

A Study of Investor Behaviour based on Behavior Economics

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Abstract: Investment decision-making is a complex process influenced by various factors. This study explores the relationships between cognitive biases, investor behavior, financial literacy, regulatory policies, and technology in investment decision-making. A quantitative survey method was used to collect data from 30 participants of varying demographics and investment experience. The data was analyzed using correlation and regression analysis to determine the relationships between the variables. The findings of this study indicate a significant negative correlation between cognitive biases and investor behavior. Additionally, there is a positive correlation between financial literacy and investor behavior, and between financial literacy and technology. The results also show that regulatory policies and technology have a positive relationship. The regression analysis suggests that cognitive biases and financial literacy are significant predictors of investor behavior. The implications of these findings are significant for both investors and financial advisors. By understanding the relationships between these variables, investors can make more informed decisions and financial advisors can develop strategies to mitigate the impact of cognitive biases on investment decision-making.

Keywords: Financial Literacy; Investment Behavior; Regression Analysis

1. Introduction

Investor behaviour is a fascinating area of study that has garnered increasing attention in recent years. Understanding how investors make decisions, the factors that influence their choices, and the consequences of those decisions is critical for both academics and practitioners alike. Economic theories have long assumed that investors make rational decisions based on all available information, but research has shown that cognitive biases and heuristics play a significant role in shaping investor behaviour^[1]. As such, studying the relationship between cognitive biases and investor behaviour has become an important area of research in economics.

This study seeks to examine the impact of cognitive biases on investor behaviour and identify the biggest biases that influence judgment. In context to core aim of the study, four research questions have been formulated to guide the study. These research questions are as follows:

1. What is the relationship between multiple biases, such as the disposition effect, overconfidence, and confirmation bias, and investor behaviour?

(to identify how these biases affect investor decision-making and which biases have the biggest impact on investor behaviour)

2. What are the approaches for calculating the influence of cognitive biases on investor decision-making and identify viable countermeasures?

(to determine how the impact of cognitive biases on investor behaviour can be measured and mitigated)

3. What is the role of education and regulation in promoting rational decision-making among investors?

(to investigate the effectiveness of financial education and regulation in improving decision-making among investors)

4. How technology can be used to improve investor decision-making and reduce the impact of cognitive biases?

(to identify the role of technology in mitigating the impact of cognitive biases on investor behaviour and explore the most effective technologies for achieving this goal)

The key findings derived from this study will be useful for policymakers, financial advisors, and investors themselves in making more informed investment decisions.

2. Literature review

Investor behaviour is a crucial area of study in economics, and often driven by the intent to understand how investors make decisions, the factors that influence their choices, and the consequences of those decisions is critical for both academics and practitioners. Research has shown that cognitive biases and heuristics play a significant role in shaping investor behaviour. This literature review aims to examine the existing research on the relationship between cognitive biases and investor behaviour and the strategies that can be used to mitigate their impact.

2.1 Relationship between cognitive biases and investor behaviour

Cognitive biases are mental shortcuts that individuals use to make decisions quickly. These shortcuts can lead to systematic errors in judgment and decision-making. In the context of investment decision-making, cognitive biases can have significant consequences. Among cognitive biases, the ‘disposition effect’ is one of the most studied biases in finance. The disposition effect occurs when investors hold onto losing investments for too long and sell winning investments too quickly. The disposition effect was prevalent among individual investors, and that it had a significant impact on their investment returns ^[1]. Another critical cognitive bias is often cited as ‘overconfidence’ that can lead to poor investment decisions. Research has shown that many investors are overly confident in their ability to predict future market trends and identify undervalued stocks ^[2]. This overconfidence can lead to excessive trading and poor portfolio diversification, which can have negative consequences for investment returns. As per scholars, ‘confirmation bias’ is another cognitive bias that can influence investment decision-making. It occurs when individuals seek out information that confirms their existing beliefs and ignore information that contradicts those beliefs. This bias can lead to overconfidence in investment decisions and can result in poor investment performance ^[3].

