

# High Frequency Order Flow Dynamics and Market Liquidity

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Discussion

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# Findings

- Market Liquidity and Order Flows: KOSPI200 Mini Futures
  - Consist mainly of HF traders and LPs
  - Market liquidity unstable without traditional traders, especially individual traders

# Findings

- Market Liquidity and Order Flows: KOSPI200 Mini Futures
  - LPs submit only small orders and cancel them repeatedly, even though HF traders submit orders actively, because market making against HF traders is highly risky in the absence of traditional traders.
  - Liquidity provision by LPs not enough for active trading.
  - Order activities by traditional traders (especially individual traders) reduce market making costs.

# HF Traders and Individual Traders

- HF traders stimulate trading activities by submitting orders actively:
  - Contribute to fast recovery in times of small-sized market impact.
- But the presence of traditional/individual traders, i.e. liquidity provided by individual traders is needed for HF traders to play this role.
- What would be the role/contribution of HF traders in the absence of liquidity provision by traditional/individual traders?

# Derivative Markets in Korea

## Leading Global Derivatives Market

- 11<sup>th</sup> global market in terms of trading volume (FIA, 2015)
  - KOSPI 200 Options 2<sup>nd</sup> most traded equity index options (FIA, 2015)
  - Around-the-clock Trading (KOSPI 200 Futures and KRW/USD Futures linked with CME and KOSPI 200 Options linked with Eurex)
  - Qualified CCP Recognition (CFTC, 2015; ESMA, 2016)
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- Korea's Capital Market Guide to Investors (2016, KRX)

# Trading Volume by Investor Group

## > KOSPI200 Options

(%)

		Institutional Investors				Other	Individual	Foreigner
		Bank	ITC	Securities & Futures	Insurance			
2013	11.4	0.0	0.2	11.1	0.0	0.8	31.1	56.7
2014	26.7	0.0	0.1	26.6	0.0	0.8	29.9	42.7

- KRX 2014 Factbook

# Trading Volume by Investor Group

## > KOSPI200 Futures

(%)

		Institutional Investors				Other	Individual	Foreigner
		Bank	ITC	Securities & Futures	Insurance			
2013	22.9	0.2	1.5	20.6	0.3	1.3	30.7	45.1
2014	19.4	0.2	1.6	17.3	0.2	0.8	29.5	50.3

- KRX 2014 Factbook

# Previous Research on HFT in Korea

- Lee (2015, JFM): “High frequency trading in the Korean index futures market”
  - KOSPI200 index futures trading data from April 2009 through March 2010
  - find that HF traders do not provide liquidity in the market
  - find no evidence that HF trading enhances market quality.
  - “Indeed, HFT is detrimental to the price discovery process.” (p.31)



# Review of the Research and Regulations on HFT

- Chung and Lee (2016, AJFS): “High-frequency Trading: Review of the Literature and Regulatory Initiatives around the World”
- HF traders have no affirmative obligation to maintain a fair and orderly market in a given stock.
- HF traders are likely to provide liquidity opportunistically and shut down liquidity provision when they perceive large adverse selection risks.
- Need for a comparative analysis of
  - i) the role of HF traders and
  - ii) the efficacy of various regulatory initiativesto address the potential detrimental effect of HFT across periods of differing market conditions.

# HF Market Microstructure

- O'Hara (2015, JFE)
- HFT is strategic because it maximizes against market design, other high frequency traders, and other traders.
- HFT changes the nature of “information” in the microstructure model
  - Unclear whether information-based trading necessarily relates to fundamental information in the HFT world.
  - Haldane (2011, p.4) makes the point that “adverse selection today has taken on a different shape. In a high speed, co-located world, being informed means seeing and acting on market prices sooner than competitors. Today, it pays to be faster than the average bear, not smarter. To be uninformed is to be slow.”

# A need for more policy-oriented research on market microstructure in the HFT world

- O'Hara (2015, JFE)
- The greater complexity, lower transparency, and higher uncertainty in the HFT world: Increasing concern that the markets are faster but not fairer.
- Investigating this hypothesis is complicated:
  - fairness is hard to define and even harder to measure.
  - easier to assess unfairness on an ex post basis as a likely manifestation is an unwillingness of individuals to participate in markets.
- To the extent this happens, markets fail to provide risk sharing for individuals and access to risk capital for firms and entrepreneurs.

# Concluding Remarks

- “A Big Question” posed by the author:
  - “How to design the market for sustainable growth, where HF traders and traditional traders coexist, playing complementary role for each other.”
- HFT changing the nature of informed trading
  - For better? For worse?
  - Is “nanosecond” trading necessary for market liquidity and price discovery?
  - Reduced costs of trading vs. increased volatility
  - Too much trading in the financial market that are socially wasteful?