Factors Influencing Herding Behavior Among Indian Stock Investors

Ankitha Nair .M
Amrita School of Business
Amrita Vishwa Vidyapeetham
Coimbatore, India
ankithanair08@gmail.com

Dr. Balasubramanian
Amrita School of Business
Amrita Vishwa Vidyapeetham
Coimbatore, India
bala@amrita.edu

Lakshmi Yermal
Amrita School of Business
Amrita Vishwa Vidyapeetham
Coimbatore, India
yermal@gmail.com

Abstract—Behavioral finance proposes that cognitive traits of investors impact their investment decisions which are not always rational, in contradiction to traditional finance. These cognitive traits of stock investors are influenced by their demographical profile and the financial information that they receive from various sources which in turn influences their stock investment decisions. Investors with similar demographic profile tend to follow a similar pattern with regard to their investment behavior biases. The main objective of this study is to analyze the impact of Indian stock investors’ demographics and various sources of financial information on their cognitive biases. Various behavioral biases like herding, loss aversion, regret aversion, market information; mental accounting, price change, and price anchoring were studied but herding behavior has been taken into consideration for analysis in this study. A questionnaire was floated by using quota sampling. Stata software was used for analysis, by using ordered logistic regression on the conceived model. Gender, age, marital status and word of mouth are found to have significant impact on the herding behavior of stock investors.

Keywords—Behavioral Finance, Cognitive Biases, Herding, Demographic Variables.

I. INTRODUCTION

Behavioral finance has been successful in explaining the anomalies in the financial markets that traditional finance was unable to. Behavioral finance contradicts the assumption of rational investors in the financial markets as it believes that the theories of traditional finance fails to integrate in its propositions the crucial component of the investors being human beings who are subjected to the human element of making errors, of emotions, of the struggle for survival, of the need for security, and of the built mechanism to stay away from anything risky. These aspects are not taken into consideration in traditional finance and were even considered to be irrelevant. This is where behavioral finance intervenes and proposes its theory by integrating the impact of cognition, which is a permanent part of being human. The concept of behavioral or cognitive biases explains the reason why most investment decisions taken by stock investors are not rational as proposed by the theory of traditional finance. The investors’ judgment on the market and various stocks, and their decision to buy, sell or hold a stock is subconsciously influenced by certain cognitive biases like herding, overconfidence, conservatism, anchoring, etc. Studies state that the demographic profile of a stock investor influences these behavioral biases to a certain extent. A stock investor obtains information on various aspects of stock market and investment through various sources such as stock websites, forums, stock broking firms, newspaper, word of mouth, etc. Hence, apart from investors’ demographics, the sources of financial information for their investment decisions also play a crucial role in influencing the stock investors’ judgment and investment decisions that are sometimes biased and not always rational in nature.

II. LITERATURE REVIEW

A. Definition of Behavioral Finance

Behavioral Finance is a vast & upcoming field which proposes that human cognition has an impact on investment decisions taken by investors in financial markets. Cognition refers the way an investor feels or thinks that results in taking biased rather than rational investment decisions in financial markets. It integrates the concepts of finance and psychology to explain the cognitive biases in investors’ investment decisions [1].

B. Cognitive Biases

Cognitive biases are defined as the biased behavior of investors in terms of the decisions they take during investments in the financial markets. These biased behavior constitute the behavior of herding, loss aversion, regret aversion, market information, mental accounting, price change, and price anchoring [2].

C. Herding

Herding behavior is the most prominent and also the most influential behavioral bias in terms of making a massive impact in financial markets. Herding behavior involves a transition phase which is developed before sudden change in the trends of financial markets [3]. Herding behavior among investors has constituted to be the reason for mass errors and creation of “bubbles” in the markets [4]. The reason for herding behavior among investors is to secure their reputation.
This is because humans have the tendency to incline towards the feeling of failing in a conventional manner than succeeding in an unconventional manner. It presents a possibility where the investor prefers to not take any risk in relation to investment in a particular stock by going against the tide. It may also infer to the feeling of having confidence in the capabilities, the past returns obtained, trends and experience of other stock investors with that particular investment avenue [4].

