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## A STUDY ON BEHAVIORAL FINANCE AND BEHAVIORAL BIASES: A LITERATURE REVIEW

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### Abstract

Due to globalisation, there has been significant change in the life style and the living standard of the people. So in order to meet such changes every individual has certain financial obligations which can be fulfilled by proper savings only. This results to individual investing their money in various financial instruments expecting a good return out of it. But sometimes such investors are affected by various behavioral biases which prompt them to take wrong financial decision. Behavioral Finance tries to analyze how the decision-making process of investors' is influenced by their cognitive errors or mental mistakes and emotions. There exists a psychological influence on the actions of investors' while taking financial decisions and its corresponding impact on share markets. The knowledge of these biases facilitates the investors' in recognizing their own mistakes in order to ensure that such mistakes are not committed henceforth.

**Keywords:** Behavioral Finance, biases, financial decisions, financial instruments.

### 抽象的

由于全球化，人们的生活方式和生活水平发生了重大变化。因此，为了应对这种变化，每个人都有一定的财务义务，只能通过适当的储蓄来履行。这导致个人将资金投资于各种金融工具，期望从中获得丰厚的回报。但有时这些投资者会受到各种行为偏见的影响，促使他们做出错误的财务决策。行为金融试图分析投资者的决策过程如何受到他们的认知错误或心理错误和情绪的影响。投资者在进行财务决策时的行为及其对股票市场的相应影响存在心理影响。了解这些偏见有助于投资者认识到自己的错误，以确保今后不再犯此类错误。

**关键词：**行为金融，偏见，金融决策，金融工具。

### Introduction

Standard financial theories have always been the backbone of traditional finance with the basic assumptions that the market is efficient, people

are rational and stock and bond markets are efficient. These theories were considered to be the foundation of financial decision making but in reality these assumptions did not completely

match with the real market conditions. Psychologists have found that economic decisions are mostly made in an irrational manner. In a perfect situation, the standard finance approach is appropriate, where the market is efficient which means the share prices reflect all the necessary data available in the market, which is practically not possible.

Behavioral Finance tries to analyze how the decision-making process of investors' is influenced by their cognitive errors or mental mistakes and emotions. Investors' mostly behave irrationally and in a biased manner but the reverse of which is indicated in the quantitative models of traditional finance theories. There exists a psychological influence on the actions of investors' while taking financial decisions and its corresponding impact on share markets. The knowledge of these biases facilitates the investors' in recognizing their own mistakes in order to ensure that such mistakes are not committed henceforth.

## **Literature Review**

### **1.1: Studies made in India**

The important studies made in India are as follows:

#### **1.1.1: Studies related to behavioural finance and behavioural biases**

Kumar (2009) studied "Hard-to-value stocks, behavioral biases, and informed trading" whether investors commit bigger mistakes during valuation when uncertainty is higher. It was found that investors who have comparatively more behavioural biases conduct informed trading intensively.

Subrahmanyam (2010) conducted a study on "The cross-section of expected stock returns: What Have We Learnt from the Past Twenty-Five Years of Research?" where more than fifty

variables have been utilized forecast returns. It was seen that more is needed to be done so as to get any correlation structure among variables.

Singh (2010) conducted a study on "Behavioral finance studies: emergence and developments" in order to focus on the developments and building blocks of behavioral finance and to explain how can investors "know themselves better" so that they can develop better Rules of Thumb. The findings were to maintain an 'investment-securities record' so that over a period of time it might help the investors to assess an investment and enables them to understand their mistakes, and control their 'emotional impulses'. It also enables them to execute a simple 'buy-hold' method while choosing an investment.

Sahni (2012) has conducted a study on "Behavioral finance: Testing applicability on Indian investors" in order to understand the background of behavioral finance and behavioral biases and how the behavioral finance theories controverts with modern financial theories. The major findings of the study were investors favor steady returns, even if the return is less. Investors may sell a gaining stock early and would favor holding on to losing stock with the hope that the value might arise in the future.

Prosad, Kapoor and Sengupta (2013) have conducted a study on "Behavioural biases of the Indian investors: A survey of Delhi-NCR area" in order to scrutinize the existence of behavioural biases among Indian shareholders specifically in the form of herd behaviour, disposition effect, excessive optimism (pessimism) and overconfidence and studied the role of investor sophistication and demographics in influencing behavioural biases. It was found that there exists overconfidence bias among male investors between 31-60 years of age who invest in

companies on an intraday basis, optimism is found among 51-60 years men with an annual income of 2-4 lakhs, herd behaviour observed in 51-60 years male investors who invest in high growth companies, disposition effect impacts men and women equally.

