Public Pre-trade Disclosure of Insider Orders

Luca Gelsomini (IÉSEG School of Management)

Background

- Considerable debate exists on whether financial investors should be required to pre-announce their trades.
- The debate can be highlighted with two questions:
  1) Should pre-trade disclosure of orders be required?
  2) Which kind of investor should be pre-announcing his trades?
- Surprisingly, following the work by Admati and Pfleiderer (1991), few attempts have been made to study pre-trade disclosure of orders (see Huddart et all. (2010) and Lenkey (2014)).

1

Relevance

- We consider a regulation mandating insiders—i.e., investors who are or may be informed about the asset's fundamental value—to pre-announce their trades to non-insiders.
- This form of pre-trade disclosure deserves attention because:
  a) it is a natural alternative to the mandatory post-trade disclosure of insider orders that, though in force under different regulations, may not have positive effects on market quality (see, e.g., Fishman & Hagerty (1995), John & Narayanan (1997));
  b) companies such as Ameritrade Holding Company do require insiders to pre-announce their trades, suggesting that pre-trade disclosure of insider orders may have some direct or indirect advantages for those companies that set up such a rule.

2

Overview of Results (part I)

- A key concern by practitioners is that insiders who pre-announce their trades may manipulate the stock price.
- However, if the insider obtains utility solely from the consumption of the financial asset, this concern is not well grounded.
- To explain why this is so, we derive an equilibrium solution that has a near-universal appeal. The solution is independent of:
  - the properties of the asset's fundamental
  - the number of trading dates
  - whether the insider is systematically informed about the realization of the fundamental
  - how much the insider can trade or how much the regulator allows him to trade at each date
- Not only do price responses to any sequence of pre-announced trades make market manipulation too costly for the insider, but there is also no way for the insider to profit from his information advantage.

3

Overview of Results (part II)

- An equilibrium exists in which the pre-announcement mechanism prevents the insider from trading.
- However, alternative equilibria may also exist.
- In one of these alternative equilibria, the insider does not trade unless he is privately informed about an upcoming state of boom for the company—defined as the highest possible realization of the company's value—in which case the insider submits an initial buy order that pushes the company's stock price upwards at no cost.
- This equilibrium holds for an insider who marginally prefers a high stock price to a low stock price.
- Because insiders' preferences for a high price over a low price may be more than just marginal, we also consider an insider who obtains extra utility both from the consumption of the financial asset and from supporting relatively high if not very high price levels.
- An example explains that the pre-announcement mechanism may cause this insider to undertake uninformed manipulations.

4

Analytical Framework

The analytical framework employed is a variation of the model by Kyle (1985) in which an insider places orders over a sequence of rounds, but in which no pre-announcement by the insider takes place.

- As in Kyle's model,

  orders in each round are executed at a price that (by assumption) equals the asset expected value conditional on all past and current public information available at that round.
- However,
  - while in Kyle's model the information publicly available at each new round consists of the combined orders by both the insider and irrational noise traders,
  - in our framework insider orders are disclosed separately, and thus turn out to be the only public information that is relevant.

5

Equilibria without Manipulation

For an insider who obtains utility solely from the consumption of the financial asset, in equilibrium:

- The stock price in response to a first order submission never undershoots the insider's price. Thus, no positive profits can be earned by the insider at the time of a first order submission.
- The missed gain associated to this first order submission is always prejudicial to overall-profitable inter-temporal trading.

