### The Value of Off-Exchange Data Thomas Ernst, Jonathan Sokobin, Chester Spatt

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#### Percentage Trades with Same-Direction

	1 <sup>st</sup> Quartile	Mean	3 <sup>rd</sup> Quartile
Trades	64%	65%	67%
Quotes	59%	61%	64%

Suggestion #1: Implications for measuring the relative informativeness of off-exchange trades?

"Upstair trades" are less informed than on-exchange trades:

Empirics Rose (2014), Madhavan and Cheng (1997), Booth, Lin, Martikainen and Tse (2002), Bessembinder and Venkataraman (2004), Bernhardt, Dvoracek, Hughson and Werner (2005), Smith, Turnbull and White (2001), Westerholm (2009)

Theory Seppi (1990), Foucault and Desgranges (2005), Zhu (2014), Lee and Wang (2017)

## Observation #1: Why traders do not read the NYSE/Nasdaq proprietary data feeds for off-exchange trades?



Trade Distance (Microseconds) from SIP Timestamp

# Observation #2: How does the value of off-exchange data survive long latency?

The parties to the original off-exchange trade (say the dealer) are immediately notified of the trade.

Why do they not take advantage and drive the value of data to zero?

They could also snipe stale quotes on exchanges.

## Suggestion #2: Value of data is concentrated on certain types of off-exchange trades and takes time to exploit?

- Variation of response/realized spread across different types of off-exchange trades
  - large vs. small
  - institutional vs. retail
  - broker-internalized (Robinhood/Drivewealth, Bartlett, McCrary, and O'Hara, 2022) vs. dealerinternalized (Citadel/Virtu/Two-sigma)
  - Iong vs. short latency from broker/dealer to TRF.

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- Measure how quickly the value of data decays
  - Consider the "half-life" of the spike in responses
  - Is the half-life long than the latency?
  - Variation in the half-life across different types of off-exchange trades

## Suggestion #3: Possible to obtain latencies from SIP to exchanges?



## Summary

- Novel and well-identified patterns showing that
  - off-exchange data is valuable
  - ▶ the value survives long latencies in trade reporting and dissemination
- Thought provoking about how the value of off-exchange data survives long latency?
- Main suggestion: Analyze how the value of data
  - varies across different types of off-exchange trades
  - decays over time