

Discussion of

Clients' Connections: Measuring the Role of Private Information in Decentralised Markets

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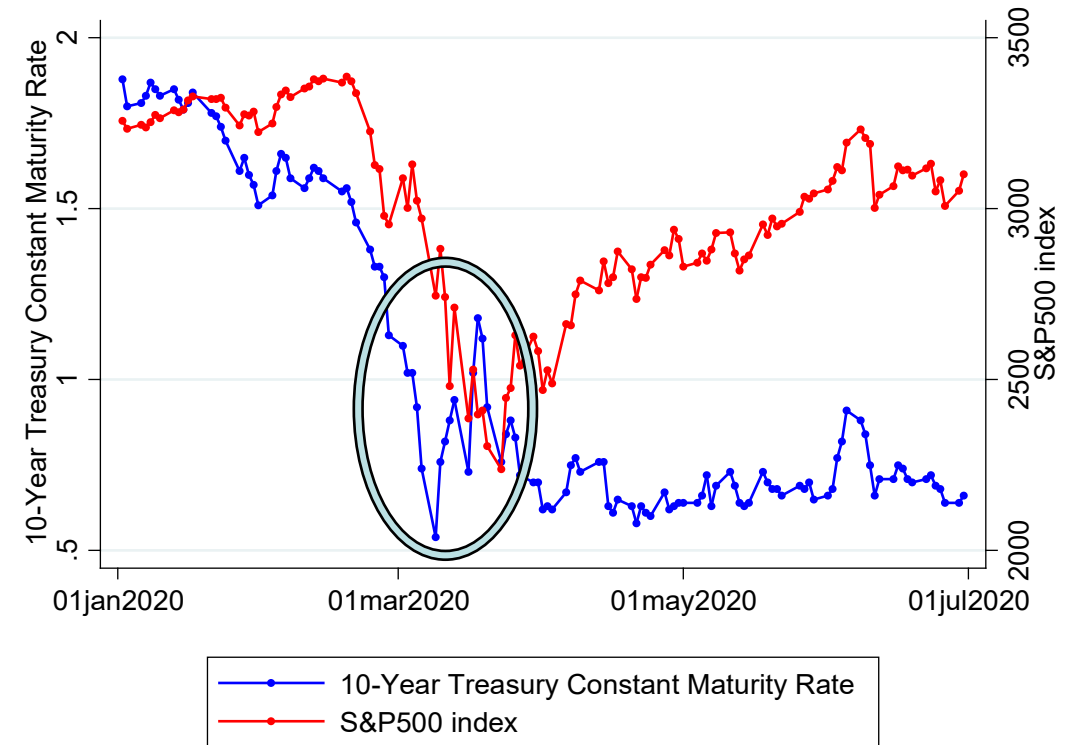
**13th Annual Paul Woolley Centre
conference in collaboration with
the BIS**

June 3-4, 2021

Virtual

OTC market dislocations in March 2020

- Treasury market dysfunction
 1. Positive equity-Treasury correlation
 2. Spillover to OTC corporate credit markets
 3. Massive Fed interventions (\$4tn→\$7tn)
- Calls for reforming OTC markets
 1. Lite regulatory supervision: FINRA, MSRB
 2. Opaque & fragmented structure
 - Dealer market power (Green et al. 07)
 - Post-trade transparency (TRACE, MSRB, ZEN)
 3. Archaic technology: Voice-/email-based trading
 - Electronic trading platforms, all-to-all trading, CCP (Duffie 20)



Source: Vissing-Jorgensen (2020)



English EN

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Available languages: English

Press release | 28 April 2021 | Brussels

Antitrust: Commission fines investment banks € 28 million for participating in SSA bonds trading cartel

The breakdown of the fines imposed on each company is as follows:

Company	Fine (€)
Deutsche Bank	0
Bank of America Merrill Lynch	12 642 000
Crédit Agricole	3 993 000
Credit Suisse	11 859 000

