



RESEARCH ARTICLE

BEHAVIOURAL FINANCE : A STUDY OF PRESENCE OF INVESTOR BIASES AMONG INDIAN INVESTORS

Sarthak Goswami, Akshat Bhargava, Bhumika Mulchandani and Vaishnavi Rathi

Manuscript Info

Manuscript History

Received: 01 December 2019

Final Accepted: 03 January 2020

Published: February 2020

Abstract

Copy Right, IJAR, 2020,. All rights reserved.

Introduction:-

Basic theories of finance are based on the assumption that an investor acts rationally while investing. But many movements and phenomena in stock market remain unexplained if we depend upon traditional finance theories. This is because financial decisions involve rational calculations and irrational biases and hence at times, investors appear to lack self-control, act irrational, and make decisions based more on personal biases than facts. Behavioral finance, a sub division of Behavioural Economics is a relatively new field of finance which explains the irrationality of an investor while making decisions offers significant psychological explanations to investor behaviours in the market.

Traditional financial theory holds that markets and investors are rational; investors have perfect selfcontrol, and aren't confused by cognitive errors or information processing errors. But behavioural finance considers the investors to be 'normal' and prone to have biases in decision-making.

The Efficient Market Hypothesis (EMH) claims that in a liquid market, which comprises of multitudinous buyers and sellers, the prices of various scripts are a reflective indicator of all available information. However many studies have shown that there were various long term historical phenomenon that contradicted the EMH and couldn't be captured plausibly in the existing Perfect Rationality Investor Model. Thus it could be well concluded that human behaviour and psychology could limit the Model's accuracy and predictability. Behavioural Finance tries to fill this gap by combining insights into Cognitive Reasoning and Conventional Financial Theories. More specifically it studies various investor psychology biases and tries to form a pattern of various decisions.

Hence, Behavioural finance has become more significant in recent times because of the following factors:

1. Widening of Scope: - Traditional Finance assumes that the fundamental and technical analysis are the only grounds that affect the investor decisions and that the investor's own psychology and state of mind have no effect over it.
2. Breaking of Age-Old Assumptions: - Traditional Finance was of the viewpoint that when an investor is put in a situation where he needs to make a decision, he is bound to behave rationally. Whereas behavioural finance broke this assumption and presented various situations where the decisions taken were not rational per se but the investor's cognition affected his decision. Thus Behavioural finance helps us explore all possible reasons behind investor decisions, rather than just relying on fundamental and technical analysis.
3. Understanding investors rather than their decisions: - Unlike Traditional, Behavioural Finance tries and aims to understand the investor and his psychology, rather than jumping to his decision making. This helps to take into

Corresponding Author:- Sarthak Goswami

consideration the numerous psychological biases that otherwise might have been unnoticed. These biases are vital to understand investor behaviour.

4. Gives importance to Abstraction: - Behavioural Finance places weights on emotion-driven speculation that actually leads to huge amount of losses. Traditional techniques rely upon rigid formulae and phase out the current states of investors that drives their speculation techniques.
5. Absence of Perfect Market: - Traditional Finance assumes that there is complete market information available regarding various scripts and companies and that investors make completely perfect rational decisions. But in reality, there are several instances where investors have to make decisions in absence of complete clarity and information. It is during these situations that their cognitive thinking and reliance on personal knowledge comes into the picture. Behavioural Finance captures these factors and hence is able to give a better and more accurate justification for market trends.

Which Psychological Factors affect Investor decisions?

The many biases that can affect the decision making process is divided into three major heads: Selfdeception, Social Influence and Heuristics. For the purpose of specificity, a total of 5 biases from these major heads have been selected.

Self-deception:

Some thinkers argue that self-deception involves a division in the self where one part of the self deceives the other (Davidson, 1985; Pears, 1986; Rorty, 1988, 1996). Selfdeception involves a blind or unexamined acceptance of a belief that can easily be seen as “spurious” if the person were to inspect the belief impartially or from the perspective of the generalized other (Mitchell, 2000, p. 145)

Overconfidence:

As per Shefrin, overconfidence “pertains to how well people understand their own abilities and the limits of their knowledge” (Shefrin, 2007). It’s fascinating to see how common it is to hear fund managers state something like, “I know everyone thinks they’re above average, but I really am.” Overconfidence bias is a tendency to hold a false and misleading assessment of our skills, intellect, or talent. In short, it’s an egotistical belief that we’re better than we actually are.

