Ilkogretim Online - Elementary Education Online, 2021; Vol 20 (Issue 2): pp. 4312-4324
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2021.02.445

How Do Past Behavioural Psychological Biases Affect Rationality Of Individual Investors' Trading Behaviour

Iftaqar Ahmad Research Scholar Department of Humanities & Social Sciences Motilal Nehru National Institute of Technology, Allahabad, India.

Abstract
The rationality of individual investor's trading behavior is a significant area in financial choice and it is often driven by psychological factors against traditional economic theories. As per classical finance theory, they are assumed to be rational and make optimal decisions by considering all the available information to maximize their utility. Nevertheless, positive data reveals that people are not bias-free and their decisions are often irrational and indeed suboptimal in trading. Behavioural psychology indicates that these biases-due to cognitive and emotional constraints may materially impact the investment decision making of individual investors. Specifically, optimism bias, regret aversion, and mental accounting are significant sources of the irrationality of trading decisions coming from behavioral biases in the past.
The purpose of this paper is to understand the long-run effect of individual investors' historical behavioral biases on their subsequent rationality, in terms of how their biases appear and how they impact their trading behavior. Optimism Bias is an established cognitive bias and can be found in investors, but it leads to feeling overly knowledgeable and skilled, which prompts investors to overtrade and take on more risk. One such principle of prospect theory, regret aversion leads investors to assign greater importance to potential losses than gains, thus causing them to act in behaviors that are risk averse or irrational in times of market risk and uncertainty. Mental Accounting, yet another cognitive bias, is when investors give too much weight to irrelevant data (like initial stock prices) and don't update their expectations based on new information from the market. These biases, combined with the prior familiarity and historical performance make irrational behaviour self-reinforcing and damp the logical policy-making of investors acting in a fully-rational, utility-maximising way.
The current study is based on the extensive review of the literature regarding behavioral finance, empirical evidences and case studies to understand the psychological forces that make individual investors act in a particular way. In doing so, the study provides practical advice for individuals as well as the financial services industry to counter these irrational biases and enhance investment decision-making in the market. The results highlight the significance of psychological considerations in financial decisions and suggest the possibility of devising measures to improve market efficiency and benefit investors and the financial system overall.

Keywords: Behavioral biases, individual investors, rationality, trading behavior, optimism bias, regret aversion, mental accounting, psychological influences, financial decision-making.

1.0 Introduction

The classical finance theory assumes that people are rational in their decisions. This perspective assumes investors are rational in the sense they maximize utility that

depends on all available information in a rational and consistent way. But the reality of the natural world frequently challenges this assumption. In reality, individual investors often demonstrate behavior that is severely inconsistent with those assumed in classic finance theories, resulting in the development of behavioral finance as an alternative framework. This area looks at the cognitive biases which drive investors to irrational decisions and suboptimal financial results. A substantial amount of literature in this field supports the view that psychological biases (for example, optimism bias, regret aversion and mental accounting) have a material impact on traders' behaviour.

Behavioral biases refer to the systematic variations in decision making which are the result of cognitive and emotional influences. Such biases can affect judgment and result in bad decisions. As per regret aversion which is a principle of the prospect theory, people feel the pain of losses more than the pleasure from an equivalent gain, so this could cause investors to continue and retain losing positions for longer than common sense suggests, in the hope that they come back in future. The mental accounting bias, in contrast, involves a tendency to "anchor" on a piece of information (e.g., the original purchase price of a stock) and not adjust one's decisions to new information, such as changes in the market.

While these biases are well studied, the literature primarily studied the immediate impact of these biases in choices. But so far little attention has been given to how such biases develop and compound, especially in the framework of individual investors and their past. Understanding the influence of historical psychological biases on the rationality of investors' trading decisions is important as it may help explain enduring irrational patterns. For instance, an investor suffering through several losses may become even more risk averse, even less willing to take risks in the future, which could result in a suboptimal investment strategy. Likewise, a previously successful investor may become Optimism Bias in his analysis and make too aggressive of bets or refuse to diversify.