Source: https://ec.europa.eu/commission/presscorner/detail/en/ip_21_2004

CMA launches investigation into suspected bond trading cartel - reports

Case opened on 13 November



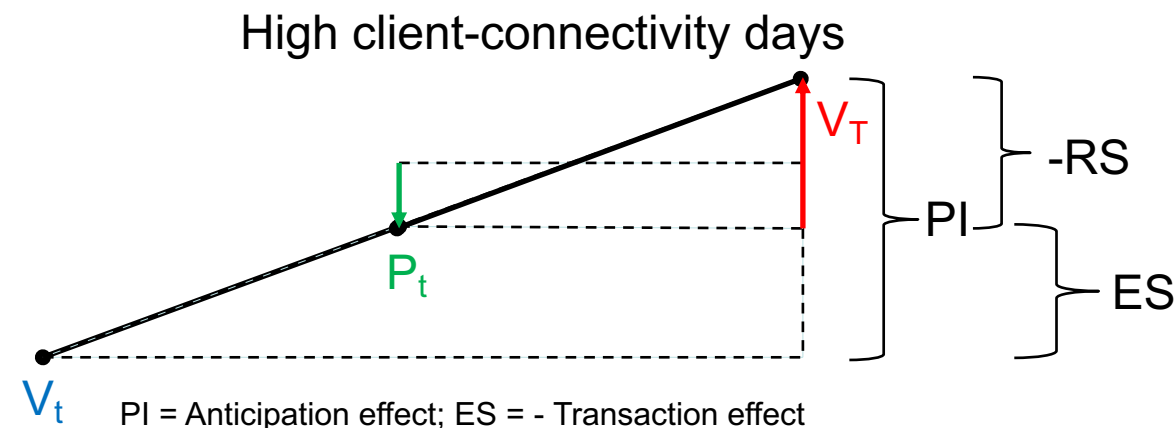
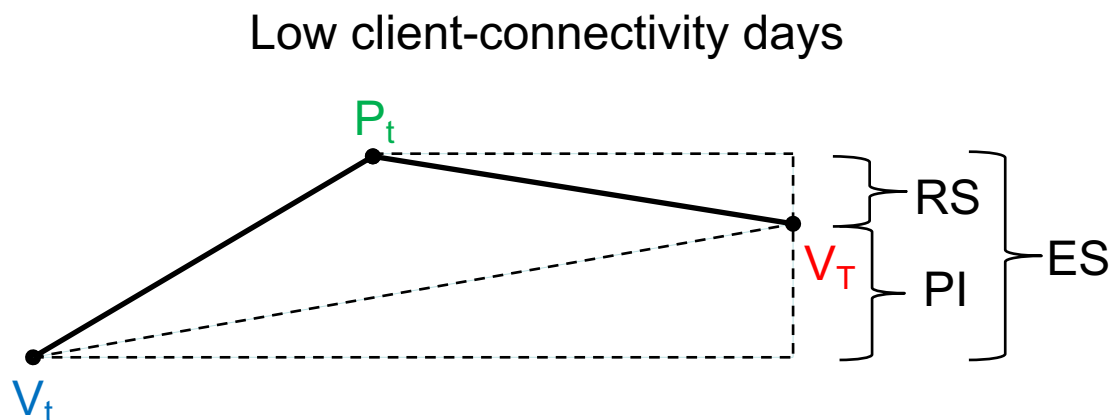
The Competition and Markets Authority (CMA) has initiated an investigation into a suspected cartel involving bond traders at a group of international banks, according to reports.

Source: <https://www.investmentweek.co.uk>

Main findings

- **Informed trading** is major concern in UK Gilt market & hurts liquidity (Kyle 85; Glosten & Milgrom 85)
- **Evidence for order splitting by informed traders**
 - In stock markets, informed traders split orders over time & across venues
 - In dealership-based UK Gilt market, informed traders split orders across dealers
- **Dealer connections are valuable** to spread adverse selection risk (Hendershott et al. 19)
 - CS mean = 2.4; TS SD = 1.5; at 5-day horizon, 1 extra connection → $\Delta RS = -0.5bp$
 - Mechanism: When clients have more precise info, they choose more connections to hide
- **No. of client-to-dealer connections** is (endogenous) measure of private information
 1. Aggregate connections improve price discovery by explaining daily yield changes
 2. Connections proxy for info about both future fundamentals & future order flow
 3. Dealers learn from informed clients & pass on to affiliates

