Full length article

Herding behavior in the Pakistan stock exchange: Some new insights

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ARTICLE INFO

Keywords:
Herding behavior
Emerging markets
Small and large firms
Industry portfolios
Up and down markets
Pakistan Stock Exchange
PSX
Behavioral finance
Asymmetric behavior

ABSTRACT

This study attempts to examine the presence of herding behavior in the Pakistan Stock Exchange (PSX). The novel contribution of this paper is that it investigates the herding phenomenon from a large number of facets such as herding of firms towards market, herding of firms towards industry portfolios, herding of industry portfolios towards market, herding in mostly traded stocks and in large and small stocks, and herding in the crisis period. For this purpose, we use the herding behavior model of Christie and Huang (1995) on the daily closing prices data of 609 firms listed on the PSX from January 2004 to December 2013. Results show that individual firms do not herd towards market index, except when the market experiences a negative return of 5%. However, when we sort firms into small and large groups based on median market capitalization, results indicate that large firms show herding behavior in extreme market movements. Further, we find that firms in several industries herd towards their industry portfolios. However, we find weak evidence of industry portfolios herding towards the market. We also segregate the impact of financial crisis of 2008 from normal times. These findings support results of our baseline estimation.

1. Introduction

Economic agents usually follow others in their investment decisions (De Bondt et al., 2008). This imitative behavior is generally referred to as herd behavior in financial markets. Bikhchandani and Sharma (2001) define herding behavior as a situation when investors hold back their own information and follow the observed patterns in the financial markets. Traditional view of finance is based on the efficient market hypothesis (EMH), which assumes that investors are rational economic agents and that irrational asset prices can be exploited by smart arbitragers. On the other hand, behavioral finance views investors as irrational economic agents because of their emotions and limited cognitive power. The arbitrage opportunities created by such irrational investors cannot be easily exploited as there exists limits to arbitrage (Barberis and Thaler 2003). Behavioral finance explanations came in response to several anomalies that could not be explained by traditional financial models. Herding behavior is one of these anomalies. Aftermath several financial crises, the issue of investors’ herding behavior in stock markets has been widely recognized. In this regard, Christie and Huang (1995) stated that herding behavior is frequently associated with the volatility of stock returns. Furthermore, they argue that herding phenomenon can be easily observed during extreme market movements.

Herding behavior has attracted attention of researchers in various markets across the globe such as the U.S. market (Chiанг和
Zheng, 2010) and European markets (Chiang et al., 2010; Khan et al., 2011). Walter and Moritz Weber (2006) found that German mutual fund managers follow herd during extreme market movements. But on other hand, Christie and Huang (1995) found no evidence of herding in US market during extreme market movements. Similarly, Chang et al. (2000) found no evidence of herding in US market; however, they found significant evidence of herding in Taiwan and South Korea during extreme market movements. Similarly, Malik and Elahi (2014) found significant evidence of herding behavior in Pakistani stock market during extreme market movements. However, Javed et al. (2011) found no herding during extreme market movements in Pakistani market. In Chinese stock market, Demirer and Kutan (2006) found no evidence of herding while Chiang and Tan (2010) and Yao et al., 2014 found significant evidence of herding. Several studies particularly focused on herding in crisis period; such as Bowe and Domuta (2004) found significant evidence of herding in Jakarta Stock Exchange during Asian financial crisis in 1997. Similarly, Asma et al. (2014) found herding in European countries during European crisis.

