Proceedings of the 4th International Conference on Business and Policy Studies
DOI: 10.54254/2754-1169/161/2025.19883

Analysis of Changes in Risk Preferences and Decision-Making of Individual Investors from the Perspective of Behavioral Finance

Lingfei Cai[1,a,*]

[1]*Department of Computer And Mathematical Sciences, University of Toronto, Scarborough, Toronto, Canada*
a. lingfei.cai@mail.utoronto.ca
**corresponding author*

Abstract: This study explores the changes in risk preferences of individual investors in response to market fluctuations from the perspective of behavioral finance, and its impact on investment decisions. It was found that individual investors' risk preferences are influenced by various psychological factors including overconfidence, anchoring effect, and loss aversion tendencies. Additionally, market volatility and changes in economic environments significantly affect investors' willingness to accept risks. Through analyzing investment behaviors under different risk preferences, this paper reveals strategies for optimizing investment decision-making processes through education, emotional management, and policy-making. Moreover, the study points out that enhancing market information transparency and innovating investment tools can effectively guide individual investors towards more rational investment choices.

Keywords: Behavioral finance, Risk preference, Investment decision, Market psychology, Individual investors.

1. Introduction

In today's increasingly complex global financial markets, the behavior patterns and underlying psychological mechanisms of individual investors have become a hot topic in financial research. Behavioral finance, as a discipline studying the irrational behaviors of the market and investors, provides a new perspective for explaining and predicting market phenomena. Particularly under the backdrop of economic globalization and the information age, the uncertainties of investment markets and risk management issues are especially prominent. The risk preferences and decision behaviors of individual investors play an indispensable role in the healthy development of the markets. This paper delves into the psychological behaviors of investors and market reactions to discuss how investors' risk preferences under different economic and market conditions affect their investment decisions, aiming to uncover the internal logic and rules of this process and thereby provide theoretical and practical references for investors and market regulators.

2. Basic Theoretical Overview of Behavioral Finance

Behavioral finance is a branch of finance that studies the psychological principles behind investor behavior and their impact on market phenomena. This field helps us understand how markets operate when rational economic models do not fully explain the behavior, and how investors make decisions in real market environments.

2.1. Definition and Development of Behavioral Finance

Behavioral finance originated in the 1970s when economists began to notice some illogical aspects of traditional financial theories, especially the irrational behavior of market participants. Integrating findings from psychology, sociology, and economics, this discipline attempts to explain how people are influenced by bounded rationality, emotional impacts, and social factors in making financial decisions. From initially focusing on individual behavioral biases to now exploring systemic anomalies at the market level, behavioral finance has gradually become an essential tool for explaining and predicting the dynamics of financial markets[1].

2.2. Main Theoretical Models and Their Applications

The main theoretical models in behavioral finance include Prospect Theory, Mental Accounting Theory, and Market Sentiment Theory.

Prospect Theory: Proposed by Kahneman and Tversky, this theory suggests that people exhibit different risk preferences when facing gains and losses, particularly showing more risk aversion when facing potential losses.

Mental Accounting Theory: Introduced by Richard Thaler, this theory explains how people categorize money into different "accounts," affecting their spending and investment decisions. For example, money earned from work might be considered differently from money won in a gamble, influencing attitudes and behaviors towards spending and investing.

Market Sentiment Theory: This theory focuses on how collective emotions of market participants influence market volatility. Emotional fluctuations can spread throughout the market, causing irrational price movements, particularly evident during financial crises.

These theoretical models have wide applications in practice, helping investors and market analysts better understand market fluctuations, predict future trends, and devise more effective investment strategies and financial policies. By studying these theories, investors can gain deeper insights into market psychology and behavioral biases, avoiding common investment pitfalls and enhancing investment efficiency and returns.

3. Formation and Changes in Individual Investors' Risk Preferences

The risk preference of individual investors is their level of acceptance of uncertain outcomes in investment decisions, and this preference is not static but influenced by various psychological and environmental factors, changing over time and contexts[2].

3.1. Psychological Factors Influencing Risk Preferences

Psychological factors play a central role in the formation of individual investors' risk preferences. Overconfidence leads investors to overestimate their judgment skills or the accuracy of the information they possess, resulting in a tendency to take on higher risks. The anchoring effect is seen when investors place too much emphasis on the initial information they receive, which acts as an "anchor" in their decision-making process, even if subsequent information indicates market changes. Additionally, the aversion to loss indicates that people's desire to avoid losses is greater than their

DOI: 10.54254/2754-1169/161/2025.19883

desire to achieve equivalent gains, leading investors to be overly cautious, or even hesitant to cut losses during unfavorable market conditions.

3.2. Economic Environment and Market Sentiment's Impact

Changes in the economic and market environments significantly impact individual investors' risk preferences. During economic expansions, when market expectations are generally positive, investors' risk tolerance tends to be higher. Conversely, in economic recessions, risk preferences typically decrease, and investors are more likely to choose safer investment channels. Increased market volatility can also trigger panic and uncertainty among investors, causing even those who are usually willing to take on higher risks to become more conservative.

By understanding these psychological and environmental factors, investors can better assess and comprehend their risk preferences, thereby adjusting their investment strategies accordingly. The combined effects of these factors shape investors' behavior patterns in various market conditions, profoundly influencing their investment decisions.

4. The Impact of Risk Preferences on Investment Decisions

Risk preference is a key factor for investors when facing investment opportunities and market fluctuations, influencing their choices of asset allocation, investment strategies, and reactions to market volatility[3].

4.1. Risk Preference and Asset Choice

Investors' risk preferences directly affect their choice of assets. Those with a higher risk tolerance tend to select assets with potentially higher returns but also greater risks, such as stocks or high-yield bonds. Conversely, those with lower risk preferences may invest more in bonds, money market funds, or other more stable assets, which although offer lower expected returns, also reduce potential capital losses.