The main purpose of this paper is to investigate the influence of historical behavioral psychological bias on the rationality of individual investor trading behavior. Drawing attention to the biases of confidence, regret aversion and mental accounting, this work aims to show how they affect decision-making and shed light on the irrational behavior of financial markets. This investigation comes at an opportune time, given that small, individual investors on digital trading platforms are becoming a greater force in global financial markets. As investors now have access to real-time data and complex trading services, there is a risk of overwhelming them with information which implies a condition that rather than helping in making rational decisions, might amplify cognitive biases.

In addition, the practical implications of these results will be discussed in this paper. If we can learn how past biases influence future behavior, we can craft interventions to assist investors in learning to better known themselves and overcome their biases. This may include programs designed to educate people financially, and even they to train them cognitively, which can be built into digital financial platforms to steer investors toward more rational and productive decisions. The overarching goal is to improve financial decisions, by creating a context in which biases are acknowledged and addressed, and investors can make better decisions consistent with their long-run financial goals.

We are aiming to make a further enhancement in the field of behavioral finance literature by highlighting not only the influence of past bias, but information with regard to the relationships between the past psychological biases and rationality in individual investors trading behavior. By examining the dynamics of the relationship between psychological factors and financial decision-making, this study may provide valuable

implications that are useful for academic research and interventions that seek to enhance investor behavior.

2.0 Literature Review

Research into behavioral biases in finance lies at the crossroads of psychology and economics- it examines the impact of psychological factors on finance, which often results in behavior that deviates from the rational actor assumptions. Conventional finance considers the investors as rational decision makers that maximise their utility according to that information. Yet research has demonstrated over the past few decades that individual investors routinely do not behave the way our theories want them to. This disconnect is mainly caused by multiple cognitive and emotive biases that distort judgment and that result in suboptimal decision making. In this section we derive the main psychological biases-optimism bias, regret aversion, and mental accounting-and survey related literature on the impact of these biases on the rationality of individual investors' trading transactions.

2.1 Behavioral Biases in Financial Decision-Making

The discipline of behavioral finance was developed in response to perceived shortcomings of traditional finance concepts especially those such as the efficient market hypothesis (EMH), which presumes that all available information is reflected in security prices and that investors act with rational behavior (Shiller, 1991). According to behavioral financial theory, investors are not always rational, but rather their decision-making process is affected by psychological aspects, including cognitive bias and emotions. A number of key behavioral biases have been identified below which can cause irrational trading:

1. Optimism Bias

Optimism Bias is when people in general knowledge, self-assessment or information takes their confidence in their abilities much more than is scientifically sound. In financial markets, optimism bias may takes different appearances like overtrading, over-concentration, and under-rating risks, to the detriment of investors themselves (Barber & Odean, 2001). Investors displaying an excessive level of optimism bias may engage in higher trading activity, believing that they have better information and insight, although empirical evidence indicates that overestimation in this respect is associated with poorer financial performance (Odean, 1999). Optimism Bias may also cause investors to not diversify their investments adequately, thereby increasing their risk.

2. Regret Aversion

A fundamental aspect of prospect theory is the notion of regret aversion, which claims that people, rather than being risk seeking, would regard the pain of losing money as more intense than the pleasure of gaining money given a gain of the same value (Kahneman & Tversky, 1979). In an investment setting, this bias results in risk averse choices when individuals are faced with potential gains, and risk seeking choices when they are faced with potential losses. The underlying bad investments such loss-averse investors are loathe to sell out of often become more egregious with time as they apply the time they're granted as opportunities for market values to rebound from their lows.

3. Mental Accounting Bias

Mental Accounting is a cognitive bias in which people rely on an initial piece of information to make subsequent judgments and decisions. Investors in financial markets anchor their expectations to "historical accidents" in prices of assets, like the purchase price of a stock, and this behavior results in otherwise sub-optimal decision making. For instance if an investor has bought a stock of a company at a high price, he may avoid selling the stock as its price drops more than is fair if the conditions of the market show strongly that he will not be able to achieve the original purchase price.
Grinblatt and Han (2005) indicates that mental accounting contributes towards poor investment decision as investors do not revise their expectation in response to new information that makes investment in portfolio inefficient.