Sahi et al. (2013) studied “An exploratory inquiry into the psychological biases in financial investment behaviour” in order to recognize the values and attitudes pursued by investors during financial decision making. Total, thirty partially structured discussions were taken into consideration. It was found that investors have various beliefs and choices which assist them in taking investment decisions.

Singh (2013) has conducted a study on “Did institutions herd during the internet bubble?” in order to examine the trading behavior of institutional investors during the bubble and crash of 1998-2001, and its effect on stock prices of NASDAQ 100 stocks. It was found that positive unusual returns are simultaneous occurring with the institutional herding and negative abnormal returns (inversions) occurs when the herding stopped. This finding recommends that institutional herding made short term price pressures, and can be considered as another factor to the bubble.

Bhatt and Chauhan (2014) have conducted a study on “Behavioral finance: A new paradigm of finance” in order to find various issues relating to the financial assessment by an investor and to study the various aspects of behavioral finance and behavioral biases and how it influences investment decision in the capital market. Various behavioral factors were found affecting the investment decisions like representativeness, mental accounting, cognitive dissonance, availability, overconfidence, herding, hindsight, anchoring, regret aversion and conservatism.

Singh (2016) studied “The role of behavioural finance in modern age investment” in order to find out the presence of different biases of behavioural finance including Prospect Theory, Overconfidence, Representativeness, cognitive illusion, anchoring, Heuristics, mental accounting, Regret Aversion, loss aversion, Gambler's fallacy, and Disposition Effect among the investors.

Zahera and Bansal (2018) studied “Do investors exhibit behavioural biases in investment decision making? A systematic review” in which a systematic review analysis was conducted by searching keywords connected to the area of behavioural finance on a variety of working papers, journals, published books and conference events from the year 1979 to 2016 and classified the data authorship-wise, bias-wise, year-wise and country-wise. In the study 17 different types of biases have been identified.

Verma and Verma (2018) have conducted a study on “Behavioral biases and retirement assets allocation of corporate pension plans” in order to inspect the evidence of behavioral biases like house money effect and disposition bias in the investment process and to check whether pension holders exhibit risk-seeking or risk-aversion behavior. It was found that there is no confirmation of house money effect and there is significant evidence of disposition effect. They are risk-averse in nature.

Mukherjee (2019) conducted a study on “When are investors rational?” in order to add some information to the existing literature. It was discovered that no investors are completely sound or completely rational.

## **1.2: Studies made outside India**

The important studies made outside India are as follows:

### 1.2.1: Studies related to behavioural finance and behavioural biases

De Bondt (1998) carried out a study entitled “A portrait of the individual investor” in order to summarize the previous research done in the area of behavioural finance and to examine the process of trading in equity stocks by the marginal investors. It was found that an inverse relationship exists between predicted return and predicted skewness in terms of risk perceptions among Fox Valley investors and the investors are overoptimistic in nature.

Ricciardi and Simon (2000) have conducted a study on “What is behavioral finance?” in order to study the main concepts and theories of behavioral finance like cognitive dissonance, over-confidence, prospect theory and theory of regret and how investors takes decision based on the rules of thumb technique while making any investment.

Pons-Novell (2004) have conducted a study on “Behavioural biases among interest rate forecasters” so as to provide evidence against behavioural biases by using information from Livingston Survey, it was discovered that these biases are less likely to happen when the economic forecast is done accurately.

Coval and Shumway (2005) have conducted a study on “Do behavioural biases affect prices?” so as to examine the impact these biases on costs. It was found that there exists a solid proof of behavioural biases among the Chicago Board of Trade restrictive merchants who are risk-averse in nature.

Zhang (2006) has studied “Information Uncertainty and Stock Returns” in order to find the evidence of short period stock price continuation, along with earlier literature. It was found that more superior returns are directly

related to good news and moderately lower returns are related to the awful or bad news.

Agnew and Julie (2006) have conducted a study on “Do behavioral biases vary across individuals? Proof from singular level 401(k) information” to check whether a few people are inclined to behavioral biases in their 401(k) ventures, for which more than 73,000 representatives have been surveyed. It was discovered that members who acquire \$100,000 hold 12.7% less in organization stock, are 3% less inclined to biases, and are 37.7% bound to take an interest than those winning \$46,000. Women take better decisions in two out of three cases and there exists a strong proof of mental accounting.