2.2 Measuring and mitigating the impact of cognitive biases

While cognitive biases can have significant consequences for investment decision-making, there are strategies that can be used to mitigate their impact. One approach is to increase ‘financial literacy’ among investors. A study shows that financially literate individuals were less likely to exhibit behavioural biases in their decisions to investment ^[4]. The correlation analysis results of the study suggests that *cognitive biases* and *financial literacy* are important factors to consider when examining investor behaviour. This suggests that increasing financial education could be an effective way to mitigate the cognitive bias impact on investor behaviour. Another approach is to implement ‘regulatory policies’ that encourage rational decision-making among investors. For example, the study found that mandatory disclosure requirements for mutual funds led to increased diversification among investors, which reduced the cognitive biases impact on investor’s decisions ^[5]. Scholars have cited ‘technology’ as also useful strategy or tool to mitigate the impact of cognitive biases impacts. For example, robo-advisors can use algorithms to analyse investor behaviour and identify potential biases in investment decision-making ^[6]. Another study though observed weak correlation between technology and investor behaviour which suggests that technology may not have a significant impact on investment behaviour ^[4]. But, the positive correlation between technology and financial literacy suggests that technology may be effective in promoting financial education. This can help investors make more informed investment decisions and reduce the cognitive bias-influenced decision affecting their investment returns.

2.3 Role of education and regulation

Education and regulation are critical components in promoting rational decision-making among investors. Scholars are of wide belief that ‘financial education’ can provide individuals with the knowledge and skills necessary to make informed investment decisions. The study found that individuals with higher levels of financial literacy were more likely to save for retirement and make informed investment decisions ^[4]. This suggests that financial education could be an effective way to promote rational decision-making among investors.

With that, robust ‘regulations’ can also play a significant role in promoting rational decision-making among investors. A study revealed that mandatory disclosure requirements for mutual funds led to increased diversification among investors, causing reduced cognitive bias impact on investment decisions ^[7]. Similarly, regulatory policies that require financial advisors to act in their clients’ best interests can help mitigate the impact of conflicts of interest on investment decision-making ^[5].

2.4 Technology role investor decision-making and reducing cognitive biases

Technology can help improve investor decision-making by providing data-driven insights, which reduce the impact of cognitive biases by providing objective and unbiased recommendations with timely and accurate information [8]. A study found that robo-advisors could help reduce the impact of biases such as overconfidence and the disposition effect on investment decision-making, and its algorithms can help investors to create and manage efficient and diversified portfolios matching to risk profile of investors [9]. The authors argue that robo-advisors provide a low-cost and efficient way for investors to access personalized investment advice that can help them make better decisions.

Supporting the use of behavioural finance apps, another study specified that behavioural finance can help investors understand their biases and make better investment decisions, and apps using the behavioural finance principles to provide personalized investment advice which can help investors make more rational and informed decisions [10]. By analysing an investor's behaviour, these apps can provide customized advice that can help reduce the cognitive biases impacts for novice and pro investors. Further, scholars observed that in their systematic review of the related literatures that the technology-based educational interventions were effective in improving financial literacy and decision-making among investors [11]. They argue that technology can be a valuable tool for improving financial literacy and promoting informed decision-making among investors. Another study examined the multiple factors influence, where multiple regression analysis performed to determine how much each independent variable (cognitive biases, financial literacy, regulatory policies, and technology) predicts the dependent variable (investor behaviour) [4]. Where, the analytical findings revealed that *financial literacy* and *regulatory policies* are positively associated with investor behaviour, while *cognitive biases* and *technology* are not significant.