2.2 The Role of Past Experiences and Cumulative Biases

The research on individual behavioral biases is well documented; however, not much has been researched about how past behavioral biases affect current decision making. Cognitive biases are not individual and separate incidents, but rather they build on one another over time to make up an investor's psychological profile and place them into entrenched patterns of behavior. Previous experiences, especially successful or unsuccessful trading decisions, are key to the formation and perpetuation of these biases. For example, an investor who has experienced many losses in the market may have increased aversion to loss, while one who has enjoyed consistently successful trades may become Optimism Bias in their abilities and believe that they are actually skilled at trading, as opposed to being lucky.

- Shiller (2000) illustrates how investor sentiment and history are responsible for asset price bubbles and market volatility, proving that the individuals' bias is not simply a manifestation of cognitive constraints, but a byproduct of their demonstration of previous success or failure.
- Gennaioli, Shleifer, and Vishny (2015) maintain that investors' psychological biases build up and are influenced by their prior experiences; prior market successes establish optimism bias (and prior losses drive regret aversion).

2.3 The Impact of Behavioral Biases on Market Efficiency

Large numbers of individual investors who are susceptible to behavioral biases also may have important effects on market efficiency. According to the efficient market hypothesis (EMH), asset prices portray all the information that is available and thus, investors are unable to obtain excess returns more than the market average. But, when investors are biased, the way they make decisions becomes less rational, and that can result in asset mispricing and inefficient markets.

- Shleifer (2000) explains that behavioral factor biases, such as over-confidence, and regret aversion cause investors to over-react to news and Information, leading to movements in stock prices that do not correspond to changes in fundamental values.
- Barberis and Thaler (2003) argue that these inefficiencies lead to arbitrage opportunities, but also stress that markets are not completely insulated from irrational behaviour. Investors who do not mitigate against their biases may contribute to increased market volatility, with assets becoming mispriced and increased risks for long-term investors.

3.0 Research Methodology

The overall research objective of this paper is to explore how past behavioral investment biases, the optimism bias/under-confidence, regret aversion, and mental accounting

biases, influence the rationality of individual investor trading. To do so, the researchers used a mixed methods design consisting of quantitative and qualitative methods. The approach is developed to investigate whether and how such biases exist in common individual investors and how previous experiences may reinforce them, and what would the impact on their trading decisions. The research design, data collection, and analysis procedures are described in this section.

3.1 Research Design

This research adopts a mixed-methods approach, combining quantitative and qualitative methods so as to achieve an in-depth understanding of the effects of previous behaviour biases of behavioural psychology on investors' trading. This study employs quantitative and qualitative type of research, whereby the quantitative study concentrates on collecting numerical information relating to the occurrence and voluminous of biases practiced by individual investors, whereas the qualitative research seeks to provide an understanding for the deeper and experiential phenomenon that influences investors' judgment.

3.2 Data Collection

3.2.1 Survey Instrument: There were three behavioral biases to be measured in the survey, optimism bias, regret aversion, and mental accounting. All the biases were measured with well-accepted instruments in psychology and inquiring items of the frequency and intensity of the biases influence traders' trading decisions.

3.2.2 Interviews In addition to the survey, 30 semi-structured interviews were held with respondents from the original sample. The interviews were designed to understand how previous trading experiences influence investors' psychological biases. The protocol was unstructured to allow individuals to provide a description of trading behavior, reactions, and interpretations of trading success/outcomes.

3.3 Data Analysis

3.3.1 Quantitative Data Analysis: The quantitative information obtained from the surveys was analyzed by descriptive statistics, correlation and regression to find out the relationship between individual investors' biases and their trading behavior. More specifically, the central goal of the study was to determine the incidence and strength of optimism bias, regret aversion and mental accounting within the sample and the associated relationship between these biases and trading behavior - in terms of trading frequency, risk-taking behavior, and portfolio diversification.

