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Journal of Financial Markets 17 (2014) 199–229

Journal of FINANCIAL MARKETS

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Aggregate short selling, commonality, and stock market returns☆

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Received 23 January 2012; received in revised form 3 May 2013; accepted 3 May 2013
Available online 14 May 2013

Abstract

Using a comprehensive data set of short-sale transactions, we find strong evidence of commonality in daily shorting flows of individual stocks. More importantly, we find that aggregate shorting forecasts market returns. A one standard deviation increase in daily aggregate shorting is associated with a decrease in market excess return by up to 36 bps over the following 10 trading days (9% annualized). In addition, we find modest evidence that short sellers are informed about future aggregate earnings news, macroeconomic news, and investor sentiment. Overall, our results are consistent with short sellers possessing superior short-term market-wide information.

JEL classification: G10; G14

Keywords: Aggregate Short Selling; Market return; Commonality

☆We thank Grace Hao for helping us obtain a portion of the Regulation SHO data. We thank an anonymous referee, Azizjon Alimov, Chen Lin, Tarun Chordia (editor), Tao Li, Qianqiu Liu, Junbo Wang, Xueping Wu, Joe Zou, and seminar participants at the City University of Hong Kong, University of Kansas, and FMA 2011 Annual Meetings for helpful comments.
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http://dx.doi.org/10.1016/j.finmar.2013.05.001

1. Introduction

The role of short selling in financial markets has been a subject of intense debate among academics, practitioners, and regulators for decades. The issue is so contentious that over the course of a three-year period the SEC lifted price test restrictions on short sales, temporarily banned short selling in financial stocks, and then approved an alternative uptick rule.[1] Academic research, on the other hand, provides considerable evidence that short sellers are informed traders who contribute to market efficiency. For example, previous research finds that short sellers target overvalued stocks based on fundamental ratios (Dechow, Hutton, Meulbroek, and Sloan, 2001), enhance the informational efficiency of stock prices (Boehmer and Wu, forthcoming), anticipate negative news (Christophe, Ferri, and Angel, 2004; Karpoff and Lou, 2010), and predict future stock returns (Desai, Thiagarajan, and Balachandran, 2002; Boehmer, Jones, and Zhang, 2008; Diether, Lee, and Werner, 2009).[2]

However, nearly all of this research focuses on the information content of short selling at the individual stock level. In this paper, we extend the literature on individual stock short selling to the market level by investigating whether aggregate short selling contains information about future market returns. Markets aggregate information from economic agents and impound it into prices. This information can be firm-specific or market-wide. If short sellers trade only on firm-specific information, we should expect no significant relation between aggregate shorting and subsequent market returns because the idiosyncratic components of short sales and stock returns cancel out in the aggregate. Alternatively, if short sellers possess and trade on market-level information and this information is not immediately incorporated into prices, we should expect aggregate short selling to predict future market returns.

There are several reasons why we might expect short sellers to possess market-level information. Diamond and Verrecchia (1987) contend that short sellers are likely to be informed because investors should never initiate a short position for liquidity reasons. To the extent that the price of a stock is influenced by both firm-specific and aggregate news, short sellers might be informed at both the firm level and the market level. In fact, one could argue that there may be more potential for informed shorting at the market level. Lamont and Stein (2004), p. 29, for example, argue that "short-selling-based arbitrage would be more effective along the aggregate dimension than it is in the cross section." Similarly, Veldkamp and Wolfers (2007) contend that in equilibrium aggregate information will be produced and acquired more widely because information has a high fixed-cost of production and aggregate information, by definition, is relevant for all firms in the economy. Consistent with Veldkamp and Wolfers (2007), there is considerable evidence in the literature that various market participants including insiders, corporate managers, financial analysts, and mutual fund managers possess superior information about the aggregate market (Seyhun, 1988, 1992; Baker and Wurgler, 2000; Lakonishok and Lee, 2001; Howe, Unlu, and Yan, 2009; Bollen and Busse, 2001).[3] To the extent that short

[1]The SEC eliminated short-sale price tests (former Rule 10a-1) in July 2007, issued two emergency orders in July and September of 2008 to temporarily ban short selling in certain financial stocks, and then in February 2010 approved an alternative uptick rule (Rule 201), which imposes a restriction on the prices at which a stock can be shorted when the stock experiences a price decline of more than 10% from the close of the prior trading day.

[2]Numerous other studies including Asquith and Meulbroek (1995), Aitken, Frino, McCorry, and Swan (1998), Asquith, Pathak, and Ritter (2005), Cohen, Diether, and Malloy (2007), Boehmer, Jordan, and Huszar (2010), Christophe, Ferri, and Hsieh (2010) also find evidence of informed short selling.

[3]Albuquerque, De Francisco, and Marques (2008) and Beber, Brandt, and Kavajecz (2011) find significant evidence of market-wide information in equity order flows.