Heuristics:

These include the information processing errors. The way a set of people process the same given information is different and hence leads to varied conclusions and decisions.

Loss Aversion:

Loss aversion or “prospect theory” is related to individual’s stronger desire to avoid losses than experience comparable gains (Tversky and Kahneman, 1979). Many investors don’t acknowledge a loss as being such until it is realized. Therefore, to avoid experiencing the pain of a “real” loss, they will continue to hold onto an investment even as their losses from it increase. Many investors don’t acknowledge a loss as being such until it is realized. Therefore, to avoid experiencing the pain of a “real” loss, they will continue to hold onto an investment even as their losses from it increase.

Framing Bias:

Framing bias is an individual decision-making misconception caused by the fact that a person interprets the surrounding world according to a decision frame chosen by her or his subjective opinion. (Beratšová et al. 2016) The phrasing, or how an investment is “framed” can cause investors to change our conclusions about whether the investment is good or bad. Framing bias occurs when people make a decision based on the way the information is presented, as opposed to just on the facts themselves. The same facts presented in two different ways can lead to people making different judgments or decisions.

Representative Bias:

When people are asked to judge the probability that an object or event A belongs to class or process B, probabilities are evaluated by the degree to which A is representative of B, that is, by the degree to which A resembles B. (Tversky and Kahneman 1974) Representativeness heuristic bias occurs when the similarity of objects or events confuses people’s thinking regarding the probability of an outcome. People frequently make the mistake of believing that two similar things or events are more closely correlated than they actually are.

Social influence:

This includes the biases wherein the investors' decision is influenced because of other people and their actions. Herding Mentality - Herding is a form of convergent social behaviour that can be broadly defined as the alignment of the thoughts or behaviours of individuals in a group (herd) through local interaction and without centralized coordination (Raafat et al., 2009). It is the tendency of investors to follow the crowd. Researchers examine the factors that could lead to herd behaviour in the investment decisions of money managers. The key thing is that we are hard-wired to herd. So investors tend to follow the ongoing trend, without relying upon logical analysis.

Literature Review:

Dr. Vikram Bisen and Madhulika Pandey (2008) studies and gave us an overview about Behavioural finance is part of finance that seeks to understand and explain the systematic financial market implications of psychological decision processes. It utilises knowledge of cognitive psychology, social sciences and anthropology to explain irrational investor behaviour that is not being captured by the traditional rational based models. Empirical research has shown that, when selecting a portfolio, investors not only consider statistical measures such as risk and return, but also psychological factors such as sentiment, overconfidence and overreaction. As a consequence, the purpose of the paper is to identify those psychological factors that play an important role in their decisions. It gives a glimpse to behavioral finance, describes the background, aim and objectives of the paper. It begins with a description of standard as well as behavioral finance, which often contradicts the modern financial theories.

Sewell et al. (2007) focused on the introduction to behavioural finance. He studied the influence of human psychology on the behaviour of financial practitioners and their effects on the market. The conclusion stated that how behavioural finance helps in justifying how and why the financial markets are inefficient in the long run.

Zahera et al. (2018) studies the various biases present in investment decision making by reviewing the papers relevant to the study, from 1979 to 2006. This research reinstates the growing popularity and acceptance of behavioral finance and identifies a total of 17 biases affecting investor decision.

Andrikopoulos studies and gives an overview of the key arguments of the two distinctive academic doctrines, Modern Finance and Behavioral Finance. The author discusses certain ideas of psychology and decision making and how they can be linked with the finance discipline. He describes the principle basis of the modern finance school of thought and its historical roots in classical economic theory and considers the assumption of 'homo economicus' and the theory of EMH. The conclusions drawn out point to the fact that the positive contributions of modern finance are at an end and that its energies are now devoted to protecting itself in various ad hoc ways from the threats posed by various anomalies literature. The models of modern finance are just rough approximations and need a substantial revision and extension. The models of behavioral finance that incorporate behavioral, psychological, agency and institutional factors are more explanatory and predictive. However models like EHM can't become obsolete as they represent an ideal market.

