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A Study of the Relationship Between Investor Expectation and Behavioral Decision-Making

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Abstract: This study, situated within the behavioral finance framework, systematically investigates the psychological biases investors exhibit and their consequential impact on the dynamics of securities markets. Beyond conventional analyses rooted in intrinsic value assessments, this research posits that the collective behaviors of investors profoundly shape market prices. A crucial component of this examination lies in unraveling the intricate interplay between decision-making psychological biases and the resultant biases in investment behavior. As behavioral finance contends, these biases manifest a significant causal relationship, thereby influencing the trajectory of securities prices. Furthermore, the study delves into the multifaceted factors that underpin fluctuations in securities market prices, elucidating the intricate web of influences beyond intrinsic values. In this comprehensive exploration, the interdependence of investment behavior and the broader health of the stock market emerges as a pivotal focal point. The findings underscore the symbiotic relationship between investor conduct and market dynamics, emphasizing the imperative role played by investor sentiment and decision-making in shaping the overall trajectory of financial markets. In light of these insights, the study advances tailored investment recommendations, aligning with both investor perspectives and the evolving landscape of the stock market. This research contributes to a nuanced understanding of market dynamics by integrating behavioral insights into traditional financial analyses. It offers practical guidance for investors navigating the intricate intersection of psychological biases and investment strategies.

Keywords: Behavioral Finance, Loss Aversion, Market Anomalies, Framing Effects, Endowment Effect

1. Introduction

This paper examines the impact of common cognitive and decision-making biases in daily life on investment behavior from the perspective of judgment and decision-making psychology and through psychological research methods, especially combining personal background variables to gain a deeper understanding of the link between individual cognitive processes and investment decision-making processes; at the same time, it introduces different situational variables to examine what changes occur in the investment risk preferences of investors under the effect of multiple situational factors. The study also introduces different contextual variables to examine changes in investors' investment risk preferences under the effect of various contextual factors.

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According to the principle of structural equation and theoretical assumptions, cognitive bias is set as an exogenous latent variable. Investment behavioral bias is set as an endogenous latent variable, and then the theoretical model is established. According to the results of empirical research on the factors affecting investors' investment behavior bias, the hypothesis of this study is basically valid, that is, decision-making psychological bias and personal background impact investors' irrational investment behavior, i.e., investment behavior bias.

The manifestations of decision-making psychological bias are nine in total in the original hypothesis. Still, after the test of structural equation modeling, it is found that seven of them have significant influences, which are representativeness, intuition, availability intuition, gambler's fallacy, anchoring and adjusting, framing bias, conservatism, and attributional bias. Among the three most influential factors, "attributional bias", "gambler's fallacy", and "anchoring and adjustment" increased in the order of their influence. In comparison, "representativeness bias" increased in the order of their influence among the three least influential factors. In comparison, "representativeness bias" increased in the order of their influence among the three least influential factors. Among the three least influential factors, "representativeness bias" increased in the order of their influence. Among the three factors with the least influence, "representativeness intuition", "availability intuition," and "framing bias" have a decreasing influence. This suggests that among the cognitive biases that cause investors' irrational behavior in stock investment, anchoring on the price of past experience, misjudging the probability of an event occurring, and erroneous attribution patterns are the most likely to trigger some investment behavioral biases.

Investors' decision-making psychological bias affects investment behavior bias, and there is a significant causal relationship between decision-making psychological bias and seven factors, such as representative intuition, and investment behavior bias has a significant causal relationship with six factors, such as ambiguity aversion. The influence of personal background on investment behavior bias is slightly smaller than that of psychological decision-making bias. Still, there is a correlation between personal background and psychological decision-making bias [1].

Investment is a kind of conscious economic behavior regulated and controlled by people's psychological consciousness. Investment decision motives, investment return expectations, investment risk avoidance, and other issues are the specific embodiments of people's psychological activities in investment. Various economic variables are the necessary conditions for the emergence of investor behavior. Still, they are only with the joint role of the psychological factors inherent in the investor to enable investors to produce investment behavior. The joint role of the investor group behavior ultimately transformed into a force that shapes the market.

The traditional financial theory is that under the efficient market, investors are rational. In the real investment environment, there are a variety of psychological behavioral biases. The reality of the stock market investment environment in individual investors' investment behavior and the stock market's healthy development are closely related [2].

