Pacific-Basin Finance Journal 32 (2015) 56–75

Contents lists available at ScienceDirect

Pacific-Basin Finance Journal

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

Do foreign short-sellers predict stock returns? Evidence from daily short-selling in Korean stock market☆

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ARTICLE INFO

Article history:
Received 12 September 2014
Accepted 20 January 2015
Available online 24 January 2015

JEL Classification:
G12
G14
G15

Keywords:
Short-selling
Foreign investor
Emerging market
Korean stock market

ABSTRACT

We investigate the daily short-selling by foreign investors and their impact on stock price, liquidity, and volatility in the Korean stock market. From January 1, 2006, to May 31, 2010, we find that the majority of short-selling is performed by foreign, rather than by domestic, investors and that foreign short-sellers are contrarians, whose large short-selling predicts short-run future return. We also find that foreign investors' short-selling is performed when buying-pressure is high, but does not improve stock liquidity. Furthermore, we find that foreign investors' short-selling does not increase volatility, providing evidence against the foreign investors' destabilizing role in emerging markets.

1. Introduction

In this paper, we investigate short-selling activities by foreign investors and their impact on stock price, liquidity, and volatility in the Korean stock market. Despite the vast amount of studies on short-selling in

☆ We thank seminar participants at the Korean Academic Society of Business Administration Annual Meeting in 2011, the International Conference on Asia-Pacific Financial Markets in 2013, the Conference of Asia-Pacific Association of Derivative in 2014, the Korea Advanced Institute of Science and Technology (KAIST), the Korea Institute of Finance, Seoul National University (SNU) Business School, SNU Institute for Research in Finance and Economics, and Sungkyunkwan University (SKKU) Graduate School of Business. We also thank Paul M. S. Choi for helpful comments. We greatly appreciate support from the Institute of Management Research and the Institute of Finance and Banking at Seoul National University and financial support from the Institute for Research in Finance and Economics of Seoul National University. This paper was formerly circulated under the title of "Are foreign investors to blame? Evidence from daily short-selling in Korean stock market." All errors are our own.

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http://dx.doi.org/10.1016/j.pacfin.2015.01.004
0927-538X/

the US market, a few studies examine short-selling activity in the global financial markets other than in the US (Beber and Pagano, 2013; Bris et al., 2007; Chang et al., 2007; Charoenrook and Daouk, 2005; Jain et al., 2013; Saffi and Sigurdsson, 2011) or in American Depository Receipts from overseas markets (Blau et al., 2012). Hence, general features of foreign investors' short-selling trading and its impact on stock characteristics have not been given much attention. Filling this gap, we contribute to the literature by investigating the following wide range of research questions: How much daily short-selling is carried out in emerging markets? Are foreign investors bigger players in short-selling markets than domestic investors, or vice versa? What short-selling trading strategies, on average, are used by foreign investors in emerging markets? Can we find evidence that foreign investors are informed or naïve, uninformed trend- chasers through their short-selling activity? Do foreign short-sellers provide liquidity? Do foreign investors destabilize stock prices through their short-selling activity?

We focus on the Korean stock market for the following reasons. First, Korea has the most developed financial market among emerging markets in which many foreign investors can actively trade under less binding regulations on foreign investors. For example, the legal limitation on share ownership by foreign investors was abolished in the Korean market before our sample period begins. Second, the Korea Exchange (KRX) provides high-frequency data with good quality for a relatively long period of time; Our sample period covers five and a half years, while Diether et al. (2009a) use only a one-year sample period. In addition, the presence of high-frequency data enables us to study *daily* short-selling activity and its relation with other variables of interests. Another benefit of our dataset is that it distinguishes each trade by traders' type. That is, each trade is flagged to denote whether it was initiated by domestic individual investors, domestic institutional investors, or foreign institutional investors. Hence, our data provides a good opportunity to examine different trading behaviors according to different investor types.[1] The most prominent and unique feature of our dataset may be that each trade is flagged with order sequence number and the direction of trade, which shows whether it was buyer- or seller-initiated, rendering Lee and Ready's (1991) algorithm for obtaining order imbalance data unnecessary for our sample stocks. This provides benefit of constructing buy-order imbalance data without being engaged in the argument about the validity of Lee and Ready algorithm (Ellis et al., 2000; Odders-White, 2000).

In Korean stock market, short-selling is not so frequent compared to that in the US market. According to Diether et al. (2009a), 24% and 31% of daily trading volume is generated from short-selling trading in New York Stock Exchange and in Nasdaq, respectively, in 2005. However, for 761 stocks in Korean stock market, before any screening, we find that the cross-sectional mean of average daily short-selling is only 0.53% of daily trading volume over the sample period from January 1, 2006 to May 31, 2010, excluding October 1, 2008, to May 31, 2009, when short-selling was banned in Korea by regulation. Moreover, for 24 percent of stocks, average short-selling is zero and 92% of stocks have an average short-selling of less than 2% of trading volume. Legal restrictions during our sample period on hedge funds, which often use short sales to carry out long–short strategies, may contribute to this small percentage of short-selling relative to trading volume in the Korean stock market.[2] Given the rarity of short-selling in the Korean stock market, we restrict our sample to fifty stocks that are mostly actively engaged in short-selling over the sample period, in order to perform meaningful analyses for short-sale trading activity.[3] The average market capitalization of the fifty sample stocks is 380,920 billion Korean won (roughly USD 346 billion),[4] reflecting 47.8% of total market capitalization of all stocks listed in Korean stock market. In our sample, the mean short-selling volume in the Korean market is 3.16% of the daily trading volume.

Interestingly, we find that the major portion of short sales is performed by foreign investors, whereas domestic investors, both individuals and institutions, are rarely engaged in short-selling trading in Korean stock market. Short-selling by individual and institutional domestic investors constitutes 0.05% and 0.24%,

[1] Boehmer et al. (2008) investigate short-selling activity by investor types, separating individuals and institutions in the US market. Diether et al. (2009a), lacking investor type data, used trade size as a proxy for investor type to distinguish trades by individual investors from trades by institutional investors in an earlier version of their paper.

[2] The 12 hedge funds with over 150 billion Korean won came into operation, for the first time in Korea, in December 23, 2011. These hedge funds were operated by nine major Korean financial institutions.

[3] In a robustness section, we discuss empirical results based on the extended sample that consists of 104 stocks. Instead of selecting fifty stocks with the highest average short-selling record over the sample period, we construct sample year-by-year. Empirical results are similar.

[4] One USD is approximately to 1100 Korea won.