Behavioural finance currently is termed to be a separate field from "Standard finance" which basically refers to the accepted theories that exist currently. The basis of standard finance is the Modern Portfolio Theory and the Efficient Market Hypothesis (Helen and Simon, 2000). As is well known the Modern Portfolio Theory talks uses the three concepts of expected portfolio return, the deviation of the returns from the expected and the correlation of one stock with the others held in a portfolio. The theme of Efficient Market Hypothesis on the other hand states that the asset and stock market prices reflect the information that is available in the market as well as the individual investor regarding the market movements, the economic movements as well as the regarding the fundamentals of the stock. These widely held and accepted theories are in stark contrast with the propositions of those of behavioral finance according to which the reasons behind the financial decision making of the investors include the emotional aspects impacting the investor, the mental state of the investor while taking the investment decisions and then most importantly the pattern that the other investors in the market are following in regards to the investment decision making.

Bikas et al. (2013) studied the emergence and development trends of behavioural finance in the global financial market with some factors which includes economic processes, political constraints, information dissemination, accessibility and so on but found that one of the most important factors is the people's reaction and perception. The article aimed at analysing the research of the nonprofessional investor's financial behaviour using the method of analysis & synthesis, description & comparison and graphical visualization was used for the demonstration of the

results. The research concluded that behavioural finance is based on the research of human & social recognition and emotional tolerance which was studied to identify and understand incoming economic decisions. It examined that recognition and emotional factors influence the market changes and concentrated on the limited human rationality. Further, he explained the effect of psychological factors on the financial activities and stated that market participants are not rational & their decisions are limited. The main difference between the traditional and behavioural finances was that the first one does not deal with the questions “why” investors make one or another decision.

Charles and R. Kasilingam (2016) figured that Behavioural finance is a new discipline in finance, which studies the cognitive psychology of individual's money-related decisions. It has evolved as a response to standard economic theory, which presumes that people are rational, risk-averse and profit maximisers. This concept of the rational individual formed the base for numerous theories about the capital markets. But the reality is that all individuals are far less rational in their decision making than the economic theory takes over. Individual's investment decisions is a complex procedure which controls logic, abstract thought and planning qualities. Based on the influence of these attributes, individual's investment decisions are emotional, fast and automatic. This study is intended to find out the impact of behavioural bias factors on investment decision of equity investors. Retail investors who access the Indian equity market from the Tamil Nadu state are taken as respondents for this survey. By utilizing the broad critique of literature, six behavioural bias factors are identified to find out its impact on investor's investment decisions. They are mood, emotions, heuristics, frames, personality and gambling. This study also examines the relationship among these behavioural bias factors. Descriptive research is utilized to identify the factors that influence investors' investment decisions.

Sadi (2011) studied and recognized the various perceptual errors among investors the relationship between the errors and their behavior and personalities. 200 random investors were selected as sample and these were the individuals who were active in day to day trading. Various variables like

Extroversion, Openness, Hindsight Bias, Overconfidence Bias, Neuroticism Bias, Randomness Bias,

Escalation of Commitment and Availability Bias were studied. The data was collected through Primary Sources using Structured Questionnaires and data analysis was done through descriptive and correlation; amplitude and rate and diagram; exploratory factor analysis and Spearman's correlation analysis. The findings demonstrate that there exists a significant correlation between the offered errors and investor personalities. The conclusion exhibit that there exists a direct relationship between extroversion and openness with hindsight bias and overconfidence bias, between neuroticism and randomness bias, between escalation of commitment and availability biases. Also there is a reverse relationship between conscientiousness and randomness bias, between openness and availability bias.

Ricciardi and Simon (2000) studies and emphasizes the significant difference between conventional academic finance and emerging behavioral finance and the various theories they propagate. They try to draw out the contrast between ways in which these two branches affect decision making of both individuals and organizations. The various general principles of behavioral finance like overconfidence, financial cognitive dissonance, theory of regret and prospect theory have been discussed. In conclusion the paper provides the strategy to assist individuals to resolve the 'mental mistakes and errors' that they make while making financial decisions by recommending certain important investment strategies for those who invest in stocks and mutual funds.

Filip Mihai Toma (2015) analyzed the investment decisions and behavior of investors from Bucharest's Stock Exchange, Romania. Using financial transaction data, we wish to study some of the most prominent behavioral biases investors have shown to be prone to. Thus, she wished to see if traders exhibit overconfidence in their trading positions, whether they have a representativeness bias and a disposition effect.