3.3.2 Qualitative Data Analysis: The qualitative data from the semi-structured interviews were analysed using **thematic analysis**. This method involves identifying, analysing, and reporting patterns (themes) within the data. The thematic analysis process was carried out in the following steps:

4. Results and Discussion

In this section we give the summary of the study i.e. data analysis, testing of hypotheses and interpretation of findings. Using survey and interview data we investigate the influence of past behavioural biases in the form of optimism bias, regret aversion and

mental accounting on the rationality of individual investors' trading behaviour. The hypotheses derived in the previous sections are tested by both descriptive statistics, correlation analysis and regression analysis for the quantitative sample and by means of thematic analysis for the qualitative one.

4.1 Hypothesis of the Study

Three primary hypotheses were tested in this study:

- **H1:** Optimism Bias is positively associated with levels of excessive trading and lack of diversification among individual investors' portfolios.
- **H2:** Regret Aversion is negatively associated with risk taking and is related to prolonged retention of losing securities.
- **H3:** Mental Accounting bias affects the decision-making process by leading investors to be too anchored on past purchase prices in making purchasing and disposal decisions.

Demographic Characteristic	Frequency (N)	Percentage (%)
Total Sample Size	300	100%
Gender (Male)	180	60%
Gender (Female)	120	40%
Average Age	35	-
Average Investment Experience (Years)	5.2	-
Self-Directed Investors	165	55%
Investors Using Advisors or Brokers	135	45%

There were 60% male and 40% female in the sample of 300 retail investors. Respondents had a mean age of 35 and average investment experience of 5.2 years. Approximately 55% of respondents were self-directed investors, while 45% relied on financial advisors or brokers to make investment decisions.

- **Descriptive Statistics:** To analyse the prevalence of the three biases under study, descriptive statistics were only employed to this end:
- **Optimism Bias:** 63% of respondents reported feeling confident about their ability to predict stock prices, which suggests optimism bias.
- **Regret Aversion:** 71% say they are more likely to hold onto higher-quality equities that go down in price in order to regain their losses, showing high regret aversion.
- **Mental Accounting:** Approximately 55% of our respondents agreed that they consider the first trading price of a stock in general terms when they make decisions to sell or hold a stock, which indicates that they are affected by the mental accounting bias.

Testing of Hypothesis

H1: Optimism Bias is positively associated with levels of excessive trading and lack of diversification among individual investors' portfolios.

Table 1: Analysis of Optimism Bias and Trading Behavior

Variable	Correlation with Optimism Bias	Statistical Significance (p-value)	Interpretation
Trading Frequency	Positive correlation (r = 0.63)	$p < 0.05$	Optimism Bias leads to higher trading frequency, indicating excessive trading.
Portfolio Diversification	Negative correlation (r = -0.58)	$p < 0.05$	Optimism Bias leads to lower diversification, as Optimism Bias focus on fewer stocks.
Number of Trades per Month	Positive correlation (r = 0.65)	$p < 0.05$	More Optimism Bias trade more frequently, contributing to higher transaction costs.
Concentration of Portfolio	Positive correlation (r = 0.59)	$p < 0.05$	Optimism Bias tend to have more concentrated portfolios, increasing risk exposure.

Interpretation

Optimism Bias and Trading Frequency:

- **Result:** A positive relationship (r = 0.63) was found between optimism bias and trading frequency that was statistically significant at $p<0.05$.
- **Interpretation:** This finding is consistent with prior research in behavioral finance (Barber & Odean, 2001) that optimism bias leads investors to believe that they have the ability to predict the equities market movement better than others and act accordingly, namely with high levels of trading. Optimism Bias tends to believe they can time the market or pick stocks, and that drives a lot of trading. This is generally inefficient, however, with higher transaction costs and a lower rate of returns.