Main findings—continued



- Decomposition: 1 extra connection $\rightarrow \Delta RS = -0.5bp, \Delta PI = 0.4bp, \Delta ES = -0.1bp$
 - On low connection days, clients lose $-0.4bp \rightarrow RS > 0$
 - On high connection days, clients gain $0.7bp \rightarrow RS < 0$
- On high client-connectivity days:
 1. Trades more informative (V_T higher)
 2. Clients get better prices (P_t lower)
- Prices overshoot (undershoot) on low (high) client-connectivity days

- Liquidity-based trading

1. Search & matching frictions (Duffie, Garleanu; Pedersen 05, Vayanos & Wang 07; Hendershott et al. 19)
2. Dealer inventory & balance-sheet constraints (Ho & Stoll 81; Kondor & Vayanos 19; He, Nagel, Song 20)

- Information-based trading

3. Asymmetric information & adverse selection (Kyle 85; Glosten & Milgrom 85; Babus & Kondor 17)
4. Information chasing/strategic learning (Leach & Madhavan 92; Brancaccio et al. 17; Pinter, Wang, Zou 21)

- This paper: Informed trading matters in OTC markets

1. Difference with order splitting in stocks? What do we learn about market structure?
2. Does non-anonymity of OTC trading alleviate adverse selection? Why not?

Model of informed trading (unfortunately in appendix)

- Modified Glosten and Milgrom (1985)
 1. Client informed with probability $1-\alpha$, signal precision Δ , trades $x = \{1, -1\}$
 2. A-priori optimal to contact many dealers to minimize price impact
 - Client commits to network size before signal $\rho(\Delta) : \{\Delta_L, \Delta_H\} \rightarrow \{R, (R, N)\}$
 - Client pays **reputational cost c** for contacting but not trading with extra dealers
 3. Dealers **cannot distinguish** whether quote request comes from client or noise trader
 - Small \Rightarrow large network: dealer faces {informed, noise} trader with prob $\{1-\alpha, \alpha\} \Rightarrow \{0.5*(1-\alpha), 0.5*(1+\alpha)\}$
- Results:
 1. Information quality increases in Δ , so does network size $\Rightarrow V_T \uparrow$
 2. Better prices when more informed if and only if $\Delta_H/\Delta_L < 1+\alpha \Rightarrow P_t \downarrow$
- Questions:
 1. How important are reputation cost?
 2. How would non-anonymity affect adverse selection—network size tradeoff?