Actively promote the legalization and institutionalization of investment subjects. Compared with individual investors, institutional investors have a variety of advantages such as strong capital, sufficient information, large platform advantages, sufficient professional knowledge, stable style, leading concepts, strong understanding of policy, easy to track, and team operation. In addition, institutional investors can actively participate in the competition to control the company, to a certain extent, changing the investor structure of China's dominant share and having a pivotal role in corporate governance performance. Institutional investors can also play a social role in smoothing out market volatility and maintaining market stability.

Further attract foreign institutional investors to enter China's stock market. Economic globalization and investment globalization are unstoppable trends and important opportunities for China's development. China can learn from the advanced experience of attracting foreign institutional

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investors and from foreign advanced investment concepts and methods per the objective growth laws of the completely closed stage, the preparatory open stage, the open transition stage, and the open mature stage.

Investor psychology and behavior will affect the price decisions and changes in the securities market. Behavioral finance that the market price of securities is not only determined by the intrinsic value of securities but also, to a large extent, by the main body of the investor's behavior, that is, the investor's psychology and behavior on the securities market price decision and its changes have a significant impact. In the real investment environment, there are a variety of psychological, and behavioral biases, decision-making psychological biases, and representative intuition. The other 7 factors have a significant causal relationship, investment behavioral bias and fuzzy aversion, and the other 6 factors have a significant causal relationship. The investment behavior of individual investors in the real stock market investment environment is closely related to the healthy development of the stock market.

2. Loss Aversion

In behavioral finance, loss aversion is used to describe the investor's investment decisions in accordance with the "balance" of his psychological account. In the adjustment of the asset structure, people tend to sell some of the portfolio "profit" varieties while still leaving "loss" varieties of investment behavior. The "behavioral economics of expectations theory" of the core concept reveals that people are "loss aversion".

The theory of expectations is the most successful aspect of Kahneman's application of psychology to modern economics. Kahneman and his collaborator, Tversky, showed that in most cases, people estimate the value of what they lose to be twice as high as the value of what they gain. Human decision-making under conditions of uncertainty will always be measured against one's own perspective or reference point as a way of determining the trade-offs of a decision that depends not on the outcome itself but on the gap between the outcome and the vision.

Around this reference point, the negative effect caused by a certain amount of loss is greater than the positive effect caused by the same amount of wins. In other words, once people go beyond a certain reference point, the pain of losses tends to be greater than the satisfaction of gains for the same number of losses and gains. This is the core idea of the "behavioral economics theory of expectations".

Loss aversion is the psychological feeling caused by a certain number of losses, which is about twice as strong as the feeling caused by an equal amount of gains. The "number of courses" refers to the number of processes through which a loss or gain is experienced. A multi-ego model of dynamic loss aversion is developed to explore the dynamics of consumer consumption in a calibrated general equilibrium, where utility depends on feelings of gain or loss relative to their reference expectation [3].

Traditionally, in experimental situations, the psychological feeling of gain is one-way, experiencing the feeling of going from nothing to something. In contrast, the psychological feeling of loss is two-way: experiencing the feeling of going from nothing to something and the feeling of going from something to nothing. This study suggests that the feelings of loss are more intense than the feelings of gain because the loss experiences one more ride of psychological feelings than the gain [4].

Unlike the traditional research model, which directly compares the feeling of two-way loss with the feeling of one-way gain, the experimental part of the study designed three different loss and gain situations, which are the mirror situation with equal numbers of loss and gain, the comparison situation between the feeling of one-way loss and the feeling of two-way gain, and the feeling of three-way gain situation. Based on the results of the experiment, it was found that the loss aversion phenomenon disappeared. In some cases, the opposite result even occurred, confirming that the

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number of loss or gain trips indeed affects loss aversion. The second part of the experiment further verified that loss aversion arises from the difference in the number of strokes leading to the difference in the degree of psychological feeling from the perspective of psychological feeling, directly using the scale-free line and grip strength. Finally, how to predict and control the dissonance caused by aversion to loss, starting from the number of programs lost or gained, is explored [4].

Thus, when people face the same number of gains and losses, they usually perceive losses as more unbearable to them. As a result of loss aversion, people tend to be biased in their decision making, leading to much greater consideration of loss avoidance than benefit pursuit.

