

A Systematic Literature Review: How Behavioural Biases Impact Investment Decision-Making?

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Abstract

Making logical financial selections is the most fascinating thing an investor can do. Typically, when things remain ambiguous, investors engage in behavioural biases either intentionally or unintentionally. Investor decision-making is influenced by a variety of cognitive processes, which might lead to controlling other people's behaviour. The core objective of the study is to investigate the presence of behavioural biases in investment decision-making. This study is based on a secondary source of data, collected from Google Scholar and Scopus databases. The study reviewed the previously published manuscripts from the duration of 2007 to 2024. Results showed that even rational investors don't always act rationally. Whether or not they are aware of them and regardless of their level of training and experience, investors are impacted by behavioural biases.

Keywords: Review, Biases, Investment, Decision – making

JEL Classification: G4, G41

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Introduction

As *Meir Statman's* quote states it, “*standard finance people are modeled as ‘rational,’ whereas behavioral finance people are modeled as ‘normal.’*”

This quote enlightens that traditional finance assumes the investors of the market are rational thinkers, on the other hand; behavioural finance presumes the investors are not rational thinkers, rather they are normal or irrational people who often make mistakes and errors.

Behavioural finance, broadly understood as the application of psychology to the financial sector, has gained significant momentum since the tech-stock bubble burst in March 2000 and has been at the forefront of advisors' and investors' minds ever since the financial crisis of 2008–2009 (Pompian, 2012)

Financial economics appears to be at the Centre of a transitional shift from a neoclassical-based model to a behaviorally-based model. Psychologists have studied decision-making behaviour and found adequate evidence to show that decision-makers do not always behave consistently and rationally and do not formulate decisions according to the theories of classical statistics. Instead, they behave in a way different from both. Eventually, the behavioural psychologists Daniel Kahneman and Amos Tversky developed a theory known as prospect theory, which is thought to be the conceptual basis of BFMI (Pompian, 2012). According to Pompian M. (2012) the topic of behavioural finance can be segregated into two different sub-topics a) Behavioural Finance Micro (BFMI) and b) Behavioural Finance Macro (BFMA). Under BFMI, the behavioural mistakes made by the individual investors are examined; whereas, the anomalies in the efficient market hypothesis or behavioural biases or errors performed by the investors as a whole are investigated under the BFMA approach.

The study addresses the biases that people have when making any kind of decision in complex situations. Even a professional investor can't claim that biases don't influence his choices.

The main objective of the study is to examine the presence of behavioural biases in the investor's decision-making while investing.

Research Methodology

The literature review was framed, mentioning the article selection criteria, search

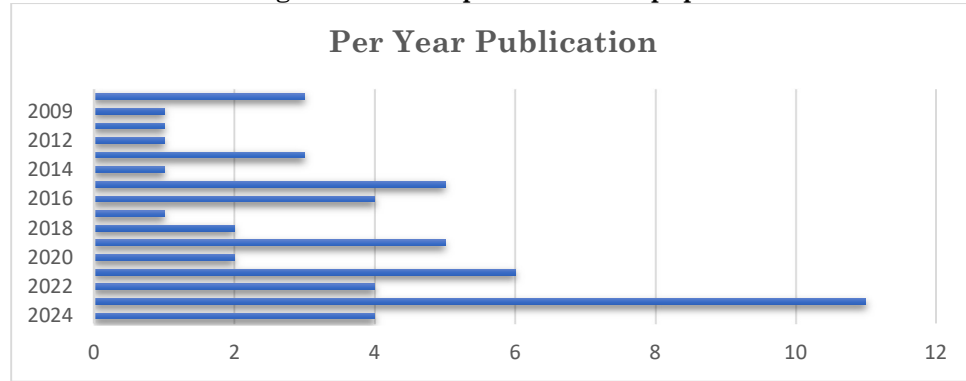
strategy, data extraction, and data analysis procedures. All the previous studies related to 'behavioural biases on investment decision-making' were considered eligible for the current study. The inclusion criteria were: time frame of publication from 2007 to 2024, in English language, accessibility of full-text papers and related to 'Behavioural Biases' and 'Investment decision making'. Google Scholar and Scopus databases were utilized for the study. The information was processed methodically and combined into an MS Excel document and framed as a sketch of the review. A total of 54 studies were found to be eligible for fulfilling the objective of the study.