III. HYPOTHESIS DEVELOPMENT

A. Gender
The general idea believed is that men and women vary in the way they think and react to various aspects. Studies and experiments have been conducted to find out how male and female investors take investment decisions and react to information. Men have shown to be overconfident about their own capabilities and knowledge in relation to stock market when compared to women [2]. Therefore, studies suggest that female investors tend to portray herding bias [5]. Hence, the first hypothesis is as follows:

H1: Female stock investors are more likely to show herding bias when compared to male stock investors.

B. Age
Age of an individual is often equated to experience and knowledge. The general idea is that old investors have more information, experience, and expertise in stock markets and are comparatively better in making rational decisions than young investors [6]. Another idea suggests that with increase in age group they tend to be overconfident in terms of their knowledge and capabilities. Therefore, they are less likely to listen or follow the actions of the crowd [7]. Hence, the second hypothesis is as follows:

H2: The higher the age of the stock investor, the lesser is the tendency to show herding bias.

C. Annual Income
Stock investors with higher levels of income tend to invest more in their investment avenues when compared to a stock investor with lower levels of income. A stock investor who has invested a large amount in the stock market are more likely to be risk averse and follow the actions of the crowd in order to avoid risk and secure his capital amount[7]. Hence, the third hypothesis is as follows:

H3: The higher the income levels of the stock investor, the higher the tendency to show herding bias.

D. Educational Qualification
Stock investors with higher levels of educational qualification are more likely to be knowledgeable and informed about the stock market. This enables the stock investors to be overconfident about their capabilities and knowledge, which may result in not following the actions of the herd in making stock investment decisions [8]. Therefore, the fourth hypothesis is as follows:

H4: Higher the level of educational qualification, the lesser is the tendency to show herding bias.

E. Marital Status
The Spouse Effect proposes that married and unmarried individuals tend to make investment decisions and react to information differently. The investment decisions made by married stock investors may be influenced by their partners’ decisions as well [9]. Hence, the fifth hypothesis is as follows:

H5: Married stock investors are less likely to show herding bias when compared to unmarried stock investors.

F. Professional Services
Most individual stock investors depend on professional services such as stock broking firms, financial experts and investment banks for obtaining financial information and knowledge regarding the stock market, which in turn affects their investment decisions. These institutions and financial experts have the advantage of being well informed and experienced [10]. They are aware of the irregularities and biases existing in the market. Therefore, it is less likely that these firms and experts are influenced by behavioral biases. Hence, the sixth hypothesis is as follows:

H6: Higher the frequency with which stock investor is accessing information through professional services, lower is the tendency to show herding behavior.

G. Websites and Online forums
Internet is a major source of information for any area and field. It is a platform where individuals are free to share their knowledge and opinions. Most stock investors’ investment decisions are influenced by the information shared on stock market websites and online forums [11]. Hence, the seventh hypothesis is as follows:

H7: Higher the frequency with which stock investor is accessing information through websites and online forums, higher is the tendency to show herding behavior.

H. Newspapers, magazines, and news channels
Print and visual media are other major sources of information that present various aspects about the industry and the stock market. Authentic industry related and stock related news articles are published based on certain price predictive models, calculation of delta prices, etc [12]. Hence, the eighth hypothesis is as follows:

H8: Higher the frequency with which stock investor is accessing information through newspapers, magazines, and news channels, lower is the tendency to show herding behavior.

I. Word of Mouth
Social interaction is the most common and widely dependent source of information. Most stock investors keep their ears open to obtain financial information pertaining to an industry, company or a particular stock. Based on the information obtained, they make changes in their portfolio and trading decisions. Word of mouth is a very powerful medium for information. [13].
H9: Higher the frequencies with which stock investor is accessing information through word of mouth, higher is the tendency to show herding behavior.