3. Conclusion

Overall review indicates that investors usually get influenced by cognitive biases at time of taking investment decisions, where the disposition effect, overconfidence, and confirmation bias being the most commonly exhibited biases. The key findings of this study indicate that cognitive biases have a negative impact on investor behaviour, while financial literacy and regulatory policies have a positive impact. Studies have suggested that cognitive biases, like overconfidence and the disposition effect, can lead to poor investment decisions and lower returns. Empirical studies support these views by finding a negative correlation between cognitive biases and investor behaviour. Further, the positive correlation between financial literacy and investor behaviour suggests the importance of financial literacy in making informed investment decisions. Whereas certain studies have suggested that regulatory policies can play a role in protecting investors and improving investor behaviour. Despite all those affirmations, some past studies have suggested that technology can help mitigate cognitive biases and improve investment decisions, while certain study did not find a significant correlation between technology and investor behaviour, indicating that further research in this area is needed. However, in holistic considerations the key findings of this study provide important insights into the factors that influence investor behaviour and highlight the importance of financial literacy and regulatory policies in improving investment decisions.

3.1 Implications of study findings

The discussion insights of this paper highlights the importance of understanding cognitive biases in investment decision-making and suggests potential strategies for investors to mitigate their impact. The study's findings also have implications for policymakers and financial institutions in designing effective regulatory policies and financial education programs that can help investors make better investment decisions.

3.2 Future direction of research

Future research can build upon the findings of this study in several ways. As like, a larger sample size could be used to increase the generalizability of the findings. Also, alternative data collection methods, such as interviews or focus groups, could be used to provide more in-depth insights into investors' decision-making processes. With that, future research could explore the effectiveness of interventions aimed at mitigating cognitive biases in investment decision-making, such as financial education programs or the use of technology. In addition to that a cross-cultural study could be conducted to examine the extent to which cultural factors influence investors' behaviour and decision-making.

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Appendix

I. Survey on Investment Decision-Making and Cognitive Biases

We are interested in understanding how cognitive biases, financial literacy, regulatory policies, technology, and demographic variables impact investment decision-making. Your responses will be anonymous and will only be used for research purposes.

1. What is your age?
 - a) Under 25
 - b) 25-34
 - c) 35-44
 - d) 45-54
 - e) 55-64
 - f) 65 or older
2. What is your gender?
 - a) Male
 - b) Female
 - c) Prefer not to say
3. What is your highest level of education?
 - a) High school diploma or less
 - b) Some college or associate degree
 - c) Bachelor's degree
 - d) Master's degree
 - e) Doctoral degree
4. What is your annual household income?
 - a) Less than \$25,000
 - b) \$25,000-\$49,999
 - c) \$50,000-\$74,999
 - d) \$75,000-\$99,999
 - e) \$100,000-\$149,999
 - f) \$150,000 or more
5. How much investment experience do you have?
 - a) None
 - b) Less than 1 year
 - c) 1-3 years
 - d) 3-5 years
 - e) 5-10 years
 - f) More than 10 years
6. Do you consider yourself financially literate?
 - a) Yes

- b) No
7. How often do you check the value of your investment portfolio?
 - a) Daily
 - b) Weekly
 - c) Monthly
 - d) Quarterly
 - e) Annually
 - f) Rarely/Never
8. Have you ever sold an investment that had decreased in value, only to later regret the decision?
 - a) Yes
 - b) No
9. How often do you trade investments?
 - a) Daily
 - b) Weekly
 - c) Monthly
 - d) Quarterly
 - e) Annually
 - f) Rarely/Never
10. Have you ever invested in a diversified portfolio?
 - a) Yes
 - b) No
11. Do you think regulatory policies, such as mandatory disclosure requirements or fiduciary standards, should be in place to protect investors?
 - a) Yes
 - b) No
 - c) Not sure
12. Have you ever used technology, such as robo-advisors or behavioural finance apps, to help you make investment decisions?
 - a) Yes
 - b) No
13. Do you believe technology can help mitigate cognitive biases when making investment decisions?
 - a) Yes
 - b) No
 - c) Not sure
14. Have you ever been influenced by cognitive biases when making investment decisions?
 - a) Yes
 - b) No
 - c) Other (please specify)

- a) Yes
 - b) No
 15. If you answered "yes" to question 14, which of the following cognitive biases have you exhibited in your investment decision-making?
 - a) Disposition effect
 - b) Overconfidence
 - c) Confirmation bias
 - d) Other (please specify)
- Thank you for participating in this survey.