Result and Discussion

Year-wise Publication

About the frequency of year-wise paper publication, Fig. 1 shows the highest number of papers published in the year 2023 which highlighted how the theme was currently more relevant across a range of fields of study.

Fig 1: Year-wise publication of papers

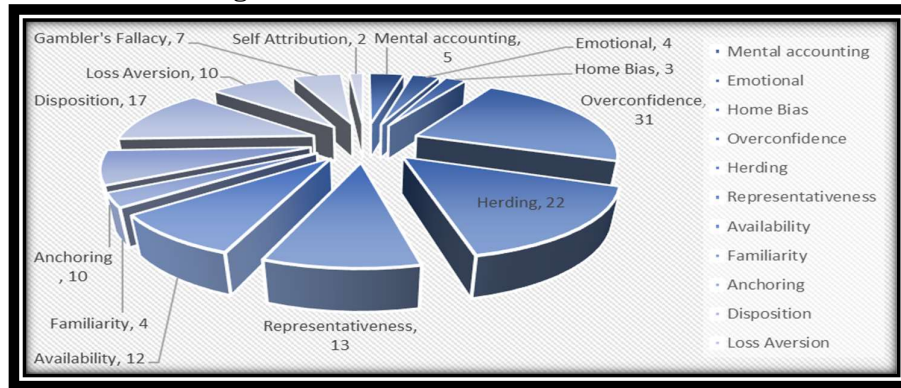


Source: Authors Compilation

Behavioural Biases in Literature

A rational investor may be impacted by various behavioural biases under various conditions. After analysing the studies, it was shown that overconfidence bias was examined in the greatest number, and it was found that most of the researchers examined several behavioural biases in their studies.

Fig: 2 Studies undertaken on the biases



Source: Authors Compilation

Previous Studies with Citations

A table has been enlisted with the four important columns which are the author's name & year of the publication, methods adopted, results and citations compiled from the Google Scholar database.

Table No: 1 Previous Literature and Citations

Authors	Methods Adopted	Findings	Citations
Peprah et. al (2024)	Snowball sampling	The COVID-19 epidemic dramatically illustrated how US investors contributed to the stock market catastrophe by using 87.5% cognitive biases and 75.6% heuristic approaches.	0
Suresh 2024	Convenient sampling	Heuristic bias and the emergence of behavioural bias in decision-making were strongly positively correlated. The framing effect, cognitive illusions, and herd mentality all negatively impact behavioural biases.	39
Aziz et.al (2024)	Face-to-face interviews	Several factors influence investment decisions, including overconfidence biases, loss aversion, bandwagon effect, negativity, gambler's fallacy, and confirmation. Investment decisions are somewhat impacted favourably by endowment and status quo biases.	0
Mamidala et.al (2024)	Interviews and Systematic sampling	Retail investors' intentions to invest are influenced by factors: - regret avoidance, switching costs, sunk costs, availability, herding, anchoring, and perceived threat.	7
Sathya & Prabhavathi (2023)	Online survey	Social media can affect risk perception while making investing decisions and amplify the consequences of behavioural biases like herding and overconfidence bias.	1
Mahadwartha et al. (2023)	Purposive sampling	Gambler's fallacy and Familiarity occur in investment decision-making, Halo effect more or less occurs in investment decision-making.	0
Srinivasan & Karthikeyan (2023)	Random Sampling	Biases reported a negative link between prospect theory and the herding effect, although heuristics showed a favourable relationship with them.	0
El Oubani (2023)	Convenient sampling	Moroccan investors are influenced by disposition, they may exhibit disposition bias during the rational decision-making process. However, when they experience losses, their overconfidence disappears, their perception of risk shifts, and they resume being rational.	0
Deka et.al (2023)	Random Sampling	The study's chosen biases and perceived risk are significantly correlated, as evidenced by the substantial influence of risk perception on stock investment decisions. Higher ESG consciousness diminishes the positive association between investors' perceived biases and risk perception, according to a significant negative moderation effect of ESG consciousness on the relationship between the selected biases and investors' perceived risk.	3
Mulasi et al. (2023)	Purposive sampling	Individual financial behaviour is adversely affected by herding and conservatism bias. The impact of conservatism and herding bias on financial behaviour is mitigated by financial self-efficacy.	3
Sudirman et al. (2023)	Online survey	Representativeness bias does not affect investment decision-making while anchoring and availability bias have a favourable influence. While anchoring and availability bias is not supported, investment time mitigates the impact of representativeness bias on irrational investment decision-making.	3
Marjerison et al. (2023)	Online survey	It appears that representativeness, risk aversion, and herding behaviour have a minor impact on investors' decisions to invest in funds in the second half of 2020.	7
Souza et al. (2023)	Non-Probability	Loss aversion has a negative impact on investors'	1

