Journal of Banking & Finance 36 (2012) 14–25

Contents lists available at ScienceDirect

Journal of Banking & Finance

journal homepage: www.elsevier.com/locate/jbf

Informed or speculative: Short selling analyst recommendations

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ARTICLE INFO

Article history:
Received 19 January 2011
Accepted 5 June 2011
Available online 5 July 2011

JEL classification:
G12
G14
G19

Keywords:
Short selling
Informed trading
Analyst recommendations
Tipping

ABSTRACT

Christophe et al. (2010) find evidence of abnormal short activity prior to analyst downgrades and argue that short sellers may be violating SEC insider-trading laws by trading on information obtained from analysts about upcoming downgrades. However, observing abnormal shorting prior to downgrades is not tantamount to determining that short sellers are trading on tips from analysts unless shorting is abnormally low prior to upgrades. This paper revisits this issue. While we observe abnormal shorting prior to downgrades, we also find markedly higher shorting prior to upgrades. In fact, the short-selling patterns surrounding both downgrades and upgrades are remarkably symmetric indicating that short sellers during the pre-recommendation period are not unusually informed about the direction of upcoming recommendation changes. If anything, our findings indicate that short selling prior to analyst recommendations is more likely speculative than informed.

1. Introduction

Recently, several studies test whether some investors have the ability to acquire information about upcoming news events before the information becomes publicly available. For instance, Irvine et al. (2007) document the presence of abnormal buy-side institutional trading activity prior to initial strong buy and buy recommendations and argue that analysts tip preferred and potential clients about upcoming positive recommendations.[1] Using the idea of analyst tipping as a framework for their study, Christophe et al. (2010) (CFH hereafter) examine shorting activity prior to analyst downgrades and document abnormal short selling during the pre-downgrade period. They contend that abnormal pre-downgrade shorting activity is consistent with what they denote as the informed front-running hypothesis which posits that informed investors acquire information about an upcoming downgrade and establish short positions prior to the release date in order to take advantage of the price reaction to the recommendation change. Further, CFH suggest that evidence of abnormal short selling prior to analyst downgrades is better explained by analyst tipping than by short sellers' unusual ability to predict analyst downgrades. CFH further argue that short sellers who trade on the information obtained from analysts may be in violation of SEC Rule 10b-5. In this study, we argue that observing abnormal short selling prior to downgrades is not tantamount to determining that short sellers can acquire information about upcoming news events unless abnormally low short selling is found prior to analyst upgrades. Therefore, the main objective of our paper is to test the informed front-running hypothesis by examining short selling around *both* downgrades and upgrades.

Evidence supporting the idea that short sellers are informed is robust. Theory in Diamond and Verrecchia (1987) predicts that unanticipated increases in short selling will be followed by negative returns. The idea behind the Diamond and Verrecchia hypothesis is that short sellers face borrowing constraints and when these constraints are severe, short selling becomes costly. Therefore, short sellers who are willing to face these costs must be informed about future downward price movements. Empirical results consistently find that current short selling relates inversely with future returns indicating that short sellers are informed (Senchack and Starks, 1993; Aitken et al., 1998; Desai et al., 2002; Cohen et al., 2007; Boehmer et al., 2008). While short sellers appear to be informed about future downward price movements, determining whether short sellers are informed about upcoming negative news contained in firm-specific announcements warrant separate tests. Christophe et al. (2004) show that abnormal short selling prior to negative earnings announcements is negatively related to post-announcement returns and argue that short sellers can

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[1] Additionally, Juergens and Lindsey (2009) show increased trading activity through market makers that are employed at the same firm as the analyst prior to recommendation changes. This finding is consistent with the arguments presented in Irvine et al. (2007).

0378-4266/$ - see front matter
doi:10.1016/j.jbankfin.2011.06.001

predict the negative news in earnings announcements. To the contrary, several studies show that short sellers are not able to predict negative announcements and instead increase their shorting activity in response to announcements (Daske et al., 2005; Boehmer and Wu, 2008; Blau and Pinegar, 2010).[2] In fact, Engelberg et al. (2010) show that the return predictability contained in shorting activity is driven by short sellers' superior ability to process publicly available information instead of short sellers ability predict the dissemination of this information. These studies begin to question the informativeness of short sellers prior to negative news events. Motivated by these contradicting lines of research, we reexamine CFH's informed front-running hypothesis by examining short selling prior to both downgrades and upgrades. If short sellers are beneficiaries of information leakages and particularly analyst tipping, then the informed front-running hypothesis predicts abnormally low (high) short selling prior to analyst upgrades (downgrades).[3]

Using methods similar to CFH we find that short selling significantly increases prior to downgrades. However, we also find a remarkably similar level of short selling prior to upgrades. Observing abnormally high short selling, as opposed to abnormally low short selling, prior to upgrades makes the case for the informed front-running hypothesis less compelling. We are left to conclude that pre-recommendation short selling does not appear to contain an unusual amount of private information. Instead, our results seem to support the idea that pre-recommendation short selling is motivated by speculation.