3. Market Anomalies

3.1. Momentum

market anomalies are a violation of efficient market theory. Prospect theory's ability to explain market anomalies is largely driven by loss aversion and reduced sensitivity [5]. The challenge to efficient market theory comes from some unexplained market anomalies that indicate market inefficiency. Anomalies can exist in any form of efficient market, but more often than not, they are found in semi-strong markets.

There are significant differences in the direction and strength of the influence of heterogeneous institutional investors on market anomalies. Different studies have pointed out the impact of differences in the categories of institutional investors on the differentiation of their investment behaviors and styles. Since the sources of capital, investment philosophy, position structure, investment strategy, etc., are different, the investment behaviors are also significantly differentiated, and the impact of changes in stock holdings on the stock market is not the same.

There are obvious differences in the direction and strength of the influence of heterogeneous institutional investors on market anomalies. Surprisingly, insurance companies are more likely to contribute to the anomalies through their large holdings of stocks with large total assets. By comparing the impact of institutional investors' holdings and trading volume on the four types of market anomalies, it is found that institutional holdings are a better measure of market anomalies [6].

3.2. Reversal

The direction of stock market volatility shows significant "policy dependence". The Chinese stock market has had ups and downs since its inception, and policy factors often trigger drastic changes in the market. At the same time, the direction of stock market volatility shows a significant "policy dependence", with a clear direction of policy adjustments can bring the market abnormal fluctuations in line with expectations, in which the positive intervention of the adjustment of the transaction tax is greater than the negative intervention. The positive intervention of the major policy events is less than the negative intervention [7].

By analyzing the policy factors, it is found that policies do have a greater impact on the short-term volatility of the market. At the same time, it is difficult to grasp how long and how strong the policy affects the market. And conversely, there are times when the market turns around without necessarily having a policy driving it.

By examining the market's overall volatility, the factors that produce greater market volatility are attributed to cyclical changes in market investor sentiment. At the same time, through the empirical analysis of the policy effect in the domestic stock market, it is found that with the continuous development and maturity of the market, the policy effect in the market continues to weaken the trend. Even though the impact effect of policy adjustment on the stock market lasts for a long time, only the abnormal fluctuation on the day of implementation is the most obvious. Then it gradually decreases [7].

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4. Framing Effects

People's different descriptions of an objectively identical problem lead to different decision-making judgments. When consumers feel that a given price brings a loss rather than a gain, the they are more sensitive to price. Humans are fundamentally rational animals; however, they are characterized by irrationality in many ways, the most striking example of which is the so-called framing effect. The integration of emotional favoritism from the decision-making system is a potential cause of the framing effect.

The framing effect is a cognitive bias in which, when faced with the same question and using different descriptions, people choose the one that sounds more favorable at first glance as the solution. When asked about profit, people tend to avoid risk; when asked about loss, people tend to take risks.

The framing effect of cognitive biases triggering different market responses helps to explain the phenomenon of non-optimal financial decisions. Constructing an analytical framework for self-frame formation and its impact on consumer decision-making, a combination of experimental and empirical analyses is used to explore the differences in borrowers' behavioral preferences under different frames, and the results show that people form distinctly differentiated positive and negative perceptions of consumer credit. The self-framing effect in the consumer credit market is evident in both the virtual environment and the real world, i.e., borrowers in positive frames have higher consumption intentions relative to negative frames. The research results enrich the theoretical components of the framing effect and provide a new theoretical perspective to study the mystery of the non-optimality of financial decisions [8].

5. Endowment Effect

The endowment effect is a behavioral economics phenomenon that refers to people's tendency to overestimate the value of the goods they already own. The endowment effect refers to the fact that once an individual owns an item, he evaluates the value of that item much higher than he did before he owned it. As a result, people's trade-offs between benefits and harms in the decision-making process are unbalanced, with "avoiding harms" being given much greater consideration than "seeking benefits".

In behavioral economics, an important pioneer - Professor Richard Taylor, once looked for some Canadian students to do such an experiment. Group 1: Professor Taylor prepared dozens of copies with the school's name and the mug's logo. This kind of mug in the school supermarket's retail price of 5 yuan. Before getting to the classroom, the professor had put the price tag. Before bringing them to the classroom, the professor had torn off the price tag. Taylor came into the classroom and asked the students how much they would be willing to pay for the mugs (a choice between $0.50 and $95 was given). Group 2:Prof. Taylor similarly comes to the second classroom, but this time, he gives each of the same cups as soon as he enters the classroom. After a while, the professor says that since the school is organizing an event today for a conference, there are not enough cups, and some need to be taken back. The teacher asked everyone to write what price they would be willing to sell the cup for (a choice between 0.5 and 95 dollars was given). The experiment results showed that in group 1, students were willing to pay an average of $3 for a cup with the school logo, and in group 2 when it was necessary for students to sell the cups they already owned, the bid increased steeply to $7. People were reluctant to give up something that was already theirs instead of acquiring it. Taylor calls this phenomenon the "endowment effect".

