

PRICE REVELATION FROM INSIDER TRADING:
EVIDENCE FROM HACKED EARNINGS NEWS
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Discussion by Emiliano S. Pagnotta

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AFA, January 5, 2019

MOTIVATION AND SETTING

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 - Uncertain horizon (Back and Baruch, 2004)
 - Market Makers event uncertainty (Easley O'Hara, 1992)
 - Timing ability (Collin-Dufresne Fos 2016)
 - Competition risk (Holden and Subrahmanyam, 1992)
 - Legal risk (DeMarzo, Fishman, Hagerty, 1998)
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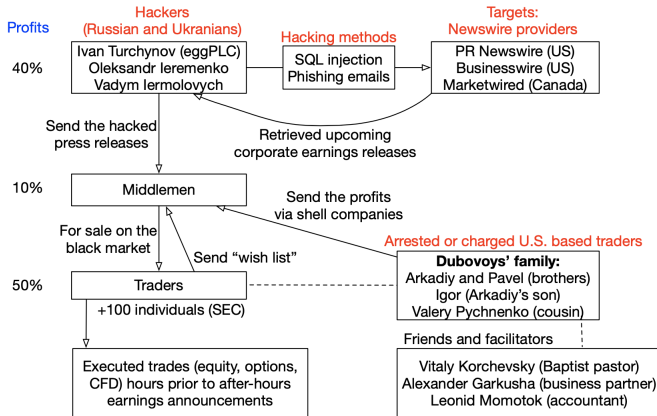
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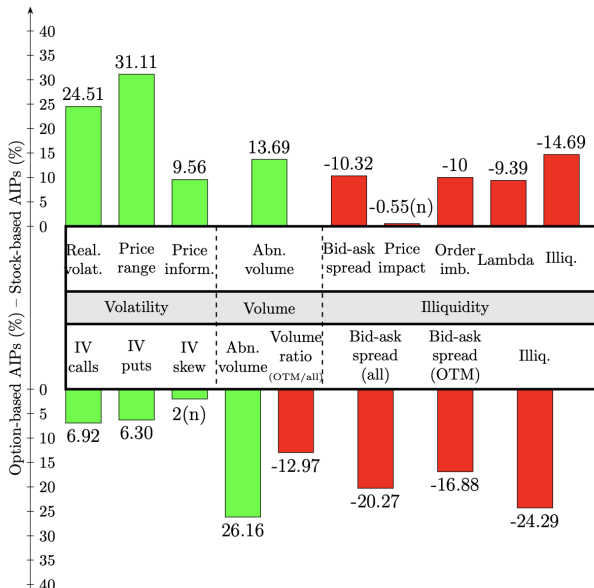
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- **Theory:** Canonical representation of information transmission is in Kyle (1985): insiders face price impact risk and carefully split trades over time
 - Information precision (Grossman Stiglitz, 1980) **HIGH**
 - Uncertain horizon (Back and Baruch, 2004) **NO**
 - Market makers' event uncertainty (Easley O'Hara, 1992) **LOW (high PIN prior)**
 - Timing ability (Collin-Dufresne Fos 2016) **LOW**
 - Competition risk (Holden and Subrahmanyam, 1992) **HIGH**
 - Legal risk (DeMarzo, Fishman, Hagerty, 1998) **HIGH**
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- **Similar**

- Abnormally high volume
- Abnormally high volatility
- No Price Impact effect
- Many illiquidity measures fail to increase

- **Different**

- Many illiquidity measures display a decrease (also for 13D traders, Collin-Dufresne and Fos, 2015)
- Quoted Spreads increase for hackers, decrease in KP2019

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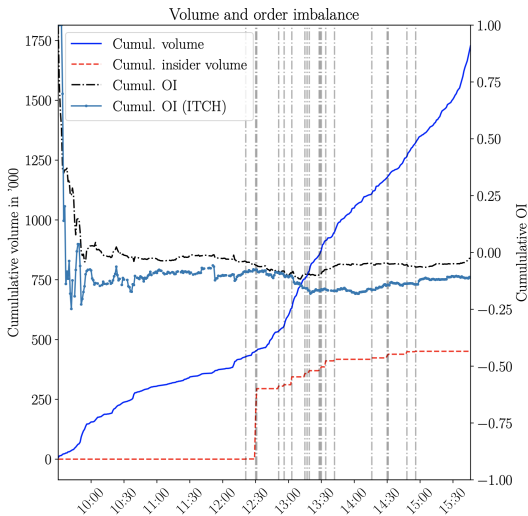
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Likely Mechanisms

- Illiquidity measures:
 - Hackers' short horizon reduce ability to choose days of high liquidity
- Quoted Spreads:
 - Result consistent with classic Glosten-Milgrom setting
 - Easley and O'Hara 1992: high α can lead to early resolution of uncertainty and rapid convergence to zero spread. Could point at lack of common knowledge on asset value support

