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Short selling after hours

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ABSTRACT

Diether, Lee, and Werner (2009) show that, in general, short sellers are contrarian in both contemporaneous and past returns and able to impressively predict future returns. This study examines these trading characteristics during both the trading day and the after-hours period. Interestingly, we find short sellers are less contrarian during the after-hours period. However, the return predictability contained in short sales is nearly five times less during after-hours trading than during regular trading hours. These results indicate that higher levels of information asymmetry and price discovery during the after-hours period (Barclay & Hendershott, 2003, 2004) are not driven by the trading of after-hour short sellers.

In this study, we compare the level of informed short selling during normal market hours to the level of informed short selling during periods when markets are closed (the after-hours period). This comparison is motivated by prior research that posits that informed trading is more likely to occur during non-market hours (Barclay & Hendershott, 2003, 2004). Given that the recent consensus in the literature is that short sellers are informed about future stock prices (Aitken, Frino, McCorry, & Swan, 1998; Asquith, Pathak, & Ritter, 2005; Boehmer, Jones, & Zhang, 2008; Christophe, Ferri, & Angel, 2004; Dechow, Hutton, Meulbroek, & Sloan, 2001; Desai, Ramesh, Thiagarajan, & Balachandran, 2002; Diether, Lee, & Werner, 2009; Senchak & Starks, 1993), the main objective of this study is to determine whether informed short selling contributes to the higher levels of informed trading after hours that is documented in Barclay and Hendershott (2003, 2004).[1]

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[1] While much of the research has tested whether or not short sales contain information about future stock prices, other research has began to determine what factors influence the level of information contained in short sales. For instance, Anderson, Reeb, and Zhao (in press) report that the information contained in short sales depends on organizational structure. Engelberg,

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On one hand, short sellers may drive the higher levels of informed trading during the after-hours period. According to theory in Diamond and Verrecchia (1987), possible short-sale constraints increase equity borrowing costs and restrict the level of short selling to only those traders with information about future stock prices. Further, trading after hours is also subject to higher transaction costs (Barclay & Hendershott, 2004). Short-sale constraints coupled with higher transaction costs may motivate only the most rational informed traders to sell short during the after-hours period. Therefore, the fraction of short sales that contain information may be markedly higher during the after-hours period than during normal market hours.

On the other hand, short sellers are shown to add to the efficiency of stock prices (Beber & Pagano, in press; Blau, 2012; Boehmer & Wu, 2010; Saffi & Sigurdsson, 2011). Diether et al. (2009) show that short sellers are contrarian in both contemporaneous and past returns and are able to reliably predict negative returns at the daily level. They argue that short sellers target stocks that become out-of-line with their fundamental value and attempt to arbitrage this type of temporary mispricing. Barclay and Hendershott (2003), however, show that while levels of informed trading are greater during the after-hours period, after-hours prices are more noisy. Therefore, informed short sellers that generally target stocks that are temporarily mispriced may choose not to trade during the after-hours period because of the noisiness of after-hours prices.[2] Determining whether the information content of short selling is higher during the after-hours period than during normal trading hours becomes the principle empirical question of this study.

We estimate informed short selling three different ways. Given the breadth of research that shows that short sales contain information about future prices, we first compare the raw levels of short selling during the after-hours period to the raw levels of short selling during normal market hours. Second, we follow Diether et al. (2009) and estimate informed short selling by examining the contrarian behavior of short sellers. Prior research (Avramov, Chordia, & Goyal, 2006; Diether et al., 2009) argues that contrarian traders are rationally informed traders that attempt to exploit deviations from fundamental values. In the framework of our research question, we test whether the level of contrarian short selling during the after-hours period is greater than the level of contrarian short selling during the normal market hours.[3] Third, we estimate informed short selling by examining the common negative relation between current short selling and future returns both during normal trading hours and the after-hours period.[4]

In our first set of results, we find that the after-hours short selling is much less common than other after-hours trading activity. Relative to total trading activity during normal market hours, after-hours trading activity makes up nearly 4.7%. However, after-hours short selling only makes up 1.4% of short selling during normal market hours. As short sellers are generally thought of as informed investors, observing less short-selling activity during the after-hours period suggests that short sellers do not contribute to the high levels of after-hours informed trading that is documented in Barclay and Hendershott (2003, 2004).

In our second set of tests, we compare the contrarian trading behavior of short sellers during normal market hours to the contrarian behavior of short sellers after hours. Our results show that the positive relation between short selling and both contemporaneous and past returns is significantly weaker during the after-hours period indicating that short sellers that trade during the period when markets are closed are less contrarian than short sellers that trade during normal market hours. Under the assumption that contrarian trading represents informed trading (Avramov et al., 2006; Diether et al.,

Reed, and Ringgenberg (in press) show that short sellers have an unusual ability to process already public information. Blau, Van Ness, and Warr (2012) find that the common negative relation between current short selling and future returns is driven by the severity of short sale constraints. Similar results are found in Brockman and Qing (2011). In this study, we indirectly contribute to this recent stream of literature by determining when short sellers are most informed.

[2] When prices are noisy, informed traders may be crowded out because of uncertainty about the true value of the price.

[3] Similar to Diether et al. (2009) and Avramov et al. (2006) argue that contrarian trading is most likely representative of informed trading.

[4] Much of past research examining short selling uses the return predictability contained in short sales as an approximation of informed short selling. See, for example, Senchak and Starks (1993), Aitken et al. (1998), Desai et al. (2002), Boehmer et al. (2008), Blau and Wade (2012).