Are trading imbalances indicative of private information? ☆

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A R T I C L E   I N F O

Article history:
Received 15 July 2013
Received in revised form 13 March 2014
Accepted 13 March 2014
Available online 21 March 2014

JEL classification:
G12
G14

Keywords:
Trading imbalance
Order imbalance
Informed trading
Private information
Earnings announcements
Mergers and acquisitions
Seasoned equity offerings

A B S T R A C T

Trading imbalances are often interpreted to be the result of informed trading. Yet imbalances may simply reflect random shocks or the results of liquidity trading. If trading imbalances reflect informed trading, they should anticipate major news events. Using announcements of earnings, acquisition targets, and seasoned equity offerings as our information events, we examine whether prior trading imbalances are related to the subsequent news. We conclude that imbalances do not well reflect the information held by informed traders. Trading imbalances do have price effects, but they are contemporaneous and are not significantly correlated with the forthcoming announcements.

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1. Introduction

How is information reflected in the price of securities? If information is public, it will (in an efficient market) be reflected immediately in prices even without trading. Alternatively, if information is private,
it is impounded in prices by the trading of informed investors. Positive news will cause informed traders to purchase shares and increase the price, while negative news will encourage informed traders to sell shares and lower the price. The imbalance in trading, which is a reflection of private information, will push prices to reflect this private information. It is often assumed that trading imbalances are driven by information, but this is not necessarily the case. Orders may arrive randomly or may reflect liquidity needs that result in price effects solely from the price pressure of the imbalance. The extent to which trading imbalances are driven by information is an empirical question that is the focus of this study.

Suppose the researcher observes a purchase trading imbalance in a particular stock. One possibility is that informed traders are seeking to exploit their private information. Alternatively, the imbalance may be a random liquidity event that puts pressure on the inventories of dealers and other suppliers of liquidity. In both cases, the stock price would increase to reflect the increased demand. Our objective is to determine whether observed imbalances reflect private information. We consider corporate information events (earnings announcements, acquisition targets, and seasoned equity offerings) and examine whether imbalances before the event are indicative of private information. If information driven, one would observe a correlation between the imbalance and the subsequent information. A failure to find a correlation implies: (1) that private information is not present or (2) that trading on private information is not possible (e.g., because counterparties step away). Imbalances may continue to be present, but not for informational reasons.

The elements in our analysis – information, return and imbalances – depicted in Fig. 1 are the key variables whose response to a trading shock or an information shock we seek to understand. The links among the three variables are both contemporaneous and inter-temporal. Consider first the contemporaneous links of the three elements of our analysis.

Information about a security is ultimately reflected in returns. The path may be direct via link (a) if information is made public and impounded in the stock price. Alternatively, the link may be indirect via link (b) and link (c) if information is not public and is only slowly reflected in the price via trading. Trading by informed investors will generate imbalances that anticipate the news, and stock prices will adjust today to reflect any information in the imbalances. We assume that markets are efficient in the sense that current news or current order flow cannot predict abnormal future returns. Instead prices adjust immediately and may anticipate future announcements.

The inter-temporal link, which is the focus in this study, is the link between imbalances today and news announcements at a later date. If imbalances reflect private information as is often assumed, one should observe a correlation between the imbalance and the subsequent news. Alternatively, the imbalances may reflect random trading by noise traders unrelated to information. Stock returns today may reflect future news insofar as security analysts and other investors reflect public information in the price. In our empirical work, we control for stock returns in assessing whether an imbalance conveys information. The imbalance should have an effect net of the stock price change.

Easley, Kiefer, O’Hara, and Paperman (1996) and Easley, Kiefer, and O’Hara (1997) provide an elegant and simple model of the trading process for informed and uninformed investors. The model generates the probability of informed trading (PIN), which is directly inferred from the imbalance between buys and sells. Easley, Engle, O’Hara, and Wu (2008) document the similarity between PIN and the proportional imbalance. A finding that the spread is correlated with PIN has been taken to support the
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