A REVIEW OF HERDING BEHAVIOR AND ITS MEASURES

Ritika[1] & Himanshu[2]
[1]Research Scholar,School of Management Studies, Indira Gandhi National Open University, New Delhi, India.
[2]Research Scholar, Department of Management Studies, Indian Institute of Technology, Roorkee, Uttarakhand, India.

Received: January 30, 2019 Accepted: Feb 26, 2019

ABSTRACT *The main aim of this paper is to study the existing literature on herding behavior and its measures. The research papers are analyzed on the basis of searching the keywords such as behavioral finance,herding behavior, measures of herding and investment behavior in various published journals and articles. These papers are collected on the basis of relevance related to the objective of the paper.Academic literature shows that investors take collective decisions and change their stock holdings according to the portfolio behavior of other investors.This is a major bias and it leads to suboptimal investment decisions. It is not only the private individual investors who herd, the professional and institutional investors also indulge in herding. The behavioral finance literature lists three measures to find out about the existence of herding in the market.*

Key Words: : *Behavioral finance, behavioral biases, herding behavior,investment behavior.*

1. Introduction

The researchers of finance explain the development of the field of finance with the help of two broad groups. One group consists of the proponents of Standard Finance and the other group supports Behavioral Finance. The traditional finance is based on theories like Capital Asset Pricing Model (CAPM), Modern Portfolio Theory (MPT) and Efficient Market Hypothesis(EMH). But this stream of finance is not able to explain some of the concepts like January effect, Days of the week effect and various financial bubbles. So, this gap sowed the seeds for behavioral finance. Behavioral Finance is explained as a new area of finance which is a combination of various fields like psychology, sociology and finance. It states that financial decision making is not purely based on rationality, it also has emotions involved in it.

2. Objective of the study

The academic literature on Behavioral Finance shows that there are various behavioral biases leading to suboptimal investment decisions by investors. Behavioral Finance being a new area of finance is still emerging. This paper aims to review the existing literature on herding behavior. The paper will try to shed some light on types of herding behavior adopted by various investors and the various ways to detect the presence of herding behavior.

3. Methodology

The research papers are downloaded on the basis of searching the keywords such behavioral finance, herding behavior, measures of herding and investment behavior in various published journals and articles on various websites such as Google Scholar, J-stor, Emerald, Wiley Finance etc. The papers are reviewed on the basis of relevance related to the objective of the paper.

4. Literature Review

Herding Behavior

In normal parlance, herding means group of animals moving together. In behavioral finance, herding refers to the tendency of people to take financial decisions according to the group.

Zeckhauser, Patel & Hendricks (1991) state that Herd Behavior occurs when people take collective decisions and change their stock holdings according to the portfolio behavior of other investors. Their change is slow and they pursue to protect themselves by taking decisions according with the herd. This is the tendency of human beings to take the decisions taken by majority in order to minimize the regret in case of a loss and uncertainty (Cipriani & Guarino, 2008). People become affected by this bias because they can put the blame to the market situations in case the majority of people are losing. So, instead of analyzing the available information, they follow the investment decisions being taken by their friends or family or colleagues (Bowe

& Domuta, 2001). This is a major bias and it leads to suboptimal investment decisions. Consequentially, the investor does not take buy or sell decision related to a stock on the basis of technical or fundamental analysis. Instead of deciding their investment portfolios according to their own objectives, people resort to taking the investment decisions which are considered as good investment decisions by other investors (Bhatt & Chauhan, 2014).

Intentional Herding Vs Spurious Herding

Devenow & Welch (1996) classified herding into two branches "intentional herding and spurious herding". The reason or criteria they explained for this classification is the incentive for herding. *Intentional Herding*

Intentional herding occurs due to an apparent determination of investorsto follow the conduct of other investors (Prosad et al., 2012; Merli and Roger, 2013). In this form of herding, people herd not on the basis of some common information rather they ignore the available information and decide to copy the behavior of other investors in order to get similarity of returns with other investors (Caparrelli, D "Arcangelis and Cassuto, 2004).