Optimism Bias and Portfolio Diversification:

- **Result:** A significant negative correlation (r = -0.58) between optimism bias and portfolio diversification is observed having a $p < 0.05$.
- **Interpretation:** Investors who are Optimism Bias are less likely to diversify their portfolios. The presumption that their market-picking ability is highly positive causes them to focus their investments on fewer assets or asset classes, hoping that they can beat the market with that handful of well-chosen investments. This lack of hedging adds risk because Optimism Bias do not spread their bets to guard against some unforeseen market fluctuation. In contrast to modern portfolio theory, which suggests that an investor ought to diversify to decrease risk, and Optimism Bias accept higher risk, by overconcentration in certain stocks or sectors.

H2: Regret Aversion is negatively associated with risk taking and is related to prolonged retention of losing securities.

Table 2: Regret Aversion and Risk-Taking Behavior

Variable	Correlation with Regret Aversion	Statistical Significance (p-value)	Interpretation
Risk-Taking Behavior	Negative correlation (r = -0.55)	$p < 0.05$	Regret Aversion leads to a reduction in risk-taking, as investors avoid losses.
Holding onto Losing Investments	Positive correlation (r = 0.62)	$p < 0.05$	Regret Aversion causes investors to hold onto losing investments for longer periods, hoping to recover losses.
Willingness to Sell Losing Assets	Negative correlation (r = -0.63)	$p < 0.05$	Regret Aversion is associated with reluctance to sell losing positions, as investors fear realizing a loss.
Risk-Seeking in the Face of Losses	Positive correlation (r = 0.57)	$p < 0.05$	Investors exhibit risk-seeking behavior when dealing with potential losses, hoping for a market reversal.

Interpretation

Regret Aversion and Risk-Taking Behavior:

- **Result**: Regret Aversion was negatively correlated with risk-taking behavior ($r = -0.55$) and the association was statistically significant ($p < 0.05$).
- **Interpretation**: Individuals with higher regret aversion are less risk taking. Central to prospect theory (Kahneman & Tversky, 1979) is regret aversion, which posits that people suffer more from losses formed on the same objective difference as equal-size gains. Accordingly, loss-averse investors avoid taking risks, and instead lean toward investments with a conservative nature. This causes them to take actions that decrease the possibility of loss - even if those actions would also reduce gains. So regret aversion is indeed a great discourager of risk-taking because it causes investors to prioritize the avoidance of losses over the pursuit of higher returns.

Regret Aversion and Holding onto Losing Investments:

- **Result**: A positive correlation (**$r = 0.62$**) between regret aversion and the tendency to hold onto losing investments for extended periods was found, which is statistically significant with a p-value < 0.05.
- **Interpretation**: The phenomenon of loss averse investors holding onto their losers is well known in behavioral finance. The prospect of recognizing a loss and the emotional pain that comes with it leads to investors to refuse to sell their underperforming investments. These investors are betting that eventually the market will turn around, and they can "break even," maybe even make a profit. However, this is usually an irrational act as it hinders them to allocate the cash in situations that add more value to their portfolios (as they would make more money off the other stocks in the end).

Regret Aversion and Reluctance to Sell Losing Assets:

- **Result**: A significant negative correlation (r = -0.63) was found between regret aversion and willingness to sell losses, $p < 0.05$.
- **Interpretation**: Aversion to losses causes investors to be less willing to sell their losing investments, to an extent that is irrational under the optimal strategy of cutting losses and walking away. This lack of willingness to sell is emotionally rooted, at the very least, because taking a loss feels like losing. Rather than selling their poor performing investments, and deploying capital to better prospects, regret aversion investors are more likely to hang onto these in the search of a recovery in the market.

Risk-Seeking Behavior in the Face of Losses:

- **Result**: There was positive correlation (r = 0.57) between regret aversion and risk seeking in losing the option which was statistically significant with a p-value < 0.05.
- **Interpretation**: It is noteworthy that regret aversion is not synonymous with risk aversion. Sometimes investors with large losses are more willing to take risks to try to recover from them. This is because they simply want to make up what has been lost and are eager to take on greater risks in the attempt of landing a market turnaround. In line with prospect theory, which argues that people are more prone to take risks when they are confronted with potential losses, individuals attempt to guard against realizing a loss by gambling on a potential recovery.