#1 All-to-all trading

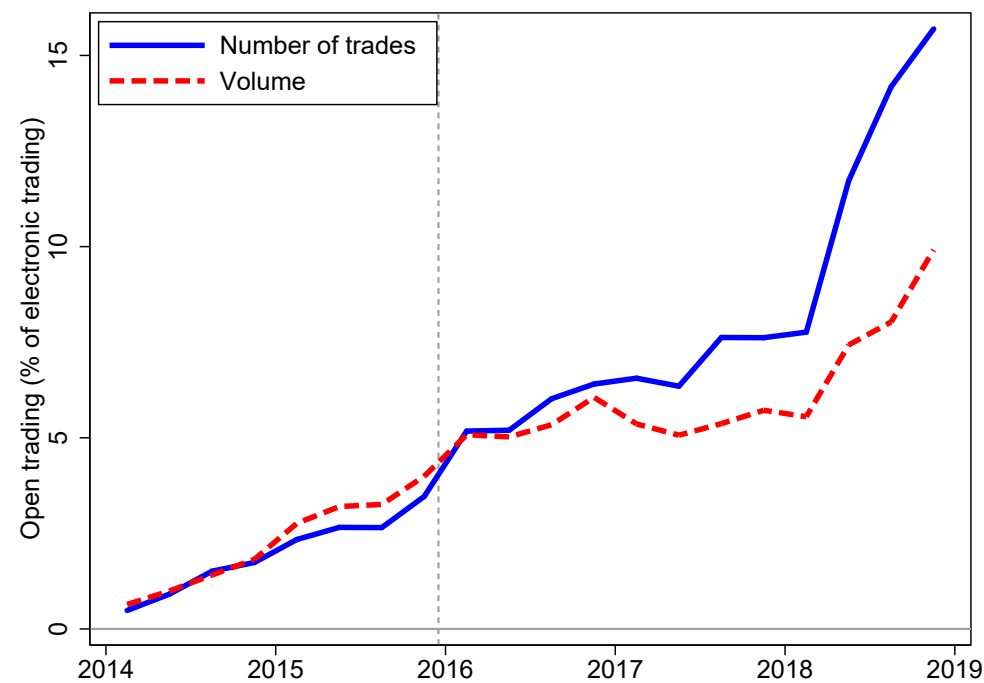


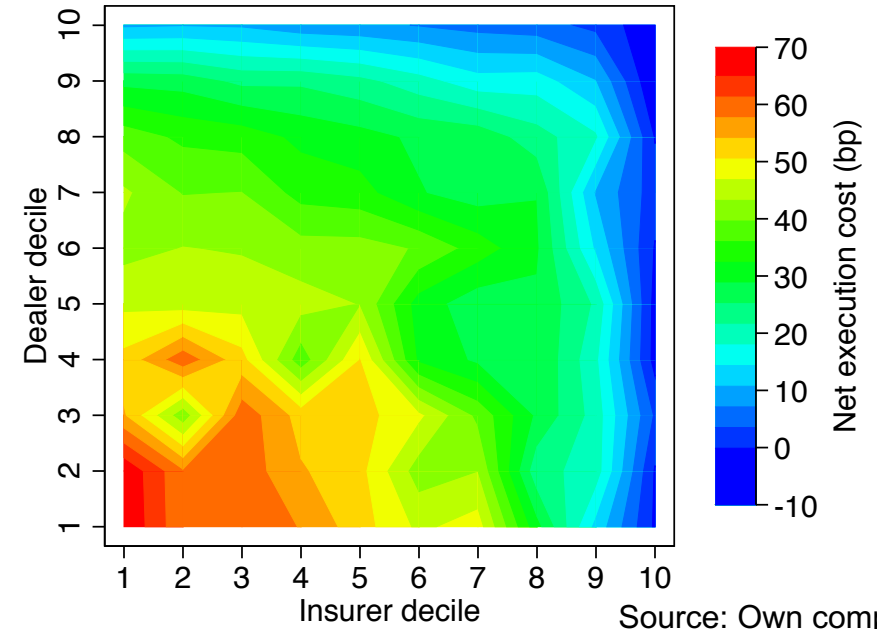
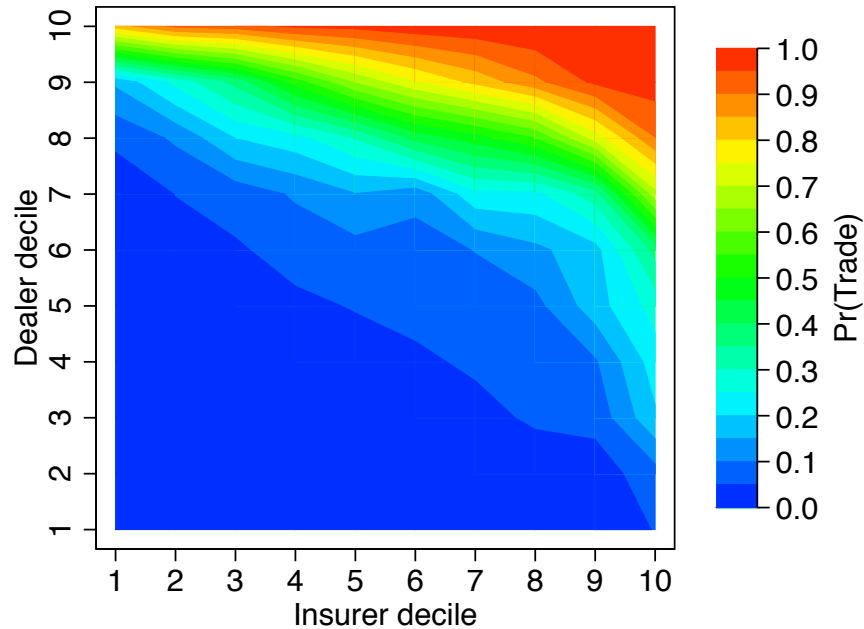
Figure 2: Open trading on MarketAxess

	Total
Trades (K)	5,435
OT disabled (K)	488
OT enabled (K)	4,947
Share of trades	91.0% ←
non-OT trades (K)	5,076
OT trades (K)	359
Share of trades	6.6%

Table: Open trading on MarketAxess

Source: Hendershott et al. (2021)

#2 OTC markets are opaque but non-anonymous → Client-dealer networks matter



Source: Own computations

- Clients form few long-lasting dealer relationships (50% trade repeatedly with 1 dealer)
 - Sorting/matching: small-large, large-large & large-small, rarely small-small
- Trading costs are **relationship specific**, not #connections
 - Client-dealer dimension left out in paper
 - When clients expand network, who do they “rip off”? And why? Expand to not destroy relation?

