio of quotes to trades to average time to modifications? Requires data on quote updates.
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Thank you