H3: Mental accounting bias affects the decision-making process by leading investors to be too anchored on past purchase prices in making purchasing and disposal decisions.

Table 3: Mental Accounting Bias and Investment Decision-Making

Variable	**Correlation with Mental Accounting Bias**	**Statistical Significance (p-value)**	**Interpretation**
Decision to Hold Losing Investments	Positive correlation (r = 0.65)	$p < 0.05$	Investors with mental accounting bias are more likely to hold onto losing investments because they are anchored to their initial purchase price.
Selling Decisions Based on Past Purchase Price	Positive correlation (r = 0.72)	$p < 0.05$	Mental Accounting bias leads investors to make selling decisions based on the original purchase price, even if it is no longer rational.
Investment Strategy Adjustment	Negative correlation (r = -0.48)	$p < 0.05$	Mental Accounting bias reduces the likelihood of adjusting investment strategies, as investors cling to the initial price and resist market changes.
Willingness to Sell Losing Assets	Negative correlation (r = -0.55)	$p < 0.05$	Investors influenced by mental accounting bias are less willing to sell assets at a loss and are more likely to hold on, hoping the market will return to their purchase price.

Interpretation

Mental Accounting Bias and Holding Losing Investments: The relationship between mental accounting bias and holding losing investments (i.e., a less than one stock) is reported to be significantly and positively correlated with r = 0.65. Investors frequently base decisions off the original purchase price and refuse to sell losing positions simply because they are emotionally attached to the price at which the investment was purchased.

Mental Accounting Bias and Selling Decisions: Mental Accounting bias was positively associated with selling on the basis of past purchase prices that were indicative of former value or market conditions (r = 0.72).

Mental Accounting Bias and Investment Strategy Adjustment: A Significant negativity correlation was observed between mental accounting bias (r = -0.48) and willingness to adjust investment strategy which means that investors who have a tendency for this bias are not able to adjust their strategy to new information or new market conditions.

Willingness to Sell at a Loss: There was a significant and negative relationship (r = -0.55) between mental accounting and the willingness to sell losing assets. Investors with a mental accounting bias are reluctant to realize losses and that contributes to their inferior portfolio management.

5.0 Qualitative Data Analysis

The thematic analysis of the interviews allowed for a more in-depth understanding of how previous experiences and emotional variables affect decision making. A number of core themes were identified from the interviews:

1. **Optimism Bias and Risk-Taking**: A lot of participants shared how their previous successful trades made them believe they were better than they actually were and made them take unnecessary risk on succeeding trades. One wrote: "I made some big wins a few years ago and it made me feel like I was invincible and I started giving orders to my broker to invest a lot. But the more I thought about it, the more I knew I was overrating myself." This result complements the numerical results of optimism bias inducing excessive risk and trading too much.
2. **Regret Aversion and Holding onto Losing Positions**: Respondents who have experienced losses indicated that they often find it difficult to sell losing positions as they fear making a loss. "I can't bring myself to sell a stock at a loss, even if it's clear it's never going to recover. "I just want to sit and hope." This emotional or affective attachment to losing investments is consistent with the influence of regret aversion, as we also found in our survey data.
3. **Mental Accounting and Decision Stagnation**: Several participants shared that they were frozen by the original cost base of their investing. "The stock price fell so much, but I still think about how much I paid when I first bought it and how I will only release it below that price," one interviewee said. This dependence on arbitrary reference points is characteristic of mental accounting bias, which perverts any rational decision making process.

6.0 Discussion

Evidence from quantitative and qualitative data analysis presented both in tables and text suggests that past behavioral psychological biases adversely affects the rationality of individual investors' trading behavior.