#2 Informed trading in non-anonymous networks (Babus & Kondor, 2017)

- Information-based trading in OTC markets

- Trading costs determined by dealer centrality

- Central dealers

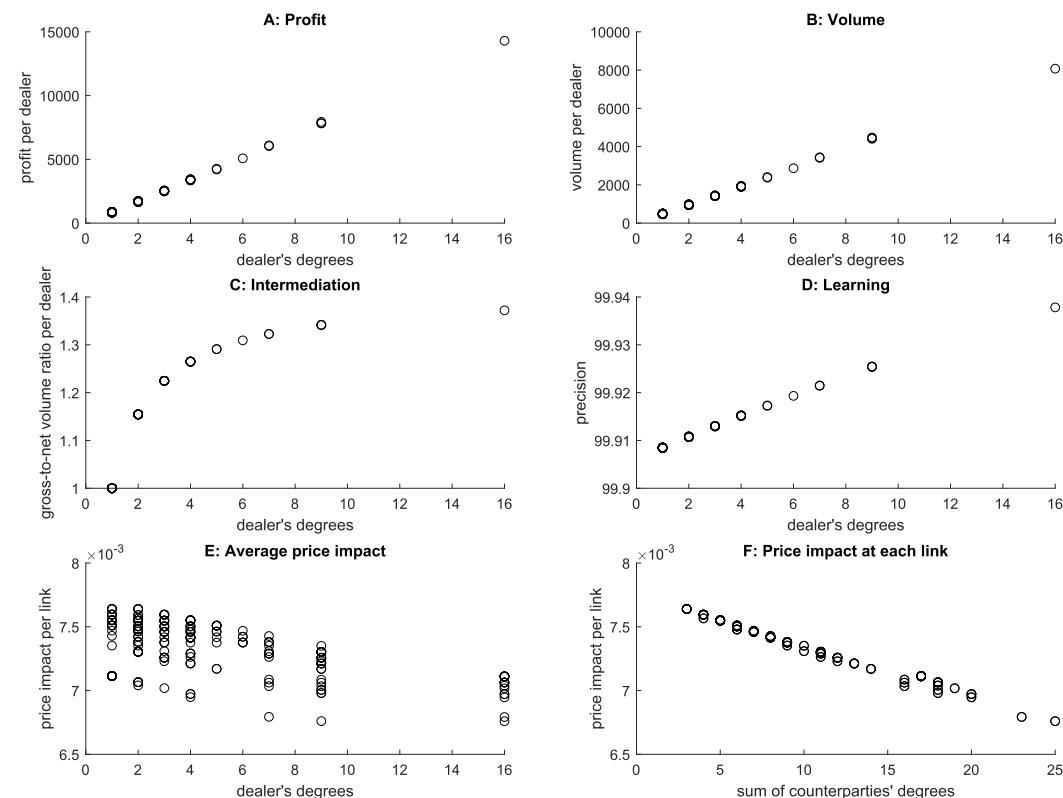
- more informed/learn more,
- trade more and at lower costs &
- earn higher expected profit

- OTC trade can increase or decrease welfare

- Is price informativeness limited in UK Guilts?

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Specific comment #1: Liquidity provision vs. private information

- What happens pre-trade?
 1. Liquidity provision to more dealers
 2. Informed trading with more dealers
- Consistent with largest effects on low-volume days (Duffie 10; Hendershott & Menkveld 14)