We recognize that short sellers' inability to accurately predict the direction of analyst recommendation changes does not reject the claim that short sellers are informed (Diamond and Verrecchia, 1987). Indeed, results in this study show that current short selling relates negatively with future returns at the daily level, which is consistent with findings in Diether et al. (2009) and indicates that short sellers are informed about future downward price movements. When comparing the return predictability of short sellers around recommendation changes to the return predictability of short sellers during non-event time periods, we find evidence that the negative relation between current short selling and future returns is stronger prior to downgrades than during more normal time periods. However, short selling prior to upgrades, which we show is also abnormally high, results in a weaker negative relation between current short selling and future returns. While abnormal short selling prior to downgrades leads to abnormally high profitability, the observed abnormal short selling prior to upgrades results is abnormally low profitability. These results again question the level of information contained in pre-recommendation shorting activity and contradict the underlying prediction of the informed front-running hypothesis which indirectly asserts that short sellers are beneficiaries of analyst tips prior to recommendation changes.

To provide additional tests of the informativeness of short sellers prior to recommendation changes, we examine pre-recommendation short selling while conditioning on the magnitude of upgrades and downgrades. Specifically, we partitioned recommendation changes into large and small changes. A large recommendation change is a change of *more than one* recommendation category while a small recommendation change is a change of *only one* category. The informed front-running hypothesis indirectly predicts that abnormal short selling prior to downgrades should be driven by large downgrades especially if the information about the upcoming downgrade is being leaked by analysts. However, we find evidence that abnormal short selling is higher for small downgrades than for large downgrades, which is inconsistent with the informed front-running hypothesis. Our comparison of large and small upgrades reveals that abnormal short selling during the pre-recommendation period is statistically similar for both types of upgrades.

Since short-selling patterns are remarkably symmetric around both upgrades and downgrades, a natural extension of our analysis is to compare factors that influence pre-downgrade short selling to factors that influence pre-upgrade short selling. Interestingly, we find that the estimated factors influencing pre-downgrade shorting activity are similar in magnitude and significance to the estimated factors that influence pre-upgrade short selling. These findings support the results from our previous tests that show a similar short-selling pattern prior to both downgrades and upgrades. Combined, findings in this study offer an important correction to previous tests of the informed front-running hypothesis and suggest that short sellers do not have an unusual ability to acquire information prior to recommendation changes. If anything, our findings indicate that short selling during the pre-recommendation period is speculative. The rest of the paper follows. Section 1 describes the data used in the paper while Section 2 presents the empirical tests of the informed front-running hypothesis. Section 3 concludes.

2. Data description

Short-sale transactions data are made available in response to the Securities and Exchange Commissions' Regulation SHO (January, 2005). The data used in this study consist of time-stamped short sales for NYSE- and NASDAQ-listed stocks, which we aggregate to the daily level. From the Center of Research on Security Prices (CRSP), we obtain daily volume, returns, prices, market capitalization, and shares outstanding. We initially restricted our sample to stocks that trade every day of the sample time period, which is January 1, 2005 to December 31, 2006. We also require stocks in our sample to have a price greater than $2 and a CRSP share code of 10 or 11. Stocks with share codes of 10 or 11 are common ordinary stocks. Therefore, excluding stocks without share codes of 10 or 11 restricts ADRs, REITs, Closed-End Funds, ETFs, etc. from our sample. Imposing these restrictions follow prior studies (Diether et al., 2009).

From I/B/E/S, we obtain analyst recommendations.[4] We require the recommendations to allow for 40 days before and 40 days after the release date for our event study tests. We also require analysts to make at least two recommendations during the sample time period in order to properly obtain upgrades and downgrades.[5] In addition, we exclude recommendation changes that occur during the 10-day period after a previous recommendation change following Irvine et al. (2007) and CFH.[6] After merging the Reg SHO and

[2] In other studies, Karpoff and Lou (2010) find that short selling increases during the 19 months before an SEC investigation about financial misrepresentation is publicly announced while Khan and Lu (2008) report an increase in short selling immediately prior to insider sales and argue that short sellers front-run these inside trades. However, Chakrabarty and Shkilko (2008) only find abnormal short selling on days with insider sales and the event-day short selling is not able to identify the insider sales that have the largest future stock price decline, suggesting that the ability of short sellers to predict the negative news in insider trades is selective at best.

[3] The time period used in this study is similar to the period used in CFH. We recognize the limitations of analyzing the informativeness of short sellers in such a small time period however, the data used in both our study and the study of CFH does is only available from 2005 to the beginning of 2007. Undoubtedly, shorting activity has increased over time and therefore, results in either study may not be robust to time periods prior to 2005.

[4] There are approximately 19,000 recommendations for the stocks in our sample that occur between January 2005 and December 2006. We exclude recommendations that occur within a 10 day period after other recommendations. We also exclude recommendations that occur within a 10 day period before or a 10 day period after an earnings announcement.

[5] We examine these excluded analyst recommendations and find results that support the main conclusions we draw in this paper.

[6] In unreported tests, we examine recommendations that cluster within a week of each and find that results are not qualitatively different than those reported in this paper.