

How Psychological Biases Affect Investment Decisions: An Analysis of Loss Aversion and the Endowment Effect

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Abstract. This study explores how loss aversion and the endowment effect affect investment decisions. When investors experience losses, they often continue to hold depreciating assets due to loss aversion, which ultimately reduces investment efficiency; while the endowment effect causes investors to overestimate the value of their assets, affecting reasonable transactions. This paper uses behavioral economics theory combined with case analysis to deeply explore the formation of psychological biases and their specific impact on investment decisions. Through case analysis and behavioral economics theory, this study reveals the influence mechanism of these psychological biases and proposes behavioral optimization strategies, including stop loss and portfolio diversification, to reduce the risk of irrational decisions. In addition, this study recommends that investors obtain educational resources through financial institutions to improve investors' awareness of psychological biases and improve market transaction efficiency through pricing transparency. The innovation of this study is to combine behavioral economics with actual investment cases to provide more operational optimization suggestions to promote more rational and efficient investment decisions.

Keywords: Loss Aversion, Endowment Effect, Behavioral Finance, Investment Decision-Making.

1. Introduction

In the investment market, investors' decisions are often influenced by rational analysis and are also disturbed by psychological biases [1]. Among them, loss aversion and endowment effect are two common behavioral biases that lead investors to make irrational investment choices. For example, some investors will stubbornly hold on to losing assets after the stock price falls, instead of stopping losses in time; other investors may refuse to accept reasonable selling offers because of their emotional dependence on the stock assets they hold, believing that the value is far more than that. These psychological biases lead to inefficient investment decisions, thereby affecting the return on investment.

This study aims to explore the specific manifestations of loss aversion and endowment effect in investment decisions and analyze their influence mechanisms in combination with behavioral economics theory. Through case studies, we will reveal how investors make irrational decisions due to these adverse psychological factors and explore how to reduce the impact of these biases through behavioral optimization strategies, thereby improving investment efficiency.

2. Loss Aversion in Investment Decisions

2.1. Loss Aversion in Investment Decisions

When investors buy stocks, they assess the rationality of the stock's risk based on their expectations of future returns. If the stock price rises, investors tend to use the purchase price as a reference, making the stock's value tend to be on the risk-averse side in their decision framework. This means that investors are more inclined to continue holding the stock because its growth is in line with initial expectations. However, if the investor lowers her expectations for the stock's return, she may choose to sell the stock.

Conversely, when the stock price falls, its value is in the risk-averse area in the investor's decision framework. In this case, the investor may still hold the stock even if its expected return is lower than

when it was initially purchased. This suggests that investors' beliefs about the stock's future returns need to be further reduced before they will eventually sell the losing stock rather than the appreciated stock [2].

2.2. Theoretical Analysis

2.2.1 Loss aversion and Status quo

Loss aversion refers to a person's extreme aversion to losses, and his unwillingness to accept losses. It is also an extreme fear of loss, which leads to deviant behavior. Excessive rejection of risks that may cause harm. Its variable indicators are losses on investments and caution about losses [3]. When faced with uncertainty and potential losses, people tend to maintain the status quo and postpone or avoid making decisions that could result in greater losses. This tendency is called the status quo bias [4].

In this case, status quo bias and loss aversion work together in investment decisions. The investor found that the stock price fell, and he was unwilling to accept the loss. When faced with losses, other investors tend to hold on to the losing assets instead of stopping losses in time, hoping that prices will rebound and avoid actual losses.

2.2.2 Overconfidence

The value of the securities market is affected by the psychological factors of investors, and it is these psychological biases that largely determine the volatility of the market. Many studies have shown through empirical analysis that the volatility of market prices is closely related to the self-confidence of investors. In the stock market, overconfidence makes investors believe that they have enough understanding of market trends and can accurately predict future fluctuations. Daniel and Ho and Hung showed that there are two types of investors in the financial market: one is investors who have private information and may be overconfident; the other is investors who mainly rely on public information and maintain rational decision-making. Studies have found that overconfident investors tend to overestimate the accuracy of their own information, leading to irrational transactions. De Bondt and Thaler were one of the first scholars to conduct empirical research on the phenomenon of stock price overreaction. They found that in the long run, the performance of loss-making portfolios often outperformed the performance of profit-making portfolios, even by 25% [5].

In this case, overconfident investors tend to overestimate their ability to judge the market or stocks, and believe that they can accurately predict the trend of stock prices. They may think that the current stock price drop is only temporary, and believe that their judgment of the stock value is correct and that the stock price will definitely rise in the future, so they choose to continue holding the stock instead of stopping losses in time. That is, the overconfident mentality makes investors ignore market risks and the possibility of further losses.

2.3. Behavior Optimization

2.3.1 Stop-loss strategy

Stop-loss strategy is a widely used technique in money management. Stop-loss is used to protect the gains already made and prevent further losses in investment. For independent traders, stop-loss orders are usually set at key chart points to avoid major losses. Many large financial companies also set "stop-loss" limits on investments, which clearly define the maximum loss range allowed by the exchange. Once the loss reaches the preset range, the investment must be liquidated. These stop-loss limits are usually calculated in a retrospective manner and apply to specific time periods, such as a single day, a single month or a year's cumulative losses. In addition, some investment products also have stop-loss mechanisms, such as guaranteed return products, where once the asset loss exceeds the risk-free rate, the transaction will be terminated [6].