	Sampling	decision-making, but overconfidence and anchoring have a positive effect. There is no influence from the herd effect.	
Benayad & Aasri (2023)	Random sampling, Survey method	There was no statistically significant relationship between overconfidence bias and the investment decisions of Moroccan SME managers.	0
Edeh et al. (2023)	Online Survey	The information showed that investment success and behavioural factor indicators were positively correlated. Thus, the study suggests that NSE should consistently educate clients and provide information to positively impact investment choices. The NSE ought to assess the impact of previous occurrences on the particular counter being examined. [NSE= Nigeria Stock Exchange]	3
Singh & Kumar (2022)	Survey method	An increased degree of market efficiency would benefit the Indian IPO market from human decision-making's psychological biases.	2
Parmitasari et al. (2022)	Survey method	Emotion significantly boosted the perception of control, but not overconfidence or judgment. There was a notable 86.4% effect of the illusion of control on overconfidence, which was followed by a notable rise in decision-making.	15
Yadav et al. (2022)	Survey	The study showed that diversification is significantly related to both the biases used. The other variables considered are found to be non-significant for both biases.	1
Hasnawati et al. (2022)	Non-Probability	During the COVID-19 pandemic, the data demonstrated that behavioural bias factors strongly influenced investment decisions.	0
Bhatia et al. (2021)	Purposive sampling	The irrationalities of investing decision-making are favourably and strongly influenced by behavioural biases. The results also offer empirical proof that individual investors' use of robo-advisory services is unable to reduce overconfidence and loss-aversion bias.	32
Zhdanov & Simonov (2021)	Experimental study	Portfolio holders familiar with the assets in their portfolios were 1.10 times more likely to be persistent in purchasing downgraded assets and 1.34 times more likely to be persistent in selling winners and holding losers.	3
Sharma & Firoz (2021)	Survey	The investor's rationality and behavioural biases are strongly correlated. Optimism, herding, and disposition effects all have a significant impact on an investor's rationality and investment choices.	5
Youssef et al. (2021)	Convenient sampling	The impact of financial literacy on behavioural biases varies depending on the type of bias; information processing biases are most affected, belief perseverance biases are moderately affected, and emotional biases are least affected. Women are more affected by financial literacy when it comes to behavioural biases than men are.	2
Kartini & Nahda (2021)	Snowball sampling	Investment decisions are significantly impacted by anchoring, representativeness, loss aversion, overconfidence, optimism, and herding behaviour. It highlights how behavioural aspects affect investors' decisions.	116
Khan et al. (2021)	Simple Random Sampling	Investors' investing decisions are significantly and favourably impacted by availability and representativeness bias.	56
Ullah et al. (2020)	Random Sampling	The herd mentality, disposition effect, and overconfidence all have significantly favourable	38