Banerjee et al. (2018) explores the impact six selected demographic profile factors (gender, age, education, occupation, income, and investment) on the cluster of eight chosen behavioural biases that investors possess (Sense of being in command and self-control, conservatism resulting into status quo, cognitive dissonance, overconfidence and optimism, being in sense of inertia, mental accounting, recent memories bias and disposition effect/ loss aversion). The required data is collected through a questionnaire and OLAP and ANOVA are used as data analysis tools. It concluded that only age, out of the 6 selected demographic factors, affect investor biases substantially.

Daiane De Bortoli (2000) investigated which of four paradigms best portrays the risk profile manifest by investors in their financial asset investment decisions. The paradigms used to explain this profile were: prospect theory, investor profile analysis (IPA), the Big Five Personality Test, and the Cognitive Reflection Test (CRT). The choice of proxy for the risk preferences (profile) of a typical investor was defined by simulating investments in a laboratory setting. The results are analyzed using ordered logistic regression and show that people who have greater risk tolerance according to IPA, who violate prospect theory, and who have a high degree of openness to experience have the greatest probability of taking higher levels of risk in their investment decisions. With regard to the CRT, higher numbers of correct responses in this test has an inverse relationship with risk taking.

Shefrin and Belotti (2007) study the key behavioral phenomenon and how they relate to particular issues associated with analyst perceptions about returns, namely representativeness and affect. The authors calculate and compare the returns for “Behavioral Mean Variance Portfolios” and Traditional Mean Variance Efficient Portfolios. In this respect the authors trace the importance of a concept called “Sentiment” and describe its impact on risk premiums in the market. The conclusions exhibit that judgements underlying analysts’ target prices are consistent with risk and return being positively related. At the same time, analysts tend to make some errors in judgments when setting target prices. In particular, analysts set target prices as if they expected growth stocks to outperform value stocks and recent losers to outperform recent winners. But historical evidences prove just the opposite. Risk premium for a stock features a component that reflects how much ‘mean variance skewness’ the stock contributes to a well diversified portfolio.

Chira et al. (2008) studies the cognitive biases and heuristics present in business students to measure the magnitude of effect that the selected behavioral biases have on business students and to study the correlation between the selected biases and risk aversion, educational level, degree of extrovertedness/introvertedness. The survey was done by using the data given in the questionnaire by 68 students (31 were graduate and 37 were undergraduate) of Jacksonville University in Jacksonville, Florida in November 2007. It was found that students are less optimistic about their investment ability, and did not show tendencies of illusion of control or presence of familiarity heuristics and that students are risk averse when making financial decisions. The psychological phenomenon known as bias and its presence in human decision making, both financial and non-financial, will provide additional insight on the subject of investor irrationality and broaden the ideals of rationality assumed in classical financial theory.

Kumar et al. (2017) investigates the presence of herding in Indian equity market, particularly in the IT sector. The daily closing values Nifty IT Index and its constituents, for a period of 6 years from 1 April, 2009 to October 31, 2015 is used as data and the methodology of Chang et al.(2000) is used to determine result. Their research concluded that there is no herding or imitation buying in the IT sector of Indian equity market

Prosad et al. (2012) investigates the presence of herding mentality in the Indian equity market with the purpose of examining the finding of herding pattern being non-linear by Chang et al. (2000) and to find the presence of herding in bullish and bearish market phases. The data used was the 5 year (from 1st April, 2006 to 31st March, 2011) daily returns of the stocks constituting NIFTY 50. The paper follows the methodology given by Christie and Huang [1995]. A regression model is run to find out the effect of market stress on individual return dispersion. It’s concluded that herding is not present in India for the period of 2006-2011.

Baker et al. (2017) studied how behavioural biases - heuristics, anchoring, framing, overconfidence, loss aversion and disposition effect, familiarity bias primarily – can negatively impact the decisionmaking process of finance professionals which includes financial planners and advisors, financial analysts, portfolio managers and institutional investors. The conclusion drawn was that all the behavioural biases can affect financial behaviour for all the different types of financial professionals. Benefits of greater awareness of behavioural biases through analysis and recommendations is seen with financial analysts and portfolio managers were as behavioural biases decrease or even disappear from individual investors to institutional investors. Thus, institutional investors help to make markets more efficient.