4.2. Risk Preference and Investment Time Frame

Risk preference also impacts investors' time frames for investment. Generally, those willing to take more risks may seek short-term high returns, adjusting their portfolios more frequently to capitalize on market fluctuations. Risk-averse investors, on the other hand, tend to favor long-term investments, opting for projects expected to provide steady growth, thereby reducing the costs and risks associated with frequent trading.

4.3. Risk Preference and Adjustment of Investment Strategies

When market conditions change, investors' risk preferences determine how and to what extent they adjust their investment strategies. For example, during a market downturn, risk-tolerant investors might see an opportunity to buy, while risk-averse investors might choose to sell assets to protect their portfolios from further losses. This divergence in strategy adjustments reflects the different evaluations and reactions to risk and rewards by investors.

By understanding the impact of risk preferences on asset selection, investment timing, and strategy adjustments, investors can more rationally construct and modify their portfolios to suit their risk tolerance and market changes. This not only helps achieve financial goals but also maintains rationality and control amid market uncertainties[4].

DOI: 10.54254/2754-1169/161/2025.19883

5. Decision-Making Optimization Strategies from a Behavioral Finance Perspective

After understanding the influence of risk preferences on investment decisions, this section discusses how to use theories from behavioral finance to optimize the decision-making processes of individual investors. This includes enhancing education and information transparency, innovating investment tools and methods, managing investment emotions, and improving market regulation and policies.

5.1. The Impact of Education and Information Transparency on Decision-Making

Education and information transparency are crucial for helping investors understand market mechanisms, identify personal biases, and their potential impacts. Providing basic financial education and in-depth knowledge of behavioral finance allows investors to better understand and control psychological biases that typically mislead their decision-making. Additionally, ensuring the transparency of financial products and market information helps investors make more informed investment choices, avoiding errors due to information asymmetry or misleading information.

5.2. Innovation in Investment Tools and Methods

With technological advancements, new investment tools and methods continuously emerge, helping individual investors better manage risks and optimize their portfolios. For example, algorithm-based trading systems can assist investors in automating decision-making, reducing the impact of emotional fluctuations on trading. Furthermore, diversified investment strategies, such as investing in index funds, can help reduce and spread the risks associated with single investments[5].

5.3. The Role of Emotion Management and Psychological Counseling

Investment decisions are often influenced by investors' emotions, especially during highly volatile market conditions. Through psychological counseling and emotional management training, investors can learn how to identify and manage their emotional responses, such as fear and greed, which are crucial for avoiding impulsive decisions driven by extreme market emotions.

5.4. Policy Recommendations and Improving Market Regulations

Finally, policymakers and market regulatory bodies should consider the findings of behavioral finance in formulating and improving financial market policies and regulations. By establishing reasonable market entry and regulatory rules, it's possible to reduce unfair market practices, protect investors from unnecessary risks, and promote the healthy development of financial markets[6].

Through the implementation of these strategies, individual investors can not only manage and optimize their investment decisions more effectively but also contribute to enhancing the transparency and fairness of the entire market, further promoting the stability and healthy development of financial markets. The practical application and effects of these optimization strategies are expected to be more widely verified and promoted in the future practice of financial markets.

6. Conclusion

This paper, through the lens of behavioral finance, has deeply analyzed the formation and changes in individual investors' risk preferences and how these preferences influence their investment decisions. The study reveals significant impacts of psychological factors and market conditions on risk preferences, highlighting how investors adjust their investment strategies to accommodate changes in risk preferences under different market conditions. By optimizing educational resources,

DOI: 10.54254/2754-1169/161/2025.19883

innovating investment tools, effectively managing emotions, and improving market regulatory policies, investors can more rationally face market fluctuations and make more scientifically informed investment decisions. This research underscores the importance of understanding and applying behavioral finance in promoting the overall health and stability of individuals and markets, with hopes for further exploration of its applications in the real world in the future.

References

[1] Ombajo A L ,Penner J ,Nkuranga J , et al. Change in Blood Pressure, Weight, and Other Cardiovascular Disease Risk Factors After Switch From Protease Inhibitors to Dolutegravir: Post hoc Analysis of the 48-week Randomised Second-line Switch to Dolutegravir Trial. [J]. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 2024,

[2] Benza L R ,Chin M K ,Gaine S , et al. Changes in REVEAL Lite 2 risk status are associated with long-term outcomes in patients with pulmonary arterial hypertension: a post-hoc analysis of the GRIPHON study. [J]. The Journal of heart and lung transplantation : the official publication of the International Society for Heart Transplantation, 2024, 43 (12): 1998-2007.

[3] Iyer D R ,Ramachandran K ,Palaninathan P , et al. Neuromonitoring Signal Changes in Degenerative Cervical Myelopathy - An analysis of risk factors for signal drops during posterior cervical decompression. [J]. World neurosurgery, 2024, 190 e17-e25.

[4] Murshidi R ,Hamad B S ,Refaei A A , et al. A novel predictive method for risk stratification in acne patients receiving isotretinoin: an analysis of laboratory abnormalities and changes in inflammatory parameters. [J]. The Journal of dermatological treatment, 2024, 35 (1): 2301435-2301435.

[5] Benn C ,Loggereneberg V D ,Ngwisanyi W . Analysis of the change in surgical procedure preference over a 6-year period from a single accredited unit in South Africa [J]. European Journal of Surgical Oncology, 2024, 50 (2): 107453-.

[6] Sui Z . Analysis of risk factors and changes in myocardial biomarker levels in 122 cases of early neonatal anemia. [J]. Turkish journal of medical sciences, 2024, 54 (1): 275-279.