Previous studies have highlighted herding behavior of investors in extreme market movements and during crisis period. Most of these studies have focused on developed countries and several Asian countries. Herding behavior has attracted little attention in Pakistani stock markets. The first study was conducted by Javed et al. (2011) who examined herding in companies included in the KSE-100 Index. The second study was conducted by Malik and Elahi (2014) who tested herding behavior in daily share prices of 261 firms for the period 2003–2013 during bullish, bearish and normal market trend. This study contributes to the above literature on several grounds. First, there is no study in Pakistan that measures herding behavior of all firms listed on Pakistan Stock Exchange (PSX), especially herding of firms during crisis period. We use a rich data set of 609 firms listed on the PSX from January 2004 to December 2013. No other study uses such a comprehensive coverage of firms listed on PSX. Second, existing studies have not differentiated between herding behavior of small and large firms listed on the PSX. We conduct an extensive analysis to see whether herding pattern is different among small and large stocks. This analysis is important because small stocks usually attract less attention of institutional investors and analysts and often face the problem of illiquidity. Therefore, we think that their herding behavior is likely to be different from the herding behavior of large firms.

Third, existing studies in Pakistan have not investigated herding of firms with industry portfolios and herding of industry portfolios with the market. We consider these aspects as important determinants of herding behavior. This is because firms in a given industry are likely to be affected by similar economic conditions. Therefore, they are expected to herd more towards the movements in the industry returns as compared to the whole market. We investigate these possibilities in detailed analyses. Fourth, we try to measure the impact of trading volume on herding behavior. We expect that thin trading volume can lead to less or no herding effects. Previously studies in Pakistan’s market have ignored this aspect.

The rest of the paper is organized as follows. In Section 2, we discuss some the relevant salient features of Pakistan capital market, followed by the review of theoretical and empirical literature on herding. In Section 3, we discuss methodology, data sources, and variable construction. In Section 4, we present and discuss the empirical findings. And in Section 5, we conclude the paper.

2. Literature review

In order to provide some context to this study, in this section we briefly discuss key features of Pakistan corporate environment that have implications for investors’ herding behavior. After that, we present a review of the theoretical and empirical research concerning herding behavior.

2.1. Capital market of Pakistan

There were three stock exchanges in Pakistan namely the Islamabad Stock Exchange (ISE), the Lahore Stock Exchange (LSE) and the Karachi Stock Exchange. The three stock exchanges were merged into Pakistan Stock Exchange (PSX) on January 11, 2016. At the end of June 30, 2016, over 559 Pakistani as well as overseas companies were listed at PSX, with market capitalization of US $ 72.3 billions. After removal of barriers to foreign investors and adoption of measures for deregulation of economy in 1990s, the volume of share trading in PSX substantially increased in subsequent years. Recently, Morgan Stanley Capital International (MSCI), the US equity indices provider, has included Pakistan Stock Exchange in its benchmark emerging-market index.

Like many emerging markets, Pakistani stock market is characterized by higher volatility and returns (Malik and Shah, 2016a,2016b). Generally, the market features weak institutional framework and poor enforcement of the law (Shah, 2011; Shah and Khan, 2016). Trading in the shares is limited to around 200 companies out of approximately 559 listed companies on a typical day. This implies that the market is relatively shallow in terms of trading depth. Majority of the listed and unlisted firms have concentrated corporate ownership, i.e. firms are owned by families and business groups (Abdullah et al., 2012; Ishthiag and Abdullah, 2015; Hussain and Shah, 2015). Jabeen and Shah (2011) argue that information asymmetry problems should be more in family- and group-controlled firms. The reason is that controlling shareholders control the corporate policies as they have the incentives to obtain necessary information. Similarly, Fan and Wong (2002) argue that concentrated ownership and cross-holdings reduce the informativeness and credibility of reported earnings for outside investors. Given that, we believe that such a feature makes Pakistani

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2 Pakistani equity market has generally attracted less attention of researchers until recently. The most favorite areas of research included dividend policy (Ali et al., 2011; Hussain and Shah, 2015), stock market stability (Ullah et al., 2011), stock market predictability (Mir and Rahman, 2012), determinants of stock returns (Akbar et al., 2010), capital structure decisions (Akbar et al., 2009; Shah and Hijazi, 2004; Shah and Khan, 2007), debt-maturity structure (Shah and Khan, 2009), cash holding decision (Masood and Shah, 2014). One can easily see that all these researches are conducted in the recent past.
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