

Research on Individual Investor's Decision-Making Behavior Based on Behavioral Finance

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Abstract. This paper focuses on the decision-making behavior of individual investors from the perspective of behavioral finance. Through in-depth discussion of various psychological biases and cognitive limitations in behavioral finance, such as overconfidence, loss aversion, herd psychology, etc., this paper analyzes how these factors affect individual investors' information processing, risk cognition and preference, investment strategy selection and other aspects in the investment decision-making process. Combined with actual cases and relevant research data, this paper reveals the characteristics and rules of individual investors' decision-making behaviors, and puts forward corresponding education and guidance strategies, aiming to help individual investors improve the rationality of decision-making, enhance investment performance, and provide theoretical basis and practical reference for the stable and healthy development of the financial market.

Key words: Behavioral Finance; Individual Investors; Decision-Making Behavior; Psychological Bias.

1. Introduction

In the financial market, individual investors are important participants, whose decision-making behavior has a profound impact on investment performance and market operation. Based on the assumption of rational man, traditional financial theory holds that investors can accurately acquire and process information and make optimal decisions between risk and return. However, individual investors in reality often show various irrational behaviors, which are difficult to be explained by traditional financial theories. Since the 1980s, behavioral finance based on market inefficiency and social human beings has developed rapidly, and more and

more researchers have turned their attention to behavioral finance [1]. Different from traditional finance, which assumes and bases on absolute rationality and efficient market, behavioral finance takes bounded rationality as its assumption and integrates traditional finance, psychology, sociology and other disciplines for research [2]. Behavioral finance is a hot topic in international financial circles in recent years. It systematically studies investors' investment decision-making behavior under irrational assumptions and its impact on asset pricing [3]. Behavioral finance theory can be used to empirically test the cognitive, psychological and behavioral biases of investors under uncertain conditions, analyze the trading process of investors, abnormal market fluctuations and the linkage reaction between markets, find the real evidence of "irrationality" of market investors, and analyze the causes and effects [4]. The rise of behavioral finance provides a new perspective for the study of individual investors' decision-making behavior. It integrates multi-disciplinary knowledge such as psychology and sociology into finance to deeply explore the psychological deviations and cognitive limitations of investors in the decision-making process, so as to more truly reflect the actual behavior of investors.

2. Theoretical Basis of Behavioral Finance

2.1 Psychological Theory

Behavioral finance is a science that studies financial issues by applying the research results of psychology and decision science. It studies how human cognitive defects systematically affect investment decisions, thus causing investment behaviors to deviate from rational decisions, and analyzes the impact of investors' investment behaviors on financial markets [5].

2.2 Prospect Theory

Prospect theory is one of the important

theoretical cornerblocks of behavioral finance. In 1979, two Israeli psychologists, Daniel Kahneman and Amos Tversky, proposed that people systematically violate the predictions of expected utility theory in laboratory Settings and proposed a new model that can correctly capture people's risk attitudes. It is called the "prospect theory" model [6]. Subsequently, Tversky and Kahneman modified it to a cumulative prospect theory [7], extending it from being applicable to two-element outcomes to multivariate outcomes. According to this theory, investors do not seek to maximize expected utility as assumed in traditional finance when facing risk decisions, but evaluate decision results based on value function and weight function. The prospect theory assumes that investors have loss aversion and reference point dependence preference, and overestimates the probability of tail events [8]. The value function presents different forms in the return and loss regions, investors show risk aversion in the return, and risk appetite in the loss. The weight function reflects the subjective feelings of investors on different probability events, often overestimating small probability events and underestimating large probability events. For example, in stock investment, investors may sell profitable stocks prematurely for fear of losing existing profits (risk aversion), but when faced with stock losses, they are more inclined to hold losing stocks in the hope that the stock price will rebound (risk appetite).

2.3 Psychological Bias and Cognitive Limitations

Individual investors are often overconfident in their own investment ability and judgment. They tend to overestimate the accuracy and completeness of the information they have, believing that they can predict stock price movements better than the market average. Overconfidence leads investors to trade frequently because they believe they can seize every investment opportunity. For example, some investors, after a simple study of a certain stock, firmly believe in their own judgment and buy or sell in large quantities, ignoring the complexity and uncertainty of the market. Loss aversion means that investors are much more sensitive to losses than to equivalent gains. On average, investors experience about twice as much pain when they suffer a loss as they do pleasure when they earn an equivalent gain. This psychological deviation makes investors try their

best to avoid losses in investment decisions and often take some irrational behaviors. For example, in order to avoid recognizing losses, investors may hold on to losing stocks for a long time, miss the best time to cut their losses, or even add to their positions when the stock price falls further, hoping to spread the cost.

At the same time, herd mentality is prevalent among individual investors, also known as herd effect. Investors tend to be influenced by the behavior of other investors and follow the investment decisions of the public, without considering their own information and independent judgment. When the market has a hot sector or a stock is popular with a large number of investors, other investors may blindly follow the trend and buy, fearing that they will miss the opportunity to make money. This herd behavior can lead to excessive volatility in stock prices, creating asset bubbles or market panics. For example, in some emerging concept stock hype, a large number of individual investors, without in-depth understanding of the company's fundamentals, simply because they see other investors rushing to buy, end up suffering losses when the concept ebb.