Jain et al. (2015) studied how various behavioural biases affect the investment decision making of individual investors. The research indicates that the individual investors make decisions with some possible combinations of behavioural biases, to name a few – disposition effect, mental accounting, representativeness, narrow framing, overconfidence, aversion to ambiguity primarily. With the influence of such biases or some combination of the biases, the individual investors make irrational investment decisions and hence tend to earn poor returns in the long

run. The research concluded that irrational behaviour of individual investors is complicated as the investment decision pattern keeps on changing is the ever changing circumstances of the financial markets.

Kumar et al. (2018) studied the psychological factors influencing the individual investor's decision making by interviewing experienced financial advisors and brokers working with individual investors and for the purpose of data analysis, a thematic content analysis approach with open coding was used. The research concluded that the investors have multiple opinions that can be categorized into cognitive errors, emotional biases and social interactions which has an impact on the decision making for investing. It further stated that understanding of individual investors behavioural biases can provide financial planners with knowledge to help their clients for better financial decision making which might lead to improved investment results.

Objective:-

The objective of the study is to test the presence of the following biases among the Indian investors:

1. Overconfidence Bias (Self Deception)
2. Loss Aversion Bias (Heuristics)
3. Framing Bias (Heuristics)
4. Representative Bias (Heuristics)
5. Herding Mentality (Social Influence)

Research Methodology:-

The research problem that we undertook to study was the effect of Investor Biases on various investors in financial decision making. How the biases influence these investors directly or indirectly was something that we wanted to analyze.

We began with the collection of data for our paper. We adopted a Primary Research through Questionnaires. Out of all the various biases, we chose 5 of them to study (Parsimony). Our questionnaire consisted of 10 questions (2 for each bias). For all the questions the options were close ended. Most of them had just 2 options; hence the design was Dichotomous, while others had 3 options as well, hence Multiple Choice.

For each question a hypothesis had to generated. Null hypothesis for each question was the bias doesn't exist or have an effect on the investors. While the alternate hypothesis was that the bias does exist and has a significant impact. If more than 50% of the responses significantly satisfied the null hypothesis, we would have concluded that the bias does not exist. In the other case, alternate hypothesis would have been adopted indicating the presence of bias.

The research was quantitative and included the calculation of proportions. It was conducted for various respondents at the same time. Hence the research design was Cross Sectional Design.

If we talk about the measurement scale for the paper, since the options were qualitative and could not be ranked, it would be best to call it a Nominal Scale.

For the analysis and measurement of data that was collected (sample size of 60), we chose the Z-test for proportion as sample size was greater than 30 and we had to compare proportions.

We calculated the sample proportion for each question. The hypothesis was already in place and the test was selected. Next was the calculation of the standard error and Z-calculated.

Next we undertook a right tail Z-test and obtained the value of Z-critical, keeping the level of significance at 5%. We compared the Z-cal and Z-critical. If the former was greater than the latter, we rejected null hypothesis as it was a right tail Z-test. However if the former was lesser than the latter, we accepted null hypothesis.

This was done for all the questions and the results were noted to arrive at a suitable conclusion as to whether the bias has an effect on our sample or not.

Findings:

One of the questions asked for checking the presence of loss aversion bias was which option the investors will prefer if they already have Rs.1000 and are given a chance to do nothing and get Rs.500 more or Flip a coin and get Rs.1500 more if the coin shows heads and lose everything if the coin shows tails. More than 50% (61.67%) of the sample has selected option 1. To check if this proportion is significantly greater than the 50% benchmark proportion, Z-test for proportion was performed where Z-cal of 1.80 is greater than Z-critical of 1.645 (confidence level taken is 5%). The null hypothesis of bias not existing is rejected. Hence, the presence of loss aversion bias is confirmed.

In the second question asked, for the loss aversion bias, which asked investors what will they do if the price of a stock that they are holding increases such that selling it becomes profitable but there is a 50% chance of it rising further and 50% chance that it would fall even below the current level. Exactly 50% of the respondents said they will record the profits and square off their position. Hence, our Z-cal was 0 which is lesser than Z-critical of 1.645. Hence, we can say that the bias is not present i.e. the null hypothesis is accepted.

