

Empirical Study of Behavioral factors on Investor Decision Making in Stock Market- A case of NSE

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Abstract

The financial market is affected by the behavioral and psychological factors more than the fundamental and fundamental factors. The inapplicability of the basic finance and the market inefficiency in a realistic financial world which had been surprising the financial practitioners as well as academia. The financial crisis of the world starting from the global depression of 1930's, Asian onset of seventies and subprime crisis in 2008, and now the euro zone financial imbroglio; all can be explained better with the help of psychological biases of the financial practitioners, bankers as well as policy makers. This research paper attempts to study behavioral factors for investor decision making in stock market with specific focus on Herding and overconfidence. It was found that both the biases are significant for investment decision making.

Keywords: Herding, Overconfidence, bias, heuristics, Behavioral finance, Irrationality

Introduction

The financial market is not only affected by the fundamental and technical factors but many times by the behavioral and psychological factors. In today's world financial market assume people's rationality but it is not true they are mostly irrational. The CAPM, EMH and other rational financial theories helped in prediction of return in financial market. The irrationality is evident when players in the market keep on purchasing over valued stocks in the bear market and keep on selling the declining stocks despite fundamentals not justifying their overpriced or under priced valuations. Thus investors fall in the trap of financial asset bubble. This gave the importance to the emerging field of behavioral finance over traditional theories. The behavioral finance explore the role of emotional and cognitive issues that affects the choices of individuals and other group of people. It integrates different schools of thought and fields relating to social sciences to explain the irrational behaviour in the financial markets. Barber and Odean (1999) explain that Behavioral finance relaxes the traditional assumption of financial economics by incorporating these observable, systematic and very human departures from rationality into standard models of financial markets.

The study of behavioral finance help to understand psychological biases affecting investment decisions and marketing phenomena besides understanding the effect of market

efficiently. This paper focuses on the behavioral issues that may determine the buying or selling behavior of the investors in market.

Literature Review

In order to develop the theoretical background existing literature was reviewed in order to study the biases such as over confidence, herding, speculative etc. some of the studies are given below:

Gallup (1998) observed in his study conducted between 1998-2000 from the responses of men and women that they expected that their investments will outperform the market. It corroborates the pervasive feeling of overconfidence amongst the investors and more especially amongst men. **Barber and Odean (1999)** investigated trading records of more than 35000 households of various brokerage houses and bifurcate them on the basis of men and woman trading accounts. They found that “average turnover rate” of investing in stocks for men is approximately 1.5 times than for woman. They concluded that men will trade more often than women, and the performance of men will be hurt more by excessive trading than the performance of women. **Deaux and Farris (1977)** explained that overall, men claim more ability than do women, but this difference emerges most strongly on masculine task. **DeBondt and Thaler (1995)** explain that overconfidence is the outcome of heuristic simplification. **Trivers (1991)** also explain that overconfidence occurs when people tend to think that they are better than they really are. **Prechter (2001)** studied human behavior and observed that ‘Herding’ is based on “impulsive mental activity is a response to the actions of others”. The reason behind this type of herding is simply lack of knowledge and a powerful social tendency to follow others thinking that what they all are doing is right. **Hirshleifer and Teoh, (2003)** explain that herding in financial markets can be defined as mutual imitation leading to a convergence of action. **Cipriani and Guarino (2008)** investigated behavior of financial professionals with respect to herd mentality in a simulated laboratory. He conducted a research by applying two action plans and the results of first action plan are in conjunction with previous experimental confirmation on student subjects. In the second action plan, with event uncertainty, the proportion of herd behavior increased with respect to the first plan, as anticipated by the notion. **Banerjee (1992)** examined decision model which is based on sequence in which one decision maker follows previous decision makers for taking decision. Model depicted herd behavior among individuals wherein they used information of previous decision makers and not using their own information. The present paper aims to identify the psychological biases that affects two sets of investors an individual and relationship managers. No detailed studies about this have been done in Indian Context as evident from the existing literatures.

Research Objectives

This study is to identify that the Herding and Overconfidence affects investment decision making. The investment behavior is not only related to external patterns but internal considerations of the individual investors also. This paper have two objectives:

- To find out that psychological biases overconfidence and herding that have influenced on the investment decisions of investors.

- To evaluate the Relationship managers/Portfolio managers are less affected by overconfidence and Herding than other investors having similar experience.