2.3.2 Portfolio Diversification

From a financial perspective, a portfolio is a collection of different types of investments, that is, a combination of different financial types held by investors. Building a securities portfolio is an important part of a diversified investment strategy. Its main goal is to minimize the overall risk of the portfolio while maintaining the expected return. A direct way to achieve risk diversification is to allocate a portion of assets to risk-free assets, thereby effectively reducing the overall variance of the portfolio and improving the stability of the portfolio [7].

Unsophisticated investors have obvious information overload. They have low education and financial literacy and are unable to improve their portfolio returns by diversifying their portfolios from publicly available or accessible information. Therefore, these investors should avoid information overload (i.e., concentrated holdings rather than diversified holdings). In contrast, mature investors do not have information overload. They can benefit from diversifying their risks among diversified investors.

3. Endowment Effect in Second-Hand Market Trading

3.1. Case Description

With the continuous development of the Internet in modern society, more and more people tend to buy and sell online. The COVID-19 pandemic has further strengthened this trend, with more and more consumers preferring to buy low-cost goods. Among those who frequently participate in online consumer-to-consumer (C2C) transactions, international students are a particularly active group. They are usually unfamiliar with local brands and seek affordable options, so they use second-hand goods as a cost-effective alternative.

C2C transactions are usually conducted through official platforms, such as eBay or Taobao, or informal channels, including WeChat and other social networking applications. However, in these peer-to-peer transactions, it can be challenging to determine and establish the price of second-hand products because it is largely based on personal opinions rather than established market values. Pricing negotiations remain a key point of contention between buyers and sellers.

When buying second-hand goods, consumers generally prefer medium to high-quality goods because they aim to strike a balance between price and availability, which is also known as value for money. Given that buyers are naturally averse to losses and the items have been used, they expect prices to be lower than new products. However, sellers may have a different view when it comes to pricing. While it's generally accepted that used items should be priced lower than new ones, sellers — especially those with emotional attachment to their items — may overestimate the value of their items and set a price higher than buyers are willing to pay [8].

3.2. Theoretical Analysis

The endowment effect refers to the tendency for people to place a higher value on a good when they own it than on those who do not [9]. This phenomenon is also known as the gap between willingness to pay (WTP) and willingness to accept (WTA). In other words, the highest price a buyer is willing to pay is usually lower than the lowest price a seller is willing to accept, creating a pricing bias.

The endowment effect reflects people's subjective perception of the value of goods during decision-making and provides important insights into preference formation and behavior patterns. Due to the prevalence of this effect, it plays a key role in many fields, including economics, psychology, and marketing. For example, in market transactions, consumers tend to prefer to keep existing goods rather than sell them at market prices, even if this is not the best decision [8].

3.3. Behavioral optimization

One solution to mitigate pricing disputes in transactions is to establish a communication "bridge" that fosters mutual understanding between buyers and sellers [10]. A practical approach to achieving this is by incorporating transparency in pricing structures. For instance, sellers could provide a visual breakdown of the product's price composition in the form of a pie chart, illustrating key cost components—such as 50% allocated to manufacturing and production, 20% attributed to after-sales services, and so on. By engaging in this process, buyers gain insight into how the final price is determined, potentially increasing their willingness to accept the stated price.

More importantly, this strategy also benefits sellers by encouraging them to critically assess whether their pricing is reasonable and justified, thereby reducing the likelihood of overpricing. From the buyer's perspective, providing structured feedback mechanisms, such as questionnaires or surveys, allows customers to express their views on pricing. This enables sellers to understand whether their prices align with market expectations and identify potential reasons for perceived overpricing [8].

4. Conclusion

This study provides insights into psychological biases in economic decision making (specifically, loss aversion and the endowment effect) and their impact on investment decisions. By analyzing these behavioral tendencies, the study highlights that investors often make irrational choices that reduce investment efficiency. Loss aversion leads to excessive risk aversion, causing investors to hold depreciating assets for a long time, while the endowment effect leads to overvaluation of owned assets, especially in the secondary market.

To mitigate these biases, various behavioral optimization strategies are explored. Investors can manage risk more effectively through stop-loss mechanisms and portfolio diversification. In addition, improving pricing transparency through structured communication (e.g., visual cost breakdown and buyer feedback) can bridge the gap between perceived value and actual value in transactions.

From a policy perspective, financial institutions and online marketplaces can introduce tools to promote rational decision making. Educational initiatives to improve financial literacy may also help investors identify and counteract cognitive biases. However, this study also has certain limitations, such as its reliance on theoretical analysis and case studies rather than large-scale empirical data. Future research can combine experimental and quantitative methods to measure the real-world impact of these biases and test the effectiveness of intervention strategies in various market settings.

By gaining a deeper understanding of these psychological tendencies, investors and policymakers alike can develop more effective strategies to improve decision-making, ultimately promoting more rational and efficient investing in financial markets.

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