Chen et. al. (2007) have conducted a study on “Trading performance, disposition effect, overconfidence, representativeness bias, and experience of emerging market investors” so as to understand investment decision choices in a developing business sector. Information has been gathered from the stock market of China. It was discovered that Chinese investors experience the ill effects of three behavioral biases: (I) they generally sell stocks that have increased in price; (ii) they appear overconfident; and (iii) they accept that past returns are indicative of future returns.

Antoniou, Lam and Paudyal (2007) conducted a study on “Profitability of momentum strategies in international markets: The role of business cycle variables and behavioral biases” with a goal to explore whether business cycle factors and behavioral biases affect the three significant European markets. It was found that the undetected risk factors were largely attributable to business cycle to a great extent and could explain the momentum payoffs in the European stock markets.

Kaustia, Alho and Puttonen (2008) have conducted a study on “How much does expertise reduce behavioural biases? The case of anchoring effects in stock return estimates” for which three controlled experiments were held where the reviews of three hundred Scandinavian monetary market experts and two hundred thirteen college students have been taken into consideration. It was discovered that students are affected by a smaller amount of anchoring effect.

Hackbarth (2009) in his study “Determinants of corporate borrowing: A behavioural perspective” focussed to coordinate the income-based model of capital structure with the earnings-based capital structure model. It was discovered that administrative attributes can enhance bondholder-investor conflicts.

Oechssler, Roider and Schmitz (2009) have studied “Cognitive abilities and behavioural biases” in order to find out, does behavioural biases that have played an important role in behavioural economics and finance are related to cognitive abilities? It was discovered that test scores have no effect on the amount of anchoring, in spite of the fact that there is evidence of anchoring among all subjects.

Shavit et.al. (2010) have conducted a study on “Using an Eye Tracker to Examine Behavioural Biases in Investment Tasks: An Experimental Study” so as to find that whether investors portfolio has the right informational asset for evaluating portfolio performance. It was discovered that individuals depend naturally on mental accounting rather than being judgemental.

Lam, Liu and Wong (2010) studied “A Pseudo-Bayesian model in financial decision making with implications to market volatility, under and overreaction” to develop a model of weight

assignments utilizing a pseudo-Bayesian methodology that reflects investors behavioural biases. It was found that new outcomes other than short-run under-reaction and long-run overreaction can be derived.

Bailey and Kumar (2011) studied “Behavioral biases of mutual fund investors” to scrutinize the effect of behavioral biases on the mutual fund financial decisions for which a huge sample of US mutual fund investors have been taken into the study and the methodology adopted was factor analysis which proposes that biased investors often adjust to stereotypes that can be described as smart, gambler, narrow framer, overconfident and mature.

Chou and Wang (2011) studied “A test of the different implications of the overconfidence and disposition hypotheses” so as to check whether overconfidence and disposition biases exist in Taiwan stock exchange. It was discovered that various forms of traders display different behavioral biases in Taiwan.

Korniotis and Kumar (2011) have conducted a study on “Do Behavioural Biases Adversely Affect the Macro-economy?” in order to check whether behavioural biases have any adverse impact on investors and do these effects extend beyond the financial markets these results show that investors are mostly affected due to lack of financial literacy.

Lin (2011) studied “Elucidating rational investment decisions and behavioural biases: Evidence from the Taiwanese stock market” in order to inspect whether rational decisions and behavioural biases are connected, for which 430 respondents were taken into consideration for the study. It was discovered female and male investors significantly differ in herding, disposition effect and overconfidence bias.

Alos and Hugelschafer (2012) studied 'Faith in intuition and behavioural biases' for which a 15-item self-report questionnaire known as "Faith in Intuition" was used, it was discovered that higher report scores are representativeness biases. We discover no proof of conservatism and reinforcement biases.

Larkin and Leider (2012) have conducted a study on "Incentive Schemes, Sorting, and Behavioural Biases of Employees: Experimental Evidence" to find how convexity of a firm incentive and overconfidence of workers influences decisions and choices. It was suggested that organizations may design schemes to adapt behavioural biases of workers by classifying the workers into sort in workers, sort away workers, appealing workers and ugly workers; such plans may likewise lessen an association's pay bill.