		effects on investment choices. Active investors exhibit more overconfidence bias while passive investors exhibit more herding bias.	
Ratnadi et al. (2020)	Survey	Availability bias is the heuristic element used in investing decisions. Herding had a negative impact on investment decisions, prospect factors influenced decisions, market behaviour variables influenced decisions, and heuristics had no effect on decisions.	16
Baker et al. (2019)	Email and telephone Survey	Biases and investing decision-making have a significant relationship.	74
Madaan & Singh (2019)	Survey	Strong correlations between investing decision-making and overconfidence, anchoring, disposition effect, and herding behaviour. Herd mentality and overconfidence have a big impact on investing decisions. Investors' decision-making regarding investments is unaffected by anchoring or disposition.	165
Sabir et al. (2019)	Cluster Sampling, Questionnaire Survey	Overconfidence has a strong positive correlation with stock market investors' herding behaviour. Investor herding behaviour is exacerbated by a rise in investor overconfidence.	108
Khilar & Singh (2019)	Judgment and snowball sampling technique	Overconfidence bias affects the investment decisions made by investors in the Bhubaneswar region, India.	9
Trejos et al. (2019)	Survey	Gender, career, and educational attainment all contribute to the explanation of overconfidence; age, nationality, and earnings do not. Overconfidence is more common among investors displaying disposition effects.	77
Phan et al. (2018)	Quota and snowball sampling	Positive evidence for overconfidence and evaluation frequency on overtrading, as well as a social transmission bias on under diversification and equity allocation.	31
Rasheed et al. (2018)	Convenience Sampling	The locus of control has no discernible moderating influence, yet both of the heuristics under investigation considerably lead investors to stray from rational decision-making.	155
Jonsson et al. (2017)	Random Method	Financial literacy affects the attenuation of the disposition effect. Knowledge about mutual funds and knowledge about current market conditions affect the attenuation of the disposition effect,	83
Kumar & Goyal (2016)	Judgemental and Snowball	In India, overconfidence and herd mentality are more common in male investors. When making financial decisions, investors use reason. Behavioural biases develop at various phases of the decision-making process.	230
Khan et al. (2016)	Simple random sampling, survey method	Trading activities are determined by the simultaneous recognition of overconfidence, optimism, and stated preferences for firm features. A firm's liquidity preferences and trading volume features combined with a better-than-average degree of overconfidence, relative optimism in the financial sphere, and optimism in personal investments are likely to stimulate trading activity among investors.	43
Singh et al. (2016)	Judgemental and Convenient sampling	Gender has no bearing on reference point biases, overreaction, or the framing effect, although women are more self-attributable than men and males are more overconfident.	24
Tekçe et al. (2016)	-	Investors are prone to biases: Overconfidence is	136