3. Empirical Analysis of Individual Investors' Decision-Making Behavior

3.1 Deviation Between Information Processing and Decision Making

In the information age, individual investors are faced with a huge amount of financial information, including macroeconomic data, corporate financial statements, industry research reports, stock reviews and recommendations. However, the information processing capacity of investors is limited, and information overload often occurs. In this case, investors may be selective based on their preferences and preconceptions, focusing only on information that supports their views and ignoring or downplaying information that contradicts their views. For example, an investor who is bullish on a stock may focus only on positive news about the company and buy recommendations from analysts, while ignoring potential risk factors such as increased industry competition and corporate governance issues.

Individual investors often rely too much on rules of thumb in their decision-making process, rather than rigorous analysis and reasoning. These rules of thumb may be valid in some

circumstances, but in a complex and volatile financial market environment, they often lead to decision-making biases. For example, an investor may predict the future price of a stock based on its past price movements, believing that history will repeat itself. If a stock has continued to rise in the past period of time, investors may buy blindly simply thinking that it will continue to rise, without considering that the stock price may have been overvalued and market conditions may have changed.

3.2 Irrational Performance of Risk Perception and Preference

Loss avoidance and profit avoidance is one of the universal characteristics of human behavior, but in economic activities and investment behaviors, there are different characteristics of risk preference and risk avoidance [9]. Individual investors' perception of risk is often subjective and influenced by many factors, such as personal investment experience, wealth status, personality characteristics and so on. Unlike traditional financial theory, which uses objective indicators such as standard difference to measure risk, investors may have excessive fear or optimism about certain investment products or market conditions, thus affecting their risk perception. For example, some investors may develop an undue fear of similar investment opportunities because they have suffered significant losses in a particular market environment, even if the level of risk of the investment opportunity is reasonable based on objective risk indicators.

People's motivation is mainly to avoid loss, not so much to hate uncertainty, people hate loss, because the loss is always more prominent than the gain and feel more intense [10]. The risk appetite of individual investors is not fixed, but will change dynamically with changes in the market environment and investment results. When markets are good, investors may become more optimistic and adventurous, increasing investment leverage and increasing portfolio exposure; In a bad market, investors may become overly conservative and rush to redeem investment products, resulting in tight market liquidity. This dynamic change in risk appetite is often closely related to investors' psychological biases, such as overconfidence will further enhance investors' risk-taking spirit when the market rises, while loss aversion will prompt investors to adopt more conservative strategies

when the market falls.

3.3 Irrational Behavior of Investment Strategy Selection

Individual investors tend to overtrade due to psychological biases such as overconfidence. Studies have shown that investors who trade frequently tend to earn lower average returns than the market average, and even lose money after trading costs are deducted. Excessive trading not only increases the transaction costs of investors, but also reduces the long-term performance of portfolios, because investors are more susceptible to short-term fluctuations in the market and make wrong decisions during frequent buying and selling.

Individual investors also often behave irrationally when it comes to asset allocation. They may become overly concentrated in one asset class, such as stocks or real estate, and ignore the principle of diversification in their portfolio. This kind of concentrated investment strategy will expose investors to large risk exposure in the market fluctuations, and investors may suffer serious loss of wealth once the market moves unfavorably. For example, some investors put most of their money into stocks during the bull market of the stock market, without allocating a certain proportion of low-risk assets such as bonds and cash, and when the stock market turns into a bear market, the value of the portfolio is greatly reduced.

4. External Factors Affecting Individual Investors' Decision-Making Behavior

4.1 Financial Market Environment

The volatility of the financial market has a significant impact on the decision-making behavior of individual investors. Higher market volatility increases investors' sense of uncertainty and anxiety, which leads to more irrational decisions. In times of market volatility, investors may sell stocks excessively out of fear, or blindly chase gains and losses out of greed. For example, during the financial crisis, the global stock market fell sharply, and many individual investors, unable to bear the huge fluctuations in the market, sold their stocks in panic, leading to further declines in the market, forming a vicious circle.

There is a serious information asymmetry in the financial market. Professional investors and institutional investors often have more

information resources and analytical ability, while individual investors are at a disadvantage in information acquisition and interpretation. This information asymmetry makes it easier for individual investors to be misled and deceived and make wrong decisions. For example, some bad listed companies may conceal important negative information, release false financial statements, and individual investors will buy the company's shares without knowing it and eventually suffer losses.

4.2 Social and Cultural Factors

Public opinion and media reports play an important role in guiding the decision-making behavior of individual investors. Media hype about certain stocks or investment opportunities may attract the attention of a large number of individual investors and follow suit. For example, when the media reports that an emerging technology stock has great potential, many individual investors may buy blindly without fully understanding the fundamentals of the company. In addition, the evaluation of investment success or failure by public opinion will also affect investors' psychology and decision-making. If everyone around you is talking about the experience of making money investing in stocks, it may inspire more people to participate in stocks and ignore the risks involved.