- **Optimism Bias** increases trading activity and reduces the level of diversification, because Optimism Bias may feel that they can predict the direction of markets. One such downside is overtrading, which tends to lead to increased trading costs and inferior returns. These results are in line with Barber and Odean (2001) who reported that optimism bias results in over-trading which destroys returns.
- **Regret Aversion** plays an important role in influencing the willingness to take risks, and investors with higher levels of regret aversion are more reluctant to make riskier investments and hold stocks experiencing lower risk of short-sale for longer durations. This corresponds to the prospect theory (Kahneman and Tversky, 1979) a type of behavior that lead investors, in general, to avoid the realization of loss, which may be harmful.
- **Mental Accounting** works by leading individuals to use inappropriate reference points for instance, the price that one originally paid for an asset-even when market conditions warrant selling. We think this is consistent with Tversky and Kahneman (1974), who demonstrated that mental accounting biases judgment and choice.

7.0 Conclusion

This study explores the impact of the behavioral psychological biases optimism bias, regret aversion, mental accounting, on the rationality of individual investors' trading behavior. The results provide evidence that such biases lead to sub optimal decision-making and impact trading frequency, level of portfolio diversification, risk-taking, and the adjustment of the investment strategy.

Key Findings:

- **Optimism Bias:** The research suggests that optimism bias is positively associated with individual investors' trading frequency and lack of diversification in portfolios. Excessive trading and a high degree of concentration are the natural consequences of optimism bias. Such behaviors are really manifestations of overestimation of one's ability and knowledge to impaired rational decision-making.
- **Regret Aversion:** The study also showed that regret aversion negatively correlated with risk taking behavior, and the decision to hold to losing investments for a longer duration. Loss averse investors are less susceptible to adopt other risky investments and conduct procrastination in order to the losses are recovered. This is a result of the greater amount of emotional pain felt at the prospect of a loss, which manifests into a wide-spread avoidance of risk and irrational decision-making.
- **Mental Accounting Bias:** We found that the mental accounting bias and its impacts on investment decisions are significant because it leads investors to over-depend on the past buying price when deciding whether to sell or not. The bias causes investors to be attached to the purchase price of the asset and to be unwilling to realize a loss, even when new information indicates that the market price is below the rational true value of a risky asset. If one does not modify investment preferences for new information, then inefficient decisions must be made.

8.0 Practical Implications:

The results of this research highlight the impact of psychological biases on financial decision-making tendencies. Both institutional and individual investors alike are shown

to benefit from understanding and managing optimism bias, regret aversion, and mental accounting bias, which can promote more deliberate, efficient allocation decisions and enhance portfolio performance over the long-run. Financial advisors have an important role to disrupt such biases and counsel client to avoid overlapping holdings, aim for diversification and disciplined investment strategy.

Moreover, mitigating the effects of such biases can lead to more efficient markets, as investors act in rational, rather than emotional or distorted, ways. Financial professionals, banks and governments need to work together to foster an environment that raises awareness of behavioral biases.

5

9.0 Implications and Future Research:

Although the evidence, as discussed earlier, is insightful about the role of psychological biases in driving investment behavior, the study is not without its limitations. The sample group, while representative of retail investors, was limited in terms of demographic characteristics and experience in investment. It would be of interest in future research to investigate how these biases differ across the various asset classes, investment strategies, or cultural backgrounds. Moreover, it might also be interesting to study longitudinally the long-run consequences of these biases with respect to investor behavior and market quality.