Unintentional Herding/ Spurious Herding

Kremer & Nautz (2013) included one more branch named as 'unintentional herding'. When sync in investment patterns of people occur due to similarity of the information received by all the market participants, unintentional/spurious herding occurs (Bikhchandani and Sharma, 2000). This form of herding does not lead to inefficiency in the market, rather it leads to market efficiency because people act after reviewing all the available information. Whereas, stock prices are affected by intentional herding thus leading to market inefficiency.

RationalHerding vs Irrational Herding

Another way of classifying the herding is by the motive behind herding. Christie and Huang (1995) describe that on the basis of rationale behind herding, herding can be classified under two headings: rational and irrational herding.

Rational Herding

In rational herding, people choose to disregard the private information and conform to the action of other investors. One such instance is mentioned by Bikhchandani, Hirshleifer, and Welch in 1992, they mentioned that when private investors enter late in the stock market, they prefer to take decisions as the previous entrants in the market have taken. An individual investor decides to invest (not to invest) in a security when the number of antecedents investing (not investing) in a security is more (less) than the antecedents not investing by two or more (Bikhchandani and Sharma, 2000).

Institutional Herding

It is not only the private individual investors who herd, the professional and institutional investors also indulge in herding. The fund managers adopt herding in order to maintain their reputation by getting good returns. This practice of mimicking the behavior of other professional fund managers for reputational concerns is also known as reputational herding (Scharfstein and Stein, 1990). Analysts having lesser experience feel that giving predictions deviating from the common ones might backfire leading them to loss of jobs and clients (Rajan, 2006). This form of herding is not good for the society because due to consensus in the predictions regarding the prices, the prices diverge from their intrinsic values in the long run leading to bloating up of the markets, forming of bubbles and crashing of markets.

Some behavioral biases also promote herding behavior. Prechter (2001) explains that regret aversion leads to herding behavior.

Irrational Herding

In irrational herding, people herd during the periods of market stress and adjust according to the group in order to increase the certainty and confidence (Christie and Huang, 1995).

Measures for Herding

The behavioral finance literature lists two main approaches to confirm about the herding behavior in the market. One approach lists about various studies concentrating on proprietary data to observe herding behavior and the other approach concentrates on the average market data and the data related to specific security to detect herding. Lakonishok, Shleifer, and Vishny (1992) developed the first approach for detecting herding by institutional investors. But the second approach developed by Christie and Huang (1995) and by Chang et al. (2000) is more used. We will discuss all of these approaches in detail.

1. Lakonishok, Shleifer, and Vishny (1992) worked on detecting herding by institutional investors. They state that if at the end of the period of study, if most money managers buy (sell) an individual stock, or in other words, end up on acting in a similar manner, then it can be deduced that herding is observed inindividual securities. They analyzed the percentage of money managers who are buying a particular stock during a given time period and compared it to the total number of money managers who are either buying

or selling that individual stock, after keeping into mind an adjustment factor which declined as more money managers were involved in that stock. If there is efficiency in themarket, the metric value will remain steady period-to-period. Otherwise the metric will show cross sectional variation in this measure. The measure given by LSV, based on the theoretical underpinning, is:

$$H = \left|\frac{B}{B+S} - p\right| - AF$$

In the above equation,
H is the measure of Herding
Bis the number of money managers who are buying the stock,
S is the number of money managers are selling the stock,
p(t) is the proportion of managers who are buying relative to total number of active money managers in that quarter and
AFis the adjustment factor for a stock which has a negative relation with the number of active money managers of that stock.

2. Christie and Huang (1995) model: tested the presence of herding during periods of market stress. They tested the herd behavior with the help of dispersion. In this method to calculate herding CSSD (Cross-Sectional Standard Deviation) is used. They assert that in case showing presence of herding behavior in the market, the dispersions in the returns would be low. They performed level of dispersion test using the following regression equation:

$$S_t = \alpha + \beta_1 D_t^L + \beta_2 D_t^U + \epsilon_t$$

Where,
α= Average dispersion of the sample not covered by β_1&β_2
D_t^U = 1, if the market return for that period t lies in the extreme upper tail of the returndistribution and,
D_t^L= 1, if the market return for the period t lies in the extreme lower tail of the return distribution.