Next bias which was tested is framing bias. The first question asked with respect to this bias made investors to choose in which case they were more likely to invest in a stock where the information provided is as follows: if they invest in this stock and earn Rs 500 per share but lose 20% of their earnings due to market volatility or when they will earn Rs.500 per share if they invest and they'll be able to retain 80% of it after accounting for market volatility. Here the same information is presented in two forms. But there is difference between the proportions of sample choosing the two options. 61.67% of the population has chosen option 2. With Z-cal of 2.32 being greater than Z-critical of 1.645, we conclude that the framing bias is present.

The other question for framing bias asked in which case is he/she more likely to invest, when the following information is provided: there is a 25% of the stock prices falling or there is a 75% chance of stock prices increasing. Here also, there is a difference between the proportions of sample choosing the two options with option 1 being chosen by 80% of the respondents. With Z-cal of 4.64 which is much greater than Z-critical of 1.645, we can conclude that framing bias is present among investors.

To check herding mentality amongst the sample, the respondents were asked if they will invest in a stock if a good proportion of their other investor friends do and ask him/her to do the same. 46.67% of the investors were likely to invest whereas the other respondents were either unlikely or indifferent. As this proportion is less than 50%, it can be said that herding mentality is not present.

Another question to check herd mentality was if respondents will buy stocks recommended by Rakesh Jhunjunwala, the ace investor, who has a 90% successful track record. 73.33% were likely to invest in such stocks. A Z-cal much greater than Z-critical (3.61 > 1.645) shows that 73.33% is a significantly greater than 50% and hence proves existence of herding mentality.

For checking overconfidence bias, the respondents were asked in which case were they likely to bet a greater amount: when the coin is not tossed or when the coin is tossed but the result is concealed. Selection of the first option shows illusion of control i.e. people think that just because something not happened yet, it is in their control, even if it is not. This leads to overconfidence. 76.67% of respondents chose option 1 which reflects illusion of control. With a Z-cal of 4.13 (which is greater than 1.645), we can say that overconfidence, due to illusion of control, is present in investors in the Indian stock market.

Next question to check overconfidence was if the investor will hold a stock with weak financials, which have led to a slight fall in the prices, because he has a positive opinion about it. 58.33% respondents said they will still hold the stock, reflecting overconfidence. But 58.33% is not significantly greater than 50% and hence with Z-cri being less than Z-calculated (1.29 < 1.645), we say that overconfidence is not present among the investors.

To check horizontal representative the respondents were asked if they are likely to invest in the stock of Y, given Company X and Y are in the same industry with almost the same market cap. X made a certain chart pattern and resulted into gain for the investor (respondent) holding it and now Y makes a similar pattern. 55% respondents said they are likely to invest in Stock Y whereas the others were either indifferent or unlikely to invest in Stock Y. With a Z-cal of 0.77 being less than the Z-critical, we conclude that horizontal representative bias is not present as a proportion of 55% is not significantly greater than 50%.

To check vertical representative bias, we asked respondents if they will lend to a borrower for the third time, given that he has made timely repayments for the first two times when he borrowed. 85% respondents were likely to lend and with a Z-cal much greater than Z-cri ($5.42 > 1.645$), the presence of this bias is confirmed.

Summary:

Bias	Z Cal	Z critical	Presence/Absence of Bias
Loss Aversion	1.807	1.644	Presence
Framing	2.323	1.644	Presence
Herding	-0.516	1.644	Absence
Overconfidence	4.131	1.644	Presence
Loss Aversion	0	1.644	Absence
Representative	0.774	1.644	Absence
Framing	4.647	1.644	Presence
Overconfidence	1.29	1.644	Absence
Herding	3.614	1.644	Presence
Representative	5.422	1.644	Presence

Conclusion:-

The two questions asked to test presence of overconfidence show contradictory results but it can be observed that the investors do not blindly follow what all the people around them is doing but they are probable to blindly follow what the people, who they consider successful, do.

Horizontal representative bias is not present as far as comparing two stocks is concerned, whereas vertical representative bias is present, showing that investors tend to judge a stock on the basis of its historical performance. Questions asked for testing presence of loss aversion and overconfidence also showed contradictory results implying that these two biases are present, but not in every situation, whereas framing bias are predominantly and evidently present in the investors in the Indian stock market.

