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Do Chinese internet stock message boards convey firm-specific information?

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ABSTRACT

This paper examines whether Internet stock message boards convey firm-specific information in China. By choosing the idiosyncratic volatility as the proxy for firm-specific information, we mainly find that idiosyncratic volatility significantly increases after Internet stock message boards are established and the result is robust to alternative model specifications as well as controlling for firm characteristics. Besides, the upward trend in idiosyncratic volatility can be mostly explained by information diffusion. Finally, the empirical results show that the increased idiosyncratic volatility coincides with the reduction in information asymmetry in terms of liquidity and breadth of ownership, indicating that idiosyncratic volatility is positively related to information efficiency.

1. Introduction

It has been shown that social interaction helps to convey firm-specific information (Hong et al., 2004; Galeotti and Goyal, 2009). Instead of interacting face-to-face, the recent boom of Internet technology has enhanced the effect of social interaction on stock market since the physical costs of participation in social network is reduced and social communication between individuals becomes more effective. In particular, Internet stock message boards have become increasingly popular and individuals tend to devote a large amount of time reading messages and communicating with others (Rubin and Rubin, 2010; Edelman, 2012). Using Internet stock message boards, individuals share information about their interested companies, engage in debates, make predictions about future stock performance, or simply disseminate rumors. Apart from individuals, firms also use Internet stock message boards as channels to diffuse fundamental information and increase visibility.

The popularity of Internet stock message boards may leave us with a question: How do Internet stock message boards influence the stock market behavior? The question comprises of two issues. First, what are the effects of the number and the information content of boards' postings have on the stock market? And the second is how does opening the Internet stock message boards as alternative information diffusion channels affect the diffusion of firm-specific information. Existing literature mainly focuses on the first issue (Wysocki, 1998; Tumarkin and Whitelaw, 2001; Antweiler and Frank, 2004) and little is known about the second fold. This paper fills this gap by examining the impacts of firms' opening Internet stock message boards on the diffusion of firm-specific information. In particular, we examine two main issues in this paper. The first refers to employing idiosyncratic volatility as the proxy

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for firm-specific information[1] and observing the changes of idiosyncratic volatility through using the event study methodology. The second focuses on the relationship between idiosyncratic volatility and information efficiency. We argue that only these two issues are investigated simultaneously, we may reach the conclusion that the Internet stock message boards do convey firm-specific information. This is due to Pontiff (2006) and Mashruwala et al. (2006) claim that idiosyncratic volatility as a major barrier faced by arbitrageurs may represent noise. Similarly, Morck and Yeung (2013) also claim that idiosyncratic volatility can simultaneously reflect both noise and information depending on whether the firm-specific events discourage and encourage informed arbitrage. In that sense, we need to prove that idiosyncratic volatility is positively related information efficiency and then conclude that the Internet stock message boards convey firm-specific information, rather than capture noise.

In summary, this paper yields several key insights. First, unlike existing literature focusing on the impact of Internet stock message boards on financial variables, i.e., returns, trading volume and volatility (Wysocki, 1998; Tumarkin and Whitelaw, 2001; Antweiler and Frank, 2004; Sabherwal et al., 2011), we give the first piece of evidence on the impact of Internet stock message boards on the diffusion of firm-specific information in terms of idiosyncratic volatility. Focusing on the technology firms' usage of Twitter, Blankespoor et al. (2014) show that Twitter links are associated with greater abnormal depths and lower abnormal bid-ask spreads and conclude that Twitter serving as an additional information diffusion channel indeed diffuses firm-specific information. Our paper also takes the same stance, while investigating an alternative information media, i.e., the Internet stock message boards.

Second, by employing the idiosyncratic volatility as the proxy for firm-specific information, the empirical result shows that idiosyncratic volatility is significantly increased after the opening of Internet stock message boards and idiosyncratic volatility coincides with higher liquidity and breadth of ownership. These results further suggest that idiosyncratic volatility coincides with the reduction in information asymmetry in terms of liquidity and breadth of ownership. Therefore, we provide an alternative evidence for current findings on the positive relationship between idiosyncratic volatility and information efficiency (Morck et al., 2000; Brockman and Yan, 2009; Lee and Liu, 2011; Kang and Nam, 2015).

Third, our paper focuses on Chinese Internet stock message boards. Previous Internet stock message boards-related studies mostly focus on the developed markets, e.g., the U.S. stock market (Tumarkin and Whitelaw, 2001; Das and Chen, 2007; Chen et al., 2014) and the Australian stock market (Leung and Ton, 2015). We argue that exploring such issue in Chinese stock market is crucial since a completely different scenario may be drawn owing to the distinct characteristics compared with developed markets. Firstly, Chinese stock market is dominated by individual investors, who are subjected to psychological biases and irrational behaviors (Barber and Odean, 2000; Feng and Seasholes, 2008; Zhang et al., 2016); Secondly, compared with the developed markets, both the market-level and the firm-level information environment is less transparent (Morck et al., 2000; Kevin and Yuan, 2004; Jin and Myers, 2006). Few studies investigate the role of Internet stock message boards in China. Huang et al. (2016) investigate the local bias in investor attention by analyzing boards' postings by Chinese individual investors and Ackert et al. (2016) find that influential investors exhibit a preference for local firms and their predictions are more accurate. While we focus on the diffusion of firm-specific information, which is undiscovered in existing literature.

The rest of this paper is organized as follows. Section 2 illustrates the literature review on the impacts of Internet stock message boards on stock market and idiosyncratic volatility as the proxy for firm-specific information, respectively. Section 3 describes the empirical data. Section 4 presents the empirical results on the two main issues and Section 5 concludes.

2. Literature review

As our paper links to two lines of studies in existing literature. We first review studies on the impacts of Internet stock message boards on stock market from the perspective of the number and the information content of boards' postings, respectively. And then we discuss the rationale of choosing idiosyncratic volatility as the proxy for firm-specific information as well as the studies on the relationship between idiosyncratic volatility and information efficiency.

2.1. Impacts of Internet stock message boards on stock market

Research interests on the Internet stock message boards can be categorized into two strands.[2] The first strand refers to the utilization of the number of boards' postings to predict financial variables, i.e., returns, trading volume and volatility. To the best of our knowledge, Wysocki (1998) start the Internet stock message boards-related study by examining more than 3000 stocks listed on Yahoo! Message Boards and find that the number of boards' postings is highest for stocks with high short-seller activity, low institutional holdings and high analyst following, etc. And also, the overnight number of boards' postings can predict changes in trading volume and returns in the next trading day. Bagnoli et al. (1999) provide the first piece of evidence that the unofficial forecasts collected from the Internet (commonly referred as whispers) are more accurate proxies for market expectations of earnings than the official forecast and thus conclude that the whispers contain value-relevant information. Anecdotally, focusing on the RagingBull Message Boards, Tumarkin and Whitelaw (2001) find that the number of boards' postings display no predictive power for abnormal trading volume and industry-adjusted returns which is consistent with the theory of market efficiency.

[1] For the rationale on employing such a proxy for firm-specific information, see section 2.2. Several studies also employ idiosyncratic volatility as the proxy for firm-specific information. For example: Morck et al. (2000), Rajgopal and Venkatachalam (2011), Bartram et al. (2012), etc.

[2] Broadly speaking, this strand of studies is also related to recent literature employing the Internet information, e.g., Twitter (Bollen et al., 2011), Google Trends (Da et al., 2011), Baidu Index (Zhang et al., 2013), Baidu News (Shen et al., 2017), etc. However, in this section, we only review studies focusing on the Internet stock message boards.