Research Hypothesis

- ❖ Overconfidence bias as psychological factor is significant for investment decision making for both type of investors.
- ❖ Herding bias as psychological factor is significant for investment decision making for both type of investors.
- ❖ There is a significant difference between individual investor and relationship manager with respect to Overconfidence.
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The main aim of research is to explore the existing behavioral factors influencing the decision making of investors, instead of forming theory, deduction approach seems to be the most appropriate choice.

Two sample groups are taken for study:

1. Relationship managers who are investing part of their client's money in stock market majorly equities having more than 5 yrs of experience.
2. Individual investors having more than 5 yrs of experience who invests their own money in stock market majorly equities.

Sampling Technique

The researcher used snowball sampling technique through her networks who met the eligibility criteria. It was convenient method to collect information through social connect. from investors Essential information was gathered with the assistance of a drafted Questionnaire given to the investors and relationship managers /portfolio managers.

The study includes only primary data which was gathered using the questionnaire which was distributed offline to reach out to wider audience. Snowball sampling technique was used to gather the data. All data was collected through the clients of IIFL Securities, ICICI Securities, SMC global, Religare securities, Standard securities and Motilal Oswal securities. The Hard copies of the questionnaire was distributed along with online mode to the investors and portfolio managers working at these broking houses in Delhi and NCR. The survey was done from August 2019 to September 2019. The total sample size was 450.

Data Analysis

The measurement model makes use of **CFA (Confirmatory Factor Analysis)** technique, under which variables are defined and confirmed. It aids to ascertain the relationship (if any) between the manifest variables (defined variables) and the construct (latent variables). Data analysis was carried by means of Confirmatory factor analysis (CFA), using AMOS 18. Before testing and formulating the full measurement model; the zero - order, first - order CFA's were conducted, for specifying the measurement model and subsequent testing of the reliability and

validity of individual constructs and the measurement model. The succeeding tables and figures illustrate the construct-wise measurement model specifications, reliability, validity and model – fit indices. The 10 item modified scale has tested for convergent and discriminant validity and model fit by Confirmatory Factor analysis.

Reliability Test: Cronbach's Alpha

Reliability is the extent to which a list of scale items would produce consistent results if data collection were repeated (Malhotra, 2007) and is assessed by determining the proportion of systematic variation in a scale. Calculating the Cronbach Alpha coefficient of a scale is the most commonly practiced indicator of internal consistency (Pallant, 2007), with the ideal Cronbach Alpha co-efficient being over 0.7 (Hair et al. 2010). A value of below 0.7 is considered to indicate unsatisfactory internal consistency reliability (Malhotra, 2007).

Independent T Test

The independent-samples t-test compares the means between two unrelated groups on the same continuous, dependent variable. For example, you could use an independent t-test to understand whether first year graduate salaries differed based on gender. Here Independent T Test was conducted to know the significant difference between the Individual Investors and Relationship Managers Biasness.

Confirmatory Analysis

The measurement model makes use of **CFA (Confirmatory Factor Analysis)** technique, under which variables are defined and confirmed. It aids to ascertain the relationship (if any) between the manifest variables (defined variables) and the construct (latent variables).

Data analysis was carried by means of Confirmatory factor analysis (CFA), using AMOS 18. Before testing and formulating the full measurement model; the zero - order, first - order CFA's were conducted, for specifying the measurement model and subsequent testing of the reliability and validity of individual constructs and the measurement model. The succeeding tables and figures illustrate the construct-wise measurement model specifications, reliability, validity and model – fit indices. The 26 item modified scale has tested for convergent and discriminant validity and model fit by Confirmatory Factor analysis. Following Hypothesis Confirmed:

Analysis & Interpretation of Independent T Test

- For Overconfidence, equality of variance has been considered, since the significant value is more than 0.05(.169).From T test for equality of means table it was found that the significant value is more than 0.05 (.936) at 95% confidence level which implies that there is no significant difference between the investors and relationship managers with respect to overconfidence bias. Both are susceptible to this bias

There is a significant difference between individual investor or relationship manager with respect to Overconfidence. Rejected

- For Herding bias, equality of variance has been considered, since the significant value is more than 0.05(.181).From T test for equality of means table it was found that the significant value is more than 0.05 (.807) at 95% confidence level which implies that there is no significant

difference between the investors and relationship managers with respect to Herding. Both are susceptible to herd behaviour.