IV. CONCEPTUAL MODEL

The insights from these studies have been incorporated to form a conceptual model that aims to understand the relationship between the factors that influence the behavior biases among stock investors, like investor demographics, source of investment information and herding behavior of stock investors.

V. RESEARCH METHODOLOGY

A. Participants

The participants for this study include individual investors with different demographic profiles participating in the Indian stock market. The responses of a total of 52 respondents from tier 1 and tier 2 cities were recorded and analysed. Quota sampling was used to get a consistent spread of the demographics across India.

B. Questionnaire Development

The survey included questions that focused on the reaction and opinion of stock investors on various statements that were intended to measure behavioral biases while investing in the stock market. The questionnaire consisted of three sections. The first section assesses the respondent’s demographics. The second section consists of questions to understand how the respondents perceive themselves as stock investors and their opinions on the stock market. Third section consists of questions capturing the investor’s reaction and experiences that reflect their behavior. The data was collected through an online survey.

C. Measures

The demographics of the stock investors were noted. The stock investors were to rate how frequently they obtained information from different sources and mediums of communication using a 5 point semantic scale which ranged from “Never” to “Always”. A series of situational based questions were given which asked about their reactions and opinions to various statements on a 5 point semantic scale that ranged from “Strongly Disagree” to “Strongly Agree”. These were used to measure the degree of herding bias of the investor.

D. Data Description

The sample collected for this study was 52 respondents from locations across India and across various age groups, annual income levels, and educational qualifications.

E. Empirical Model

The following empirical model has been used to test the hypothesis.

\[ HB = \beta_1 + \beta_2 \text{GEN} + \beta_3 \text{AGE} + \beta_4 \text{INC} + \beta_5 \text{EDU} + \beta_6 \text{MAR} + \beta_7 \text{PS} + \beta_8 \text{WOF} + \beta_9 \text{NM} + \beta_{10} \text{WOM} + U \]

Where,

- HB = Herding Behavior of the stock investor
- GEN = Gender
- AGE = Age Group
- INC = Annual Income Levels
- EDU = Educational Qualification
- MAR = Marital Status
- PS = Professional Services
- WOF = Websites & Online Forums
- NM = Newspapers, magazines and news channels
- WOM = Word of Mouth
- U = Error Term

Ordinal Logistic Regression has been used to measure this model as the herding behavior was measured on a scale that varied from “Strongly Disagree” to “Strongly Agree” and the frequency of obtaining financial information from various sources and mediums of communication was measured on a scale that varied from “Never” to “Always”. Stata software has been used to obtain the results for this study.

VI. RESULTS AND DISCUSSION

The model suggests that various variables such as the stock investors’ demographics and various sources of information influence the herding behavior of Indian stock investors. The results of the regression model are given in the table below (TABLE1).

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Odds Ratio</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Qualification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Websites &amp; Online Forums</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspapers, magazines, news channels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word of Mouth</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 1: RESULTS OF THE REGRESSION MODEL
The study on cognitive behaviour will enable stock investors to have low impact in portraying herding bias. Young stock investors' marital status showed investors portrayed more herding bias when compared to female investors. Old stock investors showed a lower degree of variation in terms of marginal effect on the investment behavior. Married stock investors have a very high probability of influencing stock investors to portray herd behavior. It shows that the more frequently the stock investor accesses investment information through word of mouth, higher is the probability to portray herd behavior.

VII. CONCLUSIONS

Herd behavior is the most common behavioral bias that impact financial markets. This study showed that stock investors are highly probable to show herd behavior when they obtain most of their financial information from word of mouth when compared to any other source of information. There exists a behavioral pattern for investors of similar demographic profile. This study showed that male investors portray less herd bias than female investors. Old stock investors portrayed more herding bias when compared to young stock investors. Marital status of the investors showed to have low impact in portraying herd bias. Understanding the influence of the various factors explored in the study on cognitive behaviour will enable stock investors to be more conscious and vigilant about their investment decisions and not succumb to herd behaviour.

REFERENCES