Henker and Paul (2012) have conducted a study on "Retail investors exonerated: the case of the January effect" to test whether retail investors who influenced by behavioural biases and who disproportionately put resources into small-capitalization stocks are affected by January effect. It was discovered that different tax and duty charges and market capitalization are the reason for the January effect rather than retail investors.

Hibbert, Lawrence and Prakash (2012) have conducted a study on "Do Finance Professors Invest Like Everyone Else?" by comparing the results of 'Fed's review of customer finances' by reviewing the finance professors opinions at US universities and found that finance professors are less inclined to behavioural biases since their choice not to invest in equities is based on neither returns of their past investments nor their short-term expectations from the market.

Li and Yang (2013) have conducted a study on "Prospect theory, the disposition effect, and asset

prices" so as to develop an equilibrium model to investigate the implications of prospect theory. It was found that the model is useful for understanding a wide range of financial phenomena.

Kuo and Lin, (2013) have conducted a study on "Overconfident individual day traders: Evidence from the Taiwan futures market" in order to examine the performance of day traders for which 3470 individual day traders were taken in the study. It was found that day traders are overconfident about the accuracy of their data and also biased while analysing the data.

Bubb and Kaufman (2013) have conducted a study on "Consumer biases and mutual ownership" so as to find how proprietorship of the company takes advantage of consumer biases. It was discovered consumers are most susceptible to these penalties.

Cronavist and Siegel (2014) have conducted a study on "The genetics of investment biases" in order to find the list of biases including lack of diversification, extreme trading and the disposition effect and it is found that that investment biases are symptoms of native and evolutionary nature of human behaviour. It was discovered that work experience in finance lessens the genetic inclinations to investment predispositions.

Niehaus and Shrider (2014) have conducted a study on "Framing and the disposition effect: evidence from mutual fund investor redemption behaviour" so as to check whether mutual fund investors are inclined to the disposition effect. It was discovered that the mutual fund specialists in our study are dependent upon disposition effect when they withdraw the redemption amount from their account.

Cheema and Nartea (2014) have studied "Momentum returns and information

uncertainty: Evidence from China” to check information vulnerability in China. It was affirmed that there exists strong evidence of the presence of momentum effect in the Chinese stock market.

Bodnaruk and Simonov (2014) studied “Loss-Averse Preferences, Performance, and Career Success of Institutional Investors” in order to examine the impact of institutional investor choices on their decisions and it was found that managers having more loss aversion bias generally prefer less risky portfolios even if it give poor previous returns. They also display a stronger disposition effect.

Kamoto (2014) has conducted a study on “Impacts of Internal Financing on Investment Decisions by Optimistic and Overconfident Managers” in order to examine the financial choices made by managers having optimistic and overconfident biases and find out the optimal level of internal funds needed by managers to optimize the market value of the firm.

Kiyamaz et al. (2016) have conducted a study on “Behavioral biases of finance professionals: Turkish evidence” in order to find factors affecting behavioral biases of financial professionals of Turkey and determine the effect of these biases on financial professionals. It was found that less-educated professionals and younger professionals have lower risk aversion bias and investors with sole broker accounts are more likely to invest in equities.

Milian and Jonathan (2015) have studied “Unsophisticated Arbitrageurs and Market Efficiency: Overreacting to a History of Underreaction?” to check whether arbitrage activity significantly reduces stock market abnormalities. It was discovered that positive autocorrelation in firm’s income and biases can significantly

reverse a previously documented stock return pattern.

Frino, Lepone and Wright (2015) have conducted a study on “Investor characteristics and the disposition effect” so as to know the prevalence of the disposition effect among individual traders in the Australian equities market. It was discovered that the disposition effect is more prevalent among investors of Chinese background.

Bao and Li (2016) have conducted a study on “Overconfidence and Real Estate research: A survey of the literature” in order to critically review the literature on overconfidence bias in order to find the gap and recognize future study directions for research in the field of overconfidence bias in real estate markets and advise practical plan to handle robustness of overconfidence bias which affect the investment decisions.

Tekce and Bildikand (2016) have conducted a study on “What factors affect behavioral biases? Evidence from Turkish individual stock investors” so as to discover the meaning of common disposition effect, familiarity bias, representativeness heuristic, and status quo bias and what factors affect these biases. It was discovered that these biases are basic among investors. Young male investors with minor portfolio value and low education display more familiarity bias. Female and more established financial investors and investors with high portfolio are subjected to representativeness biases and disposition effect. People on the opposite edge of overconfident and have status quo bias.