As a consequence:

- An equilibrium exists, in which the insider anticipates any unprofitable price reaction to his announcements by not trading.
- If the asset value distribution is bounded either from below, or from above, or from both below and above—as is arguably the case in reality—alternative equilibria exist in which:
  - An insider who is aware of neither a state of crisis nor a state of boom loses from submitting orders, and thus does not trade
  - An insider aware of a state of crisis (or of boom) randomizes with any probability between not trading at all and undertaking a sequence of one or more trades which starts with a sale (resp., purchase)

6

Derivation of Alternative Equilibria

- Consider the case in which the insider knows about a state of boom, for instance (the argument is symmetric for the case in which he knows about a state of crisis).
- In equilibrium, as a consequence of the front-running activity by other market participants, the price following the announcement of the buy order immediately moves upwards to a level equal to that recordable if the boom state were common knowledge, and does not move any further afterwards.
- The complete revelation of information in this case happens because an insider who does not know about the boom state never starts a series of trades with a buy order.
  - Suppose, for a moment, that the latter type of insider at least partially mimics the insider aware of the boom state by starting trading at the same round, placing a buy order, with the objective to shift the price up to the boom-state value, and thereafter trades on the generated mispricing. Even though this insider may experience some gains from trading after the mispricing, these gains (if any) never offset the loss incurred to generate the misprising. Consequently, he deviates and chooses not to start any series of trades with a buy order.
  - In conclusion, if the first trade disclosed at some point in time is a buy order, then the insider who discloses this order is certainly aware about a boom state.

7

Durable Goods Monopolist: Interpretation

- The insider can be thought of as being a durable goods monopolist, as in Cespa (2008).
- Similar to a monopolist producer of durable goods, the insider is confronted with the problem of having his market power reduced over time.
- Even though our insider may attempt to retain the flow of information revealed through his orders, on the equilibrium path a first order submission unavoidably implies an immediate revelation of all the inside information.
  - This result is in line with that of the traditional self-competition problem conjectured by Coase (1972), of a monopolist producer who sells repeatedly and who is thus forced to charge the competitive price.
- Our insider may make use of his private information only in the cases in which he knows about a boom state or a crisis state.
- In any other case, private information is harmful to the insider, if exploited.
- This notwithstanding, an initial sequence of missed order submissions does not always prevent an initial revelation of inside information.

8

Equilibria with Uninformed Manipulation

- In reality, there are insiders with non-marginal preferences for high prices over low prices.
- To account for these non-marginal preferences,
  - we consider a profit-maximizing insider who receives (positive or negative) additional utility which is directly proportional to the difference between the stock price and the insider's price.
- An equilibrium with uninformed manipulations exists if the constant of proportionality is sufficiently high but not too high.
- In this equilibrium, the insider purchases not only if he is informed about a boom state but also if he is uninformed, and the stock price increases only after a purchase. In detail:
  - An uninformed insider purchases even if he makes negative profits, because the constant of proportionality is sufficiently high, and thus his incentive to support a high price level with a purchase is also sufficiently high.
  - An insider who is informed about a crisis state does not purchase, because the constant of proportionality is not too high, and thus his disutility from making negative profits offsets his utility from supporting a high price level.

9

Selected References

- Admati, Anat R., and Paul Pfleiderer, 1991. Sunshine Trading and Financial Market Equilibrium. Review of Financial Studies 4, 443-481.
- Cespa, Giovanni, 2008. Information Sales and Insider Trading with Long-Lived Information. Journal of Finance 63, 639-672.
- Coase, Ronald H., 1972. Durability and Monopoly. Journal of Law and Economics 15, 143-149.
- Fishman, Michael J., and Kathleen M. Hagerty, 1995. The Mandatory Disclosure of Trades and Market Liquidity, Review of Financial Studies 8, 637-676.
- Huddart, Steven, John S. Hughes, and Michael Williams, 2010. Pre-announcement of insiders' trades. Working Paper, Pennsylvania State University.
- John, Kose, and Ranga Narayanan, 1997. Market Manipulation and the Role of Insider Trading Regulations. Journal of Business 70, 217-247.
- Kyle, Albert S., 1985. Continuous Auctions and Insider Trading. Econometrica 53, 1315-1336.
- Lenkey, Stephen L., 2014. Advance Disclosure of Insider Trading. Review of Financial Studies 27, 2504-2537.

10