The endowment effect is a widespread behavioral bias in commodity transactions, usually manifested by the fact that the owner of a good evaluates the good more highly than the non-owner. Taking 425 mergers and acquisitions in which both parties are U.S.-listed companies from 2010 to 2018 as samples, it carries out multiple regression analysis to test the existence of the endowment

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effect by examining the characteristics of M&A premiums of a sub-sample of firms that have acquired other listed companies before their own mergers and acquisitions and, based on this, portraying the unobservable endowment effect through proxy variables to investigate whether endowment effect is important for the general based on the unobservable endowment effect portrayed by proxy variables, it investigates whether the endowment effect has an explanatory power on the M&A premiums of the sample firms and the impact of the target firms belonging to different industries on this effect. The results show that the endowment effect exists in the M&A process, significantly increasing the M&A premium. The effect of the endowment effect on M&A premium varies across different industries, and the effect of the endowment effect is more prominent in the M&A of companies in emerging industries [9]. The M&A transaction price is the result of the game between the M&A parties, and the behavior of the target company will also have a non-negligible impact on the M&A premium. This means that the study of the causes of M&A premium also needs to focus on the irrational characteristics of the target company and its decision-making layer.

This paper utilizes CEO family attributes as a proxy variable for the individual heterogeneity of the pseudo-endowment effect, based on 1,321 premium M&A events of Chinese listed firms from 2003 to 2018, and uses two-stage least squares (IV-2SLS) to conduct regression estimation and finds that: compared with firms in which a professional manager serves as the CEO, family members of the Firms pay higher M&A premiums, i.e., the CEO pseudo-endowment effect plays an important role in M&A. More competitors, higher M&A importance, and longer M&A duration increase the level of M&A premium paid by family CEOs. From the perspective of individual behavior theory, it provides a new theoretical explanation for the causes of M&A premium [10].

The endowment effect is a very common phenomenon in daily economic life. At present, the psychological mechanism of this phenomenon is mainly explained by using loss aversion, but this theory has great defects. Taking natural property rights as an example, it establishes a behavioral economic theory model to investigate the spontaneous social order and prove that the endowment effect plays a fundamental role in the formation of the spontaneous social order: the endowment effect makes people more willing to fight for what they have, which leads to the spontaneous respect for the right of preemption by other people; when the individuals with a heavy endowment effect in the society reach a higher proportion, the respect for the right of preemption will be widespread, and the order of the natural property rights will be formed without the need to rely on third-party to implement. When the proportion of individuals with heavy endowment effects in society reaches a high level, respect for pre-emptive rights will be widespread, forming a natural property right order without relying on third parties to enforce it. Moreover, the psychological tendency of the heavy endowment effect in favor of respecting the right of pre-emption may seem irrational. Still, it is beneficial to the survival of individual competition in the society that is always facing the threat of aggression, so they eventually penetrate the evolutionary sieve and pave the way for the formation of the spontaneous social order [11].

6. Conclusion

Emotions can cause investors' bias in stock market return forecasting, and cognitive and emotional biases can lead to investors' decision-making and asset pricing biases. Investment behavior is closely related to the health of the stock market. There is a significant causal relationship between psychological bias in decision-making and bias in investment behavior. The effect of emotions on financial decisions is known as misattribution bias, and people always wrongly bring their emotions into ongoing financial decisions. Good emotions increase the likelihood of investing in risky assets and vice versa for bad emotions. However, emotional investing sometimes leads people to make the right choice. Investment behavior is closely related to the health of the stock market. With the rapid development of institutional investors in China's securities market, the influence of institutional

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investors' behavior on the securities market is increasingly visible. Institutional investors have strong financial strength, large investment scale, long investment cycle, and other characteristics, and their rationalized investment behavior has a crucial impact on the healthy and stable development of the securities market.

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