Ahmad et. al. (2017) have studied on “Institutional investor behavioral biases: syntheses of theory and evidence” with an aim to reassess the empirical proof and theory of

institutional investor behavioral biases in the eyes of behavioral finance. It was found that behavioral biases and heuristics are complex in nature and behavioral biases need an interdisciplinary outlook from the area of sociology and psychology.

Abdin et. al. (2017) studied “The impact of heuristics on investment decision and performance: Exploring multiple mediation mechanisms” in order to examine the mediated links between technical and financial stock market anomalies for which the data has been collected from 324 investors using a survey-based method. It was found that out of 4 heuristics mechanisms, accessibility, representativeness and overconfidence bias are strongly evident among investors.

Joo and Durri (2017) have studied on “Influence of Overconfidence, Optimism and Pessimism on the Rationality of the Individual Investors: An Empirical Analysis” in order to examine whether psychological tendencies of individual have a significant effect on their investment choices for which t and F-test analysis has used and it was found that that number of such inherent psychological tendencies can be seen in behavioural finance which do have the possibility to affect the investment choice of an investor.

Shah et. al. (2018) have conducted a study on “Heuristic biases in investment decision-making and perceived market efficiency: A survey at the Pakistan stock exchange” with an aim to understand how heuristics influences financial decisions of individuals who are keenly trading on Pakistan stock exchange for the study the data has been collected through questionnaire from 143 investors. It was found that heuristic biases like anchoring, availability, representativeness

and overconfidence do not have any impact on the investment decisions of Pakistani investors.

Adebambo and Yan (2018) have studied “Investor Overconfidence, Firm Valuation, and Corporate Decisions” in order to check whether investor overconfidence leads to overpricing. It was found that investor overconfidence is significantly related to firm valuation and corporate decisions and firms with more overconfident investors are relatively overvalued based on market-to-book ratio.

Filiz et. al. (2018) studied “Portfolio diversification: The influence of herding, status-quo bias, and the gambler's fallacy” for examining the influence of gambler's fallacy, herding and status quo bias on portfolio selection process. It was found that gambler's fallacy does not play a significant role in the portfolio selection process but neither status-quo bias nor herding bias contributes to portfolio choices.

Costa et. al. (2019) have conducted a study on “Behavioural economics and finance: a bibliometric analysis of scientific fields” in order to conduct a bibliometric analysis in the major areas of Behavioural Economics and Behavioural Finance for which 2617 articles have been analyzed, data have been collected using Web of Science database and it was found that the area of behavioural economics has a wider reach than the area of behavioural finance which in turn is a by product of behavioural economics.

Cohen, Ayton, Clacher and Thomas (2019) have studied on “Behavioral biases in pension fund trustees decision making” in order to better understand the monetary choices made by pension finance trustees and identify future avenues of investment. It was found that trustees are heavily dependent on the advice of experts;



they generally make decisions in groups and also like to make decisions on behalf of others.

Abreu (2019) studied “How biased is the behavior of the individual investor in warrants?” so as to understand the socio-economic segment of retail investors of warrants and discusses about the theory that some behavioral biases do affect the investors. It was discovered that more youthful and less experienced men invest more in warrants.

Forman and Horton (2019) have conducted a study on “Overconfidence, position size, and the link to performance” so as to examine whether the relative size is a more meaningful indicator of overconfidence for which a survey has been done on the retail traders. It was found that more refined and knowledgeable traders exhibit less overconfidence.

Arikan, Gozluclu, Kim and Sakaguchi (2019) have conducted a study on “Primacy in stock market participation: the effect of initial returns on market re-entry decisions” so as to look at whether primary returns impact investor choices to return to the share markets following withdrawal. It was discovered that Individual investors are affected by primacy bias.

### **Conclusion**

Behavioural Finance attempts to analyze those actions, which deals with the rationality and irrationality of investors’ helping them to avoid anomalies leading to inappropriate financial decision making which in turn leads to losses, and thus assists in devising an appropriate wealth management strategy for the investors’.

Hence, the awareness of biases and the knowledge of behavioral finance are necessary for investors in order to make practical and sensible decisions. Understanding behavioral biases helps the practitioners not just to recognize other investors’ cognitive errors but

their own errors as well. By understanding their client psychology it helps the financial advisors by guiding them in developing their portfolio which is behaviourally sound and which best suits their client requirements.

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