Different cultural backgrounds will shape different investment concepts and behavior patterns. In some cultures, people tend to invest more conservatively and value assets. In other cultures, people may be more adventurous, pursuing high-risk, high-return investment opportunities. For example, in some Western countries, individual investors have high participation in the stock market and diversified investment concepts. In some Asian countries, real estate investment often occupies a large proportion of personal investment portfolios, and people pay more attention to the function of real estate preservation and appreciation.

5. Suggestions for Improving the Decision-Making Behavior of Individual Investors

5.1 Strengthen Investor Education

Through various forms of investor education activities, such as online and offline lectures, training courses, investment books, etc., to

International Conference on Advanced Technology and Social Sciences (ATSS 2025)

popularize the basic knowledge of financial markets, investment tools and strategies, risk management and other knowledge to individual investors. Only with solid financial knowledge can investors better understand the operation laws of the financial market, improve information processing ability, and reduce blindness in the decision-making process. For example, hold lectures on stock investment analysis methods to introduce investors to common analytical tools such as fundamental analysis and technical analysis, and help investors learn how to evaluate the intrinsic value of stocks and market trends.

Investor education should focus on cultivating individual investors' risk awareness, so that investors fully understand the various risks in the investment process, including market risk, credit risk, liquidity risk, etc. Through case analysis, simulated investment and other ways, let investors experience the impact of risk, so as to treat risk more carefully in decision-making. For example, investors are organized to participate in a simulated stock investment competition, and various risk events are set in the process of the competition, such as sudden market decline and sudden bad news of the company, so that investors can learn how to deal with risks and adjust investment strategies.

5.2 Optimize the Financial Market Environment

The regulatory authorities should strengthen the supervision of information disclosure of listed companies and financial institutions and improve the quality and transparency of information disclosure. Listed companies are required to disclose financial information, operating conditions and major matters in a timely, accurate and complete manner to reduce information asymmetry and provide a fairer investment environment for individual investors. For example, regulators can formulate more stringent information disclosure formats and standards, impose severe penalties on companies that disclose information in violation of regulations, and increase their illegal costs.

Regulatory authorities can stabilize financial market volatility through macro-control policies, market supervision measures and other means. For example, when the market is overheated, we should take measures such as tightening monetary policy and strengthening supervision to restrain the formation of market bubbles.

When the market is in a downturn, loose monetary policy and rescue policies are adopted to enhance market confidence and avoid excessive market panic. By stabilizing market fluctuations, investors can reduce irrational decision-making behaviors caused by violent market fluctuations.

5.3 Guide Investors to Self-Cognition and Psychological Adjustment

Individual investors should strengthen self-awareness training, understand their investment objectives, risk tolerance, investment experience, etc., to avoid blindly following the trend and overconfidence. Investors can deeply understand their own investment characteristics by filling in risk assessment questionnaires and reviewing their own investment experience, so as to formulate an investment plan that is more in line with their actual situation. For example, before investing in stocks, investors should first evaluate their risk tolerance. If they are risk-averse investors, they should appropriately reduce the proportion of investment in high-risk stocks and increase the allocation of low-risk assets.

In the process of investment, investors should learn to adjust psychologically and keep calm and rational. When facing investment losses or market fluctuations, appropriate psychological adjustment methods are adopted, such as deep breathing, shifting attention, seeking professional psychological counseling, etc., to alleviate anxiety and fear, and avoid making wrong decisions due to emotional loss. For example, when investors lose money on stock investments, they can temporarily stop paying attention to the market, do something they like, relax, and re-examine the investment strategy after their emotions are stable.

6. Conclusion

Based on the theoretical framework of behavioral finance, this paper deeply studies the decision-making behavior of individual investors. Through the explanation of the relevant theories of behavioral finance, this paper analyzes various psychological biases and cognitive limitations of individual investors in the decision-making process, such as overconfidence, loss aversion, herd psychology, etc., and how these factors affect investors' information processing, risk cognition and preference, and investment strategy selection.

Combined with the empirical analysis and the discussion of external factors, this paper reveals the complexity and irrational characteristics of individual investors' decision-making behavior. On this basis, some suggestions are put forward to improve individual investors' decision-making behavior, such as strengthening investor education, optimizing financial market environment, guiding investors' self-cognition and psychological adjustment.

Future research on the decision-making behavior of individual investors can be further expanded from the following aspects. First, in-depth research on the differences in decision-making behaviors of investor groups of different ages, genders, educational backgrounds, etc., in order to provide more personalized investor education and investment advice. The second is to combine behavioral finance with emerging technologies such as artificial intelligence and big data to explore how these technologies can be used to better identify and correct investors' irrational behavior. For example, by analyzing the trading behavior pattern of investors through big data, the psychological deviation of investors is found in time, and personalized investment decision AIDS are provided. The third is to study the impact of international financial market fluctuations, cultural differences and other factors on individual investors' decision-making behavior in the context of global financial market integration, so as to provide more comprehensive decision-making reference for investors in cross-market investment. Through continuous in-depth research, we can further improve the theoretical system of behavioral finance, improve the decision-making rationality of individual investors, and promote the stability and healthy development of financial markets.

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