		positively correlated with familiarity bias; Representativeness heuristic deteriorates wealth while status quo bias results in higher trade performance; Familiarity bias has a nonmonotonic effect on return; lower (higher) levels of familiarity bias have a negative (positive) effect on return; Male, younger, and investors in low-income, low-education regions exhibit more familiarity bias; Female, older, and investors with high portfolio values are more susceptible to the disposition effect and representativeness heuristic.	
Frino et al. (2015)	Account-based Survey	A large sample of individual investor accounts is used to find the disposition effect across various investor groups. Investors with Chinese ancestry, women, and older investors are more likely to experience the disposition impact. The disposition effect can be predicted by a number of other biases, such as regular trading, round-size trading heuristics, and the investor's degree of portfolio diversification.	64
Rzeszutek et al. (2015)	Convenience Sampling	Reliability to behavioural biases is correlated with stock market investment skills, according to statistical assessments. Some personality features have an impact on one's vulnerability to behavioural biases.	63
Tekçe & Yilmaz (2015)	Account Based Survey	Overconfidence is more common among male and younger investors, investors with smaller portfolio values, and investors in low-income and low-education areas. The wealth of a portfolio is negatively impacted by overconfidence.	112
Prosad et al. (2015)	Judgemental and Snowball Sampling	Investors' age, occupation, and frequency of trading are the most significant determinants of behavioural biases, along with their level of trading expertise. Every bias is associated with a distinct set of investor traits, and in the Indian context, overconfidence emerges as the most significant bias.	149
Lucchesi et al. (2015)	Account Based Survey	Prospect theory appears to direct managers' decision-making, but it was not possible to verify the assumption that mean reversion bias is the cause of the disposition effect.	27
Du & Shelley (2014)	Experimental	Ambiguity makes managers more likely to deceive and investors more likely to follow, and investors' dependence on managers' advice may increase when they feel too comfortable with them.	7
Bodnaruk & Simonov (2013)	Account Based survey	Financial professionals outperform their peers in terms of performance, risk diversification, and behavioural bias reduction. Instead, they make superior investing judgments. Stocks that provide managers with an informational edge over other investors—stocks that are also owned by mutual funds, for example—perform significantly better for them.	126
Lakshmi et al. (2013)	Offline and Online survey	Investors with a shorter investing horizon tend to exhibit higher levels of overconfidence, Herding, Social Contagion, and Representative Heuristic behaviour. Investment decisions typically become long-term as risk aversion, the disposition effect, and cognitive dissonance increase to a significant degree.	49
Kudryavtsev et al. (2013)	Online survey	Male and more experienced investors have higher correlation coefficients between the biases, suggesting that while these investor categories are likely to act more consistently, they are also more	94

		likely to make their own decisions about whether to reject all or mostly rely on simplifying techniques.	
Kalra & Arora (2012)	Judgment and snowballing sampling	Segmenting the individual investors based on their investment biases, yielded four segments namely, novice learners, competent confirmers, cautious anticipators and efficient planners. Different investors face different biases according to their investment experience.	132
Nikiforow (2010)	Interview method	Training rather influences fund managers' perception than their investment behaviour. Training significantly sharpens the awareness towards the reflection effect, which is an important and desirable result, as this bias partly explains the well-known disposition effect.	38
Graham et al. (2009)	Telephone survey, Random sampling	More often trading and internationally diversified portfolios are characteristics of proficient investors.	945
Chen et al. (2007)	Account-based Survey	Three behavioural biases affect Chinese investors: representativeness, disposition and overconfidence. Compared to past research, Chinese investors appear to be more overconfident than US investors (i.e., they hold fewer stocks but trade more frequently), and their disposition effect is more prominent.	886
Glaser & Weber (2007)	Online survey	Investors who think that they are above average in terms of investment skills or past performance (but who did not have above-average performance in the past) trade more.	1143
Lütje & Menkhoff (2007)	Survey method	The majority of them favour local assets, which is consistent with findings for other groups in earlier research.	109

Source: Authors Compilation

The researcher found that behavioural biases were present in investment decision-making. Investors in the stock market are subject to various behavioural biases, regardless of their investor types, investing goals (long- or short-term), frequency of investments, or portfolio composition. Most investors believe that their choices are unaffected by behavioural biases or that they base their choices on computations, analysis, and historical performance. However, this is not the case; instead, investors mistakenly misjudge the circumstances and make significant mistakes. The government or the share market's authorities might hold conferences, webinars, seminars, workshops, and training sessions to lessen behavioural biases. In addition, investors should receive adequate information about the share and mutual fund markets so they can make impartial investing decisions. Moreover, the concerned authorities can take initiatives for educating the students of higher education institutions irrespective of their streams or backgrounds.

Conclusion

The results demonstrate the existence of behavioural biases in decision-making connected to investments. The results suggest that more research should be conducted regarding behavioural biases. Since humans are not robots, we cannot say that their behaviour or cognitive processes are rational. People frequently make mistakes and tend to be affected by other forces. Future studies can be carried out in different directions under review work. Using PRISMA guidelines in the review work is also a future scope of the related study.

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