Bibliography:-

- <https://www.thestreet.com/personal-finance/education/behavioral-finance-14909070>
- Beratšová, A., Krchová, K., Gažová, N., & Jirásek, M. (2016). Framing and Bias: A Literature Review of Recent Findings. *Central European Journal of Management*, 3(2). doi: 10.5817/cejm2016-2-2
- Raafat, R. M., Chater, N., & Frith, C. (2009). Herding in humans. *Trends in Cognitive Sciences*, 13(10), 420–428. doi: 10.1016/j.tics.2009.08.00
- Shefrin, H. (2007) *Behavioral Corporate Finance. Decisions that Create Value*. McGrawHill/Irwin. New York
- Kahneman D., & Tversky, A. (Mar., 1979). *Prospect Theory: An Analysis of Decision under Risk*. *Econometrica*, Vol. 47, No. 2 pp. 263-291.
- Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. *Qualitative Research in Financial Markets*. doi: 10.1108/qrfm-04-20170028
- Chira, I., Adams, M., & Thornton, B. (2008). Behavioural Bias within the Decision Making Process. *Journal of Business & Economics Research (JBER)*, 6(8). doi: 10.19030/jber.v6i8.2456
- Bandyopadhyay, G., De, A., & Banerjee, A. (2018). Impact of Demographic Profile on Investor Biases in India using OLAP and ANOVA. *Research Bulletin*, 43(4). doi: 10.33516/rb.v43i4.75-94p
- 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*, 154– 157. doi: 10.7763/ijtef.2012.v3.190
- Kumar, A., Bharti, M., (2017). Herding in Indian Stock Markets: An Evidence from Information Technology Sector. *IOSR Journal of Economics and Finance (IOSR-JEF)* e-ISSN: 2321-5933, pISSN: 2321-5925. PP 01-07.
- Jain, R., Jain, P., & Jain, C. (2015). Behavioral biases in the decision making of individual investors. *IUP Journal of Management Research*, 14(3), 7.
- Bikas, E., Jurevičienė, D., Dubinskas, P., & Novickytė, L. (2013). Behavioural finance: The emergence and development trends. *Procedia-social and behavioral sciences*, 82, 870-876.
- Sewell, M. (2007). *Behavioural finance*. University of Cambridge, 1-14.

17. Kumar, S., &Goyal, N. (2019, June). Exploring Behavioural Biases among Indian Investors: A Qualitative Inquiry. In Proceedings of International Academic Conferences (No. 9010790). International Institute of Social and Economic Sciences.
18. Baker, H. K., Filbeck, G., &Ricciardi, V. (2017). How Behavioural Biases Affect Finance Professionals. *The European Financial Review*, 25-29.
19. Sadi, R., Gholipour, A., &Gholipour, F. (2010). The effects of investor personality and perceptual bias in Tehran stock exchange. *Financial Research Journal*, 12(29).
20. Chira, I., Adams, M., & Thornton, B. (2008). Behavioral bias within the decision making process.
21. Andrikopoulos, P. (2005). Modern finance vs. behavioural finance: an overview of key concepts and major arguments. *Behavioural Finance: An Overview of Key Concepts and Major Arguments* (June 2005).
22. Ricciardi, V., & Simon, H. K. (2000). What is behavioral finance?. *Business, Education & Technology Journal*, 2(2), 1-9.
23. Shefrin, H., &Belotti, M. L. (2007, June). Behavioral finance: biases, mean-variance returns, and risk premiums. In CFA Institute Conference Proceedings Quarterly (Vol. 24, No. 2, pp. 4-12).
24. Bisen, D. V., & Pandey, M. (2011). Applying Behavioural Finance by Analysing Investor Behaviour In Lucknow City. *Indian Journal of Applied Research*, 3(6), 353–355.
25. Baker, H. K., Kumar, S., &Goyal, N. (2019). Personality traits and investor sentiment. *Review of Behavioral Finance*.
26. Toma, F.-M. (2015). Behavioral Biases of the Investment Decisions of Romanian Investorson the
27. Bucharest Stock Exchange. *Procedia Economics and Finance*, 32, 200–207
28. A, C., & R, K. (2016). Impact Of Selected Behavioural Bias Factors On Investment Decisions Of Equity Investors. *ICTACT Journal on Management Studies*, 2(2), 297–311.