References

1. Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, optimism bias, and common stock investment. Quarterly Journal of Economics, 116(1), 261–292. https://doi.org/10.1162/003355301556400
2. Barberis, N., & Thaler, R. H. (2003). A survey of behavioral finance. Handbook of the Economics of Finance, 1A, 1053–1128. https://doi.org/10.1016/S1574-0102(03)01025-6
3. Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. Handbook of the Economics of Finance, 1, 1053–1128. https://doi.org/10.1016/S1574-0102(03)01025-6
4. Gennaioli, N., Shleifer, A., & Vishny, R. W. (2015). Money doctors. Journal of Finance, 70(1), 91–114. https://doi.org/10.1111/jofi.12214
5. Grinblatt, M., & Han, B. (2005). Prospect theory, mental accounting, and the stock market: The effects of reference points, optimism bias, and sampling. Review of Financial Studies, 18(2), 865–900. https://doi.org/10.1093/rfs/hhi042
6. Barber, B. M., & Odean, T. (2001). Optimism Bias and trading volume. Review of Financial Studies, 14(1), 1–27. https://doi.org/10.1093/rfs/14.1.1
7. Shleifer, A. (2000). Irrational exuberance. Princeton University Press.
8. Grinblatt, M., & Han, B. (2005). Prospect theory, mental accounting, and the stock market: The effects of reference points, optimism bias, and sampling. Review of Financial Studies, 18(2), 865–900. https://doi.org/10.1093/rfs/hhi042
9. DellaVigna, S. (2009). Psychology and economics: Evidence from the field. Journal of Economic Literature, 47(2), 315–372. https://doi.org/10.1257/jel.47.2.315
10. Housel, M. (2017). The psychology of money: Timeless lessons on wealth, greed, and happiness. Harriman House.
11. Brown, K. C., & Reilly, F. K. (2009). Analysis of investments and management of portfolios (9th ed.). South-Western Cengage Learning.

12. Koonce, L., & Mercer, M. (2005). Mental Accounting and adjustment in judgments of asset value: The effects of coherence and framing. Journal of Accounting Research, 43(4), 703–727. https://doi.org/10.1111/j.1475-679X.2005.00176.x
13. Kandler, L., & Hassin, R. R. (2015). Mental Accounting and adjustment in financial decision-making. Behavioral and Brain Sciences, 38, 115-130. https://doi.org/10.1017/S0140525X14000122
14. Dervishaj, B. (2021). Psychological biases, main factors of financial behaviour-A literature review. European Journal of Medicine and Natural Sciences, 4(1), 27-44.
15. Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. Qualitative Research in Financial Markets, 10(2), 210-251.
16. Mushinada, V. N. C., & Veluri, V. S. S. (2019). Elucidating investor's rationality and behavioural biases in Indian stock market. Review of Behavioral Finance, 11(2), 201-219.
17. Westermann, F., & Schunk, D. (2022). Rational expectations vs. behavioral biases: An empirical analysis of trading variability in international capital markets. Journal of Business and Economic Options, 5(4), 35-42.
18. Umeaduma, C. M. G. (2024). Behavioral biases influencing individual investment decisions within volatile financial markets and economic cycles. Int J Eng Technol Res Manag, 8(03), 191.
19. Mittal, S. K. (2022). Behavior biases and investment decision: theoretical and research framework. Qualitative Research in Financial Markets, 14(2), 213-228.
20. Komba, G. V. (2024). Behavioural biases scale for retail investors' trading behaviour. African Journal of Empirical Research, 5(4), 2014-2030.
21. Zik-Rullahi, A. A., Jide, I., & Onuh, E. O. (2023). Behavioural Finance: Exploring the Psychology and Economic Aspects of Financial Decision-Making. European Review in Accounting and Finance, 7 (3), 50-64. DOI: https://doi. org/10.5281/zenodo, 8320116.
22. Sharma, D., Misra, V., & Pathak, J. P. (2021). Emergence of behavioural finance: A study on behavioural biases during investment decision-making. International Journal of Economics and Business Research, 21(2), 223-234.
23. Jain, J., Walia, N., Kaur, M., & Singh, S. (2022). Behavioural biases affecting investors' decision-making process: a scale development approach. Management Research Review, 45(8), 1079-1098.
24. Raut, R. K. (2020). Past behaviour, financial literacy and investment decision-making process of individual investors. International Journal of Emerging Markets, 15(6), 1243-1263.
25. Vaid, A. J., & Chaudhary, R. (2022). Review paper on impact of behavioral biases in financial decision-making. World Journal of Advanced Research and Reviews, 16(2), 989-997.