There is a significant difference between individual investor and relationship manager with respect to Herding bias. Rejected

Result of Confirmatory Factor Analysis

Table 1.1 Questions

You follow your own knowledge before investing in it.	OC1
You believe that your skills and knowledge of stock market can help you in outperforming the market	OC2
You do not use Stop loss while buying /selling stock.	OC3
Does your investment decision prove to be more than 80% right?	OC4
It was very easy to predict the crash of stock market in 2008.	OC5

Table 1.2: Model Fit-Overconfidence Bias

0.939	The Normed Fit Index (NFI)	The Normed Fit Index (NFI) Exceeds .90 (Byrne, 1994) or .95 (Schumacker& Lomax, 2004)
0.975	Incremental fit index, IFI	IFI should be equal to or greater than .90 to accept the model
0.973	the Tucker-Lewis Index (TLI)	the Tucker-Lewis Index (TLI) should be nearer to 1
0.992	The Comparative Fit Index	The Comparative Fit Index exceeds .93 (Byrne, 1994)
0.992	The Goodness of Fit Index	The Goodness of Fit Index exceeds .90 (Byrne, 1994)
0.005	RMSEA	the RMSEA (good models < .08)

H₁ Overconfidence bias as psychological factor is significant for investment decision making for both type of investors. **Accepted**

Table 1.3 Questions

You have poor knowledge about Company X's stock and is therefore uncertain about investing in it. Suddenly many of your co-workers and competitors start buying it. It will have positive impact on your investment decision.	H1
Only Trading volumes have an impact on your investment decision.	H2
You react quickly to the changes of other investor's decisions and follow their reactions to the stock market.	H3

Table 1.4 Model Fit- Herding Bias

The Normed Fit Index (NFI)	0.983	The Normed Fit Index (NFI) Exceeds .90 (Byrne, 1994) or .95 (Schumacker& Lomax, 2004)
Incremental fit index, IFI	0.987	IFI should be equal to or greater than .90 to accept the model
the Tucker-Lewis Index (TLI)	0.978	the Tucker-Lewis Index (TLI) should be nearer to 1
The Comparative Fit Index	0.987	The Comparative Fit Index exceeds .93 (Byrne, 1994)
The Goodness of Fit Index	0.979	The Goodness of Fit Index exceeds .90 (Byrne, 1994)
RMSEA	0.062	the RMSEA (good models < .08)

H₂ Herding bias as psychological factor is significant for investment decision making for both type of investors. **Accepted**

Conclusion

The following conclusions can be drawn:

- The finding are corroborated by (Scharfstein and Stein, 2001) who found that managers simply mimic the investment behavior of other managers. It has been found to be quite pervasive in other investigations too where majority of investors are buyers in the booming market and bearish market. Herd behavior is prevalent in analysts too though this has not been confirmed due to the data available at micro level.
- Our second finding is that majority of the investors overestimate their capabilities to evaluate and analyse a company. These overconfident investors become blind to any negative information which is contrary to their confidence of the positive opinion about the company. Overconfident relationship managers too were found to be indulging in excessive trades sprouting out of their overconfidence in their buying and selling decisions. Their overconfidence primarily sprung from their unfounded belief that they are in possession of more knowledge as well as experience to segregate the chaff from the grain. This overconfidence bias results into excessive losses to many investor because of their overtrading. This observation of our study has been found to be in consonance with the findings of the study conducted by Odean and Barber.
- The findings of this paper can help investors understand their biased behavior. They can be on their guard by focusing on the downside risk prevalent in any stock. So as to avoid these biasness they need to keep themselves updated with all relevant information on the changing circumstances and development having an impact on the company they are investing in.

- Overconfident investors overestimate their ability to evaluate a company as a potential investment. As a result, they can become blind to any negative information that might normally indicate a warning sign that either a stock purchase should not take place or a stock that was already purchased should be sold. Overconfident relationship managers can trade excessively as a result of believing that they possess special knowledge that others don't have. Excessive trading behavior has proven to lead to poor returns over time.
- Herding results in to following the market and ignoring the individual characteristics of stock. It can lead to poor financial decision and too much dependence on others.

Limitations

This study is based on the analysis of responses of investors and relationship managers. Only biases namely Over confidence, and Herding are taken in to consideration. Other behavioural biases like Gambler's fallacy, Loss aversion, Anchoring, Framing, Hindsight bias and many more have not been studied in this research. Study of other biases may lead to better results and hence, better decision making".The study is based on the responses from the limited geographical area. The sample respondents are taken from Delhi and NCR. Although behavioural biases can be prevalent in every region, it is not certain whether the results could be different with more regions included in the analysis.

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