The Relevance of Broker Networks for Information Diffusion in the Stock Market

Marco Di Maggio Francesco Franzoni Amir Kermani
Carlo Sommavilla
Discussion by Péter Kondor

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Idea

- each broker takes orders from many managers, each manager gives orders to many brokers
- $\Rightarrow$brokers and managers form a network
- a broker is more central when services many managers who give orders to many brokers (ad infinitum)
- central brokers gather more information through their orders. They might leak this information to the managers they service inducing more trades.
- $\Rightarrow$ trades through central brokers are more profitable

Findings I: Profitable trades

Trading through central dealers is more profitable

1. central dealers extreme trades generates alpha:
   - buy the long-short portfolio constructed from the largest long and short positions going through the most central dealers
   - sell the long-short portfolio constructed from the largest long and short positions going through the least central dealers
2. compare two managers/ same manager trading a given stock in a given month, through a central dealer vs a non-central dealer. The performance of that particular trade over 5 days is higher when it goes through the central dealer
   - if that given manager uses the given central dealer often, the performance is higher

Findings II: Information leakages

Identify information events and try to identify the originator and follower of leakages around that

1. a manager is more likely to buy through a central broker a given stock just before an **activist's announcement** who trades at the same broker
   - especially if in strong relationship with that central broker
2. there are followers around **large trades** while it is still executed increasing its price impact
   - more followers associated with central broker, if origination through a central broker
   - but not if the originator is affiliated.

Findings III: Informational efficiency

- Price discovery tends to be faster when trade goes through central dealer

Comments

- I will take regression results at face value
- Instead: How to make the story sharper?
  - we need to visualize the environment where all the players are making the rational choice
  - state the preferred story/stories clearly (along with potential caveats)

- what are the incentives and potential actions of brokers/managers?
  - how brokers benefit from intermediating more profitable trades? can they refuse orders? can they reveal information through their actions legally?
  - main tension: why ”originators” trade their large trades with central dealers if
    - they **know**: these are their best ideas
    - it is **costly**: ”followers” increase their price impact in the competitive phase
    - have **choice**: could execute their sensitive trades with other dealers?
- there might be several ways to answer this
- authors seem to be hesitant to settle

- at one point:

  > *In fact, we can imagine an informed trader submitting an order through a broker, who can infer the informational content of the trade and spreads it to other clients. The incentive for the broker is to build a reputation as a valuable source of information and attract more business.* **One may think that the informed clients would not like their information to be spread to other investors. However, if the informed investors have capacity constraints, they may actually solicit other investors to trade in the same direction.**

- i.e. they know it, they have other options, but it is not costly

- at other points, they seem to converge to the idea that
  - they know, it is costly, have other options, but worth it:
  - its part of a collusive equilibrium where the originator and the followers share profit in the understanding that these roles regularly switch

Variant I: Collusion

- works if
  - clear mechanism to punish defection
  - a scores has to be kept on how much one contributes: otherwise more informed manager were motivated to trade with central dealer only infrequently (matching of trading ideas, not matching of managers!)
- how would that work?
- Centrality of broker is not essential: if this group of investors could share this information in any other way, they would. Trading with central broker is a mean of communication.

Variant II: originators do not have a real choice

- Suppose that managers have information based and liquidity based trades
- central dealers might have comparative advantage to execute informed trades. Perhaps, because they trade the net of their orders
  - can hide informed trades better: less adverse selection or
  - it is harder to trace back to the given manager
- in principle, there might be an equilibrium where all the informed trades are through central dealers and all the uninformed trades are through non-central dealers.
- that is, even if it looks costlier in equilibrium to go through the central dealer because of higher price impact, out-of-equilibrium it would be even costlier leading to even higher price impact
- Centrality is essential, leakage is a side-show.

Variant III: originators do not know

- suppose managers with noisy private signals distribute their informed orders across different dealers randomly
- as central dealer sees many of these orders, can filter out noise, will be better informed.
- other counter-parties might learn this net information with/without intentional leakage (e.g. by the willingness or offered terms of trade of broker)
- centrality is essential, no collusion (originator do not have to be incentivized), leakage might be intentional or side-effect

Sum up

- Very interesting idea
- trading through networks might be important even in centralized markets
- nice piece of research: working hard to show as many exhibits for an informational story possible
- Perhaps not all ingredients of preferred story are stated as clearly as they should