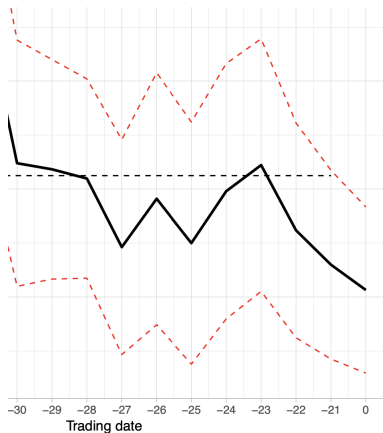
COMMENT: ABSOLUTE ORDER IMBALANCE

FIGURE: Edward Life Sciences (2013/04/23)



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- Lack of spike in AOI is surprising in a Glosten-Milgrom world
- Are limit orders widely used? Likely if HFTs are leaning with the wind. But the spreads are increasing. Can these be reconciled?
- Consistent with long-term daily average effect from SEC insider trading investigations (Kacperczyk and Pagnotta, 2019)

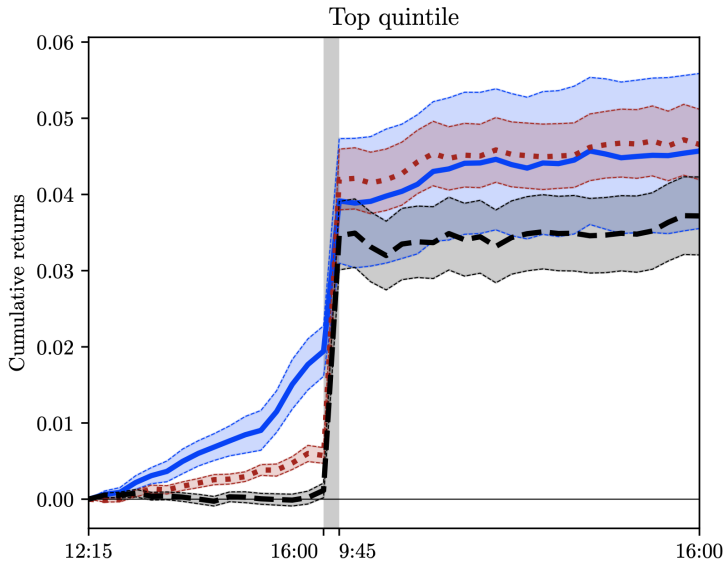


Takeaway:

**AOI measured designed around dealer-driven markets
Less helpful for electronic open L.O.B. markets (Easley O'Hara,
2012)**

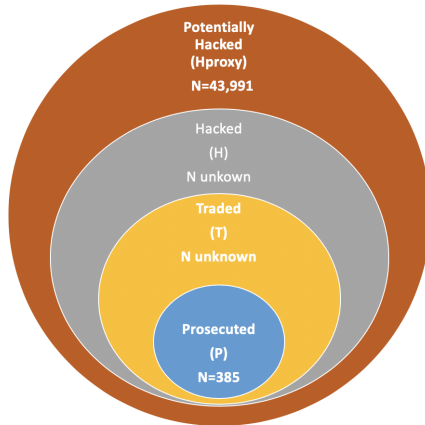
COMMENT: PROSECUTED CASES

FIGURE: Trade Universe and Samples



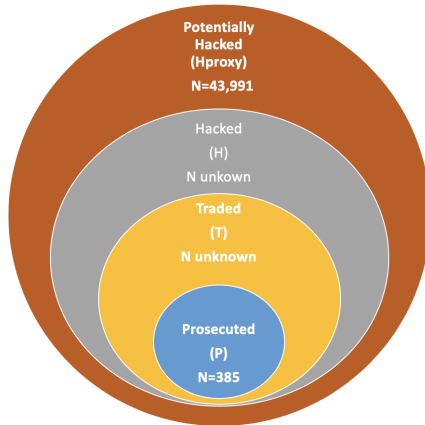
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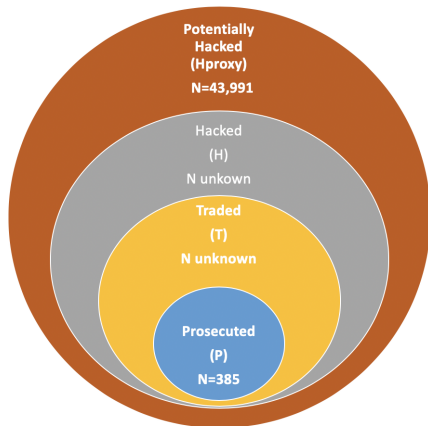
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- Prosecution bias is $|ATE(P) - ATE(T)|$
- Reported bias $|ATE(P) - ATE(Hproxy)|$. Arguably an **upper bound**

- Both Hackers and insiders in KP2019 face **Legal Risk**
- Arguably to different degree depending on locations, which can influence aggressiveness
- Can you split events across U.S. based traders and those who are located abroad?
- Looking at volume in option markets could provide perspective

CONCLUDING REMARKS

- Smart identification design to study information transmission into prices over intraday horizons
- Results reinforce the notion that we can still learn a fair bit about the relation between asymmetric information theories and what market participants do
- **Microstructure is not dead yet!**