

Algorithmic Trading: Issues and Preliminary Evidence



A brokerage point of view



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- Summary
- Fast overview of market participants' interests
 - Market operators, HFT, Brokers, Investment Banks, Investors, Regulators
- Open questions and remarks: liquidity, at which cost?

- This study is an added-value summary of 10 main academic papers on the effect of HFT.
- It addresses important and actual questions raised by market participants and regulators; mainly:
 - What is the impact of HFT on liquidity (1, 2)
 - What is the impact of HFT on the Price Formation Process (3, 4)
 - What is the impact of HFT on the market structure (design + systemic risk) (5, 6, 7)
- The answers are broadly:
 1. do improve liquidity
 2. do not increase volatility (may reduce)
 3. do improve price discovery

Different participants, different interests

■ Market Operators

- On-going mergers (means more cost): Euronext + D Boerse / Chi-X + BATS => less actors but as many order books as possible
- More and more techno-oriented (technology providers)
- Would like to capture all the flow (less for BCN or SI)
- Will fight for the consolidate tape

■ HFT

- Like competition (see GETCO)
- Largest ones would like to see regulatory constraints that will kill competition (Knight Cap.)

Different participants, different interests

■ Brokers

- See their internal costs increase => Like regulation
- “Compete” with HFT providing algorithmic tools
- Create BCNs to “sanctuarize” their natural flows

■ Investment banks

- Are afraid of MiFID 2 (especially the derivatives / commodities part)
- Have HFT prop desks, avoided to be Systematic Internalizers
- (operate in some BCNs or DPs)

Different participants, different interests

■ Investors

- See an increase of complexity / cost for trading
- Complain about “less resilient” liquidity

■ Corporates

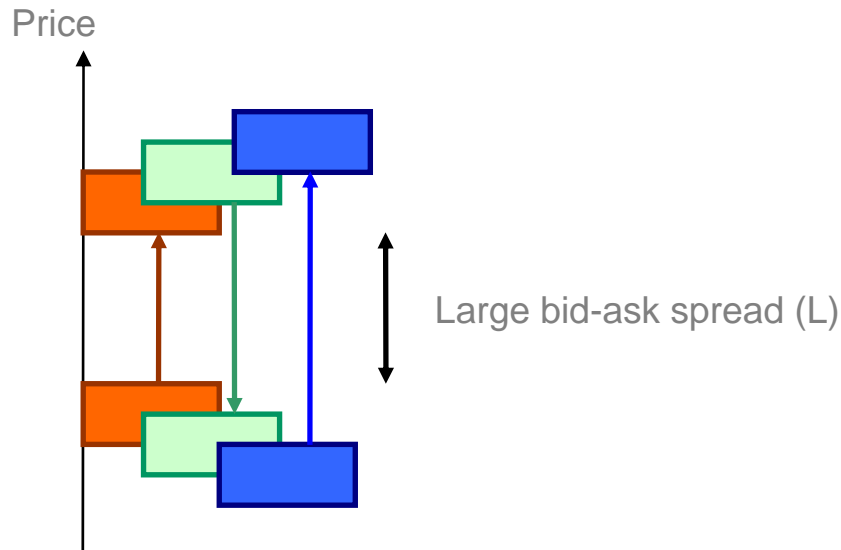
- Have less visibility on the flows
- Do not see any decrease of listing costs

■ Regulators

- Do not have the same viewpoint (FSA – AMF), what will be ESMA's power?
- Do not like bilateral trading not hosted by Systematic Internalizers
- Do not succeeded in defining HFT => plan to regulate any systematic or algo trading

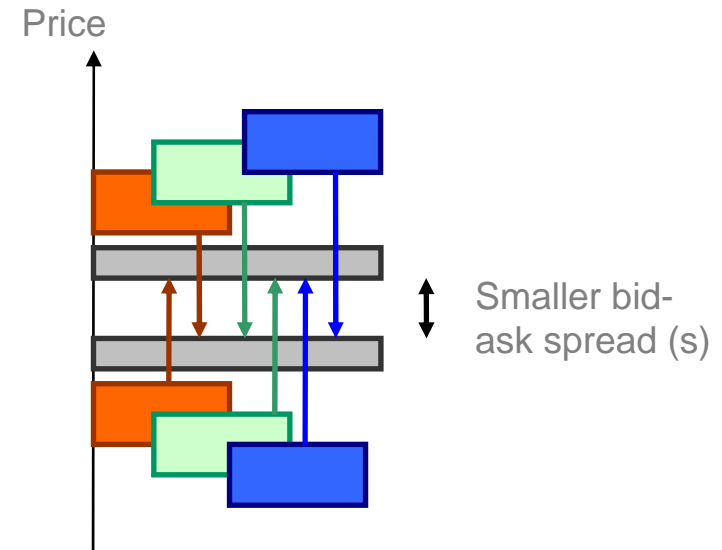
Liquidity, for whom?

■ “Natural” liquidity only



1. Orange buyer crosses the spread and pays the orange seller
2. Green seller crosses the spread and pays the green buyer
3. Blue buyer crosses the spread and pays the blue seller

■ Adding HF MM (grey)



- The spread is smaller
1. Orange buyer and seller cross the spread and pays the HF MM
 2. Green seller and buyer crosses the spread and pays the HFT
 3. etc

Liquidity, what for?

- Hence the previous stylized effect:
 - Increase the trading costs (a little)
 - But decrease its uncertainty / variance
 - On one trade (think about retail investors), it can be efficient
- But for large investors
 - One large trade is sliced in N child orders by pure agency trading algo,
 - the « sampling effect » already reduces the variance in $1/N$

=> no benefit at all



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