If β_1&β_2 come out to be positive it means that investors follow the rational asset pricing model. Negative values of β_1&β_2 indicate the presence of herding. The problem in this method lies in defining the meaning of market stress properly. So, in order to overcome this problem a new matrix was developed by Chang et al. (2000).

3. Chang et al. (2000): To detect herding, Chang et al. (2000) employed a non-linear relationshipbetween Cross-Sectional Absolute Deviation (CSAD) and market return. This method assumes a quadratic relationship between Cross-Sectional Absolute Deviation (CSAD) and overall market return. Herding is detected using the following equation:

$$\text{CSAD}_t = \theta + \gamma_{1|R_{m,t}|} + \gamma_2 \left|R_{m,t^2}\right| + \epsilon_t$$

Negative values of γ_1&γ_2 indicate the presence of herding. Positive values of γ_1&γ_2 show that herding is nor present.

5. Conclusion

Herding is a common behavioral bias being noticed in many countries of the world. It is not only the private individual investors who herd, the professional and institutional investors also indulge in herding. Individual investors herd in order to minimize the regret in case of a loss and uncertainty whereas the fund managers adopt herding in order to maintain their reputation. Herding needs to be further studied because in a higher number of securities are required for diversification in the markets showing more herding.

References

1. Bhatt, B. K., & Chauhan, A. (2014). Behavioral finance: A New Paradigm of Finance. Internationl Journal of Application or Innovation in Engineering of Management, 3(2).
2. Bikhchandani, S., & Sharma, S. (2000). Herd behavior in financial markets. IMF Staff papers, 47(3), 279-310.
3. Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A theory of fads, fashion, custom, and cultural change as informational cascades. Journal of political Economy, 100(5), 992-1026.
4. Bowe, M., & Domuta, D. (2001). Foreign investor behaviour and the Asian financial crisis. Journal of International Financial Markets, Institutions and Money, 11(3-4), 395-422.
5. Caparrelli, F., D'Arcangelis, A. M., & Cassuto, A. (2004). Herding in the Italian stock market: a case of behavioral finance. The Journal of Behavioral Finance, 5(4), 222-230.
6. Chang, E. C., Cheng, J. W., & Khorana, A. (2000). An examination of herd behavior in equity markets: An international perspective. Journal of Banking & Finance, 24(10), 1651-1679.

7. Christie, W. G., & Huang, R. D. (1995). Following the pied piper: Do individual returns herd around the market? Financial Analysts Journal, 51(4), 31-37.
8. Cipriani, M., & Guarino, A. (2008). Herd behavior and contagion in financial markets. The BE Journal of Theoretical Economics, 8(1).
9. Devenow, A., & Welch, I. (1996). Rational herding in financial economics. European Economic Review, 40(3-5), 603-615.
10. Kremer, S., & Nautz, D. (2013). Causes and consequences of short-term institutional herding. Journal of Banking & Finance, 37(5), 1676-1686.
11. Lakonishok, J., Shleifer, A., & Vishny, R. W. (1992). The impact of institutional trading on stock prices. Journal of financial economics, 32(1), 23-43.
12. Merli, M., & Roger, T. (2013). What drives the herding behavior of individual investors? Finance, 34(3), 67-104.
13. Prechter Jr, R. R. (2001). Unconscious herding behavior as the psychological basis of financial market trends and patterns. The Journal of Psychology and Financial Markets, 2(3), 120-125.
14. Prosad, J. M., Kapoor, S., & Sengupta, J. (2012). An examination of herd behavior: An empirical evidence from Indian equity market. International Journal of Trade, Economics and Finance, 3(2), 154.
15. Rajan, R. G. (2006). Has finance made the world riskier? European Financial Management, 12(4), 499-533.
16. Scharfstein, D. S., & Stein, J. C. (1990). Herd behavior and investment. American Economic Review, 80(3), 465-479.
17. Zeckhauser, R., Patel, J., & Hendricks, D. (1991). Nonrational actors and financial market behavior. Theory and Decision, 31(2-3), 257-287.