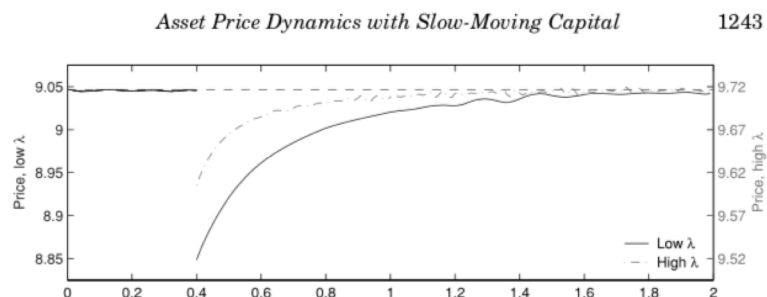
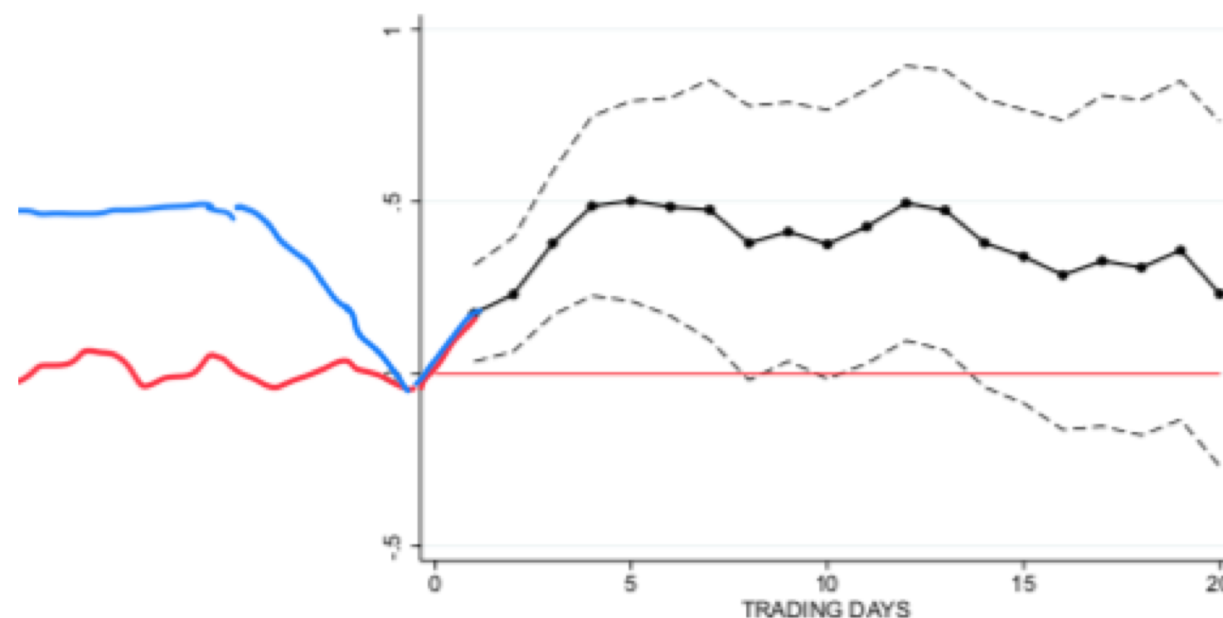


Figure 2: Connections and Performance over 1-20 Day



- More connections = broader liquidity provision?

Specific comment #2: Proprietary data used to classify traders

- Proprietary ZEN database by FCA (UK's SEC)
 - All secondary transactions in UK government bond market
 - Information on identity of both sides of trade: 21 primary dealers & ~480 clients
- Split into 2 groups is opaque & different from Pinter et al. (2021)
 - 230 unsophisticated: insurers, pension funds, corporations & central banks
 - 250 sophisticated (informed vs. uninformed): hedge funds & asset managers

¹⁵The guiding principle in our classification was (i) to focus on the main business profile of a given client and (ii) to aim at the highest possible level of consolidation, when determining whether a given client can be regarded as a hedge fund / asset manager (more sophisticated) or other type (less sophisticated). In most cases, this was straightforward. For example, we have 46 government entities (mainly foreign central banks), that can be immediately placed in the group of less sophisticated clients, and around 40 hedge funds that belong to the more sophisticated group. In contrast, there could be some ambiguity in the classification of some asset managers. For example, certain less sophisticated clients (e.g. insurance companies, commercial banks and pension funds) have asset manager branches. In line with our strategy, we regarded these asset manager accounts as part of the parent company with a less sophisticated type.

Summary

- Important